NURSE PROTOCOLS

FOR

REGISTERED PROFESSIONAL NURSES

IN PUBLIC HEALTH

FOR 2012

Georgia Department of Public Health
Office of Nursing

NOVEMBER 2011

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Georgia Department of Public Health
Office of Nursing

Approved:

Brenda Fitzgerald MD

Brenda Fitzgerald, M.D.
Commissioner
State Health Officer
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28 NOV 2011

Date

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DEPARTMENT OF PUBLIC HEALTH
NURSE PROTOCOLS FOR REGISTERED PROFESSIONAL NURSES
for 2012

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NURSE PROTOCOLS

INTRODUCTION

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INTRODUCTION

The nurse protocol legislation (O. C. G. A. § 43-34-23) enacted in 1989, authorizes registered professional nurses (RNs) who are agents or employees of a county board of health or the Georgia Department of Public Health (DPH) and who are adequately prepared, to perform certain delegated medical acts under the authority of nurse protocol. Since the passage of this important legislation, the DPH has provided direction and guidance relative to public health nursing practice under nurse protocol.

The purpose of this nurse protocol manual is to provide guidelines and standards for public health nursing practice under nurse protocol. Every two years, the DPH Office of Nursing coordinates the ongoing process of reviewing, revising and updating the nurse protocols to be consistent with best practice, current technology and research; throughout that two-year cycle, revisions and updates to the nurse protocols and nurse protocol manual are made and distributed as needed. According to the Georgia Board of Nursing, Regulation of Protocol Use by Registered Nurses, a nurse protocol must be reviewed, revised or updated annually (410-1**1-**.0**3**). Although the DPH reviews, revises and updates the nurse protocols and nurse protocol manual every two years, the districts must review, revise and update the nurse protocols used by RNs and APRNs at least once annually and make certain that the nurse protocols are signed and dated at least once annually by the RNs, APRNs and delegating physicians. **According to DPH legal services, the term "annually" is interpreted to mean 12 months. However, protocols used by RNs and APRNs can be dated and signed within twelve (12) months from the previous date, but must not exceed twelve (12) months.**

Nurse protocols become effective in districts when signed each year by the delegating physician(s). Each district must maintain a copy of the nurse protocol manual and all signed nurse protocols for five (5) years.

The updated and re-dated nurse protocol manual is posted on the Office of Nursing website (http://www.health.state.ga.us/programs/nursing/publications.asp).

Abbreviations used in this manual are consistent with the Georgia DPH policy, *Use of Abbreviations, Acronyms, Symbols and Dose Designations*.

New material and wording changes are highlighted in bold print. Names of nurse protocols that contain modifications in content are highlighted in bold print in the tables of contents; if the only change in a nurse protocol is that a reference has been updated, it will not appear in bold print in the table of contents.

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THE

NURSE PROTOCOL

PROCESS

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THE NURSE PROTOCOL PROCESS

The purpose of the process at the state level is to assure that nurse protocols are standardized and consistent across programs, consistent with current statutes, rules and regulations and based on the latest technology, current practice standards and cost-effective measures. The process continues at the district level where the nurse protocols are adopted for local use and signed and dated at least once annually. Although minor changes may need to be made at the district level (e.g., due to district medication availability), it is recommended that the nurse protocols be adopted without modification. When modifications are made to the nurse protocols, it is recommended that legal review be conducted at the district level to assure compliance with current statutes, rules, regulations and practice standards.

A. MECHANISM FOR NURSE PROTOCOL DEVELOPMENT, REVIEW AND REVISION

1. The Office of Nursing:

    a. Convenes meetings of the Nurse Protocol Committee, at least biannually (every two years).
    b. Oversees the biannual process of reviewing, revising and updating all nurse protocols and the nurse protocol manual.
    c. Manages revisions to nurse protocols in collaboration with the appropriate state office program nurses, state office of pharmacy, office of legal services, physicians and other staff as needed.
    d. Assures that the **Department** of Public Health Legal Services Office reviews and approves the final draft of each nurse protocol manual and nurse protocol that is reviewed, revised and updated.
    e. Assures that final signatures are obtained from the **State Health Officer** and Medical Director of the Nurse Protocol Committee and each physician who serves as the physician consultant for each respective nurse protocol before distributing the revised nurse protocol or the updated nurse protocol manual.
    f. Conducts Nurse Protocol Orientation and Credentialing Program for State Office Nurses at least **bi**-annually (**even-numbered years**).

2. The Nurse Protocol Committee:

    a. Includes at least one public health physician in clinical practice, selected nurses from districts or counties, state office nurses and representatives from the state pharmacy, laboratory, and nutrition offices. A current list of the Nurse Protocol Committee members is on pages 2.10-11.
    b. Reviews all proposed new nurse protocols to assure that they meet established criteria for format and content.
    c. Reviews any significant/extensive revisions to existing nurse protocols to assure that they continue to meet established criteria for format and content.

d. Reviews and approves recommended nurse protocols for inclusion in the nurse protocol manual during the biannual process of reviewing, revising and updating of the manual.

3. State Office Nurses (SONs):

   a. Attend Nurse Protocol Orientation and Credentialing Program offered by the Office of Nursing at least **bi**-annually **(even-numbered years**). This is required for designated SONs who have responsibility for the lead role in nurse protocol development, review, revision and updating, who provide consultation and technical assistance to districts and who chair the clinical teams for their program areas, as well as any designated back-up SONs who work in those program areas and are expected to provide consultation and technical assistance. It is recommended that all other SONs and others who provide critical input into nurse protocols (e.g., members of the Nurse Protocol Committee representing Pharmacy, Nutrition, Immunizations, Epidemiology and Laboratory) also complete the program.
   b. Assure that each program for which there is a nurse protocol has a designated and qualified Medical Consultant to provide and/or assist with clinical consultation and development, revision, updating and utilization of nurse protocols.
   c. Assure that the clinical team reviews the nurse protocols for their respective program and assists in drafting revisions and/or new nurse protocols at least biannually. (Each clinical team comprises, at a minimum, the state office nurse, state pharmacy director/designee, physician/medical specialist and nurses in clinical practice. Nutrition, immunizations, laboratory and epidemiology representatives are included as needed.)
   d. Assure that nurse protocols are developed or revised according to the timeline using the outline and format described on pages 2.6-9.
   e. Assure that nurse protocols adhere to the DPH policy, *Use of Abbreviations, Acronyms, Symbols and Dose Designations.*
   f. Assure that new nurse protocols and extensive revisions are reviewed according to the tool on page 2.5. A copy of the completed tool should accompany each new and extensively revised nurse protocol that is presented to the Nurse Protocol Committee.
   g. Finalize revisions and new nurse protocols after considering all comments, questions and recommendations from the clinical team and Nurse Protocol Committee reviewers.
   h. Obtain signed approval form from the clinical team physician consultant to accompany the updated program section or any revisions (see p. 2.9).

4. Steps for Adoption of Nurse Protocols for District Use:

   a. Use the latest nurse protocols as the basis for the yearly review and update of all nurse protocols issued.
   b. Change the information and revision date in the nurse protocol header to the appropriate district information and review/revision date before issuing them to local nurses.
   c. Add additional sources used to the reference list at the end of any nurse protocol that is changed significantly from the nurse protocol (e.g., different diagnostic criteria and/or treatment choices) to assure compliance with current statutes, rules, regulations and practice standards.

B. GENERAL TIMELINE FOR BIANNUAL REVIEW AND UPDATE OF NURSE PROTOCOLS (ODD-NUMBERED YEARS)

Activity	Person(s) Responsible	Month
1. Convene the Nurse Protocol Committee mid-year meeting via conference call. Confirm specific dates for timeline.	Office of Nursing	January
2. Review/update Nurse Protocol Manual:		Jan. - April
a. Review/update programmatic nurse protocols with clinical teams. Submit new nurse protocols to Protocol Committee members, with completed Review Tool (see page 2.5).	State Office Nurses	
b. Participate on clinical teams for all nurse protocols as needed.	Office of Pharmacy**, District Pharmacy**, Immunization, Nutrition, Lab	
c. Review/update non-programmatic portions of the manual.	Office of Nursing	
3. Submit final drafts of nurse protocols for Office of Nursing review. Obtain physician consultant signatures on protocol review forms (see page 2.9).	State Office Nurses	April - May
4. Nurse Protocol Committee Meeting:	Office of Nursing	May
a. Convene and lead meeting	Office of Nursing	
b. Describe revisions/changes to each program's nurse protocols.	State Office Nurses	
c. Approve the nurse protocols.	Nurse Protocol Committee	
5. Assure that editing is complete and submit final draft for legal review. Make additional editing changes as advised.	Office of Nursing	June - July
6. Obtain final approval of manual from Medical Director for the Nurse Protocol Committee and Division Director, and obtain signatures on cover page.	Office of Nursing	August
7. Distribute revised manuals electronically.	Office of Nursing	September
8. Update website.	Office of Nursing	Sept. – Dec.
9. Review and update district nurse protocols.	District Nursing & Clinical Directors	Sept. – Dec.
10. Adopt updated nurse protocols and train nurses.	District Nursing & Clinical Directors	Dec. – Jan.

C. TOOL FOR REVIEWING NEW NURSE PROTOCOLS

Purpose of the tool: An instrument for use by clinical teams when developing a new nurse protocol (or extensively revising an existing nurse protocol). Submit a copy of the completed form with the proposed new/revised nurse protocol to all members of the Nurse Protocol Committee, as a guide for their review.

Title of Nurse Protocol: _____

Program: _____ Date: _____

Criteria	Yes	No	Incomplete	Comments
1. Content includes practice which is consistent with the definition of a nurse protocol, i.e., ordering drugs, medical treatments and/or diagnostic studies; dispensing drugs.				
2. Content complies with pertinent: a) Laws, Rules, & Regulations; and b) Policies/Guidelines.				
3. Content reflects consistency with current practice standards, research and literature.				
4. Interventions are considered reasonable from a cost standpoint.				
5. Content consistent across all programs and populations served.*				
6. Reviewed by: a) Physician b) Nursing c) Pharmacy d) Nutrition e) Lab f) Other:				

*Specify, in the Comments column, the programs that have reviewed this nurse protocol.

Completed by: _____

D. STANDARD FORMAT FOR NURSE PROTOCOLS

TITLE

DEFINITION Define the condition

ETIOLOGY Describe the cause and/or contributing factors

SUBJECTIVE History, Symptoms

OBJECTIVE Signs, Physical examination findings, Laboratory findings

ASSESSMENT Nursing Diagnosis/Clinical Judgment

PLAN **DIAGNOSTIC STUDIES** (If applicable)

THERAPEUTIC

PHARMACOLOGIC

- Generic drug name (or correct brand name) and strength
- Dose/dosage form
- Route of administration
- Frequency
- Duration

NON-PHARMACOLOGIC MEASURES (If applicable)
Examples: nutrition, application of heat

CLIENT EDUCATION/COUNSELING

1. Informational packets
   a. Symptoms
   NOTE: Refers to a.
   b. Treatments

NOTE: Refers to 1.

FOLLOW-UP

CONSULTATION/REFERRAL

REFERENCES

List the sources used to write the nurse protocol, in the format found in Section 15 of *The Gregg Reference Manual, Tenth Edition*. Use at least one reference that is dated within the past 2-3 years, or note as **(Current)** any older reference.

E. WORD PROCESSING FOR NURSE PROTOCOLS

PROGRAM Microsoft Word

FONT Arial Regular 12; header/footer is to be in Arial Regular 9
New material and wording changes are to be in bold font. In tables of contents, standard nurse protocols containing changes in content are to be in bold font (if the only change is that a reference has been updated, it is not to be in bold font).

MARGINS Top and Bottom – 0.8 Left and Right – 0.8 Footer and Header – 0.5

TABS Every 5 spaces (0.5 inches) from left margin

TITLE FORMAT The all-capitalized title of the nurse protocol is centered on two lines, with two spaces after the title.

EXAMPLE

STANDARD NURSE PROTOCOL FOR
(DISEASE OR CONDITION)

SPACING Two spaces between major headings and numbered subheading. Exception: between references, which begin at the left margin and are single-spaced.

PUNCTUATION Two spaces after each period and colon. Exception: 0.5 inch tab following periods in outline numbers or letters.

TEXT ALIGNMENT The text will be left justified but will not be right justified or centered with exception of the TITLE and the Header/Footer. (The text will have a smooth left edge and a jagged right edge.)

CAPS/BOLDING

- Title
- Each major section, and sub-sections under **PLAN.**
- Under **PHARMACOLOGIC** the words **AND, OR, PLUS,** and **FOLLOWED BY.** Place these words one tab over from the text.
- "**NOTE:**" is used to call attention to important information. The word **NOTE** should be bolded. However, the text after the **NOTE** is written normally (non-bolded).

OUTLINING The outline format starts with numbers, (1., 2., etc.)

EXAMPLE

PLAN **THERAPEUTIC**

PHARMACOLOGIC

(May or may not have text here first)

1. Text

    a. Text
    b. Text
        1) Text
        2) Text
            a) Text
            b) Text

2. Text

NOTE: There must be more than one item in a subsection to use numbers, letters, or bullets.

ITALICS Italics are used in the **ETIOLOGY** section, and occasionally in other sections, for the names of microorganisms.

HEADERS: **NOTE:** Before issuing protocol(s) to nurses, change the header to the issuing district's information and the date of issuance; header is to be in Arial Regular 9 bold font. It is to be right justified.

EXAMPLE

Health District
Standard Nurse Protocols for Registered Professional Nurses
for 2011

Headers should be on all pages of the manual except for the title page. Under File, Page Set-up, set header margin at 0.5. Then use the Header/Footer feature under "View" at the top of the screen. Editing a header will change it for the entire following section.

FOOTERS Under File, Page Set-up, set footer margin at 0.5. Then use the Header/Footer feature under "View" at the top of the screen. Editing a footer will change it for the entire following section.

The section name of the manual should be centered. The page number should be at the right margin. Use Arial Regular 9 font.

Each program section of the manual has an assigned number prefix (see Table of Contents) to place before page numbers (e.g., 8.5).

F. CERTIFIED NURSE PROTOCOL REVIEW FORM

This certifies that I have reviewed the nurse protocols defined below for use by Public Health Nurses in the expanded role and Advanced Practice Registered Nurses in Public Health:

Clinical Team Physician_____ Phone_____

Signature_____

Date Reviewed_____

Specialty _____

Affiliations_____

_____

Title(s) of Nurse Protocol(s):

_____

_____

_____

_____

_____

_____

_____

G. ACKNOWLEDGMENTS

1. NURSE PROTOCOL COMMITTEE

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GUIDELINES

FOR

NURSE PROTOCOLS

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GUIDELINES FOR NURSE PROTOCOLS FOR REGISTERED PROFESSIONAL NURSES

A. PURPOSE

The purpose of these guidelines is to provide direction, promote consistency and support practice under nurse protocol by registered professional nurses in public health, in accordance with all applicable statutes, rules and regulations.

B. DEFINITIONS

1. Nurse Protocol
   Nurse Protocol means a written document mutually agreed upon and signed by a nurse and a licensed physician, by which the physician delegates to that nurse the authority to perform certain medical acts pursuant to subsection (b) of **O.C.G.A. § 43-34-23** . These acts shall include, without being limited to, the administering and ordering of any drug. **O.C.G.A. § 43-34-23(a) (7)**.

   Each registered professional nurse (RN) must have access to the current standard nurse protocol(s), under which the RN is practicing at the practice site. Each RN may have his/her individual set of standard nurse protocols which are signed by the nurse and the delegating physician(s) or there may be one set of standard nurse protocols which each RN and the delegating physician(s) sign.

2. Order
   Order means to select a drug, medical treatment or diagnostic study through physician delegation in accordance with a nurse protocol or a physician assistant's job description. Ordering under such delegation shall not be construed to be prescribing, which act can only be performed by the physician, nor shall ordering of a drug be construed to authorize the issuance of a written prescription. **O.C.G.A. § 43-34-23(a) (8).**

   The RN shall write the drug order in accordance with the nurse protocol and based on a client assessment each time the drug is ordered. If the client's continues the drug on subsequent visits, the nurse must reorder the drug based on the nurse protocol. Documentation of the written drug order by the RN shall include the following components:
   - Date ordered
   - Generic name or actual brand name of drug
   - Strength of drug
   - Dose
   - Dosage form
   - Route of administration
   - Frequency
   - Duration of therapy
   - Quantity dispensed/provided

- Signature of RN or APRN who ordered the drug

3. Delegating Physician
   Delegating Physician means the physician(s) who has/have mutually agreed to and signed the nurse protocol. The District Health Director may be the delegating physician or one of the delegating physicians. The D**epartment** of Public Health recommends that each delegating physician be engaged in current clinical practice on a full-time or part-time basis.

4. Legal Signature
   Entries into the patient's medical record must be dated and signed by the person responsible, using full name and letters that denote professional title (e.g., Suzie A. Jones, R.N. or Suzie A. Jones, A.P.R.N.).

5. Dispensing Procedure
   Dispensing procedure means a written document signed by a licensed pharmacist and a licensed physician, which establishes the appropriate manner under which drugs may be dispensed pursuant to this Code Section.[1]

6. Record Review
   A record review is a review of the client's clinical record of services provided. This may include reviewing a written summary or compilation of record reviews conducted.

C. DRUGS TO BE COVERED BY NURSE PROTOCOL

Any drugs which the RN orders and dispenses must be covered by nurse protocol. The following drugs are to be covered by nurse protocols:

Dangerous Drugs
Dangerous Drug means any dangerous drug as defined in O.C.G.A. § 16-13-71, but does not include any controlled substance or Schedule I controlled substance.[2]

Dangerous drugs are required to bear upon the package the words "Caution Federal Law Prohibits Dispensing Without Prescription," "Rx Only" or words of like import. These drugs may also be referred to as "Legend" drugs.

Dangerous drugs are not to be stored in the nurse's home, car or other prohibited location.

1 O. C.G.A. § 43-34-23

2 Ibid

D. DRUGS TO BE COVERED BY EITHER NURSE PROTOCOL OR POLICY AND PROCEDURE

1. Immunizations/Vaccines
Immunization Policies and Procedures per the current Georgia Immunization Program Manual located at http://health.state.ga.us/programs/immunization/publications.asp and signed by the District Health Director or his/her designee.

a. For On-site Public Health Clinics (those held at County Health Departments sites):

1) LPNs, RNs and APRNs administer vaccines under a District Policy/Procedure based on the Immunization Program Manual. There should be a cover page signed by the District Health Director that references the Immunization Program Manual as being accepted by the District to serve as either their official Policies and Procedures for the Administration of Vaccines and Provision of Immunization Services or a guide for writing a district's Immunization Policies and Procedures.

b. For Off-site Settings (those settings that are not considered County Health Department sites), such as School-based clinics:

1) RNs administer vaccines under a Nurse Protocol agreement that is signed by a delegating physician. The RN should attach the Nurse Protocol Signature Page for Administering Vaccines to the respective one-pagers, or documents from the Immunization Program Manual that cover the different types of vaccines that may be administered (e.g., Hepatitis B, Meningococcal).

c. LPNs administer vaccines (they do not order or dispense drugs) under the supervision of an RN. The RN, who supervises the LPN who administers the vaccine, does so under a protocol. The LPN does not sign the Nurse Protocol, but administers vaccines according to the direction and supervision of the RN. This is consistent with the LPN Practice Act [O.C.G.A. § 43-26-32(7)].

2. Over the Counter (OTC)/Nonprescription Drugs
The nurse protocol, or policy and procedure, covers drugs given to clients or called in to a pharmacy. These drugs include vitamins, oral iron preparations, acetaminophen, etc., which do not bear upon the package the words "Caution Federal Law Prohibits Dispensing Without Prescription," or "Rx Only."

a. Nurse Protocol for the following situations:

1) If the OTC drugs are repackaged (i.e., taken out of the manufacturer's original container, such as a bottle of 100 tablets) and/or labeled in any manner or with any information different from the manufacturer's label, this must be covered by a nurse protocol.

2) If the RN transmits the OTC drug order to a licensed pharmacist who will provide the drug to the client (e.g., NIX Creme Rinse for a Medicaid eligible client), this must be covered by a nurse protocol.

b. District/County Policy and Procedure or Nurse Protocol:
If the OTC drugs are in the original manufacturer's container and no changes are made in the directions on the manufacturer's label (i.e., given to the client just as it comes from the manufacturer), this may be covered by either district/county policy and procedure or nurse protocol.

c. No Policy and Procedure or Nurse Protocol **N**eeded:
If an OTC drug is recommended to the client by the RN but not given to the client nor called in to the pharmacy, it does not need to be covered by a policy, procedure or nurse protocol. Such recommendations should be documented in the client's medical record.

3. Professional Drug Samples
Professional Drug samples are forbidden in public health facilities unless a written district policy or procedure has been established to allow a licensed physician and/or a licensed pharmacist to request, receive and sign for professional drug samples and to distribute the professional drug samples to patients. The written district policy or procedure must be approved by the State Office of Pharmacy. (See Drug Dispensing Procedure, p.4.8).

E. REQUIREMENTS FOR A REGISTERED PROFESSIONAL NURSE WHO USES A NURSE PROTOCOL

A Registered Professional Nurse who uses a nurse protocol must:

1. Hold a current license to practice as a registered professional nurse (RN) in Georgia; **and**

2. Document preparation and performance specific to each medical act authorized by a nurse protocol, including ordering dangerous drugs, medical treatments or diagnostic studies. Prior to the RN functioning under a nurse protocol, there should be written documentation that the RN has training, preparation and/or orientation relative to each medical act authorized by the specific nurse protocol and can perform such acts. Documentation may include supervisory notes, orientation plans, direct observation of clinical performance, skills checklist(s) and/or performance appraisal(s); **and**

3. Adhere to the written nurse protocol.

F. LICENSED PRACTICAL NURSES

There is no statutory authority for Licensed Practical Nurses (LPNs) to order or dispense drugs. LPNs in public health administer drugs according to written policies and procedures.

Please refer to the current **Department** of Public Health Policy, Collaborative Models of Client Care in Public Health, in the current edition of the *Public Health Nursing Policies and Practice Guidelines* manual.

G. REQUIREMENTS FOR NURSE PROTOCOLS

A nurse protocol must **meet all of the following requirements:**

1. Be reviewed, revised or updated annually. **According to DPH legal services, the term "annually" is interpreted to mean twelve (12) months. However, nurse protocols can be dated and signed within twelve (12) months of the previous date, but must not exceed twelve (12) months. This means that if a nurse protocol was signed on March 15, 2012, that same nurse protocol must be signed on or by March 15, 2013 in order to continue to practice under the respective nurse protocol.** The nurse protocol must bear the review date and signatures of the delegating physician(s) and RN(s). There is no authority to perform acts using a nurse protocol which has expired without annual review, revisions and updates.

2. Specify that record reviews of nursing practice under nurse protocol (of RNs and APRNs) by the delegating physician will be completed at least quarterly.

3. Be available/accessible in each of the specific settings where RNs function under nurse protocols and be available upon request.

4. Include the specific terms/conditions under which delegated medical acts may be performed.

5. Include the condition(s) for immediate consultation with a delegating physician or a physician designated in his or her absence.

6. Include a statement that the RN has read and understands all statutes, rules and regulations pertaining to nursing practice under nurse protocol and has read and understands the drug dispensing procedure.

H. DELEGATED AUTHORITY FOR ORDERING DANGEROUS DRUGS

RNs who are delegated the authority to order dangerous drugs must do so in accordance with written nurse protocols. The nurse protocol must outline the parameters that must be followed pursuant to ordering the drug and must also specify the drug and the specific conditions under which it may be ordered.

I. DISPENSING DANGEROUS DRUGS

RNs are authorized to dispense dangerous drugs only under the following conditions:

1. The dispensing is in accordance with a written drug dispensing procedure[3] and under the authority of an order issued in conformity with a nurse protocol.

2. There must be documented preparation and performance (i.e., ability to perform) specific to dispensing dangerous drugs based on a written dispensing procedure.[4] Documentation should include that each RN has read and understands the drug dispensing procedure.

3. A copy of the drug dispensing procedure must be accessible in each of the specific settings where RNs dispense under nurse protocols and be available upon request. The procedure must be signed by the pharmacist and physician who have established it.

4. The RN shall exercise diligence in protecting drugs and records from loss or theft, in accordance with the rules of the Georgia Board of Pharmacy.

5. The RN is not authorized to dispense a drug:

    a. Based on a prescription written by either a public health or private physician;
    b. Pursuant to an order written on a client's chart by a physician, an advanced practice registered nurse, physician's assistant or another RN;
    c. Based on a written or verbal recommendation from a communicable disease specialist (CDS); or
    d. Based on a drug order received over the phone.
    e. When any of the above situations occur, the RN functioning under nurse protocols:
        1) Adds the written information or documents the oral information received (e.g., medical diagnosis, physician's prescription) to the

3 Georgia Board of Pharmacy Rules 480-30-.02- General Requirements, “Any person who dispenses drugs in accordance with a dispensing procedure and under the authority of a job description or standard nurse protocol shall comply with all record keeping, labeling, packaging and storage requirements imposed upon pharmacists and pharmacies with regard to such drugs pursuant to O.C.C.A. § 26-4 and 16-13, and those regulations contained in this chapter.”

4 Georgia Board of Nursing: *Regulation of Protocol Use by Registered Nurses*, Chapters 410-11-.03.

client's chart;

2) Reviews any written information in the chart; and
3) Based on his/her review of the information and clinical assessment of the client, decides whether to order any of the drugs listed in the appropriate nurse protocol, to seek medical consultation or to refer the client.

f. If the nurse decides to order a drug listed in the nurse protocol, he/she assumes responsibility for ordering the drug in accordance with the nurse protocol and dispensing the drug according to a written drug dispensing procedure. An example of how this may be documented in the client's chart is as follows:

ASSESSMENT
History and clinical data do not contraindicate OCs.

PLAN
Ortho-Novum 7/7/7 one tablet PO daily for **12** months.
Dispensed 12 cycles.

Provided instruction about the drug, how to take and symptoms of side effects to report.

Next visit 9-1-(current year)."

NOTE: The nurse can dispense drugs only on his/her own order and in accordance with a nurse protocol agreement and a drug dispensing procedure.

g. If the nurse seeks medical consultation, the results of the consultation are documented in the client’s chart. Based on the medical consultation and clinical assessment of the client, the nurse decides whether to order any of the drugs in the nurse protocol, to seek further medical consultation or to refer the client. This includes when the medical consultation results in a dosage, drug or any medical act which is not covered by the current nurse protocol.

h. If the nurse decides to refer the client, the referral must be documented in the client's chart. The documentation should include where/to whom the client was referred, what medical information was sent with the client or authorized to be released and any assistance and/or instructions provided to the client. Results of the referral and any changes in the client's plan of care should subsequently be documented.

J. ACCOUNTABILITY

The District Health Director is accountable for ensuring that the appropriate nurse protocols are in place in his/her district. The District Health Director and the District Public Health Nursing and Clinical Director should collaborate in the development, monitoring and updating of nurse protocols, assuring compliance with all statutes, rules and regulations pertaining to practice under nurse protocol. Each district should also form and sustain a District Nurse Protocol Committee to assist in managing the ongoing review of the nurse protocols.

K. SIGNING NURSE PROTOCOL AGREEMENTS

1. Signature Requirements

   a. Items to include on the signature page to document compliance with specific rules and regulations of the Georgia Board of Nursing (GBON) and the Board of Pharmacy:
      1) That each RN is adequately trained and prepared to perform the delegated medical acts (document the specific training in the nurse's personnel or supervisory file).
      2) That the RN has read and understands all statutes, rules, and regulations pertaining to nursing and nursing practice under nurse protocol and has read and understands the drug dispensing procedure.
      3) That record reviews of nursing practice under nurse protocol (of RNs and APRNs) by the delegating physician will be completed at least quarterly.
   b. The signature page should represent a mutual agreement between the delegating physician(s) and the RN(s).
   c. Each person should use his/her legal signature as it appears in client records (i.e., full name/letters denoting the professional title - MD, DO, RN).
   d. **According to the Georgia Board of Nursing, Regulation of Protocol Use by Registered Nurses, a nurse protocol must be reviewed, revised or updated annually (410-11-.03(3)(c)). The Department of Public Health interprets the above rule to mean the nurse protocol signature page must be dated within 12 months of the previous date signed. This means that if a nurse protocol was signed on March 15, 2012, that same nurse protocol must be signed on or by March 15, 2013 in order to continue to practice under the respective nurse protocol. Rationale for this includes the following**:
      1) The nurse protocol agreement is a legal document used by the Registered Professional Nurse (RN) and each RN and delegating physician(s) should assure the nurse protocol signature page is signed within 12 months of the previous date.

2) According to DPH legal services, the term "annual" is interpreted to mean 12 months.

3) According to the Inspector General's Office, from an auditor's perspective, "annual" means 12 months without fail.

e. A single signature page may cover a single nurse protocol, a set of nurse protocols or multiple nurse protocols as long as revisions are signed and dated by all parties (refer to the example on the following page).

2. Review/Revision Requirements

All nurse protocols must be reviewed at least annually. Changes in drug treatment and health care technology should be incorporated into revised nurse protocols in a timely manner. Annual reviews and revisions which involve ordering drugs, diagnostic studies and/ or treatments should be signed and dated by the delegating physician(s) and the nurse(s). Supervisors should assure that nurses have been taught about each nurse protocol and any revisions before they sign the nurse protocol agreement.

EXAMPLE

NURSE PROTOCOL SIGNATURE PAGE

The signatures below indicate a mutual agreement between the delegating physician(s) and the registered professional nurse(s) (RNs) who are authorized to perform the delegated medical acts contained in the nurse protocols for [insert name of designated nurse protocols (e.g., Family Planning) and date on nurse protocols (e.g., 1/10)].

All RNs and APRNs whose signatures appear on this page:

1. Have been adequately trained and are prepared to perform the delegated medical acts contained in the designated nurse protocols; such training is documented in the nurses' personnel/supervisory files.
2. Have read and understand all statutes, rules and regulations pertaining to nursing practice under nurse protocol and have read and understand the drug dispensing procedure.
3. **Have been given an opportunity to have questions answered.**

Record reviews by the delegating physician(s) will be completed at least quarterly.

Signature of Delegating Physician	Date
Signature of RN	Date
Signature of RN	Date
Signature of RN	Date
Signature of RN	Date
Signature of RN	Date

EXAMPLE

NURSE PROTOCOL
FOR ADMINISTERING VACCINES
SIGNATURE PAGE

NOTE: This type of signature page would be used by RN or APRNs when the vaccine must be transported to non-county Health Department sites such as school-based clinics.

The signatures below indicate a mutual agreement between the delegating physician(s) and the registered professional nurse(s) RN**(s)** who are authorized to administer the following vaccines:

- Seasonal Influenza Vaccine
- Meningococcal Vaccine
- Pneumococcal Vaccine
- Tetanus-containing Vaccine

All RNs and APRNs whose signatures appear on this signature page:

1. Have been adequately trained and are prepared to perform the delegated medical acts contained in the designated nurse protocols; such training is documented in the nurses' personnel/supervisory files.
2. Have read and understand all statutes, rules and regulations pertaining to nursing practice under nurse protocol and have read and understand the drug dispensing procedure.
3. **Have been given an opportunity to have questions answered.**

Record reviews by the delegating physician(s) will be completed at least quarterly.

Signature of Delegating Physician	Date
Signature of RN	Date
Signature of RN	Date
Signature of RN	Date

Example

EMERGENCY NURSE PROTOCOL AGREEMENT FOR ADMINISTERING, ORDERING AND DISPENSING SPECIFIC DANGEROUS DRUGS DURING TIMES OF EMERGENCY

NOTE: This type of signature page would be used during times of emergency (e.g., anthrax attack, pandemic). The Public Health District may use this to develop a nurse protocol to expedite the process of treating individuals impacted by the emergency.

The signatures below indicate a mutual agreement and understanding between the delegating physician(s) and the registered professional nurse(s) (RNs) and/or advanced practice registered nurses (APRNs) that the undersigned individuals are authorized to administer, order and dispense the specific dangerous drugs listed below in accordance with the manufacturer's information attached to this signature page for each of the drugs listed:

DANGEROUS DRUGS TO BE ADMINISTERED
For the following populations (i.e., adult, children greater than 5 years of age, pregnant women):

1._____
2._____

For the following indications listed:

1._____
2._____

(List the Specific Drugs to be administered and attach the Drug Manufacturer's Insert for each):

1._____
2._____

DANGEROUS DRUGS TO BE ORDERED AND DISPENSED
For the following populations (i.e., adult, children greater than 5 years of age, pregnant women):

1._____
2._____

For the following indications listed:

1._____
2._____

(List Specific Drugs to be Ordered and Dispensed and Attach the Drug Manufacturer's Insert for each):

1._____
2._____

The delegating physician, RNs and APRNs whose signatures appear on this signature page agree that the RNs and APRNs:

1. **Have been adequately trained and are prepared to perform the delegated medical acts contained in the designated nurse protocols; such training is documented in the nurses' personnel/supervisory files.**
2. **Have read and understand all statutes, rules and regulations pertaining to nursing practice under nurse protocol and have read and understand the drug dispensing procedure.**
3. **Have been given an opportunity to have questions answered.**
4. **Record reviews by the delegating physician(s) will be completed at least quarterly.**
5. **This authorization/agreement shall terminate at the conclusion of the emergency or when my services are no longer required.**

Signature of Delegating Physician	**Date**
Signature of RN or APRN	**Date**
Signature of RN or APRN	**Date**
Signature of RN or APRN	**Date**
Signature of RN or APRN	**Date**

L. RETENTION OF NURSE PROTOCOLS

1. The district shall retain one copy of each nurse protocol for at least five years, so that it can be retrieved in case of an audit or legal issue.

2. The D**epartment** of Public Health shall maintain copies of the Nurse Protocol Manual produced by the **Department** for at least five years.

M. NURSE PROTOCOL AGREEMENT FORMATS FOR ADVANCED PRACTICE REGISTERED NURSES

Advanced Practice Registered Nurses (APRNs) in public health may use the same format for nurse protocols as that used by RNs **and/**or they may use the following APRN format. The following format provides the essential components of what should be included in the nurse protocol for APRNs.

General Template (See General Template following the list of components).

1. Area of Specialty
   Specify the area(s) of specialty in which the APRN holds current certification, as authorized by the Georgia Board of Nursing.

2. Dangerous Drugs
   A nurse protocol must specify parameters under which delegated **medical** acts may be performed; therefore, the written nurse protocol agreement for APRNs must specify the drugs that may be ordered. The nurse protocol agreement must either include a list of drugs to be ordered or a drug formulary must be attached to the nurse protocol agreement.

   Drugs selected should follow drug formulary guidelines that base drug selection on the most clinically appropriate and cost-effective drugs. A number of published drug formulary guidelines may be used in making these determinations**. An example of a drug formulary may be found in Appendix 3.**

   In addition to the written nurse protocol document, the APRN who dispenses drugs, under the authority of an order issued in conformity with the nurse protocol, must adhere to a drug dispensing procedure. This written document, signed by a licensed pharmacist and physician, must be readily accessible at the site where the APRN is practicing under nurse protocols and be available upon request. According to the drug dispensing procedure used in Public Health, the APRN must also document the drug(s) dispensed on a drug dispensing sign-out sheet or a document with comparable requirements.

3. Medical Treatments
   Specify the medical treatments, if any, that may be ordered by the APRN.

4. Diagnostic Studies
   Specify the diagnostic studies, if any, that may be ordered by the APRN.

5. Reference Guidelines for Practice
   Specify the text(s), written guidelines, and/or other reference documents**,** which will be used by the individual APRN relative to the area of specialty. For example: "***Current Practice Guidelines in Primary Care 2011***, by **Ralph Gonzales and Jean S. Kutner**, shall serve as a reference guide." These texts and documents should be current and readily available. The use of such texts and documents must clearly exclude any controlled substances or Schedule I controlled substances.

6. Consultation
   Specify the conditions for immediate consultation with the delegating physician.

7. Patient Evaluation/Follow-Up
   Specify that the frequency and guidelines for patient evaluation/follow-up by the delegating physician will be determined collaboratively between the APRN and the delegating physician.

8. Documentation
   Specify how services will be documented.

9. Signatures
   Each APRN who practices under these nurse protocols and each delegating physician must sign and date the written mutual agreement.

10. Annual Review
    The nurse protocols must be reviewed, signed and dated at least annually.

11. See general template for a nurse protocol agreement on the following page. See Appendix 1, Example for Women's Health and Appendix 2, Example for HIV.

GENERAL TEMPLATE

NURSE PROTOCOL AGREEMENT FOR ADVANCED PRACTICE REGISTERED NURSES IN PUBLIC HEALTH

Area of Specialty: _____

Dangerous Drugs (list or attach a list of the general categories or types of drugs to be ordered; a formulary is optional; list or formulary shall not include controlled substances Schedule III, IV or V). **An example of a drug formulary may be found in Appendix 3.**

_____

Diagnostic Studies (check all that apply):

- __Laboratory tests as appropriate
- __X-ray
- __Ultrasound
- __Other (specify):_____

Medical Treatments: May be ordered as appropriate for the area of specialty.

Reference Guidelines for Practice: The following references shall be utilized as guidelines for practice, excluding all controlled substances listed in these documents:

1. List specific text, such as Ralph Gonzales and Jean S. Kutner, *Current Practice Guidelines in Primary Care 20**11***, **10**th ed., McGraw-Hill Professional Publishing, 20**10**.
2. Nurse Protocols for _____sections from *Nurse Protocols for Registered Professional Nurses,* Georgia Department of Public Health, 201**2**.
3. Other reference(s) (specify):_____

Consultation: The delegating physician will be available for immediate consultation by phone, facsimile, pager, and/or e-mail. If the delegating physician is not available, the delegating physician shall designate another physician who concurs with the terms of this agreement.

Patient Evaluation/Follow-Up
Specify that the frequency and guidelines for patient evaluation/follow-up by the delegating physician will be determined collaboratively between the APRN and the delegating physician.

Documentation: The APRN shall document services provided in accordance with the nurse protocol agreement. The APRN shall document all drugs ordered, dispensed and handled in accordance with the Georgia Nurse Practice Act, the Rules of the Georgia Board of Nursing, Rules and Regulations of the Georgia Board of Pharmacy and Department of **Public** Health requirements.

Record Reviews: A sampling of records shall be reviewed at least quarterly by the delegating physician(s).

This document indicates a mutual agreement between the delegating physician and the APRN who is authorized to practice under a nurse protocol agreement. The APRN, whose signature appears below, has:

1. Been adequately trained and is prepared to perform the delegated medical acts specified in this nurse protocol agreement; and
2. Read and understands all statutory rules and regulations pertaining to nursing and practice under nurse protocol and has read and understands the drug dispensing procedure.
3. **Been given an opportunity to have questions answered.**

_____ _____
Advanced Practice Registered Nurse Signature Printed Name of APRN

_____
Date

_____ _____
Delegating Physician Signature Printed Name of Delegating Physician

_____
Date

APPENDIX 1

TEMPLATE Example for Women's Health

NURSE PROTOCOL AGREEMENT FOR ADVANCED PRACTICE REGISTERED NURSES IN PUBLIC HEALTH

Area of Specialty: _____Women's Health_____

Dangerous Drugs (list or attach a list of the general categories or types of drugs to be ordered; a formulary is optional; list or formulary shall not include controlled substances Schedule III, IV or V).

List may include:

- Contraceptives
- Drugs for the treatment of bacterial cystitis, sexually transmitted infections and vaginal infections
- Drugs for the treatment of minor gynecological problems (e.g., amenorrhea, dysmenorrhea)
- Hormone therapy for the treatment of symptoms of menopause
- Diaphragm
- Intrauterine device or system
- Hormonal implant
- Hormonal ring

Medical Treatments: May order as appropriate for Women's Health.

Diagnostic Studies (check all that apply):

- ✓___Laboratory tests as appropriate
- ✓___X-ray
- ✓___Ultrasound
- ____Other (specify):_____

Reference Guidelines for Practice: The following references shall be utilized as guidelines for practice, excluding all controlled substances listed in these documents:

1. Ralph Gonzales and Jean S. Kutner, *Current Practice Guidelines in Primary Care 20**11***, **10**th ed., McGraw-Hill Professional Publishing, 20**10**.
2. Nurse Protocols for Women's Health, *Nurse Protocols for Registered Professional Nurses in Public Health,* Georgia Department of Public Health, 201**2**.
3. Nurse Protocols for Sexually Transmitted Diseases (STD), *Nurse Protocols for Registered Professional Nurses in Public Health*, Georgia Department of Public Health, 201**2**.
4. R. A. Hatcher, et al., *Contraceptive Technology***,** 19th revised ed., Physicians Desk Reference Inc, 2008.

Consultation: The delegating physician will be available for immediate consultation by phone, facsimile, pager, and/or e-mail. If the delegating physician is not available, the delegating physician shall designate another physician who concurs with the terms of this agreement.

Client Evaluation/Follow-up: The frequency and guidelines for **client** evaluation/follow-up by the delegating physician will be determined collaboratively between the APRN and the delegating physician. **Clients** will be evaluated through sampling of record reviews at least quarterly and case conferences as needed.

Documentation: The APRN shall document services provided in accordance with the nurse protocol agreement. The APRN shall document all drugs ordered, dispensed and handled in accordance with the Georgia Nurse Practice Act, the Rules of the Georgia Board of Nursing, Rules and Regulations of the Georgia Board of Pharmacy and DPH requirements.

Record Reviews: A sampling of records shall be reviewed at least quarterly by the delegating physician(s).

This document indicates a mutual agreement between the delegating physician and the APRN who is authorized to practice under a nurse protocol agreement. The APRN, whose signature appears below, has:

1. Been adequately trained and is prepared to perform the delegated medical acts specified in this nurse protocol agreement; and
2. Read and understands all statutory rules and regulations pertaining to nursing practice under nurse protocol and has read and understands the drug dispensing procedure.
3. **Been given an opportunity to have questions answered.**

_____ _____
Advanced Practice Registered Nurse Signature Printed Name of APRN

Date: _____

_____ _____
Delegating Physician Signature Printed Name of Delegating Physician

Date: _____

APPENDIX 2

TEMPLATE Example for HIV

NURSE PROTOCOL AGREEMENT FOR ADVANCED PRACTICE REGISTERED NURSES IN PUBLIC HEALTH

Area of Specialty: Care of HIV-infected adults and adolescents.

Dangerous Drugs (list or attach a list of the general categories or types of drugs to be ordered; a formulary is optional; list or formulary shall not include controlled substances Schedule III, IV or V). May order dangerous drugs for the outpatient treatment of HIV infection and primary care conditions as defined in the reference guidelines listed below.

List may include:

- Antiretroviral Agents
- Drugs for the outpatient management of HIV disease including prophylaxis and/or treatment for opportunistic infections
- Drugs for the treatment of sexually transmitted diseases, tuberculosis, hepatitis, and other infectious diseases
- Drugs for the management of primary care conditions including hypertension, diabetes, asthma, and hyperlipidemia
- Contraceptives
- Hormone therapy for the treatment of symptoms of menopause

Diagnostic Studies (check all that apply):

- ✓ Laboratory tests as appropriate
- ✓ X-ray
- ✓ Ultrasound
- ____Other(specify):_____

Medical Treatments: May order as appropriate for the area of specialty.

Reference Guidelines for Practice: The following references shall be utilized as guidelines for practice, excluding all controlled substances listed in these documents:

1. AIDS Education and Training Centers (AETC) National Resource Center, *Clinical Manual for the Management of the HIV-Infected Adult*, 2006 ed., July 2007, <http://www.aids-etc.org/aetc/aetc?page=cm-00-00> (Ju**ne 24, 2011**)).
2. Jean R. Anderson (ed.), *A Guide to the Clinical Care of Women with HIV*, 2005 ed., **http://www.ask.hrsa.gov/detail_materials.cfm?ProdID=3591 (June 24, 2011).**
3. John G. Bartlett and Joel E. Gallant, 200**9-2010** *Medical Management of HIV Infectio*n, Baltimore, Maryland, Johns Hopkins University, 200**9**.
4. Centers for Disease Control and Prevention (CDC) and the HIV Medicine Association of the Infectious Diseases Society of America, Guidelines for the Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents, **April 10, 2009**, http://AIDSinfo.nih.gov (Ju**ne 24, 2011**).

5. Department of Health and Human Services (DHHS), *Guidelines on the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents*, **October 14, 2011**, http://aidsinfo.nih.gov/contentfiles/AdultandAdolescentGL.pdf (**November 14, 2011**).
6. GA DPH, *Medical Guidelines for the Care of HIV-Infected Adults and Adolescents,* June 2005, <http://health.state.ga.us/pdfs/epi/hivstd/HIVmedicalguidelinesJune2005.pdf> (Ju**ne 24, 2011).**
7. GA DPH, Nurse Protocols for HIV/AIDS-Related, Sexually Transmitted Diseases, and Women's Health, *Nurse Protocols for Registered Professional Nurses in Public Health*, 201**2**.
8. The North American Menopause Society, *Menopause Practice: A Clinician's Guide*, **4th** ed., 20**10**, **http://www.menopause.org/edumaterials/cliniciansguide.aspx** (**June 24, 2011**).
9. Ralph Gonzales and Jean S. Kutner, *Current Practice Guidelines in Primary Care 20**11***, **10**th ed., McGraw-Hill Professional Publishing, 20**10**.

Consultation: The delegating physician will be available for immediate consultation by phone, facsimile, pager, and/or e-mail. If the delegating physician is not available, the delegating physician shall designate another physician who concurs with the terms of this agreement.

Client Evaluation/Follow-up: The frequency and guidelines for **client** evaluation/follow-up by the delegating physician will be determined collaboratively between the APRN and the delegating physician.

Client evaluation by the delegating physician may include:

1. All new patients should be evaluated or examined by the delegating physician at least once: clients with CD4 counts less that 200/mm^3 examine/evaluate within 3 months; clients with CD4 counts 200-500/mm^3 examine/evaluate within 6 months; and clients with CD4 counts greater than 500/mm^3 examine/evaluate within 12 months.
2. **Clients** not responding to routine therapy should be evaluated or examined by the delegating physician within 7 days of when the APRN identifies that the client is not responding to routine therapy.

Documentation: The APRN shall document services provided in accordance with the nurse protocol agreement. The APRN shall document all drugs ordered, dispensed and handled in accordance with the Georgia Nurse Practice Act, the Rules of the Georgia Board of Nursing, Georgia Board of Pharmacy Rules and Regulations and D**P**H requirements.

Record Reviews: A sampling of records shall be reviewed at least quarterly by the delegating physician(s) or designated alternate delegating physician.

This document indicates a mutual agreement between the delegating physician and the APRN who is authorized to practice under a nurse protocol agreement. The APRN whose signature appears below has:

1. Been adequately trained and is prepared to perform the delegated medical acts specified in this nurse protocol agreement; and
2. Read and understands all statutory rules and regulations pertaining to nursing practice under nurse protocol and has read and understands the drug dispensing procedure.
3. **Been given an opportunity to have questions answered.**

_____ _____
Advanced Practice Registered Nurse Signature Printed Name of APRN

_____
Date

_____ _____
Delegating Physician Signature Printed Name of Delegating Physician

_____
Date

APPENDIX 3

EXAMPLE DRUG FORMULARY FOR ADVANCED PRACTICE REGISTERED NURSES
(Listing of Generic Drugs by Specific Classes)

Antihistamine Agents

Chlorpheniramine maleate
Diphenhydramine HCl
Zyrtec

Antimicrobial Agents

Antifungals
Fluconazole
Griseofulvin
Itraconazole
Ketoconazole
Nystatin
Terbinafine

Cephalosporins
Cefotaxime
Ceftriaxone
Cefuroxime
Cephalexin

Penicillins
Amoxicillin
Ampicillin
Augmentin
Benzathine penicillin G
Penicillin VK

Macrolides
Erythromycin
Azithromycin

Tetracyclines
Doxycycline
Tetracycline

Miscellaneous
Metronidazole
Trimethoprim
/Sulfamethoxazole

Antivirals
Acyclovir
Amantadine
Famcyclovir
Ribavirin
Rimantadine
Valacyclovir

Fluoroquinolones
Ciprofloxacin
Levofloxacin
Moxifloxacin
Ofloxacin

Antituberculosis
Aminosalicylic acid
Capreomycin
Cycloserine
Ethambutol
Ethionamide
Isoniazid
Pyrazinamide
Rifabutin
Rifampin
Rifapentine
Streptomycin

Blood Formation Agents -- Iron Preparations

Ferrous fumarate
Ferrous sulfate

EXAMPLE

Cardiovascular Drugs -- Cardiac Glycoside

Digoxin

Cardiovascular Drugs -- Anti-hypertensive Agents

Angiotensin-Converting Enzyme Inhibitors
Benazepril
Captopril
Enalapril
Fosinopril

Beta-Adrenergic Blockers
Atenolol
Propranolol
Toprol XL

Calcium Channel Blockers
Norvasc
Verapamil

Centrally-Acting
Clonidine
Reserpine

Peripherally-Acting
Prazosin
Reserpine

Vasodilator
Hydralazine

Central Nervous System Agents

Anticonvulsants
Carbamazepine
Gabapentin
Lamotrigine
Phenytoin
Tegretol XR
Valproic Acid

Analgesics/Antipyretics (Non-narcotic)
Acetaminophen
Aspirin

Nonsteroidal Anti-inflammatory
Ibuprofen
Naproxen

Electrolyte, Caloric, and Water Balance

Diuretics
Furosemide
Hydrochlorothiazide
Spironolactone

Replacement Preparations
Ensure
Potassium Chloride

Eye, Ear, Nose and Throat (EENT) Preparations

Antibiotics
Bacitracin
Ciloxan
Erythromycin
Floxin Otic
Gentamycin

Anti-inflammatory
Dexamethasone
Loteprednol
Prednisolone

Mydriatics
Atropine
Homatropine
Tropicamide

Vasoconstrictors
Naphazoline
Oxymetazoline
Phenylephrine
Tetrahydrozoline

EXAMPLE

Gastrointestinal (GI) Drugs

Antiemetics
Promethazine

Antiflatulents
Simethicone

Laxatives
Castor Oil
Mineral Oil
Psyllium (Metamucil)
Stool Softener

Antidiarrheals
Bismuth subsalicylate
Loperamide

Miscellaneous GI Drugs
Cimetidine
Famotidine
Lansoprazole
Metoclopramide
Nizatidine
Ranitidine
Sulcrafate

Hormones and Synthetic Substitutes

Adrenals
Prednisone
Triamcinolone

Antidiabetic Agents
Glipizide
Glucophage
Glucovance
Glyburide
Insulin
Metformin

Thyroid Agents
Levothyroxine

Respiratory Agents

Bronchodilators
Albuterol
Bitolterol Mesylate
Pirbuterol Acetate

Xanthine Derivatives
Aminophylline
Theophylline

Corticosteroids
Beclomethasone dipropionate
Budesonide turbuhalar
Fluinsolide
Fluticasone propionate
Methylprednisolone
Prednisolone
Prednisone
Triamcinolone acetonide

Anticholinergics
Ipratropium bromide

Membrane Stabilizer
Cromolyn sodium
Nedocromil

Skin and Mucous Membrane Agents

Antibiotics
Bacitracin
Benzoyl Peroxide
Clindamycin
Erythromycin
Mucopirocin
Tetracycline

Antivirals
Acyclovir
Penciclovir

Antifungals
Ciclopirox
Clotrimazole
Ketoconazole
Miconazole
Nystatin
Terbinafine
Tolnafate

EXAMPLE

Anti-inflammatory Agents

Low Potency
Aclometasone dipropionate
Hydrocortisone

High Potency
Betamethasone dipropionate
Halcinomide
Triamcinolone acetonide 0.5%

Intermediate Potency
Flurandrenulide
Triamcinolone acetonide 0.1%

Highest Potency
Augmented Betamethasone dipropionate (Diprolene)
Halobetasol

EXAMPLE

APPENDIX 4

TEXTS/REFERENCES USED/RECOMMENDED FOR ADVANCED PRACTICE REGISTERED NURSES

1. AIDS Education and Training Center (AETC), "The Clinical Manual for Management of the HIV-Infected Adult," a living document at <http://www.aidsetc.org/aidsetc?page=cm-00-00>.
2. American Academy of Pediatrics, *Pediatric Clinical Practice Guidelines & Policies: A Compendium of Evidence-Based for Pediatric Practice*, **11**th edition, American Academy of Pediatrics, 20**11**.
3. John G. Bartlett and Joel E. Gallant, *Medical Management of HIV Infection 200**9-2010***, Johns Hopkins University, Division of Infectious Diseases, 200**9**.
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6. Rose W. Boynton, *Manual of Ambulatory Pediatrics*, 6th ed., Lippincott Williams & Wilkins, Philadelphia, 2009**. (Current).**
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8. Frank J Domino, *The 5-Minute Clinical Consult 201**2***, **20**th ed., Lippincott Williams & Wilkins, 20**11**.
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10. Marilyn W. Edmunds and Maren S. Mayhew, *Procedures for Primary Care Practitioners, 3rd* ed., Mosby-Year Book, St. Louis, 2009.
11. Fitzpatrick, T.B., et al. (2009). *Color atlas and synopsis of clinical dermatology (6th ed)* New York: McGraw-Hill.
12. Ralph Gonzales and Jean S Kutner, *Current Practice Guidelines in Primary Care 20**11***, **10**th ed., McGraw-Hill Professional Publishing, 20**10**.
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15. R. A. Hatcher, et al., *Contraceptive Technology*, 19th revised ed., Physicians' Desk Reference Inc, 2008.
16. McCance, K.L., & Heuther, S.E. (2010). *Pathophysiology; The biologic basis for disease in adults & children*. (6th Ed). Maryland Heights, MO: Mosby.
17. Stephen J. McPhee and Maxine A. Papadakis, (eds.), *Current Medical Diagnosis and Treatment 20**11***, **50**th ed., McGraw-Hill Companies, 20**10**.
18. Jay P Sanford, Robert Moellering, George Eliopoulos, et al, editors, *The Sanford GuideTo HIV/AIDS Therapy 20**11**,* 1**9**th ed., Antimicrobial Therapy, 20**10**.
19. Seidel, H.M., et al. *Mosby's Guide to Physical Examination, 7th Edition.* Mosby.

20. US Preventive Services Task Force**,** *The Guide to Clinical Preventive Services 20**10-2011**,* U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, 20**10**, http://www.ahrq.gov/clinic/pocketgd.htm (June **24**, 20**1**1).
21. Wright, L. M., & Leahey, M. (2009). *Nurses and families: A guide to family assessment and intervention* (5th ed.). Philadelphia: F. A. Davis.
22. Klaus Wolff, et al., *Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology*, 6th ed., McGraw-Hill, New York, 2009.

Pharmacology and Lab:

23. Allen J. Ellsworth, et al., (eds.), *Mosby's Medical Drug Reference 20**10**,* Mosby, St. Louis, 200**9**.
24. Marilyn W. Edmunds and Maren S. Mayhew, *Pharmacology for the Primary Care Provider*, 3rd ed., Mosby Inc, 2009.
25. Frances Fischbach, *A Manual of Laboratory and Diagnostic Tests*, 8th ed., Lippincott Williams & Wilkins, Philadelphia, 2008.
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27. *Lab-coat Pocket Edition*, Jones and Bartlett Publishers, 20**10**.
28. Carol K. Taketomo, Jane H. Hodding and Donna M. Kraus, *Lexi-Comp's Pediatric Dosage Handbook*, 1**7**th ed., Lexi-Comp Inc, 20**11**.
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GEORGIA DEPARTMENT OF PUBLIC HEALTH
DRUG DISPENSING PROCEDURE

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DRUG DISPENSING PROCEDURE

The following procedure is for the proper procurement, storage, record keeping, labeling and handling of drugs and/or devices by authorized agents or employees of the **Georgia Department of Public Health** and the County Boards of Health.

Licensed Pharmacist:

Print name _____

Signature _____ _____
Date

Licensed Physician:

Print name _____

Signature_____ _____
Date

DRUG DISPENSING PROCEDURE

All registered professional nurses or physician's assistants who dispense dangerous drugs and/or devices under the authority of an order issued in conformity with a nurse protocol or job description and as an agent or employee of **the Department of Public Health** or any county board of health, shall meet the same standards and comply with all record-keeping, labeling, packaging, storage and all other requirements for the dispensing of drugs imposed upon pharmacists and pharmacies with regard to such drugs and/or devices, as outlined by the following dispensing procedure. **This procedure applies to all drugs and devices within the district, whether purchased through state or local funds. The Pharmacy Director for the Department of Public Health, or a qualified designee, may make periodic on-site visits to health districts and/or local health departments to provide technical assistance and review drug use, storage and handling.**

A. DEFINITIONS

For the purpose of this dispensing procedure, the following definitions apply:

1. Administer or Administration
   Administer or administration means to give a unit dose of any drug or to perform any medical treatment or diagnostic study. O.C.G.A. § 43-34-23(a)(1).

2. Dangerous Drug
   Dangerous Drug means any dangerous drug as defined in O.C.G.A. § 16-13-71, but does not include any controlled substance or Schedule I controlled substance. **See also O.C.G.A. § 43-34-23(a)(3)**. Dangerous drugs are required to bear upon the package, the words "Caution Federal Law Prohibits Dispensing Without Prescription", "Rx only," or words of like import. These drugs may also be referred to as "Legend" drugs.

3. Device
   Device means an instrument, apparatus, contrivance or other similar or related article, including any component part or accessory, which is required under federal law to bear the label, "Caution: federal or state law requires dispensing by or on the order of a physician". O.C.G.A. § 26-4-5(9).

4. Dispense
   "Dispense" means to issue one or more doses of any drug in a suitable container with appropriate labeling for subsequent administration to, or use by, a patient. O.C.G.A. § 43-34-23 (a)(3.1)

5. Dispensing Procedure
   Dispensing Procedure means a written document signed by a licensed pharmacist and a licensed physician that establishes the appropriate manner under which drugs may be dispensed pursuant to O.C.G.A. § 43-34-23(a)(4).

6. Distribute
   Distribute means the delivery of a drug or device other than by administering or dispensing. O.C.G.A. § 26-4-5(11).

7. Job Description
   Job description means a document, signed by the primary supervising physician and the physician assistant, in which the primary supervising physician delegates to that physician assistant authority to perform certain medical acts and which describes the professional background and specialty of the primary supervising physician and the qualifications including related experience of the physician assistant; and includes a general description of how the physician assistant will be utilized in the practice. A job description shall not be required to contain every activity the physician deems the physician assistant qualified to perform but shall confine the activities of the physician assistant to those in the scope of practice of the primary supervising physician. O.C.G.A. § 43-34-102(4).

8. Nurse
   Nurse means a person who is a registered professional nurse licensed as such under **Article 1 of Chapter 26 of Title 43**. O.C.G.A. § 43-34-23(a)(6).

9. Nurse Protocol
   Nurse protocol means a written document mutually agreed upon and signed by a nurse and a licensed physician, by which **document**, the physician delegates to that nurse the authority to perform certain medical acts pursuant to subsection (b) of O.C.G.A. § 43-34-**23**. These acts shall include, without being limited to, the administering and ordering of any drug. O.C.G.A. § 43-34-**23**(a)(7).

10. Order
    Order means to select a drug, medical treatment or diagnostic study through physician delegation in accordance with a nurse protocol or a physician's assistant's job description. Ordering under such delegation shall not be construed to be prescribing nor shall ordering of a drug be construed to authorize the issuance of a written prescription. O.C.G.A. § 43-34-23(a)(8).

11. Practitioner or Practitioner of the Healing Arts
    Practitioner or Practitioner of the Healing Arts means a physician, dentist, podiatrist or veterinarian, and shall include any other person licensed under the laws of Georgia to use, mix, prepare, dispense, prescribe and administer drugs in connection with medical treatment to the extent provided by the laws of Georgia. O.C.G.A. § 26-4-5(33).

12. Prescription Drug Order
Prescription Drug Order means a lawful order of a practitioner for a drug or device for a specific patient; such order includes an electronic visual image prescription drug order and an electronic data prescription drug order. O.C.G.A. § 26-4-5(36).

B. GENERAL REQUIREMENTS

1. Although the **Department** of Public Health and the county boards of health may stock drugs and related supplies which are not considered dangerous drugs (e.g., ferrous sulfate tablets, reagent strips), the storage, record keeping and inventory control requirements shall **apply to all drugs, biologicals (vaccines and diluents), and related items. Furthermore,** all biologicals (vaccines and diluents) must be handled and stored according **to any specifics related to the individual vaccine listed in the** storage and handling guidelines located in the Georgia Immunization Program Manual. The manual may be accessed on line at http://health.state.ga.us/publications/manuals.asp.

2. The District Health Director or licensed physician signing this agreement shall designate a secure lockable area, room(s), which shall be known as the medication room(s) which is devoted to business related to pharmaceuticals and medical devices. **Also, they shall designate a person in charge of the medication room(s). The District Health Director shall keep this information current and on file, available upon request. All drugs should be kept out of reach of unauthorized staff and patients.**

3. A hard copy and/or computer or electronic access to current medication reference materials must be available in all health departments and/or health centers (at a minimum**, a hard copy or electronic version of** Drug Facts and Comparisons [eFacts and Comparisons], American Hospital Formulary Service or Lexi-Comp Drug Information Handbook [Lexi-Comp Online].)

4. All drugs or devices which bear, or are required to bear, upon the package, the words "Caution, Federal Law Prohibits Dispensing Without Prescription", “Rx only” or words of like import, shall be issued pursuant to one of the following:

a. A prescription from a licensed practitioner authorized to prescribe.
b. An order issued in conformity with a nurse protocol or job description.

5. A registered professional nurse or physician's assistant is only authorized to dispense pursuant to an order issued in conformity with a nurse protocol or job description, not a prescription or an order written on a chart or phoned in by a physician.

6. The telephone number of a poison center shall be conspicuously posted in the medication room and pharmacy areas (e.g., Georgia Poison Center 1-800-222-1222).

C. DRUG STORAGE AND RECORD KEEPING

1. All drugs shall be stored in designated areas known as the medication room, within the facility that are sufficient to insure the proper sanitation, temperature, light, ventilation, moisture control, segregation and security. These conditions must also be considered when drugs are being distributed/transported from one area/facility to another area/facility.

   a. All drugs requiring refrigeration must be stored in a refrigerator designated for drug use. The refrigerator and/or freezer must have **either** a thermometer **or an electronic temperature monitoring device that monitors the unit's internal temperature. The temperature must be recorded by a clinic employee. Documentation shall be made twice daily by initialing a temperature log during clinic hours** to insure the proper temperature range specified for those particular drugs. **The document must provide the printed employee name and identifying initials. Temperature logs must be kept on file for three years.**

      NOTE: Refrigerators/freezers can be monitored with an external electronic temperature monitoring device which electronically monitors internal temperatures with a temperature probe (e.g., Sensaphone).

   b. All pharmaceuticals are to be stored and maintained at the correct temperature according to the individual product package insert for 24 hours a day, seven days a week. Extreme changes in temperature have the potential to change the effectiveness and/or stability of the drug. All pharmaceuticals that are improperly stored must be immediately segregated from stock and labeled unusable. See Section D. OUTDATED, DETERIORATED, RETURNED AND RECALLED DRUGS.

   c. Store drugs for external use apart from drugs for internal use or injection (segregate at least by using different shelving or bins).

2. All drugs shall be stored in a secured area (under lock and key when not in actual use). **All access entries to the medication room(s) must be locked at all times prohibiting outside entry. Security of the medication room(s) must be maintained 24 hours a day. Authorization to the medication room(s) must be reserved to those employees performing functions**

requiring access such as dispensing and inventory management and control.

Whenever more than one authorized person has access to drugs from a common inventory, one person shall be designated "in charge" of said inventory. The person designated "in charge" of said inventory shall ensure that a complete and accurate record of all drugs on hand, received, dispensed, issued, removed or otherwise disposed of, has been kept in accordance with the record-keeping requirements of the Board of Pharmacy.

The district must keep a current list of those employees authorized to have access to the medication room(s). This list must be kept on file and signed annually by the District Health Director and the person "in charge" of said inventory.

The medication room(s) should be sufficiently secure to deny access to unauthorized persons. **When the security of the medication room is breached, a police report should be filed and an actual count of the inventory should be conducted and documented.**

3. **Upon receipt of pharmaceuticals and/or medical devices, invoices must be signed and dated. Any discrepancies must be clearly noted on the invoice and reported within one business day to the distributor. Resolution must be noted on the invoice. All invoices must be maintained on file for five years. For purchases made by the State Office of Pharmacy, signed and dated invoices must be submitted to the State Office of Pharmacy within 72 hours of receiving the product.**

4. **Records of dispensing are to be made and kept by the dispensing facility for two (2) years in a secure location and retrievable upon request. Dispensing records may be manual hard copy on a *Drug Dispensing Sign-out Sheet* or electronic print version.**

Required documentation **for dispensing records** when a drug **or device** is dispensed pursuant to an order issued in conformity with a nurse protocol includes:

a. **Patient's name and address.**
b. Name, strength, **and dosage form** of drug dispensed **with the National Drug Code (NDC) number**
b. Quantity dispensed.
c. Date dispensed.
d. **Name of the nurse ordering and dispensing.**
e. **Name of practitioner (delegating physician).**
f. Lot number and expiration date, per legal requirements

g. **Identifying serial number (prescription number).**

If using an electronic dispensing record in place of the manual *Drug Dispensing Sign-out Sheet*, the electronic dispensing record should clearly identify who is ordering the pharmaceutical or medical device and ideally the computer entry person, if other than the person ordering. The electronic dispensing records must be printed in hard copy every twenty-four (24) hours and filed in a secure location. The electronic dispensing print-out record must be readable without the aid of a special device. The dispenser(s) is/are responsible for verifying completeness and accuracy of the entries to the system, and must provide documentation that medication order information entered into the computer is correct, by dating and signing the print-out in the same manner as signing a check or legal document (e.g., Mary A. Smith or M. A. Smith).

5. A running inventory of drugs received, **dispensed**, and removed from designated storage areas must be verified by actual count **at least** monthly. **Discrepancies in inventory should be researched and findings should be clearly noted. Reconciliation should occur immediately if variances are found. If a manual and an electronic inventory are kept simultaneously, then both inventories must be the same.**

6. Districts that contract for local retail or hospital pharmacy services must ensure that a list of state supplied drugs dispensed from the pharmacy location to public health clients is forwarded to appropriate district staff or state program on a monthly basis (e.g., SHAPP). **Districts that contract for local retail or hospital pharmacy services must keep contracts on file with a copy of a current pharmacy license. The District/County must ensure no drug diversion and no violations of federal or state laws or regulations.**

7. All records pertaining to drug accountability (from ordering and receipt of drug to actual patient administration) must be kept on file. The Georgia Drugs and Narcotics Agency and the Department of **Public** Health and its inspectors shall have the authority to conduct inspections or audits on all drugs received and/or disposed of by an agent or employee of the **Department** of Public Health or any County Board of Health. Prescriptions and/or orders shall be kept on file for a minimum period of two (2) years from the date they are filled. Refer to the Public Health Record Retention Policy for specific program requirements that may be more stringent.

8. No health center in which drugs are handled shall operate in any manner or dispense any drugs under unclean, unsanitary, overcrowded, unhealthy conditions or under any condition that endangers the health, safety or welfare of the public. All drugs shall be kept beyond the normal reach of small children.

9. Drug samples are forbidden in public health facilities unless a written **district** procedure **approved by the State Office of Pharmacy** has been established for their use by a licensed physician and a licensed pharmacist.

D. OUTDATED, DETERIORATED, RETURNED AND RECALLED DRUGS

1. Examine drug stock **at least monthly** and remove from stock all outdated**, improperly stored,** and deteriorated drugs. Stock must be rotated so the shortest dated stock will be used first. No outdated or deteriorated drug may be kept in stock for patient use. Under no circumstance shall any drug be dispensed or administered that bears a date of expiration that has been reached or that is in a deteriorated condition.

2. Remove all outdated, **improperly stored,** deteriorated, unused or overstocked drugs from inventory **and label unusable. For vaccines, contact the Immunization Program for guidance.** The District Pharmacist or District/County Drug Coordinator will be responsible for compiling and sending the required documentation to the drug manufacturer, drug wholesaler or the reverse drug distributor (i.e. Guaranteed Returns) for handling the drugs appropriately. For any drug purchased through the State Office of Pharmacy, prior notification and a copy of the prepared documentation is required to be sent to the State Office of Pharmacy **to ensure that credit is applied to the appropriate state account. For any drugs purchased by the county or district, documentation must be retrievable and available upon request.** The proper documentation should be kept on file for a minimum of two (2) years. Information on drugs purchased or supplied with state or federal funds must be submitted upon request. Documentation should include the following:

   a. Name and strength of the drug, expiration date, lot number, unit or size and quantity of drug returned.
   b. The name and street address of the clinic/county/district returning drugs.
   c. The date of the return.
   d. The reason the drug is being returned (e.g., out-of-date, improperly stored, deteriorated, discontinued, unused, overstocked).

   Depending on the drug and/or the contract, an exchange for fresh stock, a return for credit or a return for “destruction only” may occur.

3. Drug Recalls
   If a drug recall for pharmaceutical supplies purchased by the Office of Pharmacy is issued by a manufacturer or other authorized agency, the District Pharmacist or Drug Coordinator will be notified of the procedure to follow to insure that all recalled public health issued drugs are removed from stock at the state, district and county level. For pharmaceutical supplies purchased by the

district or county, the district pharmacist or drug coordinator would work with the drug manufacturer or wholesaler and pull any recalled drugs. **Documentation must be submitted to the State Office of Pharmacy upon request.**

4. See the Georgia Immunization Program Manual, Storage and Handling Guidelines regarding the disposition of outdated, expired or wasted vaccines. The manual is located at http://health.state.ga.us/publications/manuals.asp.

E. INVENTORY

1. Annual Inventory
An inventory of all drugs and/or devices in each health district, **including all clinics/medication rooms,** must be **conducted, documented, and signed** at the end of each fiscal year. **An attached template is on page 4.19 as a guide, "*Annual Drug Inventory*".** This inventory must include all drugs for use in public health whether these drugs are located in the district, the county health department or a local retail or hospital pharmacy. The completed annual inventory must be maintained on file at the district level for a period of two (2) years **and a copy must be submitted by the second week of July to the State Office of Pharmacy on an annual basis.** Inventory information on drugs purchased or supplied with state or federal funds must be submitted upon request.

2. Each health district should maintain a supply of drugs on hand within the district, adequate to supply the needs of the district, but not to exceed a three (3) month supply. Inventory levels for each drug should be established, and then reviewed and adjusted on a routine basis to maintain proper inventory control.

3. Vaccine inventory must be documented and managed in the Georgia Registry of Immunization Transactions and Services (GRITS). **O.C.G.A. § 31-12-3.1**

F. LABELING AND APPROPRIATE CONTAINERS

1. All drugs and/or devices for use in the health department shall be in appropriate containers (manufacturer's original package or prescription vial), including the use of:

   a. Child-proof containers.
   b. Light-resistant and moisture-proof containers.
   c. Adequately-labeled containers to identify, at a minimum, the brand name or generic name, strength, lot number and expiration date.

2. Any drug and/or device issued or dispensed to the client for self-administration shall be in appropriate containers (manufacturer's original package or light resistant prescription vial, both with child-proof caps, unless a waiver is on file for non-safety caps) and labeled with the following information:

   a. Name, address and telephone number of the health district, health department or health center.
   b. Date and identifying serial number (at minimum, the three (3) digit county code and any other necessary identifying numbers).
   c. Full name of the client.
   d. Name of the drug and strength.
   e. Name of drug manufacturer (optional).
   f. Directions for use to the patient.
   g. **Name of delegating physician.**
   h. The expiration date of the drug.
   i. Such other accessory cautionary information as may be required or desirable for proper use and safety to the client.
   j. FDA labeling requirement:
   For drug products dispensed in health departments, it is a requirement to provide the FDA Side Effect Statement, "Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088." Each authorized dispenser or pharmacy must distribute the side effects statement with each prescription drug product dispensed. One or more of the following options to distribute the side effects statement must be selected:

      1) Distribute the side effects statement on a sticker attached to the unit package, vial, or container of the drug product;
      2) Distribute the side effects statement on a preprinted pharmacy prescription vial cap;
      3) Distribute the side effects statement on a separate sheet of paper;
      4) Distribute the side effects statement in consumer medication information; or
      5) Distribute the appropriate FDA-approved Medication Guide that contains the side effects statement.

3. All drugs must be identified up to the point of administration to, or use by, the client. Therefore, the nurse should **READ LABELS THREE TIMES.**
   a. When the drug is selected from the storage area.
   b. When preparing, labeling, dispensing or administering the product.
   c. When returning the original container or package to the storage area, or discarding it.

4. The contents and the label of every drug must be verified by the licensed individual authorized to dispense, issue or administer drugs before each drug is given to the client.

5. **When a dispensing nurse uses any person to assist in the measuring of quantities of medication and the typing of labels, excluding the dispensing of drugs, the dispensing nurse must be physically present in the dispensing area and actually observing the actions of such person in doing such measuring and typing, and the dispensing nurse must be the verifier of the contents and the label.**

G. CLIENT COUNSELING COMPONENTS

The following client counseling components are a requirement of the Omnibus Budget Reconciliation Act of 1990, and the Georgia State Board of Pharmacy Rules and Regulations. The purpose, in part, is to enhance the public health and welfare by requiring that consultation be offered to clients regarding their medications and various conditions that could affect or be affected by the use of those medications.

1. Client Records

   a. A client record system shall be maintained for clients for whom Prescription Drug Orders are dispensed or for whom drugs are dispensed under the authority of a nurse protocol or job description. The client record system shall provide for the immediate retrieval of information necessary for the nurse or physician's assistant to identify previously dispensed drugs. Such client's record shall contain, at a minimum:

      1) Full name of the client for whom the drug is intended,
      2) Date of birth,
      3) Client's gender,
      4) Address of the client (and telephone number if available).

   b. Unless the client or the client's agent refuses such information, the nurse or physician's assistant dispensing under the authority of a nurse protocol or job description shall make a reasonable effort to obtain from the client or client's agent and record:

      1) Any known allergies, drug reactions or idiosyncrasies;
      2) Chronic conditions or disease states of the client;
      3) The identity of any other drugs, including over-the-counter drugs, or medical devices currently used by the client.

If the client or the client's agent refuses to provide such information as listed above, it should be documented with the client's or client's agent's signature.

c. The nurse or physician's assistant dispensing under the authority of the nurse protocol or job description shall make a reasonable effort to obtain, record and maintain a list or record of all drug orders obtained by the client at the site where the drug was dispensed within the preceding two (2) years, showing the following information:

1) Name and strength of the drug.
2) Quantity and date dispensed.
3) Name of the nurse or physician's assistant ordering and dispensing the drug.
4) Comments from the nurse or physician's assistant relevant to the individual's drug therapy, including any other information peculiar to the specific client or drug.

d. A client record shall be maintained for a period of not less than two (2) years from the date of the last entry in the profile record.

2. Prospective Drug Review

For the purpose of promoting therapeutic appropriateness, before ordering a drug(s) from a nurse protocol or job description and before dispensing any such drug(s), the nurse or physician's assistant shall, at a minimum, review the client's records and each drug(s) ordered to identify:

a. Drug over-utilization or under-utilization.
b. Therapeutic duplications.
c. Drug-disease contraindications.
d. Drug-drug interactions.
e. Incorrect dosage, dosage form or duration of therapy.
f. Drug-allergy interaction(s).
g. Clinical abuse or misuse.

Upon recognizing any of the above, the nurse or physician's assistant ordering the drug shall take appropriate steps to avoid or resolve the problem including, if necessary, consultation with the delegating physician.

3. Client Counseling

a. Before dispensing a drug and/or device which has been ordered under the authority of a nurse protocol or job description, and following a review of the client's record, the nurse or physician's assistant shall

personally offer to discuss matters which will enhance or optimize drug therapy with each client, or caregiver of such client. Such discussion shall include appropriate elements of client counseling, based on the professional judgment of the nurse or physician's assistant. Such elements may include but are not limited to the following:

1) The name, strength and description of the drug.
2) The dosage form, dose, route of administration and duration of drug therapy.
3) Intended use of the drug and expected action or result.
4) Any special directions and precautions for preparation, administration and use by the client.
5) Common, severe side effects, adverse effects or interactions, and therapeutic contraindications that may be encountered, including their avoidance, and the action required if they occur.
6) Techniques for self-monitoring drug therapy.
7) The proper storage of the drug.
8) Follow-up information regarding the need for continued drug therapy, if applicable.
9) Action to be taken in the event of a missed dose.
10) Comments relevant to the individual's drug therapy, including any other information peculiar to the specific client or drug.

b. Additional forms of client information may be used to supplement verbal client counseling when appropriate or available.

c. Documentation of drug and/or device counseling must be clearly noted in the client's chart.

H. Drug Programs/Contracts

1. 340B Drug Pricing Program

The 340B Drug Pricing Program resulted from enactment of Public Law 102-585, the Veterans Health Care Act of 1992, which is codified as Section 340B of the Public Health Service Act. Section 340B limits the cost of covered outpatient drugs to certain federal grantees, federally-qualified health center look-alikes and qualified disproportionate share hospitals. Source: U.S. Department of Health and Human Services, Health Resources and Service Administration, Office of Pharmacy Affairs. More information is located at http://www.hrsa.gov/opa/

Eligible programs (covered entity) within Public Health:

a. A family planning project receiving a grant or contract under Sec. 1001 PHSA (42 USCS § 300).

b. An entity receiving a grant under subpart II of part C of Title XXVI of the Ryan White Care Act (RWCA) (relating to categorical grants for outpatient early intervention services for HIV disease) - Early HIV Intervention Services Categorical Grants (Title III of the RWCA).

c. A State-operated AIDS Drug Assistance Program (ADAP) receiving financial assistance under the RWCA.

d. An entity receiving funds under section 318 (42 USCS §247c) (relating to treatment of sexually transmitted diseases) or section 317(j)(2) (42 USCS§247b(j)(2)) (relating to treatment of tuberculosis) through a State or unit of local government, but only if the entity is certified by the Secretary.

2. 340B Prime Vendor Program (PVP)

The program is free and voluntary to facilities that are already 340B eligible. The 340B PVP provides additional savings to 340B participants registered with the Prime Vendor. The program provides access to 340B sub-ceiling prices for drug products, favorable rates to access multiple wholesale distributors, and access to other related value-added products. The PVP is free to all 340B covered entities, but the covered entity must enroll in the PVP. More information is located at https://www.340bpvp.com/public/default.asp

3. Minnesota Multistate Contracting Alliance for Pharmacy (MMCAP)

MMCAP is a voluntary group purchasing organization operated and managed by the State of Minnesota serving government-authorized healthcare facilities. The state of Georgia is a MMCAP participant. The Department of Administrative Service (DOAS) is the administrator for Georgia. The goal of MMCAP is to provide member organizations the combined purchasing power to receive the best prices available for pharmaceuticals, hospital supplies, and related products. More information is located at http://www.mmd.admin.state.mn.us/mmcap/background.htm

I. Dispensing/Administering of 340B and 340B PVP Products

1. **340B and 340B PVP purchased products may only be administered/dispensed to a patient of the covered entity. The Office of Pharmacy Affairs has published final notice of guidelines on definition of a patient to allow a clearer understanding of which individuals may receive prescribed medications purchased at the legislatively mandated discount of Section 602 of the Veterans Healthcare Act of 1992.**

   In summary, an individual is a "patient" of a covered entity (with the exception of State-operated or funded AIDS drug purchasing assistance programs) only if:

   - **The covered entity has established a relationship with the individual, such that the covered entity maintains records of the individual's health care; and**
   - **The individual receives health care services from a health care professional who is either employed by the covered entity or provides health care under contractual or other arrangements (e.g. referral for consultation) such that responsibility for the care provided remains with the covered entity; and**
   - **The individual receives a health care service or range of services from the covered entity which is consistent with the service or range of services for which grant funding or Federally-qualified health center look-alike status has been provided to the entity. Disproportionate share hospitals are exempt from this requirement.**

   An individual will not be considered a "patient" of the entity for purposes of 340B if the only health care service received by the individual from the covered entity is the dispensing of a drug or drugs for subsequent self-administration or administration in the home setting.

   An individual registered in a State operated AIDS drug purchasing assistance program receiving financial assistance under title XXVI of the PHS Act will be considered a "patient" of the covered entity for purposes of this definition if so registered as eligible by the State program.

   For more information, please refer to the October 1996 Final Notice Regarding Section 602 of the Veterans Health Care Act of 1992 Patient and Entity Eligibility.

2. **340B PVP may contract to allow use of pharmaceutical products to clients that do not meet the patient definition. The 340B PVP will provide notification on each product in this category to the participating 340B PVP entities.**

J. ADDITIONAL INFORMATION

1. The Prescription Drug Marketing Act (PDMA)

The Prescription Drug Marketing Act (PDMA) of 1987 establishes legal safeguards for prescription drug distribution to ensure safe and effective pharmaceuticals. It was passed in response to the development of a wholesale sub-market (known as the "diversion market") for prescription drugs. More information is located at http://www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAct/SignificantAmendmentstotheFDCAct/PrescriptionDrugMarketingActof1987/ucm201702.htm

2. The Robinson-Patman Act

The Robinson-Patman Act (15 U.S.C. 13 (a)-(f)) specifically makes it unlawful for "[One engaged in commerce to discriminate in price between different purchasers of commodities of like quality and grade where the effect may be substantially to lessen competition.]"

3. The Food and Drug Administration

The Code of Federal Regulations (CFR) is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. Title 21 of the CFR is reserved for rules of the Food and Drug Administration. Each title (or volume) of the CFR is revised once each calendar year. A revised Title 21 is issued on approximately April 1st of each year.

CFR 21 is downloaded from the files of the Government Printing Office (GPO) and contains the most recent revision. The CFR at GPO, both current and historical, can also be searched directly at http://www.access.gpo.gov/nara/cfr/index.html.

a. To report non-emergencies about medical products: medicines, medical devices, blood products, biologics, and special nutritionals:

The FDA's MedWatch program allows healthcare professionals and consumers to voluntarily report a serious **adverse event, product quality problem or product use error,** that they suspect are associated with the drugs**, biologicals,** medical devices, **and dietary supplements** they prescribe, dispense or use. These problems include serious adverse reactions and events, product quality problems and product use errors. Reporting can be done online, by phone, or by submitting the

MedWatch 3500 form by mail or fax. Visit the MedWatch site, http://www.fda.gov/medwatch/, for more details.

b. To report non-emergencies about vaccines:

Adverse reactions and other problems related to vaccines should be reported to the Vaccine Adverse Event Reporting System, which is maintained by FDA and the Centers for Disease Control and Prevention. The vaccine reporting form may be found at http://vaers.hhs.gov; a copy of the form may also be obtained by calling 1-800-822-7967 or at the FDA website, http://www.fda.gov/.

4. To report accidental poisonings:

Georgia Poison Center
80 Jesse Hill Drive, SE
PO Box 26066
Atlanta, GA 30335-3801

Emergency Phone: 1-800-222-1222

TTY/TDD: (404) 616-9287

Administrative Phone: (404) 616-9237

FAX: (404) 616-6657 (administrative) or (404) 616-9288 (Poison Center)

Website: www.georgiapoisoncenter.org

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ANNUAL DRUG INVENTORY REPORT

DISTRICT/CLINIC:_____ INVENTORY DATE: _____

Drug Name	NDC Number	Strength	Dosage Form	Package size	Lot Number	Expiration Date	Actual Quantity on Hand	Documented Perpetual Inventory	Variance
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
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_____

Signature

ORIENTATION, TRAINING, AND QUALITY ASSURANCE FOR NURSE PROTOCOLS

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ORIENTATION, TRAINING, AND QUALITY ASSURANCE

A. Initial Orientation and Training

A comprehensive orientation and training program ensures that registered professional nurses are effectively integrated into the Public Health system, are prepared to practice under the authority of nurse protocols, are introduced to the concepts of population health-based nursing practice and are able to contribute to quality assurance and quality improvement (QA/QI) for public health nursing practice.

Orientation and training of public health nurses includes both the general orientation given to all new public health employees and more specific clinical orientation and training necessary to function under standards and nurse protocols for one or more specific programs. **The Office of Nursing has the responsibility to set training and practice standards in accordance with the most current research and evidence-based practice. The extent to which the standards are implemented is determined by those who govern the day-to-day activities of public health programs and services at the local level. The QA/QI "required" and "recommended" training practice standards are delineated in Section VI of the QA/QI Manual and must be used to document the training completed by an individual RN as part of the preparation for practicing under nurse protocol**. **Although,** orientation and training should be individualized as much as possible according to the expertise the nurse brings to the job, and to meet the needs of the particular public health setting, **individual RN practicing under nurse protocol must complete all listed required trainings prior to practicing under a specific nurse protocol.**

The clinical orientation may be concurrent with the general orientation. By observing other nurses and beginning to perform some tasks under supervision, the nurse should gain understanding of the role of the public health nurse and the use of nurse protocols in the delivery of client services.

District/county orientation, training and QA/QI plans should be consistent with nursing practice standards and D**epartment** of Public Health guidelines such as the latest *Quality Assurance/Quality Improvement for Public Health Nursing Practice* manual, programmatic manuals and nurse protocols.

B. Continuing Education/Training

Every public health nurse should have the opportunity for continuing education and training in accordance with changes in technology and job needs. Specific programmatic expectations for continuing education are included in the QA/QI manual described above. Training programs are an appropriate way to educate nurses about any changes to nurse protocols after the annual review.

C. Documentation of Training

1. Professional growth and development, which is the responsibility of each RN and APRN, is documented at least once annually (e.g., workshops, seminars, community/professional meetings).
2. Documentation of all training that demonstrates RNs and APRNs are prepared to function under standards and nurse protocols for one or more specific programs should be maintained on file for five years at the district office and by the individual nurse.
3. Training files must be made available for review by RNs and APRNs during QA/QI reviews.

STANDARD

NURSE PROTOCOLS

FOR

TUBERCULOSIS (TB)

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2011-2012 TUBERCULOSIS CLINICAL REVIEW COMMITTEE

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STANDARD NURSE PROTOCOL FOR UNCOMPLICATED PULMONARY TUBERCULOSIS (TB) (AGE 18 AND OVER)

DEFINITION

Tuberculosis (TB) is an infectious disease transmitted through the air in droplet nuclei that are produced when a person with active TB disease of the lung or larynx sneezes, coughs, speaks, or sings. Persons breathing air contaminated with these droplet nuclei may become infected with TB.

Generally, a positive culture or positive Nucleic Acid Amplification (NAA) test for *Mycobacterium tuberculosis* is necessary to confirm the diagnosis of a tuberculosis case. However, suspected cases may be diagnosed on the basis of: a positive sputum smear for acid-fast bacilli (AFB); lung histology showing necrotizing granulomas with or without AFB; or clinical syndrome, even when a culture or pathologic specimen has not been, or cannot be, obtained.

ETIOLOGY

Causative agent of TB is the *Mycobacterium tuberculosis* (*M.tb*) complex (*Mycobacterium tuberculosis, Mycobacterium bovis, Mycobacterium africanum and Mycobacterium microti)*.

SUBJECTIVE

Individuals with uncomplicated TB:

1. May have history of exposure to a known case.

2. May have one or more of the following:
   a. Productive, prolonged cough (usually more than two or three weeks duration).
   b. Fever.
   c. Chest pain or pleuritic pain.
   d. Chills.
   e. Night sweats.
   f. Easy fatigability.
   g. Loss of appetite.
   h. Weight loss.
   i. Hemoptysis (coughing up blood).

3. If any of these conditions are present, this represents complicated TB and must be treated by a physician:
   a. Currently pregnant or breast-feeding.
   b. Known history of infection or exposure to multiple drug resistant (MDR) *M. tuberculosis*, or drug resistance on susceptibility testing to isoniazid, rifampin, pyrazinamide or ethambutol.

c. Known HIV infection.

d. Other new and/or complicated acute or chronic medical condition.
e. Known allergies to anti-tuberculosis drugs.
f. Treatment with once-weekly isoniazid and rifapentine during the continuation phase.
g. Decision to extend the continuation phase longer than four months.

OBJECTIVE

1. The following criteria are used to diagnose a suspected TB case:
   a. A positive Mantoux tuberculin skin test.
   (The absence of a reaction to the skin test does not rule out the diagnosis of TB disease or latent TB infection).
   b. Positive staining of acid-fast bacillus (AFB) in sputum(s), bronchial brush, wash or lung tissue biopsy. (However, cases can be smear negative.)
   c. Chest x-ray showing abnormalities compatible with TB.
   d. Response to treatment with anti-tuberculosis drugs.

2. In addition to the above, the following would be necessary to diagnose a case of TB:
   a. Pathology findings compatible with the diagnosis of TB.
   b. Positive culture or positive Nucleic Acid Amplification (NAA**)** test for *Mycobacterium tuberculosis.*

ASSESSMENT

1. Uncomplicated pulmonary tuberculosis.
   OR
2. Uncomplicated suspected case of pulmonary tuberculosis.

PLAN

DIAGNOSTIC STUDIES

1. If documented tuberculin skin test results cannot be verified (including millimeters [mm] of induration), perform a Mantoux tuberculin skin test per programmatic guidelines. **Vaccination with live viruses may interfere with tuberculin skin test reactions. For persons scheduled to receive a tuberculin skin test, testing should be done as follows: Either on the same day as vaccination with live-virus vaccine or 4-6 weeks after the administration of the live-virus vaccine. At least one month after smallpox vaccination.**

2. Collect 3 sputum specimens (on consecutive days) for AFB smear/culture (and sensitivities on first sputum) and send to the State Laboratory in Decatur. The public health nurse (PHN) will obtain the first sputum specimen and provide the client with two

additional containers for collection and mailing of the next two consecutive early morning sputum specimens to the State

Laboratory. Instruction should be given to both client and family on how to properly produce sputum for examination. Seek client confirmation regarding mailing of specimens and check with the laboratory to confirm receipt of specimens. If necessary, the PHN should collect and mail the specimens.

3. Collect blood to obtain baseline measurements for the following lab tests:
   a. Obtain **aspartate aminotransferase** (AST) **[formerly, serum glutamic oxaloacetic transaminase (SGOT)],** alanine aminotransferase (ALT) **[formerly, serum glutamic-pyruvic transaminase (SGPT)],** bilirubin, alkaline phosphatase, CBC with platelet count, serum uric acid, serum creatinine**, and Hepatitis C Ab** for all adults. **If glucose is above normal range, obtain a hemoglobin A1C at next visit. On known diabetics, obtain a hemoglobin A1C with baseline lab tests.** These are not offered by the State Laboratory. (See REFERRAL section on page **6.11-12)**.
   b. **Hepatitis B profile should be obtained for all adults and anyone less than 18 years who is foreign-born.**
   c. All individuals will be tested for HIV using the opt-out approach. Consent is inferred unless client declines testing. If HIV-infected, collaborate with HIV Program to obtain CD4 T-cell count, then refer to consulting physician. (See REFERRAL section on pp. **6.11-12)**.

4. Obtain baseline visual acuity testing and red/green color discrimination for clients being placed on ethambutol.

5. Pregnancy test, if indicated.

6. Baseline weight. (Compare client's baseline weight to usual weight for increase or decrease.)

7. **Record height. Calculate current BMI using the tools at the following website:**
   http://www.cdc.gov/healthyweight/assessing/bmi/

THERAPEUTIC

PHARMACOLOGIC

NOTE: Order medications for treatment with directly observed therapy (DOT) from drug stock and send a copy of the drug order(s) to the District Pharmacist or District Drug Coordinator.

1. Order DOT for all doses until completion of treatment (see Tables 1 and 2 on pages **6.5** and **6.6** for options and dosages).

2. Pyridoxine (Vitamin B_6) 25 - 50 mg PO daily, to prevent the development of isoniazid-induced peripheral neuropathy.

Table 1: Regimen Options - Treatment of Clients with Drug-Susceptible TB

Option	Total Duration (Months)	**Initial Phase**		**Continuation Phase**		Comments
		Drugs*	Interval, Duration & # of Doses	Drugs	Interval, Duration & # of Doses	
1	6	Isoniazid Rifampin Pyrazinamide Ethambutol	Daily DOT for 40 doses	Isoniazid Rifampin	Daily DOT for 90 doses OR Twice-Weekly DOT for 36 doses **OR** Thrice-Weekly DOT for 54 doses	Regimen must be directly observed Continue ethambutol until susceptibility to isoniazid and rifampin is demonstrated.
2	6	Isoniazid Rifampin Pyrazinamide Ethambutol	Daily DOT for 10 doses, then twice-weekly DOT for 12 doses	Isoniazid Rifampin	Twice-Weekly DOT for 36 doses	Regimen must be directly observed. Include ethambutol in initial phase. After the initial phase, continue ethambutol until susceptibility to isoniazid and rifampin is demonstrated.

NOTE: DOT 5 days/week = Monday through Friday. Weekend doses will not be counted toward the total doses.

* Pyridoxine (Vitamin B_6) 25- 50 mg/daily should be added to all regimens to prevent development of isoniazid-induced peripheral neuropathy.

NOTE: Split dosing should be avoided.

NOTE: Rifamate, a fixed combination of Rifampin 300 mg, and Isoniazid 150 mg, may be used to minimize the number of pills. Intermittent dosing is not recommended with fixed combination medications.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interaction

Table 2: First-Line TB Drugs

Drugs	Adult Dose in mg per kg* (Maximum Dose)			Adverse Reactions
	Daily	Twice-Weekly	Thrice-Weekly	
Isoniazid	5 **mg/kg** (Maximum Dose 300 mg)	15 **mg/kg** (Maximum Dose 900 mg)	15 **mg/kg** (Maximum Dose 900 mg)	Hepatic enzyme elevation, Hepatitis, Peripheral neuropathy, Mild effects on central nervous system, Drug interactions, Gastrointestinal (GI) upset.
Rifampin**	10 **mg/kg** (Maximum Dose 600 mg)	10 **mg/kg** (Maximum Dose 600 mg)	10 **mg/kg** (Maximum Dose 600 mg)	GI upset, Drug interactions, Hepatitis, Bleeding problems, Influenza-like symptoms, Rash, Orange discoloration of body fluids and secretions.
Pyrazinamide	15-30 **mg/kg** (Maximum Dose 2 gm)	50-70 **mg/kg** (Maximum Dose 4 gm)	50-70 **mg/kg** (Maximum Dose 3 gm)	Hepatitis, Rash, GI upset, Joint aches, Hyperuricemia Gout (rare).
Ethambutol***	15-25 **mg/kg** (Maximum Dose 1.6 gm)	50 **mg/kg** (Maximum Dose 4 gm)	25-30 **mg/kg** (Maximum Dose 2.4 gm)	Optic neuritis.

*Formula used to convert pounds to kilograms: Divide pounds by 2.2 to get kilograms.
Example: Client weighs 154 pounds ÷ 2.2 = 70 kilograms.

**Adults should receive 600 mg of Rifampin. If their weight is 44 kg or less, use 10 mg per kg.

NOTE: Ethambutol is generally not recommended for children whose visual acuity cannot be monitored (less than six years of age).
*** Calculate Ethambutol dosage based on total body weight (TBW). **NOTE:** Round up fractions of a dose to the nearest whole number. Massively obese clients are considered complicated cases. (See *Referral Section*, item # 2).

Directly Observed Therapy (DOT) is mandatory.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.
Note: EMB, PZA dosage adjustment may be needed if there is renal impairment (See reference #17: Lexicomp).

CLIENT EDUCATION/COUNSELING

Education/communication should use methods adapted to client's cultural and linguistic background. Provide education to the client and his/her family, when family is available**,** regarding the following:

1. TB transmission.

2. TB isolation measures.

3. A client is considered infectious until he/she has met all of the following requirements:
   a. Is on adequate therapy (minimum of 2 weeks),
   b. Has had a significant clinical response to therapy, AND
   c. Has had three consecutive negative AFB sputum smear results from sputum collected on different days.

4. Confinement of the client to a room in an institution or at home, with as few visitors as possible. Anyone entering the room/home should wear respiratory protection (N95 particulate respirator).

5. The use of the surgical mask by the client, especially when going to a doctor's office, during the period when he/she is still considered to be infectious.

6. The use of tissues to cover the nose/mouth when coughing/sneezing and proper tissue disposal.

7. The rationale for continuous uninterrupted chemotherapy.

8. The importance of regularly scheduled visits for medical supervision.

9. Signs and symptoms of possible side effects of the anti-tuberculosis medications and what the client should do if symptoms should occur. Instruct client to report immediately any symptoms suggesting hepatitis or adverse reactions: loss of appetite, nausea, vomiting, persistently dark urine, jaundice (yellowish skin/sclera), malaise, unexplained fever for three or more days, abdominal tenderness**,** flu-like symptoms, peripheral neuropathy and joint pain/swelling.

10. Directly observed therapy (DOT) and how the client and the health care worker will be working together to make DOT successful.

11. The signs and symptoms of disease, with instructions to report to the health department or their physician if this should occur.

12. The relationship between HIV infection and TB.

13. The importance of HIV testing for all clients with suspected or active tuberculosis.

14. The rationale and importance of a contact investigation.
15. The rationale for using an alternative or back-up method of birth control (e.g., copper-bearing IUD such as ParaGard, condoms, diaphragm) is that when rifampin is prescribed, it reduces effectiveness (degree depending on method) of combined oral contraceptives, progestin-only oral contraceptives, levonorgestrel implants, Depo-Provera, patch and ring. Advise condom back- up. (Table **4** on page **6**.**14** – Drug Interactions - Rifampin).

16. The client's immunization status. Assess and administer vaccines indicated according to the current Advisory Committee on Immunization Practices (ACIP) childhood or adult immunization schedule. **Although no data exist regarding whether measles, varicella or live varicellla vaccine exacerbates TB, vaccination is not recommended for persons who have untreated active TB.** See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current ACIP schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed on line at **http://www.health.state.ga.us/programs/immunization/publications.asp**

17. If smoker or tobacco user, refer to a local cessation program and/or the Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

18. If substance abuse known or suspected, refer for appropriate counseling.

FOLLOW-UP

1. Continued client management/follow-up by a case management team comprised of the client, nurse, physician and others determined by an individual needs assessment.

2. After the nursing assessment, the Public Health Nurse (PHN) will forward the following clinical data to be reviewed by the district TB coordinator, the district's contract physician and the state office:

a. Complete health history and pertinent physical findings.
b. Hospital discharge summaries (if available).
c. Treatment assessment and plan for DOT.
d. All other pertinent clinical data (e.g., prior chest x-rays, if available, and lab work).

3. Monitor client(s) monthly for adverse drug reactions, drug-drug interactions, drug-food interactions, drug-lab interactions, infectious status, and clinical and bacteriologic response to therapy (see Tables **3, 4 and 5** on pages **6.**1**3 – 6**.1**6** for drug interactions).

4. Provide HIV test results with post-test counseling to client and, if positive, appropriate referral to HIV care. Seek confirmation that client kept referral appointment for HIV care.

5. Conduct a contact investigation following the *Georgia TB Program Policy and Procedure Manual* (current edition) and the *CDC Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis* (current edition) to include:
   a. The initial interview of the index **client** should be done by the PHN or designee (e.g., Communicable Disease Specialist) for all cases and suspects in the hospital (preferred) or within one to three working days of health department notification. The follow-up interview should occur 1-2 weeks later, preferably in the **client's** home.
   b. Start screening with high priority contacts in home, work, school and social environments. High priority contacts would be those persons with the greatest intensity, frequency and duration of exposure with the person who has infectious TB. Take into consideration risk factors (see item c) as well as exposure in determining high priority contacts. **NOTE:** High-priority contacts should be examined within seven working days. Medium priority contacts should be examined within fourteen calendar days. Low priority contacts should be examined within thirty calendar days.
   c. High priority contacts who are considered a medical risk should be examined immediately regardless of initial TST results. Those persons are at particularly high risk of developing TB disease once infected with *M. tuberculosis* and would include children less than 5 years of age and persons with immune systems compromised by HIV infection, immunosuppressive medications (prednisone, cancer chemotherapy, anti-rejection drugs for cancer therapy, tumor necrosis factor alpha agents antagonists) and certain medical conditions (diabetes mellitus, silicosis,

end stage renal disease, cancer of the head and neck, reticuloendothial diseases [e.g., lymphoma, leukemia], gastric or jejunoileal bypass surgery). Those contacts should have a chest x-ray and be placed on isoniazid if the chest x-ray is negative for active TB disease for either window period treatment or a full course of treatment (see current edition of *Georgia TB Program Policy and Procedure Manual* on Contact Investigation).

d. Expand the contact investigation if there is evidence of recent transmission such as a higher than expected infection rate in high priority contacts, a secondary case of TB disease, infection in a child less than five years, or a converter.

e. Contact information should be entered on the *TB Contact Investigation Report Form* (Form #3126) and promptly entered into SENDSS.

6. Obtain a sputum specimen for AFB smear/culture upon completion of the initial phase of treatment (a minimum of 22 doses) to identify clients at increased risk for relapse. Obtain a monthly sputum specimen for AFB culture after client is culture negative.

7. Perform the following blood chemistry tests monthly to monitor reactions to TB drugs: AST (SGOT), ALT (SGPT), bilirubin, alkaline phosphatase and CBC with platelets. Perform serum uric acid and serum creatinine monthly if there are abnormalities at baseline or there are clinical reasons to obtain the measurements (e.g., hepatitis B or C virus infection, alcohol abuse, abnormal kidney function).

8. Discontinue the isoniazid or rifampin and report immediately to the consulting physician if any of the following occur:
   a. AST/ALT levels equal to or greater than 3 times the upper limit of normal in the presence of symptoms of adverse events.
   b. AST/ALT levels equal to or greater than 5 times the upper limit of normal in an asymptomatic client.
   c. Client reporting symptoms of adverse reactions.

9. Monitor the vision of clients taking ethambutol by providing vision checks monthly, including visual acuity and red/green color discrimination.

10. Use incentives and enablers to enhance adherence to therapy. These may be as simple as offering a cup of coffee and talking

with a client who is waiting in the clinic, or as complex as providing food and housing for a homeless client.

11. Observe the client for isoniazid-induced peripheral neuropathy during the course of therapy and report to the delegating physician. (Consulting physician may recommend pyridoxine to correct these complaints, if not already on pyridoxine, or increasing the pyridoxine dosage).

12. Treatment completion is defined by the number of doses taken as well as the duration of treatment. The number of doses required is listed in Table 1, page **6**.5.

CONSULTATION

Consult with the consulting physician:

1. Before changing to the continuation phase of Regimen Options (1) or (2) (see Table 1, page **6.5**), and regarding complications that would require reevaluation of the client and possible new treatment recommendations.

2. If susceptibility results show resistance to any of the first-line drugs.

3. If the client remains symptomatic or smear or culture positive after two months.

4. If the client's HIV test result is positive.

5. If the client refuses HIV testing.

6. To discuss abnormal laboratory test results.

7. If the client is not compliant with DOT.

REFERRAL

1. Refer clients for other medical and social services as needed, particularly alcohol or drug abuse treatment, **diabetes care (if hemoglobin A1C is 6.5% or higher)** and HIV care.

2. Refer all of the following categories of complicated suspects/cases to the consulting physician: drug-resistant, multidrug-resistant, extrapulmonary, children, HIV-infected clients, pregnant women, breast-feeding women, clients with acute or

chronic medical conditions (e.g., diabetes, cancer, renal disease), relapse cases and morbidly obese clients **(BMI over 30).**

3. Refer client to a licensed dietitian (LD), if indicated. This will be especially important if the client has a history of drug or alcohol abuse, is breast-feeding, is HIV-infected, has GI side effects from TB drugs or if desirable weight is not maintained.

4. Refer client to other resources for laboratory tests such as AST (**formerly SGOT**), ALT (**formerly SGPT**), bilirubin, alkaline phosphatase, CBC with platelet count, serum uric acid, serum creatinine, **hemoglobin A1C and Hepatitis C Ab.**

5. Refer to the Georgia TB Reference Guide (current edition) for treatment timelines.

Table 3: TREATMENT OF TB - DRUG INTERACTIONS (Format 1)

DRUG INTERACTIONS - RIFAMPIN

Drug	Effects on Drug
Anticoagulants (warfarin, coumadin)	↓ serum concentration
Cardiac glycosides (digoxin)	↓ serum concentration
Oral hypoglycemics	↓ serum concentration
Oral contraceptives, contraceptive implants, patch, ring, Depo-Provera	↓ efficacy
Corticosteroids	↓ serum concentration
Narcotics/analgesics (methadone)	↓ serum concentration
Dapsone	↑ clearance
Cyclosporin	↓ serum concentration
Quinidine	↓ peak serum concentration
Protease inhibitors	↓ serum concentration

DRUG INTERACTIONS – ISONIAZID

Drug	Effects on Drug
Diazepam (valium)	↓ clearance ↑ half life (time to xcreted)
Phenytoin (dilantin)	↑ plasma concentration ↑ toxicity

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

Table 4: TREATMENT OF TB - DRUG INTERACTIONS (Format 2)

DRUG INTERACTIONS - RIFAMPIN

Rifampin (Rifadin) plus...	
Adefovir	Increases risk of side effects.
Amprenavir	Should not be used together.* Significantly decreases amprenavir levels in blood.
Anticoagulants	May decrease effectiveness of anticoagulants.
Atovaquone	Decreases atovaquone levels by 50% in blood.
AZT	May decrease AZT levels in blood.
Barbiturates	May decrease effectiveness of barbiturates.
Clarithromycin	Decreases clarithromycin levels by 120% in blood.
Corticosteroids	May decrease corticosteroid levels in blood.
Cyclosporine	May decrease cyclosporine levels in blood.
Dapsone	Decreases dapsone levels by 7- to 10-fold in blood.
Delavirdine	Should be taken together otherwise delavirdine levels in blood significantly decreased.
Diazepam	May decrease effectiveness of diazepam.
Digitalis	May decrease effectiveness of digitalis.
Disopyramide	May decrease effectiveness of disopyramide.
Efavirenz	Decreases efavirenz levels by 26% in blood.
Estrogen	May decrease effectiveness of estrogen.
Ethinyl Estradiol (birth control pills)	May decrease ethinyl estradiol levels in blood.
Fluconazole	Decreases fluconazole levels by 23% in blood.
Halothane	May increase risk of liver toxicity.
Indinavir	May increase rifampin levels in blood. Should not be used together.*
Isoniazid	May increase risk of liver toxicity.
Itraconazole	May decrease itraconazole levels in blood.
Ketoconazole	Significantly decreases ketoconazole levels in blood. Should not be used together.*
Lopinavir/ritonavir	Decreases lopinavir levels by 75% in blood. Should not be used together.
Methadone	May decrease effectiveness of methadone.
Mexilitine	May decrease effectiveness of mexilitine.
Nelfinavir	Decreases nelfinavir levels by 82% in blood. Should not be used together.*
Nevirapine	May affect rifampin and/or nevirapine levels in blood.
Probenecid	Increases rifampin levels in blood.
Progesterone	May decrease effectiveness of progesterone.
Quinidine	May decrease quinidine levels in blood.
Ritonavir	Decreases ritonavir levels by 35% in blood.
Saquinavir (hard gel)	Decreases saquinavir levels by 80% in blood. Should not be used together.*
Saquinavir (soft gel)	Decreases saquinavir levels by 84% in blood.

Rifampin (Rifadin) plus...	
Sulfonylureas (oral hypoglycemic drugs)	May decrease sulfonylurea levels in blood.
Theophylline	May decrease theophylline levels in blood.
Verapamil	May decrease effectiveness of verapamil.

* The information on interactions with rifampin and **HIV antiretroviral therapy (ART)** is constantly changing. Consult with the consulting physician/contract physician. In general, only certain **HIV medications** can be used and rifampin may be replaced by rifabutin. Rifabutin is in the formulary at the state pharmacy.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

Table 5: DRUG INTERACTIONS – ISONIAZID

Isoniazid plus...	
Alcohol	May increase risk of isoniazid associated hepatitis.
Antacids	Should be taken two hours apart otherwise isoniazid will have no effect.
Carbamazepine	Decreases carbamazepine metabolism.
Cycloserine	May increase risk of central nervous system toxicity.
Ethionamide	May increase risk of encephalopathy (dysfunction of the brain) and may increase isoniazid levels in blood.
Phenytoin	Decreases phenytoin metabolism.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

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STANDARD NURSE PROTOCOL FOR LATENT TUBERCULOSIS INFECTION (LTBI)

DEFINITION

Latent tuberculosis infection (LTBI) means that a person has been infected with *Mycobacterium tuberculosis* but has no clinical or radiographic evidence of TB. Individuals who are infected but do not have active disease are not infectious but, if not adequately treated, are at risk for developing disease and becoming infectious in the future.

Candidates for treatment of LTBI include:

1. Persons in the following high-risk groups should be given treatment for LTBI if they have positive skin test results of equal to or greater than 5 mm:
   a. HIV-positive persons.
   b. Recent contacts to a TB case.
   c. Persons with fibrotic changes on chest radiograph consistent with old TB.
   d. Persons with organ transplants and other immuno-suppressed persons (those receiving the equivalent of equal to or greater than15 mg daily of prednisone for 1 month or longer).

2. Persons in the following high-risk groups should be considered for treatment of LTBI if their reaction to the tuberculin skin test is equal to or greater than10 mm:
   a. Recent arrivals (less than 5 years) from high prevalence countries.
   b. Injection drug users.
   c. Residents and employees of high-risk congregate settings (e.g., correctional facilities, nursing homes and other long-term facilities for the elderly, homeless shelters, residential facilities for AIDS clients, hospitals and other health care facilities).
   d. Mycobacteriology laboratory personnel.
   e. Persons with clinical conditions that place them at high risk of progression to TB disease (e.g., substance abuse, infection with *M. tuberculosis* within the past two years, diabetes, hematologic or reticuloendothelial malignancies, chronic renal failure, post-gastrectomy, silicosis, immunosuppressive therapy, chronic malabsorption syndromes or candidates being considered for treatment with tumor necrosis factor (TNF) antagonists such as injectable Remicade [Infliximab] for rheumatologic conditions or ulcerative colitis prior to initiation of therapy).
   f. Children less than 5 years of age, or children and adolescents exposed to adults in high-risk groups.

3. Persons with no risk factors for TB should be considered for treatment of LTBI if their reaction to the tuberculin skin test is greater than or equal to 15 mm.

Treatment of LTBI might NOT be indicated for:

1. Persons at increased risk for adverse reactions to isoniazid and persons for whom isoniazid is contraindicated.

2. Persons who cannot tolerate isoniazid or rifampin.

3. Persons likely to be infected with drug-resistant *M. tuberculosis*. **NOTE:** They should be referred to the consulting physician.

4. Persons who are not likely to complete a course of treatment for LTBI (e.g., some homeless persons or migrant farm workers).

Treatment of LTBI might NOT be completed on:

1. Persons who are a contact to a TB suspect later found not to have TB. NOTE: They should be referred to the consulting physician.

ETIOLOGY The agent is the *Mycobacterium tuberculosis* complex.

SUBJECTIVE

1. May have a history of known exposure to TB.

2. Negative history of risk factors indicating special precautions needed for persons receiving isoniazid therapy:
   a. Concurrent use of any other medications on a long-term basis, or medications that may cause interactions.
   b. Alcohol abuse.
   c. Previous discontinuation of isoniazid because of side effects.
   d. Chronic liver disease.
   e. Peripheral neuropathy.
   f. Pregnancy.
   g. Injection drug abuse.

3. No known allergies to anti-tuberculosis drugs.

4. Absence of symptoms of TB.

OBJECTIVE

1. A positive Mantoux tuberculin skin test per current

programmatic guidelines and no clinical symptoms of active disease,

AND

2. Chest x-ray negative for evidence of tuberculosis disease,

AND

3. Absence of clinical signs of TB**,** both pulmonary and extra-pulmonary.

4. Negative sputum smears (3 consecutive) and culture with evaluation by clinician if signs and symptoms of TB disease are evident.

ASSESSMENT

1. Latent tuberculosis infection (LTBI) (without signs/symptoms of tuberculosis disease).

2. No contraindications to isoniazid or rifampin.

3. No history of documented infection from or exposure to drug-resistant *M. tuberculosis* source case.

PLAN

DIAGNOSTIC STUDIES

1. If documented tuberculin skin test results cannot be verified (including millimeters [mm] of induration), perform a Mantoux tuberculin skin test per programmatic guidelines. **Vaccination with live viruses may interfere with tuberculin skin test reactions. For persons scheduled to receive a tuberculin skin test, testing should be done as follows: Either on the same day as vaccination with live-virus vaccine or 4-6 weeks after the administration of the live-virus vaccine. At least one month after smallpox vaccination.**

2. Baseline weight. (Compare client's baseline weight to usual weight for increase or decrease).

3. Collect blood to obtain baseline measurements for the following lab tests:

   a. AST (SGOT), ALT (SGPT), alkaline phosphatase and bilirubin.
   b. All individuals will be tested for HIV using the opt-out approach. Consent is inferred unless client declines testing.
   c. Hepatitis B and C profile, if indicated (e.g., history of injection drug use, foreign birth in Asia or Africa, HIV infection).

NOTE: The baseline lab measurements are not mandatory for children less than 16 years of age, unless a complicating medical condition (e.g., HIV, liver disease, renal disease, cardiac disease) or lifestyle is known or suspected.

4. Pregnancy test, if indicated.

THERAPEUTIC

PHARMACOLOGIC

Refer to options, dosages and interactions of isoniazid and rifampin in Tables A – **G** on pages **6.26 - 6.33**.

1. Order medication for treatment in children and adults from drug stock and send copies of the drug orders to the District Pharmacist/Drug Coordinator.

2. Add pyridoxine (Vitamin B_6) 25-50 mg PO daily for adults on isoniazid, to prevent the development of isoniazid - induced peripheral neuropathy (see FOLLOW-UP on page **6**.2**3**).

   NOTE: Directly Observed Preventive Therapy (DOPT) is recommended for all children up to the age of 15 years. DOPT should also be considered for clients who are at high risk for TB and whose adherence to LTBI therapy is questionable.

CLIENT EDUCATION/COUNSELING

Education/communication should use methods adapted to client's cultural and linguistic background. Provide education to the client and his/her family regarding the following:

1. The rationale for treatment of LTBI and the importance of attending regularly scheduled clinic appointments.

2. The difference between "latent TB infection" (LTBI) and "TB disease" and what a "positive skin test" means.

3. The signs and symptoms of TB disease and the need to report immediately if anyone has these symptoms.

4. The symptoms of adverse reactions to isoniazid/rifampin, including: GI disturbances (anorexia, heartburn, nausea, vomiting, gas, cramps, diarrhea), hepatitis (loss of appetite, persistently dark urine, yellowish skin/sclera, malaise, unexplained fever for three or more days, abdominal tenderness) and peripheral neuropathy (see Table C on page **6**.**28**). Advise the client to report immediately to the Public Health Nurse or clinician if any such symptoms occur during treatment.

5. The relationship between HIV infection and TB infection and the importance of HIV testing for all TB-infected individuals.

6. The rationale for using an alternative or back-up method of birth control (e.g., copper-bearing IUD such as ParaGard, condoms, diaphragm) is that when rifampin is prescribed, it reduces effectiveness (degree depending on method) with combined oral contraceptives, progestin-only oral contraceptives, levonorgestrel implants, Depo-Provera, patch and ring. Advise condom back-up (see Tables D and E on pages **6**.**29** – **6.30**).

7. The client's immunization status. Assess and administer vaccines indicated according to the current Advisory Committee on Immunization Practices (ACIP) childhood or adult immunization schedule. **Although no data exist regarding whether measles, varicella or live varicellla vaccine exacerbates TB, vaccination is not recommended for persons who have untreated active TB.** See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current ACIP schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed on line at **http://www.health.state.ga.us/programs/immunization/publications.asp**

8. If smoker or tobacco user, refer to a local cessation program and/or the Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

9. If substance abuse known or suspected, refer for appropriate counseling.

FOLLOW-UP

1. At least once a month, evaluate for:

   a. Adherence to the prescribed regimen.
   b. Symptoms of hepatitis (nausea, loss of appetite, vomiting, persistently dark urine, yellowish skin, malaise,

unexplained elevated temperature for more than three days, abdominal tenderness and/or right upper quadrant tenderness).

c. Symptoms of neurotoxicity such as paresthesia of hands or feet.

d. Maintenance of desirable weight.

e. Adverse effects of prescribed regimen.

2. At follow-up visits, ask clients about adherence to therapy.

3. Provide the HIV test result with post-test counseling and, if the test is positive, appropriately refer for HIV care. Seek confirmation that client kept referral appointment for HIV care.

4. **All clients on isoniazid or rifampin should be assessed for presence of symptoms of hepato-toxicity at every encounter.**

   Clients considered at risk of hepato-toxicity (i.e., those with any admission of alcohol use, HIV, Hepatitis B, Hepatitis C, IV drug use, chronic liver disease, pregnancy/post-partum state) need to have aspartate aminotransferase (AST) [formerly, serum glutamic oxaloacetic transaminase (SGOT)], alanine aminotransferase (ALT) [formerly, serum glutamic-pyruvic transaminase (SGPT)], done monthly.

5. Observe for isoniazid-induced peripheral neuropathy during the course of isoniazid therapy. When peripheral neuropathy is present and/or persists, report to the consulting physician.

6. **Pregnant** women, particularly African-American and Hispanic women, may be at increased risk for fatal hepatitis associated with isoniazid, according to some reports. This risk may be increased during the postpartum period. These clients should be closely monitored for adverse reactions throughout the course of treatment. **The risk of hepatitis from INH in pregnant/post-partum women does NOT preclude treatment of LTBI in such a woman who is extremely high risk for developing active TB (e.g., close contact, HIV-infected, or with documented recent infection or conversion.**

7. Discontinue the isoniazid or rifampin and report immediately to the consulting physician if any of the following occur:

   a. AST/ALT levels equal to or greater than 3 times the upper limit of normal in the presence of symptoms of adverse events.

b. AST/ALT levels equal to or greater than 5 times the upper limit of normal in an asymptomatic client.

c. **If the client reports any symptoms of adverse reactions obtain AST/ALT immediately and notify consulting physician.**

d. **Any hospital admissions or deaths due to adverse reactions are to be reported immediately to the State TB Program.**

8. A clinical symptom screen is required for all clients who have a lapse in treatment. A repeat chest x-ray/evaluation is required for clients who are symptomatic or who have had a lapse in therapy for LTBI for two month or more.

9. **Treatment completion is defined by the number of doses taken as well as the duration of treatment. The number of doses required is listed in Tables A and B, pp. 6.26 – 6.27.**

CONSULTATION

Consult with the TB Program medical consultant or consulting physician:

1. Regarding any complications of treatment for LTBI with clients placed on isoniazid or rifampin (see Table A on page **6.26** and Tables C, D, E and F on pages **6**.2**8** – **6**.3**0** for drug interactions, drug adverse reactions and drug monitoring).

2. If a client's HIV test result is positive, or if a client at risk refuses HIV testing.

3. About any abnormal lab test results.

REFERRAL

1. Refer clients for other medical and social services as needed, particularly alcohol or drug abuse treatment and HIV care.

2. Refer all clients with complications (pregnant women **with active TB disease**, breast-feeding women, clients with acute or chronic conditions, clients infected with drug-resistant TB, HIV-infected clients taking protease inhibitors) to the consulting physician.

Table A: TREATMENT OF LATENT TUBERCULOSIS INFECTION (LTBI) - FIRST- LINE DRUG AND REGIMEN OPTIONS

Drug	Dose in mg/kg* (Maximum Dose)					Adverse Reactions	Monitoring	Comments
	Option One Daily		Option Two Twice-Weekly*		Option Three Thrice-Weekly*			
	Children***	Adults	Children	Adults	Adults			
Isoniazid**	10-20 mg/kg (Maximum Dose 300 mg) PO•	5 mg/kg (Maximum Dose 300 mg) PO•	20-40 mg/kg (Maximum Dose 900 mg) PO•	15 mg/kg (Maximum Dose 900 mg) PO•	15 mg/kg (Maximum Dose 900 mg) PO•	Hepatic enzyme elevations, Hepatitis, Peripheral neuropathy, Mild effects on central nervous system, Drug interactions, GI upset	Baseline measurements of hepatic enzymes for adults Repeat measurements: – if baseline results are abnormal – if client is at high-risk for adverse reactions – if client has symptoms of adverse reactions	Hepatitis risk increases with age and alcohol consumption Pyridoxine can prevent isoniazid-induced peripheral neuropathy

Isoniazid

*Formula used to convert pounds to kilograms: Divide pounds by 2.2 to get kilograms. *Example: Client weighs 154 pounds ÷ 2.2 = 70 kilograms*.

Should consider adding pyridoxine 25 - 50 mg **daily (Vitamin B_6) as part of routine preventive treatment of isoniazid-induced peripheral neuropathy for adults.

***Refer to **Table G on page 8.31** for daily pediatric dosages of isoniazid.

• Medication may be given by mouth or compounded for rectal or oral administration.

NOTE: Regarding treatment of LTBI with isoniazid in children: The number of treatments and time duration for treatment is the same for children and adults. The mg/kg dose is different for children (see Table B: **Treatment of LTBI**).

Table B: TREATMENT OF LTBI - RECOMMENDED DRUG REGIMENS FOR ADULTS

Drug	Interval and Duration	Adult Dosage mg/kg * (maximum)	Criteria for Completion	Comments
Isoniazid	Daily self-adm for 9 mo Daily DOT for 9 mo ♦ Twice-Weekly DOT for 9 mo**	5 **mg/kg** (**Maximum dose** 300 mg) PO 5 **mg/kg** (**Maximum dose** 300 mg) PO 15 **mg/kg** (**Maximum dose** 900 mg) PO	270 doses within 12 mo **190** doses within 12 mo 76 doses within 12 mo	*Preferred regimen for all persons.* In HIV-infected clients, isoniazid may be administered concurrently with NRTIs, protease inhibitors, or NNRTIs. *DOT must be used with twice-weekly dosing.* **NOTE:** Not recommended for HIV-infected clients.
Isoniazid	Daily self-adm for 6 mo Daily DOT for 6 mo ♦ Twice-Weekly DOT for 6 mo	5 **mg/kg** (**Maximum dose** 300 mg) PO 5 **mg/kg** (**Maximum dose** 300 mg) PO 15 **mg/kg** (**Maximum dose** 900 mg) PO	**180** doses within 9 mo 130 doses within 9 mo 52 doses within 9 mo	Offer if preferred or alternative regimens not feasible. Not indicated for persons with HIV infection or fibrotic lesions. Not indicated for children. *DOT must be used with twice-weekly dosing.*
Rifampin	Daily self-adm for 4 mo (18 weeks) Daily DOT for 4 mo (18 weeks) ♦	10 **mg/kg** (**Maximum dose** 600 mg) PO	120 doses within 6 mo **90** doses within 6 mo	For persons who are contacts of clients with isoniazid-resistant, rifampin susceptible TB.

♦ DOT 5 days a week = Monday - Friday.

*Formula used to convert pounds to kilograms: Divide pounds by 2.2 to get kilograms. *Example: Client weighs 154 pounds ÷ 2.2 = 70 kilograms.*

NOTE: One month is 4.3 weeks.

Table C: TREATMENT OF LTBI - DRUG ADVERSE REACTIONS AND MONITORING

Drug	Adverse Reactions	Monitoring	Comments
Isoniazid	Hepatic enzyme elevations, hepatitis, peripheral neuropathy, mild effects on central nervous system, drug interactions, gastrointestinal (GI) upset.	Baseline measurements of AST for adults. Repeat measurements: – if baseline results are abnormal – if client is at high-risk for adverse reactions – if client has symptoms of adverse reactions	Hepatitis risk increases with age and alcohol consumption. Pyridoxine can prevent isoniazid-induced peripheral neuropathy.
Rifampin	GI upset, drug interactions, hepatitis, thrombocytopenia, rash, fever, Influenza-like symptoms, orange discoloration of body fluids (secretions, tears, urine).	Complete blood count, platelets and liver function tests. Repeat measurements if: – baseline results are abnormal – client has symptoms of adverse reactions	Hepatitis risk increases with age and alcohol consumption.

Table D: TREATMENT OF LTBI - DRUG INTERACTIONS (Format 1)

DRUG INTERACTIONS - RIFAMPIN

Drug	Effects on Drug
Anticoagulants (warfarin, coumadin)	↓ serum concentration
Cardiac glycosides (digoxin)	↓ serum concentration
Oral hypoglycemics	↓ serum concentration
Oral contraceptives, contraceptive implants, patch, ring, Depo-Provera	↓ efficacy
Corticosteroids	↓ serum concentration
Narcotics/analgesics (methadone)	↓ serum concentration
Dapsone	↑ clearance
Cyclosporin	↓ serum concentration
Quinidine	↓ peak serum concentration
Protease inhibitors	↓ serum concentration

DRUG INTERACTIONS – ISONIAZID

Drug	Effects on Drug
Diazepam (valium)	↓ clearance ↑ half life (time to excreted)
Phenytoin (dilantin)	↑ plasma concentration ↑ toxicity

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

Table E: TREATMENT OF LTBI - DRUG INTERACTIONS (Format 2)

DRUG INTERACTIONS - RIFAMPIN

Rifampin (Rifadin) plus...	
Adefovir	Increases risk of side effects.
Amprenavir	Should not be used together.* Significantly decreases amprenavir levels in blood.
Anticoagulants	May decrease effectiveness of anticoagulants.
Atovaquone	Decreases atovaquone levels by 50% in blood.
AZT	May decrease AZT levels in blood.
Barbiturates	May decrease effectiveness of barbiturates.
Clarithromycin	Decreases clarithromycin levels by 120% in blood.
Corticosteroids	May decrease corticosteroid levels in blood.
Cyclosporine	May decrease cyclosporine levels in blood.
Dapsone	Decreases dapsone levels by 7- to 10-fold in blood.
Delavirdine	Should be taken together otherwise delavirdine levels in blood significantly decreased.
Diazepam	May decrease effectiveness of diazepam.
Digitalis	May decrease effectiveness of digitalis.
Disopyramide	May decrease effectiveness of disopyramide.
Efavirenz	Decreases efavirenz levels by 26% in blood.
Estrogen	May decrease effectiveness of estrogen.
Ethinyl Estradiol (birth control pills)	May decrease ethinyl estradiol levels in blood.
Fluconazole	Decreases fluconazole levels by 23% in blood.
Halothane	May increase risk of liver toxicity.
Indinavir	May increase rifampin levels in blood. Should not be used together.*
Isoniazid	May increase risk of liver toxicity.
Itraconazole	May decrease itraconazole levels in blood.
Ketoconazole	Significantly decreases ketoconazole levels in blood. Should not be used together.*
Lopinavir/ritonavir	Decreases lopinavir levels by 75% in blood. Should not be used together.
Methadone	May decrease effectiveness of methadone.
Mexilitine	May decrease effectiveness of mexilitine.
Nelfinavir	Decreases nelfinavir levels by 82% in blood. Should not be used together.*
Nevirapine	May affect rifampin and/or nevirapine levels in blood.
Probenecid	Increases rifampin levels in blood.
Progesterone	May decrease effectiveness of progesterone.
Quinidine	May decrease quinidine levels in blood.
Ritonavir	Decreases ritonavir levels by 35% in blood.
Saquinavir (hard gel)	Decreases saquinavir levels by 80% in blood. Should not be used together.*
Saquinavir (soft gel)	Decreases saquinavir levels by 84% in blood.

Rifampin (Rifadin) plus...	
Sulfonylureas (oral hypoglycemic drugs)	May decrease sulfonylurea levels in blood.
Theophylline	May decrease theophylline levels in blood.
Verapamil	May decrease effectiveness of verapamil.

* The information on interactions with Rifampin and **HIV antiretroviral therapy (ART)** is constantly changing. Consult with the consulting physician/contract physician. In general, only certain **HIV medications** can be used and Rifampin may be replaced by rifabutin. Rifabutin is in the formulary at the state pharmacy.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

Table F: DRUG INTERACTIONS – ISONIAZID

Isoniazid plus...	
Alcohol	May increase risk of isoniazid associated hepatitis.
Antacids	Should be taken two hours apart otherwise isoniazid will have no effect.
Carbamazepine	Decreases carbamazepine metabolism.
Cycloserine	May increase risk of central nervous system toxicity.
Ethionamide	May increase risk of encephalopathy (dysfunction of the brain) and may increase isoniazid levels in blood.
Phenytoin	Decreases phenytoin metabolism.

NOTE: Refer to current drug reference or drug package insert for a complete list of adverse drug reactions and drug interactions.

Table G: PEDIATRIC DOSAGE

DAILY DOSAGE OF ISONIAZID IN CHILDREN AND ADOLESCENTS

Child's Weight (lbs.)	kg	Daily Dose (mg)
15-21	7-9.5	100
22-29	10-13	150
30-40	14-18	200
41-51	19-23	250
52+	23.5+	300

NOTE: Isoniazid Syrup should not be refrigerated (keep at room temperature). Isoniazid tablets can be crushed for oral administration. Isoniazid tablets are also scored.

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STANDARD
NURSE PROTOCOLS
FOR
SEXUALLY TRANSMITTED
DISEASES (STD)

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STANDARD NURSE PROTOCOLS FOR BACTERIAL VAGINOSIS (BV)

DEFINITION

The clinical result of the replacement of the normal *Lactobacillus* species in the vagina with high concentrations of anaerobic bacteria. This **polymicrobial clinical** syndrome is the most prevalent cause of vaginal discharge or malodor; however, half of the women whose illnesses meet the clinical criteria for BV are asymptomatic. Though associated with having multiple sex partners, it is unclear whether BV results from acquisition of a sexually transmitted pathogen. Treatment of male sex partners has not been beneficial in preventing recurrences.

BV has been associated with adverse pregnancy outcomes (e.g., premature rupture of membranes, preterm labor, **and** preterm birth). Some specialists recommend the screening of high-risk pregnant women (i.e., those who have previously delivered a premature infant) for BV at the first prenatal visit.

The desired outcome of treatment of non-pregnant females with BV is to relieve vaginal symptoms and signs of infection and reduce the risk for infectious complications after abortion or hysterectomy.

ETIOLOGY

High concentrations of anaerobic bacteria (e.g., *Prevotella* species and *Mobiluncus* species), *Gardnerella vaginalis*, and *Mycoplasma hominus.*

SUBJECTIVE

Vaginal discharge, with an offensive odor that is often most noticeable after intercourse.

OBJECTIVE

The following criteria are used to diagnose bacterial vaginosis.

1. **At least 3 of the following 4 are present:**
   - **a. Homogeneous, white, non-inflammatory discharge that smoothly coats the vaginal walls.**
   - **b. The pH of vaginal secretions is higher than 4.5.**
   - **c. A "fishy" odor of vaginal discharge, before or after mixing it with 10% KOH (positive "whiff" test).**
   - **d. "Clue cells" (epithelial cells with a granular appearance caused by adherent bacteria) on microscopic wet mount of vaginal discharge.**

ASSESSMENT

Bacterial Vaginosis

PLAN **DIAGNOSTIC STUDIES**

1. **Observation for classic discharge, clue cells, "whiff" test and vaginal pH.**

2. **Check history for possible pregnancy.**

THERAPEUTIC

Treatment is only recommended for women with symptoms.

PHARMACOLOGIC
NOTE: Metronidazole should not be used for treatment during the first trimester of pregnancy. Lactating women taking metronidazole should withhold breastfeeding during treatment and for 12-24 hours after last dose to reduce child's exposure to drug. Clindamycin is distributed into milk following systemic administration; it is not known if it is distributed into milk following intravaginal application but, because of the potential for adverse effects/reactions to clindamycin in nursing infants, a decision should be made whether to discontinue breastfeeding or to discontinue the drug, taking into account the importance of the drug to the woman.

1. If client is not pregnant
   a. Metronidazole 500 mg PO, 2 times a day for 7 days,
      OR
   b. Metronidazole gel, 0.75%, one full applicator (5 g**m**), intravaginally, once a day for 5 days,
      OR
   c. Clindamycin cream, 2%, one full applicator (5 g**m**), intravaginally, at bedtime for 7 days,
      OR
   d. Clindamycin 300 mg PO, 2 times a day for 7 days.

2. If client is pregnant
   a. Metronidazole 250 mg PO, 3 times a day for 7 days (during 2nd or 3rd trimesters only),
      OR
   b. Clindamycin 300 mg PO, 2 times a day for 7 days.

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name/significance of the syndrome.

2. Directions for taking medication and what to do about potential side effects (e.g., to avoid alcoholic beverages and other alcohol-containing products until **24** hours following completion of metronidazole therapy); instructions to lactating **clients** regarding discontinuance of breastfeeding.

3. This syndrome is generally not considered to be sexually transmitted, so sex partners should be referred for examination only if they are symptomatic of possible STD. Otherwise no treatment is necessary for sex partners.

4. Instruct client to return for reevaluation if symptoms persist.

5. HIV antibody test to determine HIV status, if unknown.

6. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp**.**

FOLLOW-UP

Client should return only if symptoms persist after treatment, or recur. Use an alternative treatment regimen for recurrent disease.

CONSULTATION/REFERRAL

1. Refer **to primary care provider if (three or more)** recurrences that do not respond to alternative treatment regimens.

2. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

3. **Consult physician for repeated visit for BV for long term therapy.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
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STANDARD NURSE PROTOCOL FOR CHLAMYDIA URETHRITIS/CERVICITIS

DEFINITION

A sexually transmitted infection that is often asymptomatic in both males and females. It may present as non-gonococcal urethritis (NGU) syndrome in males or mucopurulent cervicitis syndrome in females. It is especially common in adolescents and young adults. Occasionally, the periurethral or Bartholin glands may also show signs of being infected.

The desired outcomes of treatment of infected clients are: biologic cure, prevention of pelvic inflammatory disease (PID), ectopic pregnancy and infertility, prevention of transmission to sex partners, and prevention of transmission from infected females to infants during birth. Treatment of sex partners helps to prevent reinfection **and sequelae of Chlamydia in the** index **client** and infection of other partners.

ETIOLOGY

Chlamydia trachomatis, a bacteria.

SUBJECTIVE

1. Frequently asymptomatic, especially in females.

2. Female**s** may have a history of:
   a. Discharge from vagina.
   b. Bleeding after intercourse.

3. Male**s** may have a history of:
   a. Urethral discharge.
   b. Itching of urethral meatus.
   c. Burning on urination.

OBJECTIVE

1. Many show no clinical signs.

2. Female**s**
   a. Mucoid to mucopurulent endocervical discharge.
   b. Cervical ectopy/friability.

3. Male**s**
   a. Mucoid to mucopurulent urethral discharge.
   b. Redness at urethral meatus.

4. Positive urethral, endocervical or urine test (amplification, culture, DNA probe) for *Chlamydia trachomatis*.
   NOTE: Nonculture, nonamplified probe tests should not be used for diagnosing preadolescent children.

ASSESSMENT Chlamydia – Urethritis or Cervicitis

PLAN **DIAGNOSTIC STUDIES**

1. **Chlamydia test (nucleic acid amplification test (NAAT) or DNA probe.**

2. **Gonorrhea test (nucleic acid amplification test (NAAT), culture, or DNA probe) should always be done when chlamydia is suspected.**

THERAPEUTIC

PHARMACOLOGIC

NOTE: Prior to treatment of children, consult with or refer to primary care provider.

1. Nonpregnant adults, adolescents, and children who are at least 8 years old:

   a. Azithromycin 1 g**m** PO, single dose,
   OR
   b. Doxycycline 100 mg PO, 2 times a day for 7 days.

   NOTE: Do not give doxycycline to lactating **client; client must be advised** to discontinue breastfeeding **during treatment duration** or receive alternative regimen. **Do not give to children under the age of 8.**

2. If pregnant:
   a. Azithromycin 1 g**m** PO, single dose,
   OR
   b. Amoxicillin 500 mg PO, 3 times a day for 7 days,
   OR
   b. Erythromycin base 500 mg PO, 4 times a day for 7 days,
   OR
   c. Erythromycin base 250 mg PO, 4 times a day for 14 days,
   OR
   d. Erythromycin Ethylsuccinate 800 mg PO, 4 times a day for 7 days,
   OR

   e. Erythromycin Ethylsuccinate 400 mg PO, 4 times

a day for 14 days.

3. Treatment of children under 8 years of age and who weigh less than 45 kg:
   Erythromycin base or ethylsuccinate 50 mg/kg/day orally divided into 4 doses daily for 14 days.

4. Treatment of children under 8 years of age and who weigh greater than or equal to 45 kg:
   Azithromycin 1 gm orally in a single dose.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The name of the infection and its significance.

2. Directions for taking medication and what to do about potential side effects.

3. Refer all sex partner(s) from within 60 days prior to the onset of symptoms or diagnosis of chlamydia for examination and treatment. Refer the last sex partner if the last sexual contact occurred prior to 60 days. Provide written note(s) to give to partners to refer them in for exam and treatment.

4. **Counsel the client about high risk of reinfection if client's partner(s) is not tested and treated. The usages of protective barriers (diaphragm, condoms, etc.) are not a substitute for protection for sexual intercourse for an untreated partner(s).**

5. Abstain from intercourse until 7 days after taking azithromycin or until the 7 day doxycycline regimen has been completed.

6. Assist client to develop a personalized STD/HIV risk reduction plan.

7. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp

8. HIV antibody test to determine HIV status, if unknown.

MANAGEMENT OF SEX PARTNERS

All sex partners, as defined above, should be examined and promptly treated with one of the above regimens **for chlamydia**.

FOLLOW-UP

1. **Nonpregnant adults/adolescents do not require a test-of-cure unless therapeutic compliance is in question, symptoms persist, or reinfection is suspected.**

2. Children should receive follow-up cultures to ensure that treatment has been effective.

3. Pregnant females should be retested 3 weeks after completing therapy, and rescreened near time of delivery.

4. **Chlamydia infected women (nonpregnant or pregnant) and men should be retested approximately 3 months after treatment, regardless of whether they believe that their sex partners were treated. If retesting at 3 months is not possible, clinicians should retest whenever persons next present for medical care in the 12 months following initial treatment.**

CONSULTATION/REFERRAL

1. If pregnant client cannot tolerate medication.

2. Signs of Bartholin gland abscess/cyst.

3. Prior to treatment of children, **under 45 kg**, consult with or refer to primary care provider.

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12 (Current), December 17, 2010.**
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3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR EPIDIDYMITIS, SEXUALLY TRANSMITTED

DEFINITION

A clinical syndrome characterized by inflammation of the epididymis causing pain and tenderness, associated with urethritis that may be asymptomatic, usually occurring in men less than 35 years of age. (Epididymitis occurring in men over 35 years of age is **usually nonsexual and may be associated with urinary tract infections, systemic disease and immunosuppression)**.

The desired outcomes of treatment are microbiologic cure, alleviation of signs and symptoms, prevention of transmission of infection to others, and prevention of potential complications (e.g., infertility or chronic pain).

ETIOLOGY

Common causes are *Chlamydia trachomatis* or *Neisseria gonorrhoeae*. *Escherichia coli* infection can occur in males who are the insertive partners during anal intercourse.

SUBJECTIVE

1. Scrotal pain and swelling, usually unilateral.

2. May have dysuria and/or urethral discharge.

3. No history of trauma to the area.

OBJECTIVE

1. Tender scrotal swelling and on palpation cannot distinguish epididymis from testicle **(see consultation and referral)**

AND/OR

2. Gram-stained smear is positive for urethritis (i.e., **smear** contains more than 5 polymorphonuclear leukocytes per oil immersion field). The smear may or may not be positive for Neisseria gonorrhoeae.

3 Microscope examination of first-voidurine sediment demonstrating more than 10 polymorphonuclear leukocytes per high

ASSESSMENT

Epididymitis, sexually transmitted

PLAN

DIAGNOSTIC STUDIES

1. **When available, Gram-stained smear from urethra in males for Gonorrhea and for presumptive diagnosis of gonococcal infection**

2. **Laboratory tests for gonorrhea and chlamydia, Nucleic Acid hybridization tests and/or gonorrhea culture.**

3. Examination of first-void uncentrifuged urine for leukocytes if the Gram stain is negative. Also, culture and Gram-stain on the urine specimen.

THERAPEUTIC

PHARMACOLOGIC

1. If most likely due to gonococcal or chlamydial infection:
   Ceftriaxone 250 mg IM, single dose,
   PLUS
   Doxycycline 100 mg PO, 2 times a day for 10 days,

   NOTE: If allergic to cephalosporins or tetracyclines, refer for desensitization.

   OR

2. If most likely due to enteric organisms, or with negative gonococcal culture or nucleic acid amplification test:
   a. Ofloxacin 300 mg PO, 2 times a day for 10 days (if client is at least age 18),
      OR
   b. Levofloxacin 500 mg PO, once daily for 10 days (if client is at least age 18).

3. Oral analgesics for pain.

NON-PHARMACOLOGIC MEASURES

Client recommended bed rest, scrotal elevation **and support** to relieve swelling **and pain.**

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name of the syndrome and its significance, including that unresolved infection may lead to infertility.

2. Directions for taking medication and potential side effects and what to do about them.

3. Comfort measures.

4. To seek emergency medical care promptly if symptoms do not get

noticeably better, or worsen.

5. If infection with gonorrhea and/or chlamydia is known or suspected, refer sex partners for examination and treatment. Avoid sex until treatment is completed and client and partner(s) no longer have symptoms.

6. Assist client to develop a personalized STD/HIV risk reduction plan.

7. **Emphasize client follow up in 2-3 days for re-evaluation.**

8. **Emphasize the importance for client to return to clinic for all lab results even if presumptively treated at initial visit. Inform client if lab results are positive additional treatment will be needed.**

9. **Inform client that if additional lab are positive partner(s) will need additional treatment also.**

10. HIV antibody test to determine HIV status, if unknown.

11. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

If gonorrhea and/or chlamydial infection is known, or suspected, in the index client, all sex partners from within 60 days of onset of symptoms should be examined and receive appropriate treatment for gonorrhea and chlamydia.

FOLLOW-UP

Re-evaluate in 2-3 days. Failure to improve means the diagnosis and therapy should be reevaluated and hospitalization may be indicated**.**

CONSULTATION/REFERRAL

1. Immediately if unable to perform the necessary diagnostic testing, **cannot be treated with recommended drugs** or when emergency testing for testicular torsion may be indicated (when the onset of pain is sudden, pain is severe, or the test results

immediately available do not support a diagnosis of urethritis or urinary tract infection).

2. Intense pain should be evaluated by a urologist, even when urethritis is documented by Gram stain.

3. If no improvement in 2-3 days.

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)
2. Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)
3. "Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).

STANDARD NURSE PROTOCOL FOR GENITAL HERPES

DEFINITION

A sexually transmissible viral infection characterized by recurring vesicular **blisters resulting in** ulcerative lesions on the genitals or adjacent areas that heal spontaneously without scarring. However, typical lesions are absent in many infected persons.

Some severe cases of first episode infection last an average of 12 days and aseptic meningitis or generalized symptoms due to viremia may occur. Subsequent milder recurrent infections do not last as long. During latency between clinical episodes, viral shedding occurs intermittently.

Most infected persons never recognize signs suggestive of genital herpes; some will have symptoms shortly after infection and then never again. Many cases are acquired from persons who do not know that they are infected.

Persistent infection (lesions for more than 4 weeks) or extensive anogenital ulceration and proctitis occur in immunocompromised persons. Diseases caused by herpes viruses are very common in persons with HIV infection and are AIDS-defining.

The desired outcome of treatment with systemic antiviral drugs is to minimize the signs and symptoms of herpes episodes.

ETIOLOGY

Herpes simplex virus (HSV), type 1 or type 2. Most genital infections are with type 2, which is most apt to cause recurrences. Type 1 causes most oral herpes (cold sores). **Presence of type 2 antibodies implies anogenital infection.**

SUBJECTIVE

1. Single or multiple blisters and/or shallow ulcers, usually painful, anywhere on the genitals.

2. May have a history of recurring lesions as described above, or a sex partner may have a history of similar lesions.

3. May have a history of recurring lesions in the genital area that do not meet the above description.

4. May have swollen tender lymph nodes in the groin.

OBJECTIVE **PHYSICAL/LAB FINDINGS**

1. Typical vesicular lesions and/or shallow ulcers.

2. May have atypical papular lesions and no ulcers**.**

3. May have enlarged, tender inguinal lymph nodes.

4. Identification of herpes simplex virus type 1 and/or 2 in lesion scrapings, by cell culture,
   OR
5. A clinical diagnosis is made based on the presence of characteristic single or multiple blisters and/or shallow painful ulcers that are typical for herpes, but not for syphilis or chancroid. **Herpetic lesions are darkfield negative unless a co-existing syphilis lesion is present.**

6. Suspicious genital papules, vesicles or ulcers, with a history of episode(s) of similar symptoms or sexual exposure to a person with HSV **are** suggestive.

ASSESSMENT Genital Herpes

PLAN **DIAGNOSTIC STUDIES**

1. Herpes culture to confirm diagnosis of typical lesions. **Positive culture gives a definitive diagnosis. Absence of a positive culture however, does not mean the client does not have herpes**.

2. **Type-specific HSV serologic assays might be useful in the following scenarios:**

   - If history of recurring **genital or** atypical lesions and obtaining an adequate specimen for a culture is not possible, order type-specific serologic antibody tests for HSV 1 and 2.
   - **A clinical diagnosis of genital herpes without laboratory confirmation.**
   - **A partner with genital herpes.**
   - **A client with a history of multiple sex partners.**
   - **Clients with HIV infection.**
   - **MSM at increased risk for HIV acquisition.**

3. Darkfield exam of lesion fluid and/or Rapid Plasma Reagin (RPR) to rule out syphilis. **Unless co-existing with syphilis, lesions will be darkfield negative.**

4. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

Systemic antiviral drugs partially control the symptoms and signs of herpes episodes when used to treat first clinical episodes and recurrent episodes or when used as daily suppressive therapy. However, the drugs neither eradicate latent virus nor affect subsequent risk, frequency, or severity of recurrences after the drug is discontinued.

NOTE: Pregnant females must be referred to a physician for treatment. Lactating clients must discontinue breastfeeding while receiving treatment**.**

1. a. First genital episode
   NOTE: Treatment may be extended if healing is incomplete after 10 days of therapy.
   1) Acyclovir 400 mg PO, 3 times a day for 7-10 days,
      OR
   2) Acyclovir 200 mg PO, 5 times a day for 7-10 days,
      OR
   3) Famciclovir 250 mg PO, 3 times a day for 7-10 days,
      OR
   4) Valacyclovir 1 g**m** PO, 2 times a day for **10** days.

   b. Episodic recurrent episodes

NOTE: Effective episodic treatment of recurrent herpes requires initiation of therapy within 1 day of lesion onset, or during the prodrome that precedes some outbreaks. The client should be provided with a supply of medication with instructions to self-initiate treatment immediately when symptoms begin.

1) Acyclovir 400 mg PO, 3 times a day for 5 days,
OR
2) Acyclovir 800 mg PO, 2 times a day for 5 days,
OR
3) Acyclovir 800 mg PO, 3 times a day for 2 days,
OR
4) Famciclovir 125 mg PO, 2 times a day for 5 days,
OR
5) Famciclovir 500 mg PO, once followed by 250 mg 2 times a day for 2 days,
OR
6) Famciclovir 1000mg PO, 2 times a day for 1 day,
OR
7) Valacyclovir 500 mg PO, 2 times a day for 3 days,
OR
8) Valacyclovir 1 g**m** PO, once a day for 5 days.

c. Daily suppressive therapy, for clients with 6 or more recurrences per year (see FOLLOW-UP #3, p. 8.18).
1) Acyclovir 400 mg PO, 2 times a day,
OR
2) Famciclovir 250 mg PO, 2 times a day,
OR
3) Valacyclovir 500 mg PO, once a day, **use only if 9 or less recurrences per year**
OR
4) Valacyclovir 1 gm PO, once a day.

NOTE: The use of Valacyclovir may be less effective than other dosing regimens in clients who have more than 9 episodes per year.

d. HIV-infected clients
   1) Episodic treatment:
      a) Acyclovir 400 mg PO, 3 times a day, for 5-10 days,
      OR
      b) Famciclovir 500 mg PO, 2 times a day for 5-10 days,
      OR
      c) Valacyclovir 1 g**m** PO, 2 times a day for 5-10 days.
   2) Daily suppressive therapy:
      a) Acyclovir 400 - 800 mg PO, 2-3 times a day,
      OR
      b) Famciclovir 500 mg PO, 2 times a day,
      OR
      c) Valacyclovir 500 mg PO, 2 times a day.

2. Oral analgesic of client's choice (e.g., acetaminophen or ibuprofen) as needed.

NON-PHARMACOLOGIC MEASURES

1. Keep affected areas as clean and dry as possible. Pat lesions dry; avoid rubbing the area. (The use of ointments will retain moisture and may delay healing.)

2. Encourage increased intake of fluids (e.g., water) to dilute urine if it burns the affected area.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

Counseling of infected persons and their sex partners is critical to help the client cope with the infection and to prevent sexual and perinatal transmission. Although initial counseling is important, many clients benefit more from counseling about the chronic aspects of the disease after the acute illness subsides.

1. Educate about the natural history of the disease, the potential for recurrent episodes, and the risks of asymptomatic viral shedding between episodes.

2. Give clear directions for taking medication and potential side

effects.

3. Advise clients experiencing a first episode that suppressive and episodic antiviral therapy is available to prevent or shorten the duration of recurrent episodes.

4. Discuss comfort and pain-relieving measures.

5. Encourage clients to inform their current sex partners about the infection and inform future partners before initiating a sexual relationship. Inform sex partners of infected persons that they might be infected even if they have no symptoms.

6. Avoid sexual activity with uninfected partners when lesions or prodromal symptoms are present. At other times, correctly-used latex condoms may reduce the risk of transmission when the infected areas are covered.

7. Explain the risk for neonatal infection to all clients, including men. Advise infected women of child-bearing age to inform health-care providers who care for them during pregnancy and those who will care for their newborn infant.

8. Client should refer all symptomatic sex partner(s) for evaluation. Asymptomatic sex partners may be referred for evaluation and counseling.

9. Discuss resources available for further information and psychological support **including availability of latex condoms**.

10. Risk of neonatal HSV should be discussed with females and males.

11. Refer all pregnant clients who are infected or exposed to herpes to obstetrician.

12. Episodic treatment does not reduce risk of transmission.

13. Recurrence of lesions does not mean that the client has been reexposed.

14. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

1. Symptomatic sex partners should be managed the same as any client with genital lesions. **Educate to understand the natural history of HSV including possibility of asymptomatic shedding of virus and lesions reappearing without sexual re-exposure.**

2. Ask asymptomatic partners about a history of typical or atypical genital lesions and encourage **examining** themselves for lesions in the future. Counsel about the possibility of being infected even if they have never been symptomatic. Order type-specific serologic antibody testing from the State Public Health Laboratory to determine whether the risk for HSV acquisition exists.

FOLLOW-UP

1. Schedule an appointment with the client when culture results are available. Individualize counseling according to clinical progress and apparent emotional impact where further education and counseling for client and sex partners may be indicated. Assist client to develop a personalized STD/HIV risk reduction plan.

2. If the client did not have a positive herpes culture, order type-specific serologic antibody testing from the State Public Health Laboratory to confirm the clinical diagnosis of genital herpes and determine the type of antibodies present. This has important counseling implications, since HSV 1 genital infection is less likely to cause asymptomatic shedding or to recur than HSV 2.

3. For clients on continuous daily suppressive therapy, **discuss therapy after one year,** to assess the client's psychological adjustment to genital herpes and rate of recurrent episodes.

CONSULTATION/REFERRAL

1. If symptoms of meningitis **(e.g., headache, nausea, vomiting, stiff neck)** during first **or with recurrent** episode**(s).**

2. For additional information and psychological support, refer to: Local HELP line (**678-561-4377** in Atlanta) or the National Herpes Hotline, 919-361-8488 or **http://www.ashastd.org/herpes/herpes_overview.cfm**

3. **Refer to physician the following types of clients:**

a. Pregnant
b. With history of renal impairment
c. With persistent lesions

4. Refer to HIV Infectious Disease specialist for evaluation if client has persistent lesions and is on antiviral therapy.

5. Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12 (Current), December 17, 2010.**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR GENITAL ULCER, POSSIBLE PRIMARY SYPHILIS

DEFINITION

The possibility of syphilis should be investigated for all genital ulcers. "Possible Primary Syphilis" is a tentative assessment based on the clinical findings of an ulcerated lesion, typical of the classic ulcer associated with primary syphilis, appearing in the genital area of a sexually active adult. The client is not a known contact to early syphilis, and laboratory diagnostic criteria for primary syphilis (positive darkfield exam or newly-reactive Rapid Plasma Reagin [RPR] serology are unable to be immediately met).

Factors in deciding to give treatment for possible primary syphilis before RPR results are available may be that the client is thought to be unreliable and may not follow directions to avoid sexual contact, may not be easily notified, and/or may not keep a follow-up appointment.

If a primary syphilis ulcer has been present for less than a week, the RPR may be nonreactive, and treatment at this point could mask the diagnosis. In some cases, a Fluorescent Treponemal Antibody Absorption (FTA-ABS) but not an Enzyme Immunoassay (EIA) may be reactive prior to the RPR becoming reactive.

ETIOLOGY

Treponema pallidum, a spirochete, is the causative organism for syphilis. The most common sexually-transmitted cause of genital ulcers in the United States is herpes simplex virus, for which testing should also be done on all genital ulcers. There are also many other causes of genital ulcers.

SUBJECTIVE

1. Painless open sore in the genital area.
2. May have non-tender, swollen glands in the groin.
3. No history of contact to a known case of early syphilis, though **client** may have noticed a suspicious lesion or rash on a sex partner.

OBJECTIVE

1. Painless ulcer with an indurated border and relatively clear base, in the genital area.
2. May have firm, non-tender, and modestly enlarged inguinal lymph node(s), frequently bilateral.

ASSESSMENT Genital Ulcer, Possible Primary Syphilis

PLAN **DIAGNOSTIC STUDIES**

1. Rapid Plasma Reagin (RPR), with titer. **Obtain history of past syphilis serologic results.**

2. Enzyme Immunoassay (EIA) and Fluorescent Treponemal Antibody Absorption (FTA-ABS) if no history of previous syphilis; if the ulcer has been present for less than a week, order FTA regardless of RPR or EIA results.

3. Herpes culture.

4. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

NOTE: If Benzathine Penicillin G is in short supply, reserve **the** existing penicillin for pregnant and HIV infected clients. For non-pregnant and/or non-HIV infected clients, follow nurse protocol in 1.b. below: Doxycycline 100 mg PO, 2 times a day for 14 days.

1. If client is neither pregnant nor HIV-infected
   a. Benzathine Penicillin G, 2.4 million units (mu) IM, once,
   OR
   b. If history of allergy to penicillin, doxycycline 100 mg PO, 2 times a day for 14 days.

NOTE: Do not give doxycycline to pregnant or lactating client; client must **be advised** to discontinue breastfeeding or receive alternative regimen.

2. If client is pregnant
   a. Benzathine Penicillin G, 2.4 mu IM, once, after consultation with the prenatal care provider,
   OR
   b. If client is allergic to penicillin, await lab results **and consult physician.**

3. If client is HIV-infected
   a. Benzathine Penicillin G, 2.4 mu IM, once,

OR

b. If **client** is allergic to penicillin, await lab results **and consult physician.**

CLIENT EDUCATION/ COUNSELING
(Reinforce pertinent information with handouts)

1 The name of the suspected infection and its significance.

2. If given oral medication, directions for taking it and what to do about potential side effects. **Importance of follow up should be discussed, especially if first line drug (Benzathine Penicillin G) is not used.**

3. The possibility of a Jarisch-Herxheimer **(e.g. fever, chills, headache, myalgia, and exacerbation of cutaneous lesions)** reaction and what to do about it.

4. The need to refer sex partners from within the previous three months to be examined **and treated** as soon as possible **after the diagnosis is established.**

5. Avoid sex until infection status of self and partner(s) is known.

6. Assist client to develop a personalized STD/HIV risk-reduction plan.

7. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp

MANAGEMENT OF SEX PARTNERS

1. Do thorough history and examination for signs of syphilis; draw blood for RPR.

2. Counsel client that he/she may need treatment for syphilis, depending on test results on partner or self.

FOLLOW-UP

1. If **District** Communicable Disease Specialist **is** not on-site, record thorough identifying and locating information on client and partner(s) for **District Communicable Disease Specialist** use if diagnosis of syphilis results.

2. Give the client an appointment to return to the clinic in one week, no matter what the lab results are. Examine lesion for response to treatment. If the original RPR, EIA and FTA were negative and the lesion was highly suspicious for syphilis, but present for a week or less, order repeat tests.

3. If a diagnosis of primary syphilis is made, do follow-up per syphilis nurse protocol. **Do a repeat RPR in one month regardless of the diagnosis to ensure that a syphilis diagnosis is not missed.**

CONSULTATION/REFERRAL

1. **Notify** immediately, **District Communicable Disease Specialist** for **partner services and case management.**

2. Consult/refer to physician if lesion does not improve in one week.

3. Consult with physician if client is pregnant and allergic to penicillin for desensitization referral.

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. King K. Holmes, et. al., eds., *Sexually Transmitted Diseases,* Third Edition, McGraw Hill, New York, 1999. **(Current)**
4. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR GENITAL/PERIANAL WARTS

DEFINITION

Infection of the genital and/or anal areas with the human papillomavirus (HPV). It is usually sexually transmitted, and the viral strains causing anogenital warts are not usually found on other areas of the body. **Asymptomatic genital HPV infection is common and usually self-limited.** While intra-anal warts are seen predominately in clients who have receptive anal intercourse, perianal warts can occur in males and females who do not **give** a history of anal sex.

The desired outcome of treatment is the removal of symptomatic warts. Treatment can induce wart-free periods in most clients.

ETIOLOGY

The larger, fleshy warts are usually caused by HPV types 6 or 11; flat warts are caused by HPV types 16, 18, 31 and others. **HPV 16 and 18 are considered to be the cause of cervical cancers.** The higher-numbered types are the ones associated with cervical and other anogenital cancers. Regardless of type, most HPV infections are subclinical. However, depending on the size and anatomic location, genital warts can be painful, friable and pruritic.

SUBJECTIVE

1. May have no noticeable symptoms.

2. Bumps/growths in the genital or anal areas.

OBJECTIVE

The following criteria are used to diagnose genital/perianal warts:

1. Single or multiple typical soft, fleshy growths on the skin or mucous membranes around the vulvovaginal area, anal area, penis, urethra or perineum. They may be like cauliflower, with a stalk-like base, or have a broad base.

2. Demonstration of typical cytologic changes on a Pap smear is suggestive of subclinical HPV infection**. HPV is associated with higher grade intraepithelial neoplasia.**

ASSESSMENT

Genital and/or Perianal Warts (specify site)

PLAN

DIAGNOSTIC STUDIES

1. RPR and darkfield exam of **any open** moist lesions to rule out **primary syphilis or condylomata lata of secondary syphilis.**

2. HIV antibody test to determine HIV status, if unknown.

3. **A biopsy may be indicated it the wart(s) does not respond to therapy or gets worse during treatment.**

4. **HPV specific tests detect viral nucleic acid (i.e. DNA or RNA) capsid protein. Approved FDA Tests: HC II High-Risk HPV test (Quiagen), HC II Low-Risk HPV test (Quiagen), Cervista HPV 16/18 test and Cervista HPV High Risk Test (Hologics).**

THERAPEUTIC

NOTE: Treatment of genital warts is optional, and the warts may spontaneously regress. Many clients will require a course of therapy rather than a single treatment. **Treatment is not indicated in the absence of lesions.**

PHARMACOLOGIC

1. Client-Applied:
   NOTE: For genital warts only. Client must be able to identify and reach warts to be treated; the clinician should demonstrate the proper application technique and identify which warts should be treated.

   NOTE: Podofilox or Imiquimod should not be used in children, pregnant or nursing clients.

   a. Podofilox 0.5% solution or gel. Apply solution with a cotton swab, or gel with a finger or swab, twice a day for 3 days, followed by 4 days of no therapy. Wash hands after applying medication. This cycle may be repeated, as necessary, for a total of 4 cycles. The total area treated should not exceed 10 cm^2, and no more than 0.5 mL of podofilox used per day.

   OR

   b. If 12 years of age or older**,** Imiquimod 5% cream, (i.e., Aldara). Apply cream with a finger or cotton swab at bedtime, three times a week until warts are cleared, for up to 16 weeks. Wash hands after applying the medication. Wash the treatment area with mild soap and water 6-10 hours after the application.

2. Provider-Administered

NOTE: This **Trichloroacetic acid, bichloroacetic acid or Podophyllin should not** be used in children, pregnant or nursing clients.

NOTE: Refer to the product package insertion prior to administration.

a. Trichloroacetic acid (TCA) or bichloroacetic acid (BCA) 80-90% solution, applied sparingly to warts and allowed to dry to a white "frosting" before the client sits or stands. If an excess amount is applied, powder the treated area with liquid soap preparation, talc or sodium bicarbonate to remove unreacted acid. May repeat weekly as necessary.

OR

b. Podophyllin 10-25% in compound tincture of benzoin, applied topically and allowed to air dry. Limit each treatment to less than 0.5 mL applied to an area of less than 10 square cm of warts per session. Repeat weekly if necessary, up to **4 (four)** applications. Do not use Podophyllin during pregnancy **or on open lesions and wounds.**

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The name of the infection and its significance. For the fleshy warts, stress that these are not usually caused by the same strains that are associated with cancer, but it is possible that other strains are also present. Treatment of external warts is not likely to influence the development of cervical cancer.

2. Directions for care of the treated area. To reduce local irritation, suggest washing off podophyllin in 1-4 hours.

3. No treatment, even laser, is known to eradicate the virus, and recurrences are common. Recurrences occur most frequently during the first 3 months, and are usually due to reactivation of latent virus rather than reinfection by a sex partner.

4. Infected females should undergo regular cervical Pap screening as recommended for females without genital warts.

5. Partners may be infected with HPV even if they have no visible warts. The use of condoms may reduce transmission to new partners.

6. HPV infection may persist lifelong in a dormant state and become infectious intermittently.

7. For client-applied treatment:
   - Do not use more often than directed or on any other area of the body. Wash hands immediately after applying medication.
   - Report problems with application or side-effects, such as bleeding or severe swelling of tissue. Mild to moderate pain or local irritation is common with podofilox. Mild to moderate local inflammatory reactions are common with imiquimod.
   - Do not share the medication with anyone else.
   - Do not have intercourse during the days when warts are being treated with podofilox or when imiquimod cream is on the skin.
   - Females should avoid getting pregnant.

8. Assist client to develop a personalized STD/HIV risk reduction plan**.**

9. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp

MANAGEMENT OF SEX PARTNERS

1. Examine all referred sex partners for genital warts and other STDs.

2. Recommend a Pap smear for female partners who have not had one in the past year.

FOLLOW-UP

1. If desired, clients using self-administered treatment may return in a few weeks for assessment of treatment response.

2. For provider-administered topical treatment, apply weekly as needed. If no significant improvement in four weeks, or if warts have not completely cleared after six weeks, alternative therapy should be used**.**

CONSULTATION/REFERRAL

1. Extensive external genital/perianal warts, or if smaller warts do not respond to available topical therapy.

2. Cervical, vaginal, anal or urethral warts are present.

3. For Pap smear, as needed.

4. If client is pregnant, consult with physician for referral.

5. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

6. **Consult with or refer to primary care provider if warts not responding to treatment.**

REFERENCES

1. Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)
2. Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)
3. "Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).

STANDARD NURSE PROTOCOL FOR GONORRHEA
Uncomplicated Urethral, Endocervical, Rectal or Pharyngeal

DEFINITION

A sexually transmitted genital, anorectal or pharyngeal infection that may be symptomatic or asymptomatic. (Occasionally, the periurethral or Bartholin glands may also show signs of being infected.)

The desired outcomes of treatment are: biologic cure, prevention of transmission to sex partners, prevention of pelvic inflammatory disease (PID) and resulting ectopic pregnancy or infertility, and, for pregnant women, prevention of transmission to infants during birth. Treatment of sex partners helps to prevent reinfection of the index client and infection of other partners.

ETIOLOGY

Neisseria gonorrhoeae, a Gram-negative diplococcus. Infections caused by antibiotic resistant strains are clinically indistinguishable from drug-sensitive infections.

SUBJECTIVE

1. May be asymptomatic at any infected site, especially females.
2. Males frequently have purulent urethral discharge and burning on urination.
3. Females may notice discharge from the vagina, **abdominal pain and dysuria.**
4. Rectal discharge or pain, with history of rectal sex.
5. Sore throat, with history of oral sex.
6. May have history of sexual contact to an individual with gonorrhea.

OBJECTIVE

SIGNS

1. Females commonly have no clinical signs.
2. Mucoid, mucopurulent or purulent discharge from the infected site.
3. Anorectal inflammation and/or discharge.
4. Pharyngeal inflammation.

5. Signs of complications of gonorrhea include Pelvic Inflammatory Disease and Epididymitis.

LABORATORY FINDINGS

NOTE: Nonculture, nonamplified probe tests should not be used for diagnosing preadolescent children. **Only GC culture or amplified DNA Probe remains the preferred method for diagnosis.**

1. Adult Endocervical or Urethral Infection
   a. Nonculture detection of *N. gonorrhoeae* (e.g., DNA probe, **nucleic acid amplification test)**.
   b. Culture positive for *N. gonorrhoeae,* with or without confirmatory tests.
   c. Gram-negative intracellular diplococci seen on a smear of male urethral discharge. Gram stains are to be done in-house on symptomatic male clients in an effort to make a diagnosis and treat the clients on the same day.

   NOTE: You must perform either "a" or "b" in female clients. In male clients, you must perform "a" or "b" and when available "c"; however, you can treat the male client based on diagnostic criteria "c" alone.

   NOTE: If the criteria for gonorrhea are not present, treatment should be deferred pending the results of the diagnostic studies. Empiric treatment for gonorrhea must be given in the following cases
   - **Contact to Gonorrhea**
   - **Documented or contact to PID**
   - **Documented or contact to Epididymitis**
   - **Symptoms of discharge in males with visible discharge on examination (in case Gram stain not available).**

2. Genital Infection in a Child Positive culture for *N. gonorrhoeae,* confirmed by two different acceptable methods.

3. Rectal Infection or Pharyngeal Infection
   Culture positive for *N. gonorrhoeae*, confirmed by an acceptable method.

ASSESSMENT Gonorrhea [specify infected site(s)]

PLAN **DIAGNOSTIC STUDIES**

1. Gonorrhea test **(nucleic acid amplification test (NAAT)**, culture or DNA probe) if diagnosis is made on male urethral smear.

2. Amplification or DNA probe test for **Chlamydia should always be done when gonorrhea is suspected.**

3. **Gram Negative intracellular diplococci on gram stain.**

4. **Gonorrhea culture, when indicated, examples are:**

- **GISP study if ongoing**
- **Suspected therapeutic failure after Gonorrhea treatment**
- **Adults with oral and rectal exposure should have cultures done at the exposed site**
- **In children with suspected sexual abuse, do oral and rectal cultures regardless of history exposure**
- **As requested by a physician, or supervisor**
- **When Nucleic hybridization test are not available**

5. Children with gonorrhea should also be tested for chlamydia and syphilis. **Sexual abuse is the most frequent cause of gonococcal infection in preadolescent children.**

6. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

NOTE: Prior to treatment of children, consult with or refer to primary care provider.

NOTE: If allergic to cephalosporins or penicillins, refer for penicillin or cephalosporin desensitization.

A. Cervical, Urethral, Rectal or **Pharyngeal** Infection **of nonpregnant adults/adolescents or children weighing at least 45 kilograms (kg):**

1. **Recommended Regimen**
   - **a.** **Ceftriaxone 250 mg IM, single dose,**
     OR
   - b. Cefixime 400 mg PO, single dose **(is less effective than ceftriaxone and not effective**

against pharyngeal gonococcal infection).
NOTE: It is not known if Cefixime is excreted in breast milk. The manufacturer recommends that consideration be given to discontinuing nursing temporarily during treatment. Other cephalosporins are considered safe during breastfeeding. If present in breast milk, non-dose related effects could include modification of bowel flora.

PLUS,

1) Azithromycin 1 g**m** PO once,

OR

2) Doxycycline 100 mg PO, 2 times a day for 7 days (only if at least age 8).

NOTE: Do not give doxycycline to lactating client; client must be advised to discontinue breastfeeding or receive alternative regimen.

2. If referral for desensitization is unavailable or client refuses,

Azithromycin 2 g**m** PO once, given with food to lessen occurrence of GI symptoms, followed by retesting in 3 weeks.

NOTE: CDC does not recommend widespread use of this drug due to concerns regarding emergence of resistance.

B. Cervical, Urethral, Rectal or Pharyngeal Infection of Pregnant adult**/**adolescent **or** child**ren** weighing at least 45 kg:

1) Ceftriaxone 250 mg IM, single dose,
PLUS,

Azithromycin 1 g**m** PO, single dose,

2) If referral for desensitization is unavailable or client refuses,

Azithromycin 2 g**m** PO once, given with food to lessen occurrence of GI symptoms, followed by retesting in 3 weeks.

NOTE: CDC does not recommend widespread use of this drug due to concerns regarding emergence of resistance.

C. Genital**,** rectal **or pharyngeal** infections in children weighing less than 45 kg:

Ceftriaxone 125 mg IM, single dose,

NOTE: Children with gonorrhea should also be tested for chlamydia and syphilis.

NOTE: Spectinomycin is not available in the United States. Quinolones are no longer recommended. See following web site: http://www.cdc.gov/std/gisp

Co-treatment for Gonorrhea and Chlamydia, with appropriate drugs and dosage, reduces antimicrobial resistance and enhances pharyngeal treatment of Gonorrhea.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The name of the infection and its significance.

2. Directions for taking medication and what to do about potential side effects.

3. Refer all sex partner(s) from within 60 days prior to the onset of symptoms or positive test to the current date, for examination and treatment. Avoid sex until partner has been treated. Refer the last sex partner if the last sexual contact occurred prior to 60 days. Provide written note(s) to give to partners to refer them in for exam and treatment.

4. Assist client to develop a personalized STD/HIV risk reduction plan.

5. If treated with Azithromycin tablets 2 g**m** PO, have client return for retesting 3 weeks after treatment.

6. **Advise the client to return to clinic for all lab results even if presumptively treated at initial visit. Inform client if lab results are positive additional treatment will be needed.**

7. **Inform client if additional lab(s) is/are positive, partner(s) will**

need additional treatment also.

8. HIV antibody test to determine HIV status, if unknown.

9. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

All sex partners, as defined above, should be examined and promptly treated with one of the above regimens, according to exposure site(s).

FOLLOW-UP

1. Persons who have uncomplicated gonorrhea and are treated with any of the above regimens except Azithrmycin tablets 2 g**m** PO need not return for retesting. Those treated with Azithromycin tablets 2 g**m** PO are to return in 3 weeks for retesting. If retest is positive, consult with physician.

2. **Test-of-cure is not routinely recommended unless therapeutic failure is suspected.** Apparent treatment failure: Question carefully about the possibility of reinfection. If possible, a client with symptoms that persist after treatment should have a gonorrhea culture done, with anti-microbial sensitivity testing on a positive culture.

3. ***N. gonorrhoeae* infection is prevalent among clients who have been diagnosed with and treated for gonorrhea in the preceding several months. Most infections result from reinfection rather than treatment failure, indicating a need for improved client education and referral of sex partners. Clinicians should advise clients with gonorrhea to be retested three months after treatment. If clients do not seek medical care for retesting in three months, providers are encouraged to test these clients whenever they next seek medical care within the following 12 months, regardless of whether the clients believe that their sex partners were treated. Retesting is distinct from test-of-cure to detect therapeutic failure, which is not recommended.**

CONSULTATION/REFERRAL

1. Refer to a District Communicable Disease Specialist if repeat infections within a short time, for prevention counseling and assistance with partner referral.

2. Refer to a physician if signs of Bartholin gland abscess or cyst are present.

3. Refer client to a physician if client cannot tolerate cephalosporins, penicillins, or azithromycin.

4. If client is treated with **A**zithromycin 2 g**m** PO and has positive retest, consult with physician.

5. Children allergic to cephalosporins or penicillins for desensitization or alternate treatment.

6. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

7. **Infants of mothers with untreated gonorrhea must be referred to physician for evaluation and possible treatment.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. CDC, "Notice to Readers: Discontinuation of Spectinomycin," *MMWR*, Vol. 55, No. 13, April 7, 2006. **(Current)**
4. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (May 2, 2011).**
5. **GA Department of Community Health, Guidelines for Manditory Reporting of Suspected Child Abuse for Public Health Personnel, Oct 2010, Pg. 1-9**

STANDARD NURSE PROTOCOL FOR LYMPHOGRANULOMA VENEREUM (LGV)

DEFINITION

LGV is a systemic, sexually transmitted disease (STD) or infection caused by a type of *Chlamydia trachomatis* (serovars L1, L2, L3). The incidence is highest among sexually active people living in tropical or subtropical climates. It is rarely diagnosed in the United States or other industrialized countries. Yet, an outbreak in November 2004, in the Netherlands among men who have sex with men suggests that the number of cases may be on the rise. It has three clinical stages:

1. Primary stage: A papule at the site of infection, which ulcerates and then heals rapidly. Mild urethritis may also occur. The client rarely presents for examination at this stage.

2. Secondary Stage: Usually occurring 10-30 days after the primary stage, it is characterized by increasing inguinal lymphadenopathy or, in persons exposed by receptive anal intercourse, acute hemorrhagic proctitis. The lymphadenopathy is usually unilateral; less than 20% have the “groove sign” showing involvement of the femoral nodes also. Diagnosis and treatment during the stage can have the desired outcome of curing infection and prevention of ongoing tissue destruction.

3. Third stage: Denoted by chronic inflammation of the lymph nodes, ulceration and fistula formation. Clients, especially those who have engaged in unprotected anal sex may present with an atypical presentation. Symptoms could include proctitis or proctocolitis with rectal discharge, bleeding, pain on defecation or tenesmus.

ETIOLOGY

Chlamydia trachomatis, serovars L1, L2, or L3.

SUBJECTIVE

1. Swollen glands in the groin with or without bubo.

2. May have history of briefly occurring painless papule/ulcer in the genital area.

3. Proctitis or pro**c**tocolitis with rectal discharge, tenderness and bleeding, with history of rectal sex. May complain of constipation, pain on defecation and tenesmus.

OBJECTIVE

NOTE: Diagnosis of LGV can be complicated. Diagnosis should be made considering a thorough sexual history, travel history, clinical findings and several laboratory tests including Chlamydia serology and Chlamydia serotyping of specimens.

1. Client history and clinical findings consistent with LGV. One or

more tender, progressively enlarging, fluctuant inguinal lymph nodes,

OR

Characteristic signs of hemorrhagic proctitis in a person with history of rectal sex. May be accompanied by fever, malaise and myalgias.

AND

2. Positive microimmunofluorescent (MIF) serologic test titer more than 1:128, for a lymphogranuloma venereum strain of *Chlamydia trachomatis* (serum).

AND

Isolation/culture of *Chlamydia trachomatis*, LGV serotypes L1, L2 or L3 from clinical specimen (rectal swab).

ASSESSMENT Lymphogranuloma Venereum (LGV)

PLAN **DIAGNOSTIC STUDIES**

NOTE: All specimens must be submitted to the Public Health Laboratory.

1. Positive microimmunofluroscent (MIF) (titer more than 1:128) serologic test for a lymphogranuloma venereum strain of *Chlamydia trachomatis* (serum).

2. Isolation/culture of *Chlamydia trachomatis*, LGV serotype L1, L2 or L3 from a clinical specimen (rectal swab).

3. Serology for HIV and for syphilis (RPR).

4. If ulcer present: darkfield exam and herpes culture.

THERAPEUTIC

PHARMACOLOGIC

1. If **client** is not pregnant:
   a. Doxycycline 100 mg PO, 2 times a day for 21 days,
   NOTE: Lactating client must be advised to discontinue breastfeeding while on doxycycline or receive alternative regimen.

   OR

   b. If can not take Doxycycline, Erythromycin base 500mg PO, 4 times a day for 21 days.

2. If **client** is pregnant: Erythromycin base 500 mg PO, 4 times a day for 21 days.

3. Persons with both LGV and HIV infection should receive the same regimens as those who are HIV-negative.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. Give directions for taking the medication and potential side effects and what to do about them. Stress the importance of finishing medications. Advise to abstain from sexual contact until treatment is completed and until partners have finished all their medication.

2. Refer sex partners from within 30 days prior to the development of symptoms for examination and treatment and avoid sex until partner has been treated.

3. Stress safe sex practices among men who have sex with men (MSM) and bisexual men. Emphasize the importance of avoiding penetrating sex and regular use of condoms. Limiting the number of sex partners can also reduce risk.

4. Counsel client on individualized STD/HIV risk reductions and incorporate reduction plan.

   NOTE: LGV can facilitate the spread of other STDs including HIV because of the disease's ulcers. Keep acute HIV infection and syphilis in mind as well as LGV when clients present with symptoms. HIV and syphilis are more prevalent than LGV in Georgia and clients should be screened for all STDs.

5. **Emphasize the importance of regular health screenings among high-risk populations.**

6. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS
All sex partners (asymptomatic and symptomatic) should be treated with one of the above regimes.

FOLLOW UP
See every 1-2 weeks until all lesions have healed. Clinical response is

the best gauge of therapy.

CONSULTATION/REFERRAL

1. Inadequate response to treatment.

2. If lymph node enlargement continues to the point where rupture seems possible, refer for aspiration. (Blue color of overlying skin shows that rupture is imminent.)

3. If client presents to the health department with history and signs/symptoms that are suggestive of LGV, may need to consult with your **medical consultant. Health director should be notified so** that presumptive treatment **and surveillance** can be initiated.

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. CDC, "MMWR Weekly", *Lymphogranuloma Venereum Among Men Who Have Sex with Men-Netherlands*, Article, 53 (42) pp. 985-988 October 29, 2004. **(Current)**
4. CDC, "Sexually Transmitted Diseases" *Lymphogranuloma Venereum (LGV) Project*, n.d.,<http://cdc.gov/std/lgv/default.htm> (April 4, 2005). **(Current)**
5. **Georgia Department of Human Services,** *Appearance of Rare Form of Chlamydia (LGV) in Atlanta. Health Officials stress safe sex practices among gay and bisexual men*. **<http://health.state.ga.us/publications/pressrelease/021705.asp> (April 28, 2011). (Current)**
6. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

NURSE PROTOCOL FOR MUCOPURULENT CERVICITIS (MPC)

DEFINITION

Clinical syndrome characterized by yellow or green mucopurulent exudate visible in the endocervical canal or in an endocervical swab specimen and/or easily induced endocervical bleeding.

The desired outcome of client management is to determine, through laboratory testing, if she is infected with *N. gonorrhoeae* and/or *C. trachomatis* and treat her and her sex partners accordingly.

ETIOLOGY

Chlamydia trachomatis and *Neisseria gonorrhoeae* may cause MPC, but most women infected with either do not have MPC. In most cases, neither organism can be isolated. In some cases, the condition persists despite repeated courses of antimicrobial therapy.

SUBJECTIVE

1. Frequently asymptomatic.
2. Discharge from the vagina.
3. Abnormal vaginal bleeding (e.g., after intercourse).

OBJECTIVE

1. Presence of a purulent or mucopurulent exudate visible in the endocervical canal or in an endocervical swab specimen (positive swab test).

   AND/OR

2. Easily-induced bleeding occurs with insertion of the first endocervical swab (cervical friability).

ASSESSMENT

Mucopurulent Cervicitis (MPC)

PLAN

DIAGNOSTIC STUDIES

1. Gonorrhea and chlamydia tests**.**
2. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

1. The results of the chlamydia and gonorrhea tests should be used to determine the need for treatment, unless the client is unlikely to be located for treatment when test results are available.
2. Only if the clinic-based prevalence of chlamydia and/or gonococcal infection is more than 15-20%, and the client is unlikely to be easily located for treatment when the test results are

available, may empiric treatment to cover gonorrhea and/or chlamydia be given. (See gonorrhea and chlamydia protocols for treatment choices.)

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The name of the syndrome and its significance.

2. When to call/return for test results.

3. Directions for taking medication and what to do about potential side effects.

4. Encourage self-referral of recent sex partner(s) for examination and possible treatment. Avoid sex until partner has been treated.

5. Abstain from sex for 7 days after therapy is begun.

6. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp**.**

MANAGEMENT OF SEX PARTNERS

1. All self-referred sex partners should be treated on the basis of their examination and test results, or the test results of the index client.

2. Partners of females who are treated for MPC before test results are available should receive treatment for the same suspected infection(s) as the female partner.

FOLLOW-UP

If symptoms persist, clients should return for re-evaluation. However, after the possibilities of relapse and reinfection have been excluded, management of persistent MPC is unclear.

CONSULTATION/REFERRAL

1. Consult with or refer to primary care provider for additional evaluation if symptoms persist after relapse and reinfection have been excluded.

2. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR NONGONOCOCCAL URETHRITIS (NGU)

DEFINITION

Sexually transmitted clinical syndrome in men, usually characterized by a mucoid-to-purulent urethral discharge and often accompanied by dysuria or urethral itching. It is diagnosed if urethritis is present and Gram-negative intracellular organisms cannot be identified on Gram stains. May progress to epididymitis or Reiter's syndrome if untreated.

The desired outcome of treatment is alleviation of symptoms and microbiologic cure of infection.

ETIOLOGY

Chlamydia trachomatis causes **15%-40%** of cases, with lower prevalence occurring in older men. The etiology of many cases of nonchlamydial NGU is unknown. *Ureaplasma urealyticum* and possibly *Mycoplasma genitalium* are implicated in as many as one third of cases **(15%-25%).** *Trichomonas vaginalis* and herpes simplex virus occasionally cause NGU.

SUBJECTIVE

1. Urethral discharge, especially in the morning.

2. Itching or burning of the urethra.

OBJECTIVE

The following criteria are used to diagnose nongonococcal urethritis (NGU).

1. Documentation of urethritis by:
   a. Mucopurulent or purulent discharge,
      OR
   b. Gram stain of urethral secretions demonstrating more than 5 WBCs per oil immersion field.
      OR
   c. Positive leukocyte **esterase test in a first void urine sediment demonstrating >10 WBCs per high power field.**
      AND/OR
2. **When available a Gram stain that is negative for Gram-negative intracellular diplococci.**

3. **If the criteria for urethritis are not present, treatment should be deferred pending the results of the diagnostic studies. Empiric treatment of symptoms without documentation of urethritis is recommended only for clients at high risk for infection who are unlikely to return for a follow-up evaluation (e.g. Adolescents who have multiple partners, non**

compliance for follow up of previous positive results, etc.).

NOTE: If the client has urinated shortly before obtaining a specimen in which less than five (5) white blood cells (WBCs) per high power field are seen, may need to examine another specimen two hours after urination.

ASSESSMENT Nongonococcal Urethritis (NGU)

PLAN **DIAGNOSTIC STUDIES**

1. Gonorrhea and Chlamydia tests**.**

2. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

3. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

1. Azithromycin 1 g**m** PO, single dose,
   OR
2. Doxycycline 100 mg PO, 2 times a day for 7 days if at least age 8.
   OR
3. **Erythromycin base 500 mg orally 4 times a day for 7 days**
   OR
4. **Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days**
   OR
5. **Levofloxacin 500 mg orally, once daily for 7 days (if client is at least age 18)**
   OR
6. **Ofloxacin 300 mg orally, 2 times a day for 7 days (if client is at least age 18)**

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name of the syndrome and its significance.

2. Directions for taking medication and what to do about potential side effects.

3. Referral, for evaluation and treatment, of all sex partners within the preceding 60 days.

4. Assist client to develop a personalized STD/HIV risk reduction plan.

5. Instruct client to abstain from sexual intercourse until 7 days after therapy has started provided their symptoms have resolved and sex partners have been adequately treated.

6. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

All sex partners, as defined above, should be examined and promptly treated with one of the above regimens.

FOLLOW-UP

1. **Advise the client to return to clinic for all lab results even if presumptively treated at initial visit. Inform client if lab results are positive additional treatment will be needed.**

2. **Inform client if additional lab(s) is/are positive, partner(s) will need additional treatment also.**

3. The client should return if symptoms persist or return. Clients with persistent or recurrent urethritis should be retreated with the initial regimen if they have failed to comply with the regimen, or if they have been re-exposed to an untreated sex partner. Otherwise, refer.

4. **Retest client in three months.**

CONSULTATION/REFERRAL

1. **If not compliant to previous treatment and instructions retreat and refer to Communicable Disease Specialist for counseling.**

2. **Refer to urologist for evaluation and treatment of recurrent urethritis.**

3. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR PEDICULOSIS PUBIS (Crabs/pubic lice)

DEFINITION Infestation of the pubic hair. (The pubic louse may also infest facial hair or eyelashes.) Lice deposit eggs (nits) on the hair shaft; nits hatch in one week. The desired outcome of treatment is to eliminate lice and nits from clients and their clothing and bedding.

ETIOLOGY Crab louse, *Phthirus pubis*, typically spread by sexual contact or sleeping in the same bed.

SUBJECTIVE

1. Itching in the pubic area.
2. "Bugs" or "crabs."

OBJECTIVE The following criteria are used to diagnose pediculosis pubis:

1. Identification of lice, larvae, or nits attached to genital hairs.
   OR
2. History of exposure to pubic lice **AND** pruritic, reddened macules or papules or secondary excoriations are observed in the genital area.

ASSESSMENT Pediculosis Pubis (Crab or Pubic Lice)

PLAN

DIAGNOSTIC STUDIES

1. HIV antibody test to determine HIV status, if unknown.
2. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

THERAPEUTIC

PHARMACOLOGIC

NOTE: Prior to treatment of children, consult with or refer to primary care provider.

1. Either of these over-the-counter preparations:
   a. Permethrin 1% cream rinse (e.g., NIX) applied to the affected area and washed off after 10 minutes;
      NOTE: Clients who are breastfeeding will need to

discontinue until 72 hours after last treatment.
Do not give to ragweed sensitized persons.
NOTE: Must be at least 2 months of age.

OR

b. Pyrethrins with Piperonyl Butoxide (e.g., RID) applied to the affected area and washed off after 10 minutes.
NOTE: Do not use in pregnant clients. Clients who are breastfeeding will need to consider discontinuing temporarily. Do not give to ragweed sensitized persons.

2. Mild topical antipruritic/anti-inflammatory cream or ointment may be obtained over-the-counter for itching.

3. Alternative Regimens (Consult physician prior to administering or dispensing to client)

a. If age is equal or greater than two years of age and weigh at least 15 kg give Ivermectin 200 mcg/kg orally, repeat in two weeks.

NOTE: Clients who are breastfeeding will need to discontinue until 72 hours after last treatment.

OR

b. If age is equal or greater than six years of age give Malathion 0.5% lotion applied for 8-12 hours and then washed off.

NOTE: Malathion lotion is flammable; clients must avoid heat sources (fire, hair, dryers, curling irons, etc.

NOTE: Clients who are breastfeeding will need to discontinue until 72 hours after last treatment.

NON-PHARMACOLOGIC MEASURES

Bedding and clothing should be decontaminated (i.e., either machine-washed with hot water, or machine-dried using the heat cycle or dry-cleaned) or removed from body contact for at least 72 hours.

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name and significance of the condition.

2. How to apply prescribed medication and decontaminate clothing and bedding. Fumigation of living areas is not necessary.

3. Tell all sex/bed partners from within the preceding month to obtain over the counter medication and complete treatment as soon as possible. Avoid sex or sleeping with untreated partners.

FOLLOW-UP

1. Reevaluate in one week if symptoms persist.

2. Re-treatment may be necessary if lice or eggs are found.
   If no response to one treatment, re-treat with another regimen.

CONSULTATION/REFERRAL

1. Consult with physician regarding any question of management.

2. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)
2. Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)
3. Mark Lebwohl, Lily Clark and Jacob Levitt, "Therapy for Head Lice Based on Life Cycle, Resistance, and Safety Considerations," *Pediatrics*, 2007, 119: 965-974. (Current)
4. "Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).

STANDARD NURSE PROTOCOL FOR PELVIC INFLAMMATORY DISEASE (PID)

DEFINITION

The clinical syndrome resulting from the ascending spread of microorganisms from the vagina and endocervix to the endometrium, the fallopian tubes or to contiguous structures.

If untreated, acute infections may result in peritonitis caused by rupture of a tubo-ovarian abscess, and acute or subclinical infections may result in chronic pain, pelvic adhesions, involuntary infertility or ectopic pregnancy.

The intensity of symptoms may vary widely, from mild to acute. Many episodes of PID go unrecognized. Although some women may have asymptomatic PID, many have mild or non-specific symptoms or signs such as abnormal bleeding, dyspareunia or vaginal discharge. Experts recommend that providers maintain a low threshold of diagnosis for PID and recognize when PID should be suspected.

The desired outcome of treatment is to demonstrate substantial clinical improvement within 3 days after initiation of therapy, with subsequent resolution of all signs and symptoms.

ETIOLOGY

Sexually transmitted organisms, especially *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are implicated in most cases of PID; however, organisms not usually associated with sexual transmission, such as anaerobes, Gram-negative facultative bacteria and streptococci may also be involved.

SUBJECTIVE

SYMPTOMS

1. Mild to moderate lower abdominal pain or tenderness.
2. Vaginal discharge **and/or abnormal bleeding**.
3. Fever and chills.
4. Anorexia, nausea.

HISTORY

1. May have a history of exposure to gonorrhea or chlamydia.

2. May have a history of previous PID, recent insertion of an IUD, or onset of symptoms during the first 5-10 days of the menstrual cycle.

OBJECTIVE The following criteria are used to diagnose pelvic inflammatory disease:

1. **A high index of suspicion must be kept in sexually active females.** Minimum criteria to institute empiric treatment in sexually active young females and other females at risk for STDs:

   Cervical motion tenderness,
   AND
   Uterine/adnexal tenderness.

2. Additional criteria that support a diagnosis of PID include:
   a. Abnormal cervical or vaginal mucopurulent discharge.
   b. Presence of white blood cells (WBCs) on saline microscopy of vaginal secretions.
   c. Laboratory documentation of cervical infection with *N. gonorrhoeae* or *C. trachomatis.*
   d. Oral temperature may be 101° F (38.3° C) or higher.

   NOTE: If the cervical discharge appears normal and no white blood cells are found on the wet prep, the diagnosis of PID is unlikely.

3. **Wet prep of vaginal fluid to detect presence of concomitant infection (e.g., BV and Trichomonas).**

ASSESSMENT Pelvic Inflammatory Disease (PID)

PLAN **DIAGNOSTIC STUDIES**

1. Tests for gonorrhea and chlamydia.

2. Pregnancy test if there is a possibility that client may be pregnant (see Consultation/Referral).

3. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

NONPREGNANT ADULT/ADOLECENT:

Ceftriaxone 250 mg IM, single dose,

PLUS

Doxycycline 100 mg PO, 2 times a day for 14 days **(only if at least age 8)**,

PLUS

Metronidazole 500 mg PO, 2 times a day for 14 days may be added for coverage of anaerobic organisms. It will also effectively treat bacterial vaginosis (BV), which is frequently associated with PID.

NOTE: Metronidazole should not be used for treatment during the first trimester of pregnancy. Lactating women must be advised to withhold breastfeeding during treatment and for 12-24 hours after last dose to reduce child's exposure to metronidazole and doxycycline.

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name of the syndrome and its significance.

2. Directions for taking medication and what to do about potential side effects.

3. Return appointment for evaluation in 2-3 days.

4. Refer all sex partner(s) from within 60 days prior to the onset of symptoms to the current date, or the last partner if last sexual contact was prior to that, for examination and treatment. (Give written notes for clients to give to partners.)

5. Counsel to avoid sex with untreated partners.

6. Assist client to develop a personalized STD/HIV risk reduction plan.

7. **Instruct client to go to Emergency Room if symptoms worsen.**

8. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is**

unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp**.**

MANAGEMENT OF SEX PARTNERS

All sex partners, **in contact with the client in the preceding 60 days,** should be examined for STDs and promptly treated with a regimen effective against both gonorrhea and chlamydia, regardless of symptoms or Gram stain or other test results. Male sex partners of females with PID caused by chlamydia or gonorrhea often are asymptomatic.

FOLLOW-UP

1. Evaluation, by bimanual examination, within 72 hours after initiation of therapy for symptomatic improvement. Also discuss medication compliance and stress importance of completing therapy.

2. Suggest repeat examination, and rescreening tests for gonorrhea and chlamydia, 4-6 weeks after completing therapy.

CONSULTATION/REFERRAL

1. Treatment must be instituted as soon as possible. If a referral is made to a**n** APRN or MD to confirm the diagnosis, begin treatment before the referral is made, unless the APRN or MD is on-site and can see the client immediately**.**

2. Refer to a physician immediately, for possible hospitalization and/or parenteral treatment when:
   a. Surgical emergencies such as appendicitis cannot be excluded.
   b. The client is pregnant.
   c. The client has failed to respond clinically to oral therapy.
   d. The client is unable to follow or tolerate an outpatient oral regimen.
   e. The client has signs of a severe illness, nausea and vomiting, or a high fever.

3. If client has an IUD, refer for possible removal and contraceptive counseling after medication has begun.

4. Refer to a District Communicable Disease Specialist (CDS) for contact follow-up.

5. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR SCABIES IN ADULTS

DEFINITION

Infestation with the "itch mite" which penetrates the skin, creating visible papules, vesicles, or small, linear burrows, which contain the mites and their eggs. Common sites in adults include the flexor surface of the wrists, webbing between fingers, anterior axillary folds, the external genitalia, and the inner aspects of the upper thigh. In infants, other skin areas including the neck, face and scalp may be affected.

The predominant symptom is pruritus due to sensitization. It begins two to six weeks after the first infestation, sooner after subsequent infestations. Complications include excoriations and secondary infections due to scratching. The desired outcome of treatment is to eliminate the mites and relieve symptoms.

ETIOLOGY

Sarcoptes scabiei, the itch mite, which travels from body to body through close physical contact, sleeping in the same bed or sharing clothing. Lesions may be seen only in the genital and adjacent areas when spread sexually.

SUBJECTIVE

1. Severe itching, usually worse at night, associated with a "breaking out" or rash.

2. May have history of similar symptoms in other family members, playmates, or sexual partners.

OBJECTIVE

SIGNS

1. Burrows in the skin, appearing as finely-raised, wavy lines from a few millimeters to a centimeter in length.

2. Papules or vesicles.

3. Excoriations and possible signs of secondary infection from scratching.

PHYSICAL EXAMINATION/LAB FINDINGS

1. Gross or microscopic identification of mites, larva or eggs on scraping from papules or burrows.

OR

2. Burrows in the skin or characteristic pruritic, erythematous, papular eruptions, and other causes of dermatitis are excluded.

3. Diagnosis is suggestive in a person who has had sexual or other

close physical contact to a person infested with scabies and has compatible skin lesions.

ASSESSMENT Scabies

PLAN **DIAGNOSTIC STUDIES**

1. HIV antibody test to determine HIV status, if unknown.

2. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp.

THERAPEUTIC

PHARMACOLOGIC

1. Nonpregnant, nonlactating clients
   a. Permethrin 5% Cream (i.e., Elimite), single application. Thoroughly massage into all skin from the neck down to the soles of the feet, avoiding contact with mucous membranes, eyes and mouth. Remove by washing after 8-14 hours.
   NOTE: Must be at least 2 months of age or older.
   OR
   b. If age is equal or greater than 2 years of age and weigh at least 15 kg. Ivermectin 200 mcg/kg orally, repeated in 2 weeks.
   NOTE: Clients who are breastfeeding will need to discontinue until 72 hours after last treatment.
   OR
   c. Lindane 1% lotion (1 oz) or cream (30 gm), single application to all skin areas from neck down and thoroughly washed off in 8 hours.
   NOTE: Lindane is not recommended as first-line therapy because of toxicity. Use only as an alternative due to inability to tolerate other therapies or if other therapies have failed. All **clients** must be provided a medication guide. Do not use Lindane:
   - Immediately after bath or shower,
   - If client has extensive dermatitis,
   - In pregnant women **or** lactating women,
   - **In children less than 2 years of age,**
   - In those who weigh less than 110 pounds,

- If client has uncontrolled seizures.

2. Pregnant or lactating females
   (Treat only if clearly indicated; consider discontinuing breastfeeding temporarily.)
   Permethrin 5% Cream, as above.

3. For relief of itching, suggest an over the counter oral antihistamine such as Benadryl tablets or liquid, with dosage appropriate to age.

4. Bacitracin ointment (OTC) for mild secondary infection.

NON-PHARMACOLOGIC MEASURES

1. **Bedding and clothing should be decontaminated (i.e., either dry cleaned or machine-washed and dried using the hot cycle) or removed from body contact for at least 72 hours. Fumigation of living areas is unnecessary.**

2. Keep fingernails clean and well-trimmed to minimize secondary infection from scratching.

3. Bathe in cool water using a mild soap.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts.)

1. The name of the condition and its significance.

2. Directions for use of medication.

3. That itching may persist for weeks even after successful treatment. Over the counter, Hydrocortisone cream or Benadryl cream may relieve persistent itching.

4. That all close personal or **household contacts** and sex partners within the preceding month need examination and treatment.

5. Encourage HIV antibody testing if not already done.

FOLLOW-UP

Reexamine in 1 week. **Retreatment can be considered after 1–2 weeks for clients who are still symptomatic or if live mites are present. Treatment with an alternative regimen (i.e., Lindane) is recommended for persons who do not respond to the recommended treatment.**

CONSULTATION/REFERRAL

1. Repeated failure to respond to treatment.

2. Severe secondary infection.

3. **Refer Infants younger then 2 months of age to primary care physician for evaluation and treatment or refer to the Standard Nurse Protocol for Scabies in Infants, Children and Adolescents.**

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR SYPHILIS, EARLY SYMPTOMATIC (PRIMARY and SECONDARY)

DEFINITION

The symptomatic stages occurring during the first year of untreated syphilis infection.

The primary stage is characterized by a painless, indurated ulcer (chancre) that appears at the site(s) of sexual exposure in about 21 days (range of 10-90 days) and lasts from 1 to 5 weeks before spontaneously healing.

The secondary stage, which usually appears 1 to 5 weeks after the primary chancre is healed, is characterized by a variety of skin or mucous membrane rashes or other type lesions. They will disappear spontaneously within 2 to 6 weeks, but may recur within the year.

The desired outcome of case management is to **ensure curing** the infection in the client and prevent development of infection in sexual partners exposed within the preceding 90 days, and in a fetus.

ETIOLOGY

Treponema pallidum, a spirochete. The primary chancre and certain moist lesions (condyloma lata or mucous patches) of secondary syphilis are very contagious and sexual contact when such lesions are present is the usual mode of transmission.

SUBJECTIVE

SYMPTOMS

A. Primary Syphilis:

1. Painless open sore, at a site of sexual exposure.
2. Localized, non-tender swollen glands.

B. Secondary Syphilis: Has one or more of the following:

1. Rash on the body and/or extremities.
2. Growths/lesions in the anogenital region.
3. Hair falling out.
4. Swollen glands.
5. Sores in the mouth.
6. Fever, malaise.

OBJECTIVE **SIGNS**

A. Primary Syphilis:

1. Painless ulcer (chancre) with an indurated border and relatively smooth base, at a site of sexual exposure, e.g., genitals, anus, mouth.

2. Localized firm, non-tender, enlarged lymph nodes.

B. Secondary Syphilis (one or more of the following is present):

1. Bilaterally symmetrical macular or papular, nonpruritic rash on body and/or extremities. May be only on the palms and soles (palmar/plantar).

2. Condyloma lata (large moist papules, usually in the genital and/or anal region or mouth).

3. Patchy hair loss on scalp, eyebrows or eyelashes.

4. Generalized enlarged lymph nodes.

5. Mucous patches in the mouth or on the cervix.

PHYSICAL EXAM/ LAB FINDINGS

A. Primary Syphilis

1. Identification of *T. pallidum* on darkfield microscopic exam of serum from a chancre is definitive.

OR

2. Typical ulcer (chancre),

AND

a. A newly-reactive RPR, confirmed by a reactive treponemal EIA, FTA-ABS or TPPA,

OR

b. A four-fold or greater increase over the last known RPR titer in a person with a previous history of syphilis is presumptive.

NOTE: Persons with a typical ulcer, a newly-reactive STAT RPR and no history of previous syphilis may be treated for primary syphilis prior to the results of the treponemal test being available.

3. A typical ulcer and exposure to a known case of early syphilis in the previous 10-90 days is suggestive of primary

syphilis.

B. Secondary Syphilis

1. Identification of *T. pallidum* on darkfield microscopic exam of lesion material is definitive.

   OR

2. Typical signs (e.g., rash, mucous patches)

   AND

   a. Newly-reactive RPR, with titer 1:8 or above, confirmed by a treponemal test,

      OR

   b. A four-fold increase over the last known titer in a person with a previous history of syphilis is presumptive.

3. Typical dermatologic signs and exposure to a known case of early syphilis in the past six months is suggestive of secondary syphilis.

C. HIV-infected clients
While abnormal serologic findings (unusually high, unusually low, and fluctuating titers) have been observed in HIV infected persons who also have syphilis, both treponemal and non-treponemal serologic tests can be interpreted in the usual manner for most co-infected clients. Neurosyphilis should be considered in HIV-infected clients with neurologic symptoms.

ASSESSMENT Primary Syphilis

OR

Secondary Syphilis

PLAN **DIAGNOSTIC STUDIES**

1. RPR titer, if not already done.

2. HIV antibody test to determine HIV status, if unknown.

THERAPEUTIC

PHARMACOLOGIC

NOTE: If Benzathine Penicillin G is in short supply, reserve existing penicillin for pregnant and HIV- infected clients.

1. If client is neither pregnant nor HIV-infected
   a. Benzathine Penicillin G, 2.4 million units (mu) IM, once. Unless Benathine Penicillin G is in short supply then follow 1b regimen.

      OR

   b. If history of allergy to penicillin, Doxycycline 100 mg PO, 2 times a day for 14 days.
      NOTE: Do not give doxycycline to lactating client; client must decide to discontinue breastfeeding or receive alternative regimen.

2. If client is pregnant or HIV-infected**,**
   a. Benzathine Penicillin G, 2.4 million units IM, once.

      OR

   b. If history of allergy to penicillin, the client must be referred for skin testing and possible desensitization and subsequent treatment with penicillin.

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts)

1. The name of the infection and its significance.

2. If given oral medication, directions for taking it and possible side effects and what to do about them.

3. The possibility of a Jarisch-Herxheimer reaction and what to do about it. (If pregnant, seek medical care immediately if notice a change in fetal movement or uterine contractions.)

4. The need for, and schedule of, follow-up blood tests.

5. The need for examination **and treatment** of sex partners and avoidance of sex with untreated partners. Introduce them to the Communicable Disease Specialist who will assist them.

6. Assist client to develop a personalized STD/HIV risk reduction plan.

7. **Refer all pregnant clients to OBGYN physician.**

8. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

1. Contacts to Primary Syphilis
   Examine and treat, with one of the regimens listed above, all referred partners exposed within 3 months of onset, or since onset, of symptoms.

2. Contacts to Secondary Syphilis
   a. Examine all referred partners exposed within 6 months of onset, or since onset, of symptoms.
   b. Treat (with one of the regimens listed above):
      All those exposed within the preceding 3 months, regardless of examination and serologic test results, and those exposed more than 3 months ago if serologic test results are not immediately available and follow-up is uncertain.

FOLLOW-UP

1. Monitor compliance if taking doxycycline.

2. Schedule a routine appointment for a clinical evaluation and repeat RPR in 3 to 6 months, and then at 12 months.

3. If pregnant, clinical evaluation and RPRs should be done at least during the third trimester and at delivery. Monthly RPR titers may be indicated for women at high risk for reinfection.

4. If HIV infected, monitor RPR titers at 3-month intervals for a year, and then at 24 months.

5. Clinical and RPR titer response should be appropriate for the stage of disease. RPR titers may decline more slowly for clients who previously had syphilis. **Notify physician if a, b and/or c occurs:**

   a. If signs or symptoms persist or recur, or if a sustained four-

fold increase in titer compared to the baseline or maximum titer occurs, the client probably failed treatment or was reinfected. The client should be re-treated and reevaluated for HIV infection **and/or re-exposure**. A cerebral spinal fluid (CSF) exam also should be performed.

b. If titers have not declined fourfold by 6 months, the client should be reevaluated for HIV infection. If further clinical and serologic follow up cannot be assured, re-treatment should be given.

c. In either instance above, re-treatment should consist of three weekly doses of benzathine penicillin 2.4 million units IM, unless CSF exam indicates that neurosyphilis is present.

CONSULTATION/REFERRAL

1. If signs or symptoms of neurologic or ophthalmic disease.

2. For penicillin-allergy skin testing and desensitization, as necessary.

3. For CSF exam in instances noted previously.

4. All primary and secondary syphilis cases should be referred to a Communicable Disease Specialist for further counseling and sex partner referral.

5. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. **CDC, "Case Definitions for Infectious Conditions under Public Health Surveillance," *Morbidity and Mortality Weekly Report,* Vol. 46, No. RR-10, May 2, 1997. (Current)**
4. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

NURSE PROTOCOL FOR LATENT SYPHILIS (EARLY, LATE AND UNKNOWN DURATION)

DEFINITION

The intervals in the course of untreated syphilis infection, after the primary stage, are characterized by seroreactivity without other evidence of disease. Diagnosis is dependent upon proper interpretation of serologic test results, history of contact to syphilis and/or history of previous signs and symptoms.

Persons who have latent syphilis acquired within the preceding year are classified as having early latent (EL) syphilis. The desired outcome of case management of early latent syphilis is to cure the infection in the client and prevent development of infection in sexual partners exposed within the preceding 90 days, and in a fetus.

Late latent (LL) syphilis is defined as being of more than 1 year's duration. The desired outcome of treatment of late latent syphilis is to prevent the occurrence or progression of late complications.

Persons are assessed as having latent syphilis of unknown duration when they do not meet the criteria for early latent syphilis, but time of acquisition of infection is unknown. (This may be only a temporary diagnosis until sex partners can be evaluated.)

ETIOLOGY

Treponema pallidum, a spirochete. Unless there are hidden lesions present during the early latent periods, the infection can only be spread through contact with infected blood, such as transplacentally from mother to unborn child.

SUBJECTIVE

1. No current symptoms.

2. May have a history of symptoms (lesions, rashes, etc.) suggestive of primary or secondary syphilis.

3. May have a history of sexual contact with a known case of syphilis.

OBJECTIVE

The following criteria are used to diagnose latent syphilis:

1. Early Latent Syphilis
   a. No clinical symptoms or signs,
      AND
   b. Reactive RPR and confirmatory tests,
      AND
   c. Has had, within the past year:
      1) A nonreactive serologic test, OR a four-fold titer

increase on serial RPR tests,

OR

2) Symptoms consistent with primary or secondary syphilis,

OR

3) Sexual exposure to a known case of primary, secondary or early latent syphilis.

2. Late Latent Syphilis
   a. No clinical symptoms or signs,

   AND

   b. Reactive RPR and confirmatory tests,

   AND

   c. The criteria for having acquired the infection within the preceding 12 months (see early latent syphilis above) are not met.

3. Latent Syphilis of Unknown Duration
   a. No clinical symptoms or signs,

   AND

   b. Reactive RPR and confirmatory tests,

   AND

   c. The criteria for early latent syphilis (see above) are not met.

ASSESSMENT

Early Latent Syphilis

OR

Late Latent Syphilis

OR

Latent Syphilis of Unknown Duration

PLAN

DIAGNOSTIC STUDIES

1. Careful re-examination of all accessible mucosal surfaces (i.e., the oral cavity, the female perineum, and underneath the foreskin in uncircumcised males) to evaluate for internal mucosal lesions.

2. HIV antibody test to determine HIV status, if unknown**.**

3. Review Appointment Card Signs/Symptoms of Neurosyphilis with client, if any found, refer to physician.

THERAPEUTIC

PHARMACOLOGIC

1. Early Latent Syphilis

a. If client is not pregnant, allergic to penicillin, nor HIV-infected and neurosyphilis (see appointment card on page 8.72) is ruled out

1) Benzathine Penicillin G, 2.4 million units IM, once.

OR

2) If allergic to penicillin, consult a physician to recommend alternative treatment.

NOTE: Physician may recommend one of the following treatments to penicillin allergic clients:

1) Doxycycline 100 mg PO, 2 times a day for 14 days (Only if not pregnant and signs and symptoms of neurosyphilis are ruled out)

OR

2) Refer to allergist for desensitization and therapy if client is pregnant, and/or HIV infected, or has signs and symptoms of neurosyphilis. Allergist should consult and Infectious Disease specialist if Neurosyphilis is suspected.

2. Late Latent Syphilis or Latent Syphilis of Unknown Duration

a. If client is **not** pregnant**, allergic to penicillin,** nor HIV-infected and does not have neuropsychiatric signs and/or symptoms

1) Benzathine Penicillin G, 2.4 million units IM, weekly for 3 doses (7.2 million units total).
NOTE: An interval of up to 10-14 days between doses may occur without re-starting the sequence of injections

OR

2) If allergic to penicillin, and neurosyphilis has been ruled out**,** Doxycycline 100 mg PO, 2 times a day for 28 days, with careful monitoring for compliance.
NOTE: Lactating clients taking doxycycline

must discontinue breastfeeding or receive alternative regimen.

OR

3) If client has a history of allergy to penicillin, refer for skin testing and possible desensitization, with subsequent treatment with benzathine penicillin.

REMINDER: If Benzathine Penicillin G is in short supply, reserve existing penicillin for pregnant and HIV-infected clients. For non-pregnant and/or non-HIV-infected clients: Doxycycline 100 mg PO, 2 times a day for 28 days.

b. If client is pregnant and does not have neuropsychiatric signs and/or symptoms

1) Benzathine Penicillin G, 2.4 million units IM, weekly for 3 doses (7.2 million units total). **NOTE:** Pregnant clients who miss any dose of therapy, scheduled at 7-day intervals, must restart the sequence of injections.

OR

2) If client has a history of allergy to penicillin, refer for skin testing and possible desensitization, with subsequent treatment with benzathine penicillin.

CLIENT EDUCATION/COUNSELING

(Reinforce pertinent information with handouts.)

1. The name of the infection and its significance.

2. If given oral medication, directions for taking it and possible side effects and what to do about them.

3. The possibility of a Jarisch-Herxheimer reaction if has early syphilis and what to do about it. (If pregnant, seek medical care immediately if notice a change in fetal movement or uterine contractions.)

4. The need for, and schedule of, follow-up blood tests.

5. For early latent syphilis and syphilis of unknown duration, the need for examination of sex partners and avoidance of sex with untreated partners. Introduce clients to the communicable disease specialist who will assist them with partner notification.

6. For late latent syphilis and syphilis of unknown duration without neuropsychiatric signs/symptoms, give client information sheet containing signs and symptoms of neurosyphilis with instructions on when to return.

7. Development of a personalized STD/HIV risk reduction plan.

8. Review Appointment Card Signs/Symptoms of Neurosyphilis with client.

9. Refer pregnant clients to OBGYN physician for prenatal care.

10. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp.

MANAGEMENT OF SEX PARTNERS

1. Contacts to Early Latent Syphilis and Latent Syphilis of Unknown Duration
   a. Examine all referred partners from the previous year.
   b. Treat (with one of the above single dose or 14 day regimens) all those exposed within the preceding 3 months, regardless of examination and serologic test results, and those exposed more than 3 months ago if serologic test results are not immediately available and follow-up is uncertain.

2. Contacts to Late Latent Syphilis
   a. Evaluate steady (e.g., marital) sex partners. No treatment is needed unless the partner is shown to be infected.
   b. Children born to an infected female within the past few years should also be evaluated.

FOLLOW-UP (All latent syphilis)

1 Repeat RPR at 6, 12, and 24 months. If titers increase fourfold, if an initially high titer (at least 1:32) fails to decline at least fourfold within 12 to 24 months, or if the client develops signs or symptoms attributable to syphilis, evaluate for possible neurosyphilis and re-treat appropriately.

2. If the client is HIV-infected, repeat RPR at 6, 12, 18 and 24

months. If signs or symptoms of syphilis recur, if signs or symptoms of neurosyphilis develop, or if titers rise fourfold, refer client for CSF (cerebrospinal fluid) exam and re-treat accordingly.

CONSULTATION/REFERRAL

1. All clients who have neuropsychiatric signs and/or symptoms to a physician.

2. All HIV-infected clients in late latent syphilis and/or syphilis of unknown duration to a physician.

3. To a physician for skin testing for penicillin allergy, and possible desensitization, as necessary.

4. All latent syphilis cases should be referred to a Communicable Disease Specialist for further counseling and sex partner referral.

5. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

6. **Refer pregnant clients to OBGYN physician for prenatal care.**

NOTE: The following appointment card depicts some of the symptoms and signs of Neurosyphilis.

Client Health Information:

You have been treated for a Late Syphilis infection. This infection is curable if treated properly. It is very important that you return for treatment as discussed by the doctor or nurse to cure the infection and prevent progression of the infection.
To ensure the infection has been cured, it is important that you repeat blood work every:

- **6 months (after initial treatment)**
- **12 months (for follow-up)**
- **24 months (for further follow-up)**

Return to:

PLACE HEALTH CLINIC LABEL HERE
ABC Health Dept
123 Health Way
Treat Infection, State 12345

On the following Dates:

Date	Treatment

If you are having complications, have been re-exposed to this infection or feel you are having signs and symptoms, please return as soon as possible.

If you or someone else notices you are having any of these signs and/or symptoms, you should return to the clinic or report to your primary care physician right away.

- ☐ **Memory Loss**
- ☐ **Problems with Mental Function**
- ☐ **Unsteady Walking**
- ☐ **Balance Problems (Dizziness or Faint)**
- ☐ **Urinary Problems (Can't Hold Pee)**
- ☐ **Bowel Problems (Can't hold bowel movements)**
- ☐ **Vision Problems (Blurred vision, loss of vision)**
- ☐ **Eye Pain**
- ☐ **Problems Having Sex**
- ☐ **Numbness or Loss of Feeling in Legs**
- ☐ **Stiff Neck**
- ☐ **Headache**
- ☐ **Fever**
- ☐ **Loss of Hearing**
- ☐ **Persistent Nausea and Vomiting (Always throwing up)**
- ☐ **Seizures**
- ☐ **Stroke**
- ☐ **Unexplained Episodes of Severe Pain**

Appointment Card

PLACE HEALTH CLINIC LABEL HERE
ABC Health Dept
123 Health Way
Treat Infection, State 12345
(404) 555-1212

REFERENCES

1. **Centers for Disease Control and Prevention, *Sexually Transmitted Diseases Treatment Guidelines 2010*, Vol. 59, No. RR-12, December 17, 2010. (Current)**
2. **Erratum: *MMWR*, Vol. 59, RR-12, December 17, 2010. (Current)**
3. CDC,"Case Definitions for Infectious Conditions under Public Health Surveillance," *Morbidity and Mortality Weekly Report,* Vol. 46, No. RR-10, May 2, 1997. **(Current)**
4. **"Lexi-Comp Online," Lexi-Comp, Inc., <http://online.lexi.com> (March 11, 2011).**

STANDARD NURSE PROTOCOL FOR TRICHOMONIASIS

DEFINITION

A genitourinary infection that is usually sexually transmitted. Vaginal trichomonas has been associated with adverse pregnancy outcomes, particularly premature rupture of the membranes, preterm delivery, and low birthweight. **High risk populations include (1) those with multiple sex partners, (2) those with a history of STDs, (3) those that exchange sex for payment and use injecting drugs.**

The desired outcomes of treatment of clients and sex partners are relief of symptoms, microbiologic cure, and reduction of transmission.

ETIOLOGY

Trichomonas vaginalis, a protozoa with an undulating membrane and flagella.

SUBJECTIVE

1. May be asymptomatic, especially in males. **In males, may present as Non Gonococcal Urethritis.**

2. Female symptoms may include:
   a. Vaginal discharge with an offensive odor.
   b. Vulvar irritation.

OBJECTIVE

SIGNS

1. May be none.

2. Profuse, yellow-green malodorous vaginal discharge.

3. Vulvar inflammation with edema or excoriations.

4. Cervix may have a granular appearance with punctate hemorrhages ("strawberry cervix").

LABORATORY FINDINGS (with or without signs)

1. Typical motile trichomonads seen on wet mount of vaginal discharge. **(Yield: 60% to 70%)**

   OR

2. Identification of *T. vaginalis* on culture.

   OR

3. Identification of Trichomonas on pap smear.

NOTE: If Trichomonas is identified on pap smear, may treat presumptively or refer to PMD.

ASSESSMENT Trichomoniasis

PLAN **DIAGNOSTIC STUDIES**

1. HIV antibody test to determine HIV status, if unknown.

2. **Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to** http://www.health.state.ga.us/programs/immunization/publications.asp.

THERAPEUTIC

PHARMACOLOGIC

1. If client is not pregnant
   a. Metronidazole 2 g**m** PO, in a single dose.
   OR
   b. Metronidazole 500 mg PO, 2 times a day for 7 days.

2. If client is pregnant (second and third trimester only) Metronidazole 2 g**m** PO, in a single dose.

   NOTE: Metronidazole should not be used for treatment during the first trimester of pregnancy (see Consultation/Referral). Lactating women taking metronidazole should withhold breastfeeding during treatment and for 12-24 hours after the last dose to reduce child's exposure to the drug.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The name of the infection and its significance.

2. Directions for taking medication and list of possible side effects.

3. Avoid alcohol-containing products within 24 hours of treatment.

4. Refer sex partner(s) for examination and treatment and avoid sex until partner has been treated.

5. Assist client to develop a personalized STD/HIV risk reduction plan.

6. Lactating women taking metronidazole should withhold breastfeeding during treatment and for 12-24 hours after the last dose to reduce child's exposure to the drug.

MANAGEMENT OF SEX PARTNERS

All sex partners (asymptomatic and symptomatic) should be examined and treated promptly with one of the above regimens.

FOLLOW-UP

Client should return only if symptoms persist after treatment, or recur. Re-treat with the 7-day regimen of metronidazole if 4-6 weeks have elapsed since previous treatment and presence of trichomonas has been reconfirmed (see medication package insert).

CONSULTATION/REFERRAL

1. Refer pregnant clients in first trimester who have tested positive for trichomoniasis to their primary care physician.

2. Consult with physician if client is allergic to metronidazole for desensitization referral.

3. Repeated treatment failure. (Assure that partner(s) have been treated, to rule out reinfection.)

4. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

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STANDARD NURSE PROTOCOL FOR UNCOMPLICATED VULVOVAGINAL CANDIDIASIS (VVC) (Yeast infection)

DEFINITION

A common vulvo-vaginal infection that may occasionally also cause cutaneous penile lesions in male sex partners, but is not **always** considered to be an STD. An estimated 75% of women will experience at least one episode of VVC during their life-time, and 40-45% will have two or more episodes. The desired outcome of treatment is the relief of symptoms.

ETIOLOGY

Most infections are caused by *Candida albicans* which grows as oval budding yeast cells and pseudohyphae and thrives best when the vaginal pH is 4.5 to 5. Other *Candida* species or yeasts may occasionally be causes.

Many women are asymptomatic. Symptoms are caused by overgrowth of normally occurring yeast forms. Contributing factors, which disrupt the normally protective vaginal flora include: treatment with antibiotics, diabetes, HIV infection and other immuno-suppressive conditions.

SUBJECTIVE

1. Vulvovaginal itching.
2. Vaginal discharge.
3. May have vaginal soreness, pain with intercourse, vulvar burning and external dysuria.
4. **Redness and swelling of the vulva.**

OBJECTIVE

DIAGNOSTIC CRITERIA

1. Pruritis and erythema in the vulvovaginal area. A thick white, **cottage cheese like** vaginal discharge may be present. Vaginal pH less than 4.5.
   AND
2. Identification of typical budding yeast or pseudohyphae on microscopic exam of vaginal discharge, by saline or **adding 10% KOH solution** to wet mount.

ASSESSMENT

Vulvovaginal Candidiasis (VVC)

PLAN

DIAGNOSTIC STUDIES

1. HIV antibody test to determine HIV status, if unknown.

2. Hepatitis A, Hepatitis B and or HPV vaccine, if client is unvaccinated and meets eligibility criteria for state supplied vaccines. To access most current version, go to http://www.health.state.ga.us/programs/immunization/publications.asp.

THERAPEUTIC

PHARMACOLOGIC

NOTE: During pregnancy, use only topical intravaginal azole therapies, applied for 7 days (1.a. – c. below).

1. Intravaginal agents

Pregnant clients:

a. *Clotrimazole 1% cream, 5 g**m**, one applicatorful intravaginally for 7 days

Non-pregnant clients:

a. *Butoconazole 2% cream, 5 g**m**, one applicatorful intravaginally for 3 days

OR

b. *Clotrimazole 1% cream, 5 g**m**, one applicatorful intravaginally for 7-14 days

OR

c. *Miconazole 100 mg vaginal suppository, **one suppository** for 7 days,

OR

d. *Miconazole 200 mg vaginal suppository, **one suppository** for 3 days,

OR

e. *Miconazole 2% cream, 5 g**m**, one applicatorful intravaginally for 7 days

OR

f. Nystatin 100,000-unit vaginal tablet, **one** tablet intravaginally for 14 days,

OR

g. *Tioconazole 6.5% ointment, 5 g**m**, intravaginally in a single application,

OR

h. Terconazole 0.4% cream 5 g**m**, one applicatorful intravaginally for 7 days

OR

i. **Terconazole** 80 mg vaginal suppository, **one suppository for 3 days**

OR

j. Terconazole 0.8% cream 5 gm, one applicatorful, intravaginally for 3 days.

*Available without a prescription.

OR

2. Oral agent:
May use in adolescents, if not pregnant or a nursing mother.

Fluconazole (Diflucan) 150 mg PO, once.

NON-PHARMACOLOGIC MEASURES

Keep irritated **vulvovaginal area** as clean and dry as possible.

CLIENT EDUCATION/COUNSELING
(Reinforce pertinent information with handouts)

1. The significance of the condition.

2. Directions for treatment.

3. Although many preparations of intravaginal agents are available without a prescription, self-medication is advised only for women who have been previously diagnosed with VVC and who experience a recurrence of the same symptoms.

4. Butoconazole and clotrimazole cream, tioconazole ointment, and miconazole creams and suppositories are oil-based and may weaken latex condoms and diaphragms **and other methods of contraception should be used.**

5. If taking fluconazole (Diflucan), noticeable improvement in symptoms may not occur for a few days. Even with a single dose, nausea, vomiting, diarrhea, abdominal pain and headache may occur.

MANAGEMENT OF SEX PARTNERS

No routine exam and/or treatment is necessary, but may be considered in females with recurrent infections. **A** minority of male **sex** partners who have balanitis, characterized by erythematous areas on the glans of the penis in conjunction with pruritus or irritation. **These men b**enefit from treatment with over-the-counter topical antifungal agents to relieve

symptoms.

FOLLOW-UP

Only if symptoms persist or recur within 2 months **of the initial symptoms.**

CONSULTATION/REFERRAL

1. Refer clients with frequent recurrent episodes not responding to usual therapy. Women who experience four (4) or more episodes of VVC within a year are described as having Recurrent Vulvovaginal Candidiasis (RVVC). Risk factors include uncontrolled diabetes mellitus, immunosuppression, and corticosteroid use, but most women who have RVVC have no apparent predisposing conditions. Intensive therapy for 10-14 days, followed by a maintenance regimen for at least 6 months, may be indicated.

2. **Public Health Employees must be familiar with reporting of possible sexual abuse if encountered through history, physical. All suspected sexual abuse must be reported to the county Department of Family and Children Services office as per guidelines for *Mandatory Reporting of Suspected Child Abuse for Public Health Personnel*.**

REFERENCES

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STANDARD
NURSE PROTOCOLS
FOR CHILD HEALTH

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STANDARD NURSE PROTOCOL FOR ACNE, MILD

DEFINITION Comedones (blackheads, whiteheads), pimples and tender red bumps on the face, chest or back, or a combination of these. Usually occurs during puberty and can last until age 20-30.

ETIOLOGY The primary event is the obstruction of the sebaceous follicle outlet. Due to increasingly active androgenic hormones, there is increased activity of sebaceous glands with obstruction of the sebaceous glands of the skin. This leads to rupture of the gland and release of fatty acids into the surrounding tissue resulting in an inflammatory reaction producing an acne nodule. Bacterial colonization of the trapped sebum may produce inflammation.

SUBJECTIVE

1. Lesions on face, back, chest.
2. Use of acne-causing medications (e.g., corticosteroids, phenytoin, greasy cleansing creams, cosmetics, oils).
3. Underlying endocrinopathy (e.g., Cushing Syndrome, Stein-Leventhol Syndrome).
4. Condition often worsens during periods of stress or cyclic menstrual flares.
5. Psychological distress caused by presence of facial lesions.
6. Family history of acne.
7. Assess pregnancy status.

OBJECTIVE Increasing number of blackheads, whiteheads, pimples and tender red bumps on the face, chest or back are noted. Lesions may lead to pitted scars. One type of lesion may be predominant or all may be present. Determine if acne is mild, moderate or severe. Cystic acne requires prompt attention; ruptured cysts may result in scar formation. (Cysts extend deep into the dermis and are best appreciated by palpation. Papules and pustules extend primarily above the surface of the skin.)

ASSESSMENT Acne, Mild Inflammatory

PLAN **THERAPEUTIC**

PHARMACOLOGIC

Non-prescription products

1. If 12 years of age or older, for mild acne (fewer than 20 papules and nonpustular pimples): Benzoyl peroxide gel or cream, 5-10% (available over-the-counter as Oxy-5, Oxy-10 and Persa-Gel) topically. (Gel for oily skin, cream for

dry skin.) Begin with 5% gel or cream every day. Leave initial application on for 15 minutes. Increase exposure time in 15-minute increments as tolerance allows. Once tolerated for 2 hours, it can be left on the skin overnight. If necessary, advance to 2 times a day. Increase or decrease the strength and/or frequency of application depending on tolerance and response. (**Note:** for **clients** with predominantly whiteheads and blackheads [Comedonal Acne] with very few inflammatory components [erythematous papules, pimples or small pustules], this therapy will not be effective. Topical retinoids are required and referral is indicated if treatment is desired.)

Prescription products

1. If step #1 above yields an insufficient response after a trial of at least 4-6 weeks: Each morning wash with Benzoyl peroxide, pat dry and apply a thin layer of either Clindamycin Topical Gel 1% or Erythromycin Topical Gel 2%. Each evening apply Benzoyl peroxide gel or cream as described above. May apply Clindaymcin Topical Gel 1% or Erythromycin Topical Gel 2% either once daily or twice daily depending on irritation and effectiveness.

OR

Benzoyl peroxide plus erythromycin (Benzamycin®), contains 3% erythromycin and 5% benzoyl peroxide in gel form (alcohol base), generic available. Apply 1-2 times a day to clean, dry skin.

OR

5% benzoyl peroxide plus 1% clindamycin gel (BenzaClin®). Apply 1-2 times a day to clean, dry skin**.**

NON-PHARMACOLOGIC MEASURES

1. Shampoo hair regularly.

2. Wash face with water and mild soap or cleanser (e.g. Dove, Basis, Purpose, Cetaphil lotion) no more than 2-3 times a day**,** and shower or bathe daily.

CLIENT EDUCATION/COUNSELING.

1. **Keep hands off face. Avoid picking lesions which may lead to scar formation.**

2. **Avoid greasy cleansing oils, mousse and cosmetics because they block oil glands. Use non-acnegenic cosmetics and moisturizers, if needed.**

3. **Avoid scrubbing skin, because it irritates the openings of oil glands and can cause them to be more tightly closed.**

4. **Do not expect to completely prevent any new lesions.**

5. **Eat a well-balanced diet. There is no evidence that certain foods can cause acne.**

6. **Educate client about increased photosensitivity with use of products listed above.**

7. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP:

Return to clinic in 2 to 4 weeks after initiating therapy, then every 1 to 2 months.

CONSULTATION/REFERRAL

1. If client is less than 12 years of age.

2. If no improvement in mild acne in 8-12 weeks.

3. If acne is moderate, severe or cystic, refer to MD or **APRN**.

4. If underlying condition suspected, refer to MD **or APRN.**

5. When blackheads and whiteheads are the predominant lesions refer **to MD or APRN**.

6. In cases of psychological stress, refer for counseling.

7. Refer to Family Planning if indicated. Some adolescent girls benefit from oral contraceptives.

8. Pregnancy **or breastfeeding client**.

9. Secondary bacterial infection.

10. Any female with acne, menstrual irregularities (primarily oligomenorrhea) or hirsutism (unusual body hair), that may be suggestive of Polycystic Ovary Syndrome, refer to MD **or APRN**.

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STANDARD NURSE PROTOCOL FOR ALLERGIC RHINITIS (PEDIATRIC)

DEFINITION

An allergic disease affecting the nasal mucosa and often the conjunctiva. It may be seasonal or perennial (non-seasonal).

ETIOLOGY

1. Seasonal
   Pollens that depend on wind for cross-pollination. In the eastern United States, the following are the most common causes, with pollination time varying by several months depending on location:
   a. Ragweed, August - October.
   b. Grasses, May - July.
   c. Trees, March - July.
   d. Combinations of a, b and c.

2. Perennial
   a. House dust/house-dust mites.
   b. Feathers.
   c. Mold spores.
   d. Animal dander.
   e. Foods. Most authorities believe that if foods are causative, other signs of hypersensitivity occur with allergic rhinitis (e.g., urticaria, asthma, gastro-intestinal symptoms).

3. Aggravating factors:
   a. Tobacco smoke.
   b. Air pollutants.
   c. Sudden temperature changes.
   d. Wood heaters, fireplaces, carpets, etc.

SUBJECTIVE

1. History of onset of symptoms in childhood and young adulthood, with symptoms decreasing with age.

2. Commonly have family history of allergic diseases.

3. Seasonal symptoms tend to occur the same time each year and are frequently more severe than those of the perennial form.
   a. Sneezing.
   b. Nasal itching.
   c. Watery rhinorrhea.
   d. Nasal stuffiness.

e. Occasionally may report:
   1) Itching of eyes, palate and throat.
   2) Snoring and sniffing.
   3) Increased tearing and photophobia.
   4) Non-productive cough.
   5) Fatigue, irritability, anorexia and headache.

OBJECTIVE

1. Clear, thin nasal discharge.

2. Pale, edematous nasal mucosa.

3. Enlarged nasal turbinates.

4. “Allergic salute" - rubbing of the nose upward and outward (seen especially in children) and "wrinkling" of the nose.

5. Mouth-breathing.

6. Conjunctival injection and edema. Occasionally granular, erythematous conjunctivae and dark semi-circles (“allergic shiners") under the eyes.

7. Allergic facies with perennial allergic rhinitis:
   a. Mouth-breathing.
   b. Prominent maxilla, high arched palate.
   c. Dull expression.
   d. Broad mid-section of nose, with horizontal crease across lower portion.

8. Interference with sleep.

9. Interference with school performance.

ASSESSMENT

Allergic Rhinitis

Seasonal - differentiate from upper respiratory tract infection and infectious conjunctivitis.

Perennial - differentiate from:
1. Recurrent upper respiratory tract infection.
2. Vasomotor rhinitis (of unknown cause, non-infectious, non-seasonal, and non-allergenic).
3. Deviated nasal septum.
4. Side effects of medications, such as overuse of vaso-constricting nose drops.
5. Chronic sinusitis.
6. Chronic contact with tobacco smoke (smoke is a primary irritant,

allergy not required).

PLAN **THERAPEUTIC**

PHARMACOLOGIC

1. For age 2 and over with seasonal allergic rhinitis, a nasal corticosteroid is now regarded as first-line therapy (before using oral antihistamines).

   For the following inhaled corticosteroids, it is recommended that once optimal symptomatic relief is achieved, dosage of the drug should be gradually reduced to the lowest effective dose.

   Do not provide to clients who are pregnant or breastfeeding.

   (The preparations **listed below** are preferred because of low systemic bioavailability and therefore less risk of systemic complications with chronic use. If adequate relief of symptoms has not been obtained after 3 weeks of treatment, discontinue use.

   a. Mometasone furoate nasal spray, (Nasonex®)

      Children 2-11 years of age**,** 50 mcg (1 spray) in each nostril once daily (total daily dose 100 mcg).

      Children 12 years of age and older, 100 mcg (2 sprays) in each nostril daily (total daily dose 200 mcg).

      Priming: Prior to initial use, the pump must be primed by actuating 10 times or until a fine spray appears. The pump may be stored unused for up to 1 week without repriming. If unused for more than 1 week, reprime by actuating 2 times, or until a fine spray appears.

OR

b. Fluticasone propionate nasal spray, (Flonase®)

Children 4 years of age and older: Initial: 50 mcg (1 spray) in each nostril once daily (total daily dose 100 mcg). **Clients** not responding adequately to the 100 mcg daily dose or those with more severe symptoms may use 100 mcg (2 sprays) in each nostril daily (2 sprays in each nostril once daily or 1 spray in each nostril twice daily). Total daily dosage should not exceed 2 sprays in each nostril (200 mcg)/day. Dosing should be at regular intervals. Once adequate control is achieved, the dosage should be decreased to 100 mcg (1 spray in each nostril) daily.

OR

Fluticasone furoate, Veramyst®

Children 2-11 years: Initial: 1 spray (27.5 mcg/spray) per nostril once daily (55 mcg/day); **clients** not adequately responding may use 2 sprays per nostril once daily (110 mcg/day). Once symptoms are controlled, dosage may be reduced to 55 mcg once daily. Total daily dosage should not exceed 2 sprays in each nostril (110 mcg)/day.

Children 12 years of age and older: Initial: 2 sprays (27.5 mcg/spray) per nostril once daily (110 mcg/day). Once symptoms are controlled, dosage may be reduced to 1 spray per nostril once daily (55 mcg/day). Total daily dosage should not exceed 2 sprays in each nostril (110 mcg)/day.

Prime before using for the first time by shaking the contents well and releasing 6 test sprays into the air away from the face. When fluticasone has not been used for more than 30 days or if the cap has been left off the bottle for 5 days or longer, prime the pump again until a fine mist appears. Shake well before each use.

OR

c. Triamcinolone acetonide aqueous suspension nasal spray**,** (Nasacort AQ®)

Children 2-5 years: 55 mcg (1 spray) each nostril once daily (total daily dose 110 mcg).

Children 6-11 years: Initial: 110 mcg/day as 1 spray in each nostril once daily; may increase to 220 mcg/day as 2 sprays in each nostril if response not adequate; once symptoms controlled may reduce to 110 mcg/day.

Children 12 years and older: Initial: 220mcg/day as 2 sprays in each nostril once daily; titrate to lowest effective dose once symptoms are controlled; usual maintenance dose: 110mcg/day as 1 spray in each nostril once daily.

Prime before using for the first time by shaking the contents well and releasing 5 sprays into the air, away from the face. It will remain adequately primed for 2 weeks. If the product is not used for more than 2 weeks, then it can be adequately reprimed with 1 spray.

2. Antihistamines:

a. Cetirizine/Zyrtec® Liquid 5mg/5mL, chewable 5mg tablet**,** tablet 5mg or 10 mg

6 months: ½ teaspoon (2.5mg) every day.
12-23 months: ½ teaspoon (2.5mg) every day or ½ teaspoon (2.5mg) PO every 12 hours.
2 years- 5 years: ½ - 1 teaspoon (2.5 to 5mg) PO every day or ½ teaspoon every 12 hours.
6 years-11 years: 5 to 10mg PO every day.
12 years or older: 1 tab (10 mg) PO every day.

OR

b. Loratadine/Claritin® Liquid 5 mg/5 mL, chewable 5mg tablet, orally disintegrating 5mg tablet, tablet 10mg (available OTC):

2 years-5 years: 1 teaspoon (5mg) PO every day
6 years-11 years: 10mg PO every day.

12 years or older: 10 mg PO every day.

NOTE: Manipulation of dosage within the prescribed ranges may be necessary to achieve symptomatic relief with a minimum of side effects (e.g., drowsiness, dry mouth, nervousness). Medication should be taken for several days/weeks at a time during symptomatic periods; intermittent single dose usage will not be as effective in controlling symptoms as regular dosing.

OR

c. Desloratadine/Clarinex Tablets 5 mg, RediTabs (orally-disintegrating tablets) 5 mg,RediTabs (orally-disintegrating tablets) 2.5 mg,Oral Solution 0.5 mg/1 mL.

Perennial Allergic Rhinitis:
Children 6 to 11 months: 2 mL (1 mg) once daily.
Children 12 months to 5 years:
½ teaspoonful (1.25 mg in 2.5 mL) once daily.
Children 6 to 11 years: 1 teaspoonful (2.5 mg in 5 mL) once daily or one 2.5-mg tablet once daily.
12 years of age and over: 1 table (5mg) once daily.

Seasonal Allergic Rhinitis:
2 to 5 years: ½ teaspoonful (1.25 mg in 2.5 mL) once daily.
Children 6 to 11 years: 1 teaspoonful (2.5 mg in 5 mL) once daily or one 2.5-mg tablet once daily.
12 years of age and over: 1 tablet (5mg) once daily.

3. For children 6 years of age and older: If cost is a factor then another OTC antihistamine such as diphenhydramine or chlorpheniramine may be considered. They have two major disadvantages, however. First, they must be reliably administered q 4-6 hours. Secondly, they may be substantially sedating or, in some children, may cause irritability and hyperactivity. Consult packaging for the appropriate dose and any contraindications. Begin with a single-drug preparation. If necessary, progress to an antihistamine/decongestant combination drug preparation.

CLIENT COUNSELING/EDUCATION

1. Identification and avoidance of the offending antigen.

2. Most antihistamines cause drowsiness. Zyrtec and loratidine are known to be the least sedating. Counsel against driving or other activities that would present a risk if drowsy.

3. For nasal corticosteroids, educate on the importance of priming and shaking the containers before administering medication; necessity of reporting to primary care provider recurrent epistaxis, nasal septum discomfort, irritation, burning and/or stinging; females of child-bearing potential informing clinician if they are or plan to become pregnant or plan to breastfeed. Remind client to drink a few sips of water or liquid after using the nasal spray to help reduce throat irritation. Optimal technique: 1) direct away from the septum, and 2) tilt head slightly forward to prevent swallowing the spray.

4. Some of the OTC products contain phenylalanine, check product labeling for ingredients.

5. Take the following measures as appropriate:
   a. Seasonal
      1) Avoid areas of heavy concentration of ragweed, trees or grass during pollinating season.
      2) Sleep with bedroom windows closed during the appropriate pollinating seasons.
      3) Use an air conditioner with an electrostatic precipitating filter to avoid pollen. Clean filter often.
      4) Change clothes and bathe after long periods outside.
      5) Do not hang clothes or bedding outside.

   b. Perennial
      Create a dust-free bedroom. Use a mouth-and-nose mask when cleaning.
      1) Remove everything from the room, including floor coverings, curtains, drapes, and closet contents. Keep door closed at all times.
      2) Clean the room thoroughly - walls, woodwork, ceiling, floor and closet. Wash the floor.
      3) Cover the mattress, box spring, and pillows with plastic dust-proof covers.
      4) Make sure the room contains a minimum of furniture, washable rugs and curtains. Avoid bed pads, heavy rugs, drapes, upholstered furniture, toys and knick-

knacks.

5) Clean the room daily using a vacuum cleaner, damp cloth or damp mop. Do not use a broom or duster.
6) Keep bedroom windows and doors closed. If hot-air heating is used, cover vents with coarse muslin which is changed frequently.
7) Change furnace air filter frequently.
8) Vacuum stuffed furniture and rugs frequently.
9) Keep pets (dogs and cats) outside, if possible.
10) Avoid damp and dusty places (e.g., attics, basements, closets, storerooms).
11) No stuffed toys if client is dust-sensitive.
12) Use an air conditioner with an electrostatic precipitating filter to avoid dust.
13) No smoking in the house, especially in child's bedroom.

6. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

Return visit in one week, and periodically as needed.

CONSULTATION/REFERRAL

1. Failure to respond to treatment, or severe/prolonged periods of symptoms not controlled by the above treatment measures (in particular, persistent interference with sleep or school performance).

2. Consideration for immunotherapy (hyposensitization), or leukotriene receptor antagonist.

3. Inability to tolerate antihistamines.

4. Clients requiring almost daily medication for perennial symptoms.

5. Pregnant or breastfeeding **client**.

6. Complications:
   a. Otitis media.
   b. Sinusitis.
   c. Nasal or sinus polyps from longstanding perennial allergic rhinitis.
   d. Asthma.
   e. **History of anaphylaxis.**

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STANDARD NURSE PROTOCOL FOR IMPACTED CERUMEN/EARWAX

DEFINITION Ear wax is a protective waxy secretion produced in the ear canal. It is a lubricant that in most cases eliminates naturally. Because it is a hydrophobic agent (repels water) it serves to protect the delicate skin of the ear canal from maceration secondary to over-hydration.

ETIOLOGY Excessive production of sebum by the sebaceous glands and apocrine sweat glands which may cause occlusion in the external auditory canal. Impaction often occurs after objects are inserted into the ear canal in attempts to clean the ear.

SUBJECTIVE **Client**/care-giver may have:

1. Observed soft, yellow wax or a drier, black and brown wax on the outer surface of the external auditory canal.
2. Noticed hearing impairment or ear fullness.

OBJECTIVE

1. Yellow wax or a drier, black and brown wax on the outer surface of the ear, or in the auditory canal.
2. May or may not detect hearing impairment.
3. Will not be able to see/examine tympanic membrane. (Note: if the TM can be visualized, then by definition, cerumen impaction is not present.

ASSESSMENT Excess Cerumen or Impacted Cerumen

PLAN **THERAPEUTIC**

PHARMACOLOGIC (These agents should be avoided if there is a reason to believe that the tympanic membrane is not intact such as a H/O ventilation tube placement or recent ear discharge.) Also, do not use if there is ear pain, irritation, rash in the ear, or any suspicion of ear drum perforation.

1. Tilt head sideways and instill 4 to 5 drops of Colace, Debrox, hydrogen peroxide **diluted with water as 2 equal parts 50/50**, or mineral oil. Allow the drops to remain in the ear for 15 minutes, **unless using hydrogen peroxide diluted with water then allow drops to remain in the ear for 30 minutes.**

   THEN

2. Gently irrigate the ear with water at body temperature (important) using an ear syringe, or a 25 cc syringe with a butterfly attachment. (Cut off needle **and wings**, insert tube no more than ¼ inch into the ear). **The stream is directed at the ear canal wall adjacent to the cerumen plug, not the tympanic membrane.** May need to repeat after 24 hours.

CLIENT COUNSELING/EDUCATION

1. Instruct to clean the ears properly, preferably with a washcloth.

2. Instruct not to insert Q-tips or other objects in ears; explain that this can cause impaction or injury.

3. Offer reassurance that cerumen production is a normal process.

4. Excessive cerumen production does not equal impaction. If any portion of the eardrum can be visualized or if there is no hearing impairment or discomfort, there is no need to be aggressive about cerumen removal.

5. Occasionally, it may be necessary to instill 1-2 drops hydrogen peroxide **(diluted with water as 2 equal parts 50/50)** 1-2 times/wk to manage recurrent cerumen impaction or to facilitate examination of the middle ear in a child with recurrent ear infections.

6. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP:

As needed.

CONSULTATION/REFERRAL

1. If ear remains impacted, refer to MD/NP for dry technique removal and examination of the tympanic membrane.

2. If tympanic membrane is not intact, ear tube is in place, ear pain, irritation, rash in the ear, or any suspicion of ear drum perforation.

3. **Diabetic or immunocompromised client.**

4. **Client history of injury from syringing.**

5. **Foreign bodies.**
6. **History of ear surgery.**
7. **History of chronic otitis media or other middle ear diseases.**
8. **Uncooperative client.**
9. **Pregnant client.**

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STANDARD NURSE PROTOCOL FOR CONJUNCTIVITIS

DEFINITION

Conjunctivitis is an inflammation and/or infection of the conjunctiva – the surface layer of the sclera (bulbar conjunctiva) or the inner surface of the eyelids (palpebral conjunctiva). It is the most common of all pediatric ocular disorders, usually due to a bacterial or viral infection. Less commonly it may result from an allergic reaction, physical or chemical irritation, or as a manifestation of a systemic infection.

Bacterial agents include pneumococcus, staphylococcus aureus, *H. influenza*e and streptococcus. Gonococcal infection in the eye of the newborn usually occurs approximately 48 hours after birth, having been contracted during birth. Discharge is a prominent feature of bacterial conjunctivitis and is purulent or mucopurulent in character.

Viral conjunctivitis is frequently due to adenoviruses and is highly contagious. It may be spread by the fingers of the examiner; therefore, careful hand washing before and after examination is essential. The most striking feature is conjunctiva hyperemia, with or without a watery or mucopurulent discharge.

ETIOLOGY

1. Bacterial infection (incubation period: 2-10 days; 80% of non-allergic conjunctivitis in children)
   a. *Streptococcus pneumonia.*
   b. *Hemophilus influenza.*
   c. *Staphylococcus aureus.*
   d. *Pseudomonas aeruginosa.*
   e. *Neisseria gonorrhoeae.*
   f. *Chlamydia trachomatis* (of particular concern during the first three months of age because of the risk of progression to pneumonia).

2. Viral infection (incubation period: 5-14 days; 20% of non-allergic conjunctivitis in children):
   a. Adenovirus.
   b. May be associated with upper respiratory-tract infection, sore throat, adenopathy, oral herpes simplex.

3. Allergic reaction: Usually associated with such allergens as pollen, molds, animal dander and dust.

4. Foreign body or trauma.

5. Chemical irritants (in newborns may be the result of Silver Nitrate Drops or Erythromycin Ointment).

6. Systemic conditions (see below).

7. Drug-induced.

8. Contact lenses over-wear.

SUBJECTIVE

1. Irritation and sensation of foreign body in eye.

2. Watery eyes.

3. Itching of eyes (more suggestive of allergic conjunctivitis).

4. Mild photophobia.

5. Eyelids stick together.

6. No complaints of decreased vision.

.

7. May have history of contact lens use (caution: high risk).

8. History of seasonal allergies.

OBJECTIVE

1. Infected conjunctivae.

2. Discharge (cannot be used as sole criterion for differentiating viral from bacterial **or** allergy):
   a. Purulent in bacterial infection (often unilateral at onset).
   b. Mucoid or watery in viral infection (often unilateral at onset).
   c. Stringy or watery in allergic reaction (usually bilateral at onset).

3. Chemosis (edema of the bulbar conjunctiva that can, at times, be marked when allergy is the cause).

ASSESSMENT

Conjunctivitis. Specify type of discharge, probably (viral) or (bacterial).

NOTE: Conjunctivitis may be a sign of a number of potentially serious illnesses, including the following:

1. Uveitis.
2. Stevens-Johnson Syndrome (a serious autoimmune condition; rash, toxicity).
3. Kawasaki Disease. (fever, rash, stomatitis).
4. Glaucoma.
5. Periorbital or orbital cellulitis.
6. Acute otitis media (check ears).

7. Herpes conjunctivitis (usually a vesicular rash proximal to the eye and eye pain).

Recheck in 24 hours if not considerably improved, or if worse. If no improvement, refer to a physician.

PLAN **THERAPEUTIC**

PHARMACOLOGIC

Bacterial:

1. Polytrim Opthalmic Solution, if **2** months of age or older: Instill 1 drop in affected eye(s) q **3**h while awake, (maximum of 6 doses/day) for 7-10 days.

OR

2. Polymixin B/Bacitracin (e.g., Polysporin) Opthalmic ointment if 3 months of age or older: Instill ½" ribbon in the affected eye(s) tid for 7-10 days. (Ointment is preferred if it can be safely instilled by the child's caregiver without risk of trauma to the eye in the process.)

If unable to take the above:

1. Erythromycin ointment (e.g., Emycin). Instill ½" ribbon in the affected eye four times daily for 7 –10 days.

OR

2. Tobramycin (e.g. Tobrex) Ophthalmic ointment, if 3 months of age or older: Apply a half-inch ribbon into the affected eye(s) 2 or 3 times a day for 7 days.

OR

3. Tobramycin Ophthalmic Solution, if 3 months of age or older: Instill 1 or 2 drops into the affected eye(s) every 4 hours for 7 days.

Allergic:
Olopatadine HCL 0.1%, (e.g., Patanol) Opthalmic Solution: For 3 years of age and older. Instill 1 drop in affected eye(s) twice daily **(allowing 6-8 hours between doses**). May be better tolerated when refrigerated before use.

If unable to take the above:

Nedocromil (Alocril) Ophthalmic Solution: For 3 years of age and older, instill 1-2 drops in affected eye(s) twice daily. May be better tolerated when refrigerated before use.

OR

Emedastine Difumarate Opthlamic Solution: For 3 years of age and older, instill 1-2 drops in affected eye(s) **up to 4 times a day.**

NOTE: If topical agents are not tolerated or not effective, then oral antihistamines, as recommended in the Allergic Rhinitis nurse protocol, may be used.

NON-PHARMACOLOGIC MEASURES

Cold compresses to relieve discomfort, if mild non-purulent conjunctivitis associated with an upper respiratory infection or allergic conjunctivitis.

CLIENT EDUCATION/COUNSELING

1. Viral conjunctivitis may last up to 12-14 days, but commonly for 3-5 days.

2. Bacterial conjunctivitis should respond to treatment within 2-3 days.

3. Hands must be washed before and after application of ophthalmic ointment or solution. Instruct in hand washing technique and disposal of contaminated tissues.

4. Do not share bath cloths/towels.

5. Seek care or return to clinic in 24 hours if no improvement.

6. School or daycare attendance: Check with school. **American Academy of Pediatrics** position is that children with infectious conjunctivitis under treatment may attend school provided reasonable precautions are taken to avoid close contact such as wrestling in physical education class. Children with allergic conjunctivitis may attend school. (A common school policy is to only allow a child to return if ‘treatment’ has been initiated. For

this reason it is reasonable at times to treat conjunctivitis with minimal discharge with an anti-bacterial eye drop so that the child may return to school.)

7. May use cold, wet compresses. To clean eyes, use cotton balls moistened with water. Use a fresh cotton ball with each wipe.

8. Do not use the child's eye medicine for anyone else.

9. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP:

In 2 to 3 days if no improvement; call back sooner if symptoms worsen or there is increased pain.

CONSULTATION/REFERRAL

1. Infants less than three months of age (because of *Chlamydia trachomatis* concern). Refer urgently if purulent discharge started between 2 and 5 days of age. This could represent gonorrhea and may require systemic antibiotics without delay**. NOTE:** If the discharge started in the first 24 hours this is typical of chemical conjunctivitis secondary to the instillation of drops at birth to prevent gonorrhea infection and does not require referral or treatment.

2. If a physician's note is necessary to re-enter school.

3. No improvement in 24 hours after initiation of treatment.

4. Foreign body, trauma or chemical injury.

5. Moderate to severe eye pain; any visual disturbance, including blurring.

6. Any conjunctivitis that might be gonococcal, regardless of age, (very copious discharge, gonococcus exposure).

7. Any irregularities of pupil size or reaction to light.

8. All contact lens wearers (possible infected corneal abrasion).

9. Any redness of eyelids.

10. Marked photophobia.

11. Acting sick, with significant lethargy or headache

12. A vesicular rash near the eye (Herpes).

13. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR CONSTIPATION

DEFINITION

Bowel movements which are associated with the passage of hard, dry, often painful, stools. Stool frequency is not a primary consideration when diagnosing constipation. Infrequent passage of stools that are soft and easily passed does not constitute constipation. In fact, in exclusively breastfed infants after the first month of life, this is common and not a concern.

ETIOLOGY

Acute Constipation

1. Insufficient amount of fiber and/or fluid in the diet.
2. Decreased physical activity.
3. Emotional upset.
4. Uncomfortable circumstances for defecating.
5. Disruption of usual daily routine.
6. Aggressive toilet training techniques.

Chronic Constipation

1. Psychogenic stool-holding.
2. Chronic neuromuscular disorders.
3. Hirschsprung's disease.
4. Hypothyroidism.
5. Acute constipation that has not been adequately treated, resulting in an enlarged colon with decreased contractile strength (known as the 'vicious cycle' of constipation).

SUBJECTIVE

Acute Constipation

1. Pain on defecation.
2. Stools are hard, dry.
3. Straining on defecation.
4. History of blood-tinged stools.

5. Mild abdominal pain.

6. Decrease in frequency of defecation from usual pattern may be taken as a sign of constipation if it is associated with other symptoms such as hard, dry stools.

Chronic Constipation

1. Psychogenic stool-holding:
   a. Onset in late infancy or early childhood.
   b. Large bowel movements at long intervals.
   c. Fecal incontinence (encopresis).
   d. Behavior problems.

2. Chronic neuromuscular disease:
   a. Other developmental problems.
   b. Mild abdominal pain.

3. Hirschsprung's disease:
   a. Abdominal distension.
   b. Soiling and retentive behavior – rare.
   c. May present at any age but most become apparent at birth or in early infancy.
   d. Anorexia and vomiting in early infancy.
   e. First stool more than 24 hours after birth.

4. Hypothyroidism:
   a. Poor feeding.
   b. Vomiting.

OBJECTIVE

Acute Constipation

1. Physical exam may be normal.

2. Anal fissure, marked diaper dermatitis or perianal abscess.

3. Mild abdominal distention with a palpable, firm stool apparent on abdominal and rectal exam.

Chronic Constipation

1. Physical exam may be normal.

2. Abdominal distention with a palpable firm stool apparent on abdominal and rectal examination. With Hirshprung's disease

there will be no stool in the rectum on rectal examination. The obstruction is above the rectum.

3. Muscle weakness, sluggish reflexes (hypothyroidism), dimple on lower back.

ASSESSMENT

1. Can be a normal child with a variation of defecation patterns that is within normal limits. (If normal variation is in pattern only, then BMs should be soft and not painful.)

2. Intestinal obstruction (usually associated with abdominal pain and vomiting).

3. Constipation, acute or chronic.

PLAN

THERAPEUTIC

NON-PHARMACOLOGIC MEASURES

1. Encourage increased water intake.

   a. Breastfed infants - Extra water supplementation is usually not necessary with adequate breast milk supply.
   b. Formula fed infants - 1-2 oz of water between feedings. Ensure proper mixing/concentrating of infant formula prior to recommending additional water.
   c. Children - Offer water frequently during the day.

2. If anal fissure, suggest warm Sitz baths, gentle cleansing, petroleum jelly to anus.

3. Increase in the diet the amount of fruits and vegetables and other high fiber foods such as whole grains. Restrict milk to normal volume for age. Add 2-4 oz per day of apple, prune, pear or plum juice. Use a dropper if not yet introduced to an artificial nipple.

PHARMACOLOGIC

For client with acute constipation (**w**ith symptoms such as pain, irritability, malaise)

1. Stimulation of stool passage:

   a. **Infants and children**-1 month to 2 years: Glycerin

Suppository: **1 infant suppository once per day until stool appears up to a maximum of 3 days.**

b. **Children** 2 **through 5** years: **1 infant suppository (Fleet Pedialax or Colace Infant/Children**)
OR
2 to 5 ml of rectal solution (Fleet **Baby Lax**) **once per day until stool appears up to a maximum of 3 days.**

c. **Children 6 years or older**: **1 adult suppository (Fleet Glycerin, Colace Adult/Children, Sani-Supp)**
OR
5-15 ml rectal solution as enema (Fleet Liquid Glycerin Suppositories) once per day until stool appears up to a maximum of 3 days.

2. For use after initial relief from above. **A brief course of the Sorbitol 70% solution or Docusate sodium (as below) may be helpful to restore regularity. Should not use for more than 5-7 days.**

a. **Sorbitol 70% Solution**
Children 2-11 years: Oral: 2 mL/kg/day in 2 divided doses
Children 12 years of age and older and Adults: Oral: 30-150 mL daily either as one dose or 2 divided doses

OR

b. Docusate sodium (Colace) 5 mg/kg/day.
1) Age less than 3 years: Orally 10-40 mg/day, **in** divided **doses** from 1-4 times a day.
2) Ages 3 **through 5** years: Orally 20-60 mg/day, **in** divided **doses** from 1-4 times a day.
3) Ages 6-12 years: Orally 40-150mg/day, **in** divided **doses** from 1-4 doses a day.

NOTE: This softens and prevents excessive drying of the stool. It is effective unless there is voluntary stool retention. Effect should be apparent 1-3 days after first dose.

CLIENT EDUCATION/COUNSELING

1. Infants

   a. Explain the need for adequate fluid intake.

   b. Do not use laxatives such as Castoria or Fleet Phosphate enemas; do not use mineral oil for infants (risk of aspiration pneumonia).

   c. Counsel on overall quality of diet and dietary needs appropriate for the age of the infant:
      1) limit milk intake to that appropriate for age;
      2) avoid constipating fruits such as bananas, apple sauce and pears;
      3) encourage fruit juices with sorbitol such as prune, plum and some apple juices;
      4) discontinue solids if introduced too early;
      5) if infant is consuming milk-based formula, encourage use of formula with prebiotics (e.g., **Gerber Good Start Gentle Plus**), which have been shown to decrease the risk of constipation.

   d. Honey or homegrown herbal teas should not be served to an infant less than 1 year of age since it may contain botulism spores that may cause infantile botulism.

   e. Controlled trials with infant formula have not shown a relationship between iron in the formula and constipation.

   f. Explain vicious cycle: constipation enlarges the colon; an enlarged colon is weaker leading to more constipation. If the cycle is not interrupted, the result can be debilitating for a child and family.

2. Children

   a. Increase fluid (especially water and fruit juices) and fiber intake.

   b. Limit milk intake to that appropriate for age.

   c. Increase intake of whole grains/cereals, dried beans, raw/dried fruits and vegetables, nuts/seeds (if age-appropriate). Add high fiber foods gradually. Encourage a wide variety of foods. Consume fruits and vegetables with peel or skin whenever possible.

d. Increase and encourage regular physical activity when appropriate.

e. Follow-up for several weeks. Acute constipation can evolve into a major problem if not treated properly. (Explain 'vicious cycle' as described above for infants.)

f. Contact clinic if any problems obtaining medications.

FOLLOW-UP:

In 2 to 3 days if no improvement. Seek prompt medical attention if symptoms worsen.

CONSULTATION/REFERRAL

1. Refer to MD/APRN if no improvement in 2-3 days.

2. Acute constipation with symptoms should be referred to MD/APRN promptly (same day) if there is not relief of symptoms with the acute therapy described above **or if symptoms worsen**. Pain or other symptoms, if secondary to constipation, should be entirely relieved with the passage of stool. If this is not the case, then the cause of the child's symptoms may not be constipation and needs prompt diagnosis.

3. Chronic constipation.

4. Signs of emotional/family issues.

5. Infants with any of the following: recurrent constipation, history of first bowel movement after 24 hours of age, any systemic signs such as vomiting or failure to gain weight.

6. Exclusively breastfed infants who clearly have constipation, not just infrequent, soft, easily passed stools.

7. Substantial rectal bleeding – such as blood throughout the stool or blood clots equivalent to one teaspoon or more of blood.

8. Pregnant or breastfeeding.

9. Neonates.

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STANDARD NURSE PROTOCOL FOR CRADLE CAP

DEFINITION A form of seborrheic dermatitis that most babies show at some time during infancy. It is a result of excessive discharge from the sebaceous glands, but the cause is not really understood. The lesions are usually multiple, discrete, circumscribed oval or nummular patches covered with fine, yellowish, slightly-oily scales on an erythematous base.

ETIOLOGY The actual cause is unknown.

SUBJECTIVE As described by the parent/care-giver:

1. Rash on scalp.
2. Dry, scaly flakes that do not resolve with normal shampooing of the head.

OBJECTIVE

1. Dry, scaly, sometimes greasy flakes on the scalp.
2. Running the finger firmly across the scalp surface will loosen the flakes.
3. Thick, yellowish, crusted lesions on the scalp, with scaling.
4. Papules or fissuring behind the ears and on the face.
5. Examine other body areas, seborrheic dermatitis can be focal or spread. Other common sites include: forehead, eyebrows, nasolabial folds, neck, axillae, and diaper area.

ASSESSMENT Cradle Cap

PLAN **THERAPEUTIC**

NON-PHARMACOLOGIC MEASURES

1. Mild Cases:
   a. Massage mineral oil or petroleum jelly into scalp 20 to 30 minutes prior, then shampoo head daily with warm water and baby shampoo using a soft brush.
   b. Rinse well and pat dry after each shampooing.

PHARMACOLOGIC

1. Severe or Unresolved Cases:

a. Use **ketoconazole 1%** shampoo over the counter **(i.e. Nizoral A-D) shampoo scalp twice weekly (at least 3 days should elapse between each shampoo) up to 1 – 2 weeks.**

b. Antibiotic therapy may be indicated for secondary infection.

c. For minor localized areas of seborrhea of the scalp, apply **hydrocortisone 1% cream daily or every other day for a maximum of 2 weeks.**

CLIENT EDUCATION/COUNSELING

1. Review instructions for management.

2. Teach parents that gentle scrubbing over the fontanels is safe.

3. Reassure parents that if proper washing is done faithfully for one week, the scalp should clear.

4. Teach parent to continue treatment for several days after condition clears.

5. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

In 1 to 2 weeks if no improvement.

CONSULTATION/REFERRAL

1. If no improvement after 10 to 14 days of proper management.

2. Presence of secondary infection.

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STANDARD NURSE PROTOCOL FOR ATOPIC DERMATITIS (ECZEMA)

DEFINITION

A chronic inflammatory disorder of the skin manifested by some or all of the following: pruritic, erythematous, papular, vesicular, weeping lesions with scaling or crusting. It tends to occur in **clients** with an inherited allergic predisposition.

ETIOLOGY

In part, it is an atopic allergic response. The exact etiology is unknown. It is probably the most common problem in pediatric dermatology. It is not present at birth and usually does not occur before the age of three months. Dry skin resulting in a 'pruritis-scratching-inflammation-more pruritis' cycle clearly plays a role in the etiology of atopic dermatitis. Contrary to popular belief, recent evidence suggests that food allergy is a very uncommon cause of atopic dermatitis. Manifestations are usually secondary to pruritus and scratching of the sensitive skin. The following may initiate and aggravate the itching and inflammation:

1. Dry skin/cold weather.
2. Perspiration/hot humid weather.
3. Irritating clothing (wool, silk).
4. Certain soaps, detergents or cosmetics.
5. Respiratory infections.
6. Frequent bathing.

SUBJECTIVE

1. Pruritus, rash.

2. Often, family history of allergic diseases (asthma, allergic rhinitis, urticaria) or atopic dermatitis.

3. Ask about age of onset.

4. History of asthma or allergic rhinitis (about 50% of cases).

5. Ask about routine skin care, including frequency of bathing and products used.

OBJECTIVE

Infancy (0 – 24 months)

1. Rough, erythematous, papular, and occasionally vesicular or scaling eruption, which frequently progresses to weeping and crusting.

2. Onset after two months of age.

3. Location: commonly on cheeks, scalp, post-auricular area, neck, and extensor surface of forearms and legs; occasionally trunk and diaper area.

4. Fairly rapid alternation between quiescent periods and exacerbations.

5. Frequent rubbing of involved areas by infant.

Childhood

1. Less weeping and crusting, and more dry, papular, scaling eruption with hyperpigmentation.

2. Intensely pruritic and excoriated lesions with lichenification due to scratching.

3. Location: Commonly on flexor surfaces of wrist and neck and on antecubital and popliteal areas.

Adolescence and Adulthood

1. Dry, thickening skin, with accentuation of normal lines and folds; often hyperpigmentation.

2. Location: commonly on flexor areas of extremities, eyelids, back of neck and dorsum of hands and feet.

ASSESSMENT

Atopic Dermatitis (eczema)

Consider for differential diagnosis:

1. Seborrheic dermatitis (sometimes impossible to differentiate in infancy).

2. Fungal infections of the skin.

3. Contact dermatitis (e.g., poison ivy).

4. Irritant dermatitis (e.g., diaper dermatitis).

5. Xerotic dermatitis (dry skin).

6. Rare systemic diseases of infancy associated with atopic dermatitis-type rash.

7. Scabies.

PLAN THERAPEUTIC

PHARMACOLOGIC

1. Apply sparingly a low-potency steroid. **Do not use on the face, underarms, or groin areas.**

   Infants: 0.5%-**1%** hydrocortisone cream or ointment, twice daily, preferably after bath (cream during hot humid weather, otherwise ointment is best).

   Children **greater than 1 year of age** and **older:**

   1%-**2.5%** hydrocortisone cream or ointment twice to three times daily, preferably after bath (cream during hot humid weather, otherwise ointment is best). Apply until controlled. If treatment is required for more than 2-4 weeks for improvement of symptoms, the client should be counseled to contact the clinic for a referral so that treatment can be adjusted or prolonged.

   OR

   Children greater than 1 year of age and older: Alclometasone dipropionate (Aclovate®) - Apply a thin film of alclometasone cream or ointment to the affected skin areas two or three times daily; massage gently until the medication disappears. Do not use for longer than 3 weeks. If treatment is required for more than 2-3 weeks for improvement of symptoms, the client should be counseled to contact the clinic for a referral so that treatment can be adjusted or prolonged. Do not use on the face, underarms, or groin areas.

2. To help control pruritis use an over-the-counter antihistamine such as diphenhydramine (e.g., Benadryl) orally. The non-sedating antihistamines appear to have only a very modest influence on atopic dermatitis symptoms.
   - **a. Adults and children 12 years of age and older: Diphenhydramine hydrochloride 25-50 mg orally 3 or 4 times a day (not to exceed 300 mg/day).**
   - **b. Children 6 years of age to younger than 12 years of age: Diphenhydramine hydrochloride elixir 12.5 mg/5 mL. May give 12.5 to 25 mg every 4 to 6 hours; do not exceed 150 mg/day.**
   - **c. Children 2 years of age to younger than 6 years**

of age: Diphenhydramine hydrochloride elixir 12.5 mg/5 mL. May give 6.25 mg every 4 to 6 hours; do not exceed 37.5 mg/day.

NOTE: Dosing should be based on severity of symptoms. Do not use topical diphenhydramine.

NON-PHARMACOLOGIC MEASURES

1. For infants:
   a. When adding a new food, try it for 2-3 days and check reactions before going on to another new food.
   b. Dietary restrictions are controversial in atopic dermatitis. Infants should not be given cow's milk, egg whites, chocolate, spiced foods, fish, and nuts during the first 12 months of life. Use caution with wheat, tomatoes, and citrus fruits.

2. Bathe using mild soap (Dove or Cetaphil) and add 1/2 to 1 capful of bath oil (Alpha-Keri or Aquaphor) in water. Apply moisturizer to wet skin after bath. Apply additional moisturizer (see below) three times daily. Avoid excessive bathing.

CLIENT EDUCATION/COUNSELING

1. Avoid factors that initiate pruritus and irritate skin; the key is to reduce or eliminate factors that promote dryness or increased scratching so a severe rash can be prevented.
   a. An environment that is slightly cool and well-humidified is best.
   b. Spend time indoors in warm weather. Humidify home in winter if heating system dries air.
   c. Use warm water for brief baths or showers; hot water causes itching.
   d. Use soft cotton clothing and bedding. Avoid wool, starched or rough clothing.
   e. Place a cotton pad under the bed sheets to further separate an infant from a plastic mattress.
   f. Keep fingernails short.
   g. Recognize that emotional stress can worsen but not cause the disease.
   h. Use liquid detergent when washing clothes plus a second rinse cycle.

2. Instructions for topical care of atopic dermatitis:

a. Wet the skin for 5-20 minutes twice a day.
b. Avoid excessive exposure to soap. Use a mild soap (e.g., Dove or Cetaphil) for cleaning dirty areas.
c. Pat dry and quickly apply the steroid preparation to the wet skin. Apply the steroid only on the areas of dermatitis.
d. Apply lubricant (Eucerin Cream, Cetaphil Cream, Aquaphor Ointment, Vaseline Intensive Care Ointment), to all areas prone to dermatitis, even those not currently inflamed. Avoid lotions (vs. creams and ointments) because their low oil content renders them poor moisturizers. (The lubricant may be applied over the steroid if the steroid is a cream.) Apply the lubricant while the skin is still wet, twice a day.
e. Reapply the lubricant throughout the day if the skin appears dry.
f. As the skin improves, continue the lubricant twice a day, or more frequently. Decrease the topical steroid to once a day, or less frequently, as needed. It may also be possible to decrease the potency of the topical steroid, if a medium or high-potency steroid has been prescribed.
g. Wash hands after applying steroid and lubricant.

3. Emphasize to child and family that this is a chronic condition and exacerbating factors must be controlled for successful management. Also emphasize that good skin care, as described above, will decrease flare-ups and the need for topical steroids.

FOLLOW-UP

Return in one week, or periodically as needed.

CONSULTATION/REFERRAL

1. Children and adolescents with severe skin eruptions. (A prescription for a medium or high-potency steroid may be necessary.)

2. Client with dermatitis with crusting or weeping lesions. Antibiotics may be necessary to treat secondary infection.

3. Ocular complications.

4. Any client with intense itching that may require prescription for antihistamine and/or topical steroids.

5. Client with mild dermatitis that worsens or does not improve after two weeks of treatment.

6. Any client with suspected bacterial or viral infection should be referred immediately to MD.

7. Any client with suspected underlying condition.

8. Consult nutritionist for food-related issues.

9. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR MILD CONTACT DERMATITIS

DEFINITION

Acute or chronic inflammatory reaction to substances that come in contact with the skin.

ETIOLOGY

Irritant contact dermatitis is caused by local absorption of an irritant through a break in the skin. The inflammatory response may result from a single exposure to a caustic agent or repeated minor damage to the skin, such as frequent handwashing. Common offending agents include soaps, detergents and oral solvents. Everyone is at risk for developing irritant contact dermatitis, but people vary in their response to the irritant. One form common in infants is irritant diaper dermatitis, caused by trapped moisture and friction at the site of contact with the diaper.

Allergic contact dermatitis is a delayed cell-mediated hypersensitivity reaction to an offending agent. During the sensitization phase, an allergen penetrates the epidermis and produces proliferation of T-lymphocytes. The T-lymphocyte cells enter the blood circulation, so that all the skin becomes hypersensitive to the allergen. This phase may take days or months, depending on the individual's sensitivity, the amount and concentration of the allergen, and the amount of penetration. In the elicitation phase, the antigen specific T-lymphocytes react to subsequent allergen exposure and produce the inflammatory response.

Poison ivy, oak and sumac produce many cases of allergic dermatitis. Other allergens include: fur; leather; nickel; topical antibiotics, antihistamines and anesthetics; shoe dyes or glue; hair dyes; adhesive tape; parabens (found in sunscreens and lotions); and latex.

SUBJECTIVE

1. May have history of exposure to chemicals, detergents, medications, plants, lubricants, cleansers or rubber gloves, metal jewelry (zinc)**,** at home or at work.

2. May have previous history of contact dermatitis.

3. Itching, swelling, rash of varying severity and duration.

4. Ask about response to any treatment used.

OBJECTIVE

1. Note character of eruption. Irritant contact dermatitis usually causes an erythematous dry, scaling eruption with an indistinct margin. Fissures sometimes occur. Chronic exposure may cause weeping lesions. Allergic contact dermatitis usually causes more erythema and edema. Vesicles, characteristic in response to poison ivy, oak and sumac, often weep and form crusts.

2. Note location and pattern of the eruption, which suggest the cause:
   a. Scalp/ears: hair care products, jewelry.
   b. Eyelids: cosmetics, contact lens solutions.
   c. Face/neck: cosmetics, cleansers, medications, jewelry.
   d. Trunk/axilla: deodorants, clothing.
   e. Arms/hands: poison ivy/oak/sumac, soaps, detergents, chemicals, jewelry, rubber gloves.
   f. Legs/feet: clothing, shoes.

ASSESSMENT Contact Dermatitis

PLAN **DIAGNOSTIC STUDIES**

Scraping of lesion for microscopic exam if scabies is suspected.

THERAPEUTIC

PHARMACOLOGIC

1. Lesions occupy less than 2% body surface area (less than 2x size of client's palm) and do not involve the face, apply triamcinolone 0.1% **2 to 3** times daily until clear (usually at least 2 weeks). Use ointments on dry or cracked skin and creams on inflamed or weeping lesions. **Many clients prefer the cream.** May need to taper application (twice daily and once daily) to avoid flare-up.

2. **Calamine lotion can be applied as an astringent, protectant, or soothing agent, for conditions such as poison ivy, poison oak, or minor skin irritations. Apply 1 to 4 times daily,** avoid if skin is dry. **Do not use on open wounds. Educate client to ensure that they do not obtain Caladryl. Caladryl contains a topical analgesic and is not generally recommended for use in children.**

   OR

   Zinc oxide can be applied several times a day as required to soothe and promote healing of chapped skin.

3. **In the early stages if drainage is occurring**, wet dressings, using gauze soaked in Domeboro astringent, are an option to control itching when ointments and the measures described below are insufficient to control pruritis

during the first day or two of therapy. They have the advantage of blocking the child's ability to scratch the area. Change every 2-3 hours.

4. For relief of itching:
   a. Adults and children 12 years of age and older: Diphenhydramine hydrochloride 25-50 mg orally 3 or 4 times a day (not to exceed 300 mg/day). Do not give in third trimester of pregnancy or to breastfeeding mother.
   b. Children 6 years of age to younger than 12 years of age: Diphenhydramine hydrochloride elixir 12.5 mg/5 mL.
      May give 12.5 mg to 25 mg every 4 to 6 hours; do not exceed 150 mg/day.
   c. Children 2 years of age to younger than 6 years of age: Diphenhydramine hydrochloride elixir 12.5 mg/5 mL.
      May give 6.25 mg every 4 to 6 hours; do not exceed 37.5 mg/day.

NOTE: Dosing should be based on severity of symptoms. Do not use topical diphenhydramine.

NON PHARMACOLOGIC MEASURES

1. Apply cold, wet compresses for 15-20 minutes 3-4 times a day during the blistering and weeping stage.

2. Cool tub baths, with or without colloidal oatmeal (e.g., Aveeno), to decrease inflammation and itching.

3. Dress the area, if necessary, to control scratching. A wet dressing is least likely to aggravate pruritis (Domeboro solution preferred.)

CLIENT EDUCATION/COUNSELING

1. **Educate on potential causes.** Remove or avoid the irritant/allergen. Wear protective clothing and gloves.

2. For poison ivy, oak, etc:
   a. As soon as possible after exposure, wash the skin with lots of cold water and soap. To wash within 15 minutes is the most effective. If soap and water are not available, alcohol may be used.

b. Poison ivy dermatitis is not spread elsewhere on the body or to another person, by fluid in the blister. It is spread by any oil from the plant still on the skin, clothes or tub. (Taking a shower rather than a bath is less likely to leave resin around the tub.)
c. A rash will appear first on areas of skin which are thinner, or where the plant oil was more concentrated.
d. Teach how to identify poison ivy, oak and sumac.
e. Topical steroids do not work well on vesicles or weeping rashes, but may be used after the blistering stage.

3. Avoid use of topical preparations with benzocaines or other -caines.

4. Emollients (e.g. Eucerin, Lubriderm) can be used to protect and care for dry skin.

5. Advise that patch testing may be required to identify the irritant or allergen if more than one is possible.

6. Contact clinic if any problems obtaining medications.

FOLLOW-UP

Re-evaluate in 2-3 days, if no improvement or signs of bacterial infection occur.

CONSULTATION/REFERRAL

1. If moderate to severe dermatitis (greater than 2% body surface area) or significant involvement of the face (oral steroids can bring about dramatic improvement; the sooner oral steroids are started, the more effective they will be).

2. For suspected secondary bacterial infection (significant extension of erythema and/or tenderness beyond the initial border of the rash; fever [not always present], malaise).

3. If no response to treatment.

4. Pregnant or breastfeeding client.

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STANDARD NURSE PROTOCOL FOR DIAPER DERMATITIS (Diaper Rash)

DEFINITION Inflammation of the skin within the area usually covered by the diaper.

ETIOLOGY It can be caused, and aggravated by, many factors acting separately or in combination. Contact irritants such as urine, stool and chemicals may be involved. Bacterial, fungal or viral infections may also cause diaper dermatitis. Other causes include seborrheic dermatitis or atopic dermatitis.

SUBJECTIVE

1. May be no symptoms.
2. Pruritis.
3. Irritability.

OBJECTIVE

1. Irritant contact diaper dermatitis will show mild erythema, especially on the buttocks, genitalia and lower abdomen with sparing in the creases.
2. Bacterial infection will show vesicles and/or pustules in the diaper area.
3. Monilial (candidal) infection will show smooth, shining, “fire-engine” red, papular and nummular rash, with well-circumscribed borders, that extends into creases, and satellite lesions that are outside the margin of the erythema. Oral thrush may also be present. Small pustules are often present on the periphery. Antibiotic use is a predisposing factor.
4. Affected area may be moist and exudative.
5. During healing of moderate to severe dermatitis, skin may be dry and scaly.

ASSESSMENT Diaper dermatitis.

PLAN **THERAPEUTIC**

NON-PHARMACOLOGIC MEASURES

General Treatment and Prevention

1. Keep diaper area dry and free from urine and stool:

   a. Change diapers frequently.

   b. Cleanse diaper area with warm water with each diaper change. Avoid use of soap which can be irritating to skin, and use mild, non-perfumed, non-medicated soap only if absolutely necessary.

   c. Air drying is useful.

   d. Avoid starch, other powders and petroleum jelly.

2. Apply bland ointment (e.g., A&D ointment) or a barrier cream (e.g., zinc oxide or Desitin©) after each diaper change.

3. Avoid the use of commercial diaper wipes, which are often perfumed and irritating.

4. Infants using super absorbent disposable diapers have a significantly lower frequency and severity of diaper rash when compared with infants using cloth diapers. These should be recommended if the dermatitis is recurrent or severe.

PHARMACOLOGIC

1. Hydrocortisone cream 1% (available OTC) should be applied four times a day for rashes with moderate-to-severe inflammation, for 1 to 2 days only.

2. The fixed-combination medications, Mycolog II and Lotrisone, should NOT be used. **(The steroids in combination antifungal-steroid agents are too potent to be used in an occlusive diaper area.)**

NOTE: For cases of diaper dermatitis that have the typical appearance of monilial infection (satellite lesions, etc.) OR for cases of diaper dermatitis that have been present for more than 3 days without improvement add the following to the therapy above:

3. Apply nystatin 100,000 units/gm (e.g., Mycostatin©) cream lightly to affected area under the barrier ointment 3 times a day for 7-10 days. (May repeat cycle once.)

4. Hydrocortisone 1% cream or ointment may help decrease erythema and inflammation and can be applied at the same time

as the nystatin for the first 2 days of treatment.

5. Treat for oral thrush, if evident. (See Thrush - Oral Candidiasis protocol.)

CLIENT EDUCATION/COUNSELING

1. Assure that parent/caregiver knows how to treat, as above.

2. Teach parent to promptly change diapers as needed.

3. Teach parent to gently wash area (do not scrub). If rash is severe and to avoid rubbing – to clean and rinse, use a water bottle to squirt warm water gently and pat dry.

4. Teach parent to use mineral oil on a cotton ball to remove dried feces.

5. For cases of recurrent or severe diaper dermatitis a change in the type of diaper used is a reasonable consideration. Diaper rash is less common with use of super absorbent disposable diapers.

6. **Contact clinic if any problems obtaining medications.**

CONSULTATION/REFERRAL

1. Failure to respond to treatment.

2. If signs of bacterial infection are present.

3. Any rash that is unusual or severe.

FOLLOW-UP

1. **No follow-up needed if symptoms resolve within two weeks.**

2. **Reevaluate if symptoms persist or worsen beyond 2 weeks.**

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STANDARD NURSE PROTOCOL FOR DYSLIPIDEMIA SCREENING

DEFINITION

Dyslipidemia is a condition marked by abnormal elevations of Total Cholesterol, Low-Density Lipoprotein cholesterol (LDL), or Triglycerides, or deficiency of High-Density Lipoprotein cholesterol (HDL) in the blood.

ETIOLOGY

Research indicates that atherosclerosis (fatty deposits of plaque in arterial walls) begins in childhood and progresses over the lifespan. Exact causes of atherosclerosis are not known, but certain factors that may damage arterial walls and lead to atherosclerosis are: smoking, high amounts of certain fats and cholesterol in the blood, high blood pressure and high amounts of sugar in the blood.

Dyslipidemias are disorders of lipoprotein metabolism that result in high levels of Total Cholesterol, LDL or Triglycerides and low levels of HDL. Dyslipidemia is a risk factor for cardiovascular disease (CVD) in adults. Early identification of youth with dyslipidemia can lead to interventions that may prevent or delay the progress of atherosclerosis and CVD.

The majority of youth will have idiopathic dyslipidemia. A minority of youth will have monogenic or secondary dyslipidemias.

Secondary causes are attributed to sedentary lifestyle, diets high in saturated fat and cholesterol, and conditions such as diabetes, nephrotic syndrome, hypothyroidism, and certain drugs may affect lipid profiles, e.g. progestins, anabolic steroids, corticosteroids and protease inhibitors.

SUBJECTIVE

Client may have:

1. **Family history (parents or grandparents) of elevated blood cholesterol (level of 240 mg/dL or higher), or a family history (parents or grandparents) of taking cholesterol medication.**

2. **Family history (parents or grandparents) of premature (before 55 years of age) cardiovascular disease (e.g. coronary atherosclerosis, myocardial infarction, angina pectoris, peripheral vascular disease, cerebrovascular disease, or sudden cardiac death.)**

3. **History of tobacco use.**

4. **History of diabetes.**

5. **History of hypertension.**

6. **History of excess alcohol intake.**

7. **Low levels of physical activity (less than one hour of active play/physical activity per day).**

8. **Very high carbohydrate diet (greater than 60 percent of total energy.)**

9. **Diet that includes excessive consumption of saturated (solid) fats and cholesterol. (Greater than 10 percent of calories from saturated fatty acids)**

OBJECTIVE **Client may have:**

1. **BMI at or greater than the 85th percentile.**

ASSESSMENT **At Risk for Dyslipidemia**

PLAN **DIAGNOSTIC STUDIES**

1. **In accordance with the Bright Futures Periodicity Schedule, a routine fasting lipid profile is indicated for clients 18 through 20 years of age.**

2. **For clients 2 through 17 years of age with a positive risk assessment finding in Subjective #1 through #6 or Objective #1 above, obtain fasting lipid profile.**

3. **For clients 2 through 17 years of age with unknown family history, and a positive risk assessment finding in Subjective #1 through #6 or Objective #1 above, obtain fasting lipid profile.**

4. **For clients 2 through 17 years of age with a positive risk assessment finding in Subjective #7, #8 or #9 above consider fasting lipid profile.**

   NOTE: Order lipid profiles that include Total Cholesterol, LDL, HDL and Triglycerides.

Evaluate laboratory results according to the following reference tables:

For youth 2 through 19 years of age:		
	Total Cholesterol (mg/dL)	**LDL (mg/dL)**
Acceptable	**less than 170 mg/dL**	**less than 110 mg/dL**
Borderline	**170-199 mg/dL**	**110-129 mg/dL**
High	**200 mg/dL or greater**	**130 mg/dL or greater**
HDL levels should be greater than or equal to 35 mg/dL **Triglycerides should be less than or equal to 150 mg/dL**		
Adapted from National Cholesterol Education Program guidelines		

For youth 20 years of age:	
Total Cholesterol (mg/dL)	**LDL (mg/dL)**
	less than 100 mg/dL Optimal
less than 200 mg/dL Desirable	**100-129 mg/dL Near Optimal**
200-239 mg/dL Borderline	**130-159 mg/dL Borderline High**
240 mg/dL or greater High	**160 -189 mg/dL High**
	190 mg/dL+ Very High
HDL levels should be greater than or equal to 40 mg/dL **Triglycerides should be less than or equal to 150 mg/dL**	
Adapted from Third Report of the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults	

THERAPEUTIC

NON-PHARMACOLOGIC MEASURES

Initiate Therapeutic Lifestyle Changes for all clients as follows:

1. **Clients 2 years of age or older follow nutritional guidance in accordance with Dietary Guidelines for Americans 2010.**

2. **Physical activity recommendations for youth 2 years of age and older are 60 minutes or more of active play/physical activity per day.**

3. **Lifestyle changes to include smoking avoidance, tobacco use cessation, healthful food and beverage intake, and reducing overweight.**

CLIENT EDUCATION/COUNSELING

1. **Counsel clients and families:**
   a. **to balance caloric intake with physical activity.**
   b. **to consume more fruits, vegetables, fish, whole grains and low fat dairy products.**
   c. **on a low saturated fat, low cholesterol diet.**
      to avoid trans fatty acids; Keep *trans* fatty acid consumption as low as possible by limiting foods that contain synthetic sources of *trans* fats, such as partially hydrogenated oils, and by limiting other solid fats. A large source of trans fatty acids is partially hydrogenated fat used in fried and baked products.
      to consume less than 10 percent of calories from saturated fatty acids by replacing them with monounsaturated and polyunsaturated fatty acids. Foods made up mostly of monounsaturated and polyunsaturated fats are liquid at room temperature, such as:
      1) **olive oil.**
      2) **canola oil.**
      3) **safflower oil.**
      4) **peanut oil.**
      5) **corn oil.**

      Foods that are mainly oil include mayonnaise, certain salad dressings, and soft (tub or squeeze) margarine with no *trans* fats. Check the Nutrition Facts label to

find margarines with 0 grams of *trans* fat. Most oils are high in monounsaturated or polyunsaturated fats, and low in saturated fats. Oils from plant sources (vegetable and nut oils) do not contain any cholesterol. In fact, no foods from plants sources contain cholesterol. A few plant oils, however, including coconut oil and palm kernel oil, are high in saturated fats and for nutritional purposes should be considered to be solid fats.

d. to reduce the intake of calories from solid fats and added sugars to help reduce triglycerides in the bloodstream and assist with weight management. Solid fats are fats that are solid at room temperature, like butter and shortening. Solid fats come from many animal foods and can be made from vegetable oils through a process called hydrogenation. Some common solid fats are:

1) butter.
2) beef fat (tallow, suet).
3) chicken fat.
4) pork fat (lard).
5) stick margarine.
6) Shortening.

e. on ways to increase physical activity and decrease sedentary lifestyles.
f. about associated risk factors such as, smoking, obesity, diabetes and hypertension.

2. Encourage family members with dyslipidemia risk factors to obtain medical evaluations as appropriate.

FOLLOW-UP

1. For client with lipid profile results that are acceptable/desireable values:
a. Retest in 3 to 5 years per Plan Diagnostic Studies numbers 2 through 4 above.

2. For client with borderline Total Cholesterol or LDL:
a. Follow-up in 6 to 12 weeks, to reinforce diet and physical activity recommendations.
b. Retest in 1 to 2 years per Plan Diagnostic Studies numbers 2 through 4 above.

3. **For client with high Total Cholesterol, LDL or Triglycerides, or abnormal low HDL:**
   a. **Follow-up every 6 to 12 weeks, to monitor and reinforce diet and physical activity recommendations.**
   b. **Re-check fasting lipid profile in 6 months; if improving, but still abnormal recheck in 6 to 12 months.**

CONSULTATION/REFERRAL

1. **For client with abnormal lipid profile, referral to a registered dietitian or nutritionist if available for individual counseling and monitoring.**

2. **For client on oral contraceptives refer to Standard Nurse Protocol for Abnormal Lipid Tests While Using Hormonal Contraceptives.**

3. **If abnormal components of lipid profile are not improving on re-checks, refer to physician.**

4. **If client is a tobacco user, referral to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).**

5. **Pregnant or lactating client.**

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STANDARD NURSE PROTOCOL FOR FEVER

DEFINITION

Fever is an elevation in normal body temperature. It is a defense mechanism indicating physiological changes in the body in response to a pathologic process. Fever is traditionally defined as body temperature greater than 38°Celsius (100.4°F) rectally, 37.8°Celsius (100°F) orally, or 37.2°Celsius (98.9°F) axillary.

ETIOLOGY

Varied. Most fevers in children are seen in conjunction with an acute, infectious process. Fever control is of secondary importance to identification and control of its underlying cause.

SUBJECTIVE

1. May have history of exposure to other ill children or adults.

2. May be lethargic and irritable.

3. May have symptoms of illness, such as rhinorrhea, cough, tachypnea, ear pain, dysuria, pain, chills, rash, urinary frequency and sudden enuresis.

4. Fever pattern may be continuous, remittent, intermittent or recurrent.

5. May have history of recent immunization. However, caution is advised when attributing fever to an immunization. Immunized infants can also harbor an infectious process.

6. May have decreased activity level and appetite.

7. May complain of pain or discomfort.

OBJECTIVE

1. Elevated temperature:
   37.2° Celsius (98.9°F) or higher axillary (less reliable than rectal/oral).
   38° Celsius (100.4°F) or higher rectally or 37.8° Celsius (100°F) or higher orally.

   NOTE: Rectal temperatures are recommended for infants and young children. If child is more than 3 years old and cooperative, may be able to obtain reliable oral temperature. Ear and skin temperatures are not reliable. Confirm initial temperatures before ordering diagnostic tests.

2. Diurnal variations; lowest body temperatures occur between 2:00 a.m. - 6:00 a.m.; highest occur between 5:00 p.m. and 7:00 p.m.

3. Assess vital signs (pulse and respiratory rate may be elevated).

4. Level of sensorium may be decreased.

5. Perform complete physical exam (focal findings do not rule out a more serious bacterial infection).

6. Observation is vitally important.

7. May appear toxic (e.g., lethargic or irritable, noninteractive, poor perfusion, hypotension, petechial rash, cardio-respiratory distress, rigors).

ASSESSMENT Fever/Elevated body temperature.

PLAN **DIAGNOSTIC STUDIES**

Laboratory tests as indicated by history and physical findings.

THERAPEUTIC

PHARMACOLOGIC

1. Aspirin should not be the drug of choice for children because of its association with Reye syndrome. When it is desirable to reduce fever for the child's comfort there are two choices: acetaminophen and ibuprofen. Both have high safety profiles but, like all medications, they are not totally benign. They should not be used solely because of an elevated thermometer reading. Ibuprofen has the advantage of every 6 hour administration AND it carries less risk if accidentally given in overdose. Acetaminophen is less prone to GI irritation. Under no circumstances should these two medications be given in alternating fashion to control temperature. **NOTE:** Pepto-Bismol© and Alka-Seltzer© contain aspirin; do not give them to a child with a fever.

2. The decision on whether to treat fever is individualized to each child. Antipyretics do not alter the course of disease, and can cause side effects and toxicity. Temperature elevations do not correlate with severity of cause. The most common reason for treating fever is that fever makes the child uncomfortable. The decision to treat for comfort's
3. sake should be based on how the child looks and behaves, not a temperature threshold. For anti-pyretic use refer to

recommendations in the following dosage charts.

NOTE: Children with phenylketonuira (PKU) should not take Children's Anacin-3©, Children's Tylenol©, Double Strength Tempra©, Junior Strength Tylenol© and Tempra© in the chewable form. These products, in this dosage form, contain aspartame, which is metabolized in the GI tract to phenylalanine following oral administration.

Many children's hospitals have modified their approach to the febrile infant over the past year or two. The reasons are two-fold. First, the *pneumococcal* vaccine has now clearly been shown to have a dramatic effect on the incidence of *pneumococcal* disease in infancy. Secondly, there is increasing concern regarding missed UTIs in infancy. These infections are now known to cause significant renal scarring and to be the cause of kidney problems later in life. For these reasons the new fever guidelines at children's hospitals have been de-emphasizing blood cultures for high fever in infants immunized against *pneumococcus* and have been emphasizing urinalyses and cultures on infants with moderate fevers and selected high-risk criteria for UTI.

DOSAGE RECOMMENDATIONS FOR RELIEF OF FEVER AND PAIN IN CHILDREN

ACETAMINOPHEN

NOTE: Healthcare Professionals should be aware that acetaminophen infant drop products with both the new and old concentrations may be available on pharmacy shelves and in the clinic medication room. Either product may be continued to be used, but the concentration must be verified and used according to labeled dosing directions. Healthcare professionals should verify product concentration prior to providing dosing information. Dose may be repeated every 4 hours, as needed, but do not give more than 5 doses in 24 hours.

Age	Weight	Acetaminophen (80 mg/0.8mL): Infant's Anacin - 3 Drops; Panadol Drops; Tempra Drops; Tylenol Drops.	Acetaminophen (160 mg/5 mL): Children's Anacin - 3 liquid; Panadol Liquid; Childrens Tempra Syrup; Children's Tylenol Suspension.
0-3 Months	6-11 lbs (2.5-5.4 kg)	1/2 dropperful 0.4 mL(40 mg)	1.25 mL (40 mg)
4-11 months	12-17 lbs (5.5-7.9 kg)	1 dropperful 0.8 mL (80 mg)	2.5 mL (80 mg)
12-23 months	18-23 lbs (8.0-10.9 kg)	1 1/2 droppersful 1.2 mL (120 mg)	3.75 mL (120 mg)
2-3 years	24-35 lbs (11-15.9 kg)	2 droppersful 1.6 mL (160 mg)	5 mL (160mg)
4-5 years	36-47 lbs (16 –21.4 kg)		7.5 mL (240 mg)
6-8 years	48-59 lbs (21.8-26.7 kg)		10 mL (320 mg)
9-10 years	**60**-71 lbs (26.6-32.5 kg)		12.5 mL (400mg)
11 years	72-95 lbs (32.6-43 kg)		15 mL (480mg)

Age	Weight	Acetaminophen 80mg Chewable or Disintegrating tablets	Acetaminophen 160mg Chewable or Disintegrating tablets
4-5 years	36-47 lbs (16 –21.4 kg)	(240 mg) 3 Chewable or Disintegrating 80mg tablets	(240 mg) 1 ½ Chewable or Disintegrating 160mg tablets
6-8 years	48-59 lbs (21.8-26.7 kg)	(320 mg) 4 Chewable or Disintegrating 80mg tablets	(320 mg) 2 Chewable or Disintegrating 160mg tablets
9-10 years	58-71 lbs (26.6-32.5 kg)		(400mg) 2 ½ Chewable or Disintegrating 160mg tablets
11 years	72-95 lbs (32.6-43 kg)		(480mg) 3 Chewable or Disintegrating 160mg tablets

IBUPROFEN CHILDREN'S SUSPENSION
(for children ages 6 months and older)
(100 mg/5 mL in 4 and 16 oz bottles, fruit flavored)

(**5-**10 mg/kg/dose q 6-8 hours)

NOTE: Dose may be given every 6 hours.

Age	Weight	Dose
6-11 months	1**2**-17 lbs (**5.5 – 7.9** kg)	1/2 teaspoon (50 mg)
12-23 months	18-23 lbs (8 – 10.**9** kg)	**3/4** teaspoon (**75** mg)
2-3 years	24-35 lbs (11–**15.9** kg)	1 teaspoons (1**0**0 mg)
4-5 years	36-47 lbs (16 – 21 kg)	**1 ½** teaspoons (**15**0mg)
6-8 years	48-59 lbs (22 – 27 kg)	2 teaspoons (2**0**0 mg)
9-10 years	60-71 lbs (27 – 32 kg)	**2 ½** teaspoons (**25**0 mg)
11-12 years	72-95 lbs (33 – 43 kg)	**3** teaspoons (**3**00 mg)

IBUPROFEN CHILDREN'S CHEWABLE TABLETS
(50mg and 100mg tablets)

Age	Weight	Ibuprofen 50mg chewable tablets	Ibuprofen 100mg **c**hewable tablets
4-5 years	36-47 lb(s) (16 – 21 kg)	(**150**mg) **3** chewable 50mg tablets	(**150**mg) **1 ½** chewable 100mg tablets
6-8 years	48-59 lb(s) (22 – 27 kg)		(2**0**0 mg) 2 chewable 100mg tablets
9-10 years	60-71 lb(s) (27 – 32 kg)		(**25**0 mg) **2 ½** chewable 100 mg tablets
11-12 years	72-95 lb(s) (33 – 43 kg)		**(300 mg)** **3** chewable 100mg tablets

NON-PHARMACOLOGIC MEASURES

1. Never use alcohol for sponging, alcohol can be absorbed through the skin.

4. Physical cooling, like sponging, is usually unnecessary and may even be harmful, causing discomfort and chilling. Sponging allows heat to escape without adjusting the hypothalamic thermostat. As cooling begins, the hypothalamus directs the body to produce more heat, causing muscular shivering and an increase in metabolic rate.

5. Give extra clear liquids such as Pedialyte, Enfalyte, water, juices and popsicles to prevent dehydration.

4. Avoid overdressing the febrile child.

CLIENT EDUCATION/COUNSELING

1. Comfort measures.
   (Children with fever may not feel hungry and it is not necessary to force them to eat. Offer fluids frequently.

2. How to take rectal, oral, and axillary temperatures (depending on age of child) and to observe for other signs and symptoms which may develop.

3. Safety measures and keeping all medications out of reach of children at all times.

4. Teach parents to read labels and find other sources of acetaminophen that are often in over the counter medications and can cause toxicity.

5. Reinforce when parents should seek further medical evaluation.

6. Infants and children with fever should not attend daycare or school.

FOLLOW-UP

Return visit in 24-48 hours if no improvement.

CONSULTATION/REFERRAL

1. All infants under 3 months old with a temperature elevation.

2. Fever greater than 102.2° F (39° Celsius) and any of the following (high-risk UTI and bacteremia criteria):
   a) Age 3-6 months
   b) Age 6-12 months, uncircumcised male
   c) Age less than 24 months and female
   d) Age 12-24 months, female and temperature for more than 48hrs
   e) Age 6-24 months and less than 2 pneumococcal immunizations

3. Any child with signs of acute illness accompanying the fever, such as meningeal signs, alteration in neurologic status, lethargy, pain, rash, petechiae, dysuria, swollen joints, or tachypnea after fever control or other signs of respiratory distress.

4 Child appears ill and toxic or lethargic.

5. Child has a history of febrile seizures.

6. Any child who has a fever that lasts more than 3 days.

7. Child with immunosuppression, history of chronic conditions such as heart disease or sickle cell disease.

8. Child with prosthetic devices.

9. Note that failure of fever to respond to antipyretics is not predictive of severity of illness.

10. Child with an unusual exposure history (examples: tick bite, foreign travel, unusual animal exposure, etc.).

11. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR IMPETIGO

DEFINITION

A condition involving the superficial layer of the skin and characterized by honey-colored, crusted lesions or seropurulent vesicles surrounded by a narrow margin of erythema. It occurs in two forms: bullous and nonbullous.

Impetigo may be a complication of insect bites, abrasions or dermatitis. Peak incidence is in late summer and early fall. Impetigo is most common in infants and children.

ETIOLOGY

Currently, the most common organism in crusted and bullous impetigo is *Staphylococcus aureus*. Earlier research suggested that most crusted impetigo was streptococcal in origin. Occasionally, both organisms may be found. Streptococcal impetigo is always crusted; bullous impetigo is virtually never streptococcus. Secondary impetigo is nearly always staphylococcal. Severe cellulitis may be a common complication of impetigo.

MRSA impetigo has been reported but, at this time, is a rare presentation of MRSA.

Impetigo may be spread by direct contact with infected persons or it may be secondary to infections of the upper respiratory tract. The incubation period is 2-10 days. The untreated **client** is contagious until lesions are healed; treatment shortens the period of contagiousness.

Acute glomerulonephritis (AGN) can follow streptococcal infections of either the skin or pharnyx. It can occur at any age and the incidence is variable, ranging from 0 to 28%. The median latent period between infection and the development of AGN is 10 days. It is characterized by hematuria and hypertension. Treatment, even early treatment, does little to prevent the occurrence of AGN in the **client** suffering from impetigo; however, it does reduce the spread of impetigo and therefore the development of AGN in other children.

SUBJECTIVE

1. Superficial lesions, anywhere on the body, commonly begin on face.

2. Itching is common, which may spread the infection.

3. Often a history of minor trauma such as insect bites or scratches, or scabies or herpes simplex lesions, provide an entry for the organism.

OBJECTIVE

1. Superficial clear vesicles are present, containing serous fluid that

becomes purulent. The base is erythematous and lesions are surrounded by areas of erythema. May also observe ruptured pustules that have dried centrally and formed a honey-colored crust.

2. Lesions may vary in size from a few millimeters to several centimeters.

3. May have regional lymphadenopathy, which occurs more often in streptococcal than in staphylococcal infections.

4. Bullous impetigo is characterized by very large vesicles (bullae) that rupture and form circular, raw lesions resembling a second degree burn; these eventually form a crust.

ASSESSMENT Impetigo

PLAN **DIAGNOSTIC STUDIES**

1. Check urine for blood and protein if there is any history of unusually dark (smokey) urine.

2. Check blood pressure.

   Consider skin culture if there is reason to suspect MRSA: cellulitis, history of MRSA infection in the household, history of a local MRSA outbreak, failure to respond promptly to treatment.

THERAPEUTIC

PHARMACOLOGIC

1. Local treatment may be adequate when only one or two lesions are present and there is no fever present.

   a. Remove crusts by gentle washing with warm water and antiseptic soap.
   b. **Mupirocin** 2% ointment (prescription required) should be applied to bullous lesions 3 times a day for 7-10 days.

OR

Retapamulin 1% ointment (prescription required) Children 9 months of age and older: Topical: Apply to affected area twice daily for 5 days. Total treatment area should not exceed 2% of total body surface area.

c. Reevaluate clients not showing a response in 2 to 3 days. May need culture and sensitivity testing.

2. Systemic treatment is used for multiple lesions, widely separated lesions or lesions that are not showing rapid response to local therapy.

a. Cephalexin (Keflex), suspension of 125 or 250 mg/5 mL, or 500 mg capsules. Give 25-50 mg/kg/**day** orally, divided into 2 **equal** doses **every 12 hours** for 10 days or if younger than 1 year of age divided into 3-4 doses**.**

b. For severe infections, dosages may be increased to 50-100 mg/kg/day, divided into **3-4** doses for 10 days. Maximum dose is **4** gm/day.

c. If over 15 years of age, 500 mg orally **twice daily** for 10 days. Severe infections may require higher doses 250-1000 mg every 6 hours; maximum 4 g/day.

NOTE: Do not use keflex if allergic to penicillin or cephalosporins.

OR

b. Cefadroxil (Duricef), 125, 250, or 500 mg/5 mL suspension or 500 mg capsules. Give 30 mg/kg/**day** divided into two daily oral doses for 10 days. Maximum dose 2 gm/day.

Adult dose is 1 gm twice daily for 10 days.

NOTE: Do not use if allergic to penicillin or cephalosporins.

OR

c. **If allergic to penicillin or cephalosporins:** Erythromycin ethylsuccinate (EryPed, EES, Pediamycin) 200 or 400 mg/5 mL suspension or 200 mg chewable or 400 mg film-coated tablets.

Give 30-50 mg/kg/24 hours, orally in **four equally divided doses every 6 hours** for 10 days. **If twice-a-day dosage is desired, one-half of the total daily dose may be given every 12 hours. Doses may also be given three times daily by administering one-third of the total daily dose every 8 hours.** For more severe infections, the dose may be doubled but not to exceed 3.2 gm/day.

NOTE: Give after meals to decrease gastric upset.

Adolescents and Adults weighing 100 lbs or more: 400mg by mouth every 6 hours for 10 days. For more severe infections, the dose may be doubled but not to exceed 3.2 gm/day.

NOTE: Do not use if allergic to macrolides.

3. Treat all family/household members in close contact who also have impetiginous lesions, to avoid reinfection and further spread.

CLIENT EDUCATION/COUNSELING

1. Instruct family and child in hand-washing techniques.

2. Instruct in handling of linen and clothing separate from the rest of household.

3. Instruct in trimming and keeping nails clean.

4. Instruct in soaking and washing of lesions and application of ointment. Soaking is not indicated if treatment is an oral antibiotic.

5. Give parent information about symptoms of glomerulonephritis to observe for: hematuria; periorbital edema; headache; fever; malaise; or “smokey”-colored urine.

6. May return to school after 24 hours of start of oral or IM antibiotic treatment. No **physical education** until fully resolved.

7. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

1. Reevaluate if not showing a response in 2 to 3 days.

2. Recheck in 14 days, or sooner if rash/infection gets worse while on treatment. Note any signs or symptoms of glomerulonephritis (hematuria, periorbital edema, headache, malaise). Check blood pressure. If indicated, check urine for blood and protein (dipstick adequate).

CONSULTATION/REFERRAL

1. If rash is not completely resolved at end of medication regimen.

2. Infants under the age of 2 months.

3. Noncompliance with medication or instructions.

4. If extensive local inflammation or cellulitis.

5. If any signs/symptoms of glomerulonephritis.

6. If multiple recurrences, to evaluate child for nasopharyngeal carriage state of *S. aureus.*

7. Progression after 24 hours of treatment or a culture positive for MRSA.

8. **Pregnant or breastfeeding.**

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STANDARD NURSE PROTOCOL FOR PREVENTION AND TREATMENT OF IRON DEFICIENCY WITH OR WITHOUT ANEMIA

DEFINITION

IRON DEFICIENCY ANEMIA is a condition in which there is a reduction in the number of circulating red blood cells secondary to an insufficient amount of body iron stores.

IRON DEFICIENCY WITHOUT ANEMIA in children under 36 months of age, represents a state of total body iron deficiency that has not yet progressed to frank anemia. Approximately 2/3 of children less than 36 months of age with iron deficiency fall into this category. Iron plays an important role in every cell in the body. Iron deficiency, even without frank anemia, can be detrimental to a child's growth and development.

ETIOLOGY

Anemia may result from excessive blood loss, excessive blood cell destruction, or decreased blood cell formation. The latter anemia may result from inhibition of or loss of, bone marrow function, defective nucleoprotein synthesis (as in pernicious anemia) or deficiency of iron in the diet. The most common anemia in children is iron deficiency anemia. **Healthy People 2020 includes the following** statistics **for the years 2005 to 2008**: Ages 1-2 years **– 15.9**% iron deficient**, ages 3-4 years – 5.3% iron deficient, females ages 12-49 years – 10.4% iron deficient. Healthy People 2020 goals are to reduce these rates to 14.3% in 1-2 year old children, 4.3% in 3-4 year old children and 9.4% in 12-49 year old females.**

Most children with iron deficiency are not anemic. Iron deficiency anemia represents the most severe end of the iron-deficiency spectrum. There is evidence that substantial iron deficiency during infancy and early childhood can have long term neurocognitive implications**, and it is likely that by the time iron-deficiency progresses to anemia the neurological consequences have already occurred. Some of these neurodevelopment and behavior effects may be irreversible.** It is, therefore, imperative that iron deficiency be prevented, and if not prevented then diagnosed early and treated aggressively.

Subsets at increased risk for iron deficiency include: infants of diabetic mothers, preterm infants and infants with growth restrictions; breastfed infants older than 6 months not receiving iron supplementation, children living at or below the poverty level, adolescents on low- or no-meat diets and postmenarchal girls.

SUBJECTIVE

1. May be asymptomatic.

2. May report:

a. Poor appetite, inadequate diet, or anorexia.
b. Irritableness or fussiness.
c. Excessive aspirin or antacid consumption.
d. History of intestinal parasites.
e. History of blood loss including GI bleeding or nose bleeds.
f. History of sickle cell anemia or thalassemia.
g. **Easy fatigue ability,** listlessness, decreased social interaction, poor attention to tasks, developmental delays.
h. Pica (**can be a symptom of** iron deficiency anemia **and/or** lead poisoning; iron deficiency anemia **increases risk for lead poisoning).**
i. Excessive milk/dairy intake and limited intake of iron-containing foods.
j. Poor weight gain.
k. Headaches.
l. Gestational severe maternal iron deficiency, maternal hypertension and maternal diabetes mellitus.
m. Infants six months and older and exclusively fed human milk without iron supplementation (e.g. iron fortified cereals, oral iron, pureed meats).
n. Consumption of cow milk in infancy.
o. Heavy menstrual blood loss (greater than or equal to 80mL per month).

OBJECTIVE

1. **In Iron Deficiency Anemia:**
   a. Hemoglobin/hematocrit below acceptable values (see chart on pages **8.77- 8.78**).

2. **In Iron Deficiency without Anemia for children less than 36 months old:**
   a. Hgb will be in the low-normal range, usually less than 11.5 gm/dL (see chart on pages 8.77- 8.78).

3. Skin pallor; pale mucous membranes.

4. Elevated blood lead level. (Obtain lead level if **indicated reference Georgia Childhood Lead Poisoning Prevention Program Guidelines.)**

5. Premature **(less than 37 weeks gestation)** or low birth weight **(less than 2,500 gm).**

6. Check stool for occult blood if abnormal stool history (tarry, bloody, chronic diarrhea).

7. Check Georgia newborn screening results (and other states as

available) for sickle cell and other hemoglobin variants.

ASSESSMENT

1. Iron deficiency anemia, presumptive **if hemoglobin or hematocrit are below acceptable values and** if:

   a. No suggestion of sickle cell, thalassemia or other chronic illness including recurrent nosebleeds;
   b. No recent infections or inflammatory conditions
   AND
   c. 3 negative stools for occult blood (if performed).

2. A diagnosis of iron deficiency anemia can be **confirmed** following a presumptive diagnosis, if **after iron supplementation** the hemoglobin increases **by at least 1.0 gm/dL or the hematocrit increases by more than 3% in one month.**

NOTE: Iron deficiency anemia may coexist when there is GI bleeding, chronic nosebleeds, lead poisoning or other chronic illness. However, these underlying causes should be addressed, usually by a referral, and the diagnosis of iron deficiency will commonly include a full CBC and reticulocyte count and, possibly, a serum iron measurement. Simple dietary iron-deficiency anemia is most common under 30 months of age. When iron deficiency anemia is identified after 30 months of age more aggressive efforts should be made to identify causes other than simple dietary deficiency such as occult GI blood loss or malabsorption.

3. Iron deficiency without anemia presumptive in a child less than 36 months with a Hgb less than 11.5 gm/dL if:

   a. No suggestion of sickle cell, thalassemia or other chronic illness including recurrent nosebleeds;
   b. No recent infections or inflammatory conditions;
   AND
   c. 3 negative stools for occult blood (if performed).

4. A diagnosis of iron deficiency without anemia can be made with certainty following a presumptive diagnosis, if the hemoglobin increases by 0.5 gm/dL after iron supplementation for 4-6 weeks.

PLAN

THERAPEUTIC

PHARMACOLOGIC

Treatment

1. **For Iron Deficiency with or without Anemia: e**lemental

iron, orally, between meals**.** See accompanying chart (pages .**8.77-8**.**78**) for age-appropriate dose **of 3 to 6 mg/kg/day of elemental iron**. If compliance is a problem, the entire daily dose may be given as a single dose, with a meal. **Do not give if client has sickle cell or hemoglobin variants.**

2. Ideally, take iron supplement on an empty stomach to increase absorption. If gastric upset occurs, may take supplement after a meal or on a full stomach. See Client Education.

3. Recheck hemoglobin/hematocrit after 4 weeks of treatment to assess for therapeutic progress and emphasize compliance.

   a. **Iron Deficiency Anemia:** An increase in Hgb of 1gm/dL or more; or Hct 3% or more confirms the diagnosis of iron deficiency anemia.
   b. If confirmed, reinforce dietary counseling, continue iron treatment for 2 more months then recheck hemoglobin or hematocrit.
   c. **Iron Deficiency without Anemia in child less than 36 months old: If hemoglobin increased by 0.5gm/dL, continue iron supplementation for 2 months and recheck hemoglobin at that time.**

Prevention:

4. For prevention of Iron Deficiency in a term breastfed infant who by age 6 months, does not receive sufficient iron from supplementary foods (e.g., greater than or equal to 2 servings of iron-fortified infant cereal), suggest iron drops 1 mg/kg daily of elemental iron until iron-containing complementary foods have been introduced.

NON-PHARMACOLOGIC MEASURES

1. Dietary counseling for iron deficiency anemia in children. Give list of iron-rich and vitamin C-rich foods. Reduce excessive dairy intake. **(e.g., Food Sources of Iron in WIC manual).**

2. Refer to **nutritionist and/or** WIC if child is under 5 years old and meets criteria.

CLIENT EDUCATION/COUNSELING

1. Poison control safety counseling; large doses of iron are poisonous. Store all medications out of reach of children.

2. The appropriate dose should be taken on an empty stomach; if GI upset occurs, advise to take after meals, with 4 oz. of vitamin C-rich juice (orange, pineapple, tomato, grapefruit or apple juice fortified with vitamin C) to increase absorption of iron and decrease gastric irritation. Taking iron with food can decrease the iron absorption by at least 50%. However, this may be preferred if compliance becomes a problem because of gastric discomfort when taking iron between meals. If iron must be given with food for improved compliance then avoid milk (including soy milk), milk products, **tea,** and cereals.

3. **The American Academy of Pediatrics supports exclusive breastfeeding for the first 4 to 6 months of life; if formula fed, only iron-fortified formula should be used.**

4. **Do not feed cow milk during first year of life.**

5. **For children ages 1 to 5 years: suggest limiting their daily total intake of cow's milk, goat's milk or soy milk to no more than 24 oz. per day.**

6. Eat nutritious meals and snacks; limit low nutrient density foods**.**

7. Iron containing liquids may temporarily stain the teeth (enamel is not affected). Can drink liquid iron preparations in water or juice and through a straw to prevent tooth staining.

8. Iron can cause black stools, constipation or diarrhea.

9. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

1. Repeat hemoglobin/hematocrit levels at two-month intervals.

2. **Continue iron supplementation for 2 to 3 months after hemoglobin/hematocrit has normalized.**

3. Reassess approximately 6 months after successful treatment is completed.

4. **For client with recent infection or inflammatory condition reassess Hgb/Hct in 4 weeks and follow interventions as per protocol.**

CONSULTATION/REFERRAL

1. For client with presumptive iron deficiency anemia, refer to physician if treatment has been given as directed and Hgb/Hct levels **are not improving or** have not returned to normal values after **one to two** months.

2. For client less than 36 months of age, with presumptive iron deficiency without anemia, refer to physician for further evaluation if treatment has been given as directed and Hgb is not improving or does not increase by 0.5 gm/dL after one month.

3. Consult with physician for any irregularity in response to therapy.

4. Refer if known HIV positive.

5. Chronic nosebleeds and/or GI bleeding.

6. **For prevention of iron deficiency, in breastfed preterm or low birth weight infant between 1 and 12 months of age and not receiving oral iron supplementation, refer to physician for iron supplementation evaluation.**

7. **For prevention of iron deficiency, in formula fed preterm infant in first year of life, and not receiving oral iron supplementation or vitamin preparation with iron, refer to physician for evaluation.**

8. **Infant less than 6 months of age with abnormal hemoglobin or hematocrit.**

9. **All ages with hemoglobin less than 9 grams or hematocrit less than 27%.**

10. **Presence of sickle cell or other hemoglobin variants.**

11. **For female client 18 years and over in Women's Health Program – see Standard Nurse Protocol for Iron Deficiency Anemia With or Without Anemia.**

Georgia D**epartment** of **Public Health** – Comprehensive Child Health Services Unit
Recommended Guidelines for Iron Supplementation (a)

Age	Weight Range (b)						
High risk infant Birth through 5 months	Variable	Premature and low birth-weight Infants, infants of multiple birth, and infants with suspected blood losses should be screened before 6 months of age, preferably at 6-8 weeks postnatal.					
	7 lbs - 17 lbs	Routine screening for iron deficiency anemia is not recommended in the first six months of life.					
		Hemoglobin		Hematocrit		Treatment Regimen (c), (d)	
Age	Weight Range (b)	Acceptable Value	Treatment Value	Acceptable Value	Treatment Value	Dosage	Daily Elemental Iron (Milligrams)
6 mos. through 11 mos.	16 lbs - 22 lbs	≥11.0 gms	10.9 gms or lower	≥ 32.9%	32.8% or lower	15mg/0.6 **mL** Ferrous Sulfate Drops bid	15 mg bid (30 mg daily)
12 mos. through 23 mos.	21 lbs - 28 lbs	≥11.0 gms	10.9 gms or lower	≥ 32.9%	32.8% or lower	15mg/0.6 **mL** Ferrous Sulfate Drops bid	15 mg bid (30 mg daily)
2 Years through 4 Years	26 lbs - 42 lbs	≥11.1 gms	11.0 gms or lower	≥ 33.0%	32.9% or lower	1.2 **mL** of 15mg/0.6**mL** Ferrous Sulfate Drops bid or ---------- 1 Ferrous Fumerate Chewable Tabs bid	30 mg bid (60 mg daily) or ---------- 33 mg bid (66 mg daily)
5 Years through 7 Years	40 lbs - 56 lbs	≥11.5 gms	11.4 gms or lower	≥ 34.5%	34.4% or lower	1 Ferrous Sulfate Tab every day	60 mg every day (60 mg daily)
8 Years through 11 Years	54lbs - 90 lbs	≥11.9 gms	11.8 gms or lower	≥ 35.4%	35.3% or lower	1 Ferrous Sulfate Tab every day	60 mg every day (60 mg daily)

a) Source: Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report. April 3, 1998, Vol. 47, No. RR-3.
b) Source: Growth Charts, Standardized. Department of Health and Human Services, National Center for Health Statistics.
c) Refer to the package insert of iron preparation to correctly calculate the appropriate dosage of elemental iron. Most pediatric chewable preparations (i.e. Foestat, 100 mg) contain 33 mg elemental iron per tablet as ferrous fumarate. Non-chewable preparations for older **clients (**i.e. Feosol, 300 mg) contain 60-65 mg of elemental iron per tablet or capsule as ferrous sulfate. There are many dosage forms of iron, make sure that the correct amount of elemental iron is prescribed. Many different concentration products are available in all forms (liquid, tablet). The doses for the liquid product referred to in the chart are based on the solution concentration of 15mg/0.6ml.
d) Treatment of iron deficiency anemia is 3 **to 6** mg per kilogram per day.

Georgia D**epartment** of **Public Health** – Comprehensive Child Health Services Unit
Recommended Guidelines for Iron Supplementation (a)

		Hemoglobin		Hematocrit		Treatment Regimen (c),(d)	
Age	Weight Range (b)	Acceptable Value	Treatment Value	Acceptable Value	Treatment Value	Dosage	Daily Elemental Iron (Milligrams)
12 Years through 14 Years (Male)	88 lbs - 125 lbs	≥12.5 gms	12.4 gms or lower	≥37.3%	37.2% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)
12 Years through 14 Years (Female)	92 lbs - 118 lbs	≥11.8 gms	11.7 gms or lower	≥35.7%	35.6% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)
15 Years through 17 Years (Male)	125 lbs - 152 lbs	≥13.3 gms	13.2 gms or lower	≥39.7 %	39.6% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)
15 Years through 17 Years (Female)	118 lbs - 125 lbs	≥12.0 gms	11.9 gms or lower	≥35.9 %	35.8% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)
18 Years or older (Male)	152 lbs and above	≥13.5 gms	13.4 gms or lower	≥39.9 %	39.8% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)
18 Years or older (Female)	125 lbs and above	≥12.0 gms	11.9 gms or lower	≥35.7 %	35.6% or lower	1 Ferrous Sulfate Tabs bid	60 mg bid (120 mg daily)

a) Source: Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report. April 3, 1998, Vol. 47, No. RR-3.
b) Source: Growth Charts, Standardized. Department of Health and Human Services, National Center for Health Statistics.
c) Refer to the package insert of iron preparation to correctly calculate the appropriate dosage of elemental iron. Most pediatric chewable preparations (i.e. Foestat, 100 mg) contain 33 mg elemental iron per tablet as ferrous fumarate. Non-chewable preparations for older clients (i.e. Feosol, 300 mg) contain 60-65 mg of elemental iron per tablet or capsule as ferrous sulfate. There are many dosage forms of iron, make sure that the correct amount of elemental iron is prescribed. Many different concentration products are available in all forms (liquid, tablet). The doses for the liquid product referred to in the chart are based on the solution concentration of 15mg/0.6ml.
d) Treatment of iron deficiency anemia is 3 **to 6** mg per kilogram per day.

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STANDARD NURSE PROTOCOL FOR OTITIS EXTERNA

DEFINITION

Inflammation of the external auditory canal and auricle caused by a variety of infectious agents.

ETIOLOGY

The most common cause of otitis externa is accumulation of water in the ear, leading to maceration and desquamation of the lining and conversion of the pH from acid to alkaline (e.g., swimming or frequent showers). It also may be initiated by trauma from scratching (fingernail or cotton-tipped applicator) or poorly-fitting earplugs for swimming. It may also accompany the chronic drainage from a perforated eardrum.

NOTE: It is unusual for an infant to be diagnosed with otitis externa. Before making this diagnosis in an infant, other causes of ear drainage and pain should be ruled out, including perforated otitis media and mastoiditis.

Common causative agents are *Staphylococcus*, *Pseudomonas* species and fungi, such as *Candida albicans*.

SUBJECTIVE

1. Pain and itching in ear(s).
2. Purulent discharge from ear.
3. Occasionally, decrease in hearing, or a sensation of obstruction in the ear(s).

OBJECTIVE

1. Pain aggravated by movement of the pinna tragus (the most common finding).
2. Ear canal may be swollen and erythematous. The client may be resistant to any attempt to insert an ear speculum.
3. Debris and exudate may be seen in the canal; the drum may be impossible to visualize in severe cases.
4. Pre-auricular and/or post-auricular lymph nodes may be enlarged.
5. Swelling or pain over the mastoid should not be observed in uncomplicated otitis externa.

ASSESSMENT Otitis externa

PLAN **DIAGNOSTIC STUDIES**

NOTE: Tympanogram is contraindicated due to pain and need to avoid pressure.

THERAPEUTIC

Therapy centers around the basic principles of: local cleaning of debris and drainage of infection; restoration of the normal acidic protective barrier; judicious use of appropriate local and/or systemic antibiotics; and client education to prevent recurrent infection. Local cleaning is regarded by most otolaryngologists as an essential component of treatment. This is not easily accomplished in small children because of the tenderness of the ear canal. If the child will tolerate gentle irrigation with warm, dilute (1:1) peroxide solution, that would be beneficial. If not tolerated, but the canal is not totally obscured by exudates, it is reasonable to treat with antibiotic drops as advised below and follow-up by telephone in 24 hours. If there has been no improvement, then referral for debridement and instillation of a wick would be indicated.

PHARMACOLOGIC

NOTE: Desquamated epithelium and moist cerumen may need to be removed by gentle irrigation before treatment.

1. For those **clients** with an intact tympanic membrane:
   a. Cortisporin otic **suspension** (not the **solution**), instill 3 drops in affected ear canal 3-4 times a day for 10 days

      OR

   b. Children 1 year of age or older, Cipro HC otic suspension, 3 drops in the affected ear canal twice daily for 7 days.

2. **For each medication above, the bottle of medication should be warmed in hands for 1-2 minutes. Shake suspension well immediately before use.** The head should lie with the affected ear upward for medication instillation, and stay in that position for 1- 5 minutes to facilitate penetration of the drops into the ear canal.

3. May take age-appropriate doses of acetaminophen or ibuprofen for pain.

NON-PHARMACOLOGIC MEASURES

Preventing external otitis may be necessary for individuals susceptible to recurrences, especially children who swim. The most effective prophylaxis is to place ethyl alcohol 70% 1:1 solution with acetic acid 2% (household white vinegar) in the ear canal immediately after swimming or bathing. **OTC commercially prepared drops (such as Swim Ear and Auro-Dry) are also available. Place 4 to 5 drops into affected ears after bathing, showering and swimming.**

CLIENT EDUCATION/COUNSELING

1. Counseling is provided regarding the causes of otitis externa, administration of ear drops, and signs and symptoms which indicate the need for further evaluation.

2. Swimming, particularly during the acute phase, should be avoided. Bathing should be done in such a way as to keep the head out of the water, to avoid introducing soapy water and dirt into the ear canal.

3. Keep fingers and instruments (e.g., cotton swabs) out of the ear canals. There is no need to clean canals with swabs.

4. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

Follow-up visit in one week to assess and document effect of treatment.

CONSULTATION/REFERRAL

1. Severe pain, fever or swelling of canal extensive enough to prevent instillation of drops. A cotton wick may be required.

2. Cellulitis of ear or surrounding tissue.

3. Clients with diabetes or other conditions predisposing them to more severe infection.

4. Failure to respond to treatment in 3 days (24 hrs if significant exudate was present and local debridement was not tolerated).

5. More than one recurrence.

6. History or evidence of local sensitivity to neomycin in ear drops.

7. Tympanic membrane is perforated, not intact or not visualized.

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STANDARD NURSE PROTOCOL FOR PEDICULOSIS CAPITIS (Head Lice)

DEFINITION Infestation of the scalp hair by head lice (*Pediculus humanus capitis.)* Most commonly occurs in school-age children.

ETIOLOGY Head lice feed on human blood; they do not live on pets. They are about the size of a sesame seed and do not fly or jump, but crawl very quickly. Females lay eggs (nits) embedded in water-insoluble glue that adheres the eggs to the hair shaft. Nits hatch in approximately **7** to **12 days. Nymphs must feed within hours after hatching to survive**. **After hatching nymphs reach adult stage in 9 to 12 days. Females can begin laying eggs 1.5 days after reaching adulthood.** Head lice **survival time away from a human host is 6-26 hours**. Transmission occurs **primari**ly by direct **head-to-head** contact with an **actively** infested person, **and much less frequently** by contact with infested objects such as hairbrushes, head gear, clothing, carpets, upholstered furniture and beds.

SUBJECTIVE

1. Itching.
2. Rash.
3. Nits or adult lice seen.
4. May give history of exposure to lice.

OBJECTIVE

1. Identification of **live** lice or **viable** nits attached to head hair, eyebrows or eyelashes. Adult lice are hard to find, usually **less** than 1**2**/**client**. Nits are grayish white to brown in color. Hatched nits (empty egg cases) are translucent. Common sites are the back of the head and behind the ears. Nits are firmly attached to the hairs and cannot be moved up and down the hair shaft like hair casts, scales and dandruff. Recently laid nits are usually, but not always close to the scalp.
2. Small red papules or secondary excoriations.
3. Occipital or cervical lymphadenopathy may be present.

ASSESSMENT Pediculosis capitis (Head lice)

PLAN **THERAPEUTIC**

PHARMACOLOGIC

Instruct pregnant or breastfeeding females **to** consult **with** their physician before using any pediculocides. Instruct person applying pediculocide to wear gloves to avoid direct contact with product.

1. For clients with active infestatons and not suspected to have head lice resistant to permethrin or pyrethrins:

a. Permethrin 1% cream rinse (nonprescription NIX®). Although NIX® is FDA approved for infants at least 2 months old, Non-Pharmacologic methods should be attempted first. Do not use NIX® on clients who are allergic to synthetic pyrethroid or pyrethrin, **or** any of its components or chrysanthemums.

1) Apply NIX® to shampooed **(using nonconditioning shampoo)**, rinsed and towel dried hair. Hair should be damp, not wet. Saturate **the** hair and scalp with Nix crème rinse. **Not using enough pediculocide can result in treatment failure. Keep NIX® out of eyes, nose and mouth. Keep eyes closed and protect with a washcloth.** Leave on for 10 minutes but not longer. Rinse **NIX® out** with warm water and towel dry.
2) Follow Therapeutic measures in Non-Pharmacologic section.
3) Treatment with NIX® may temporarily exacerbate pruritus, erythema, or edema. Clients may experience mild transient burning/stinging, tingling, numbness, or scalp discomfort. If any reaction persists, refer client to a private care provider.

4) **Re-treatment on day 9 is recommended to kill any surviving hatched lice.**

OR

b. Pyrethrins with piperonyl butoxide (**such as** nonprescription A-200®, Pronto® and RID® shampoo. Do not use on **clients** allergic to pyrethrins, chrysanthemums or ragweed. (Only FDA approved for children age 2 and older).

1) Begin with completely dry hair. Saturate hair **and** scalp with solution. **Not using enough pediculocide can result in treatment failure.** Wait 10 minutes, but not longer, add warm water to form lather, and rinse thoroughly. **Keep product out of eyes, nose and mouth. Keep eyes closed and protect with a washcloth.**
2) Follow Therapeutic measures in Non-Pharmacologic section.
3) Re-treatment is recommended on day 9 to kill any hatched lice.

2. **For clients with active infestations of head lice suspected to be resistant** to permethrin and pyrethrins:

a) Malathion (e.g., prescription Ovide). Do not use on **clients** under age 6 years **OR those with asthma**. Direct supervision of an adult is required.
1) Apply **carefully** to dry hair; **completely saturate the scalp and hair. Change child into clean clothing once the malathion has been applied. Keep product out of eyes, nose and mouth. Keep eyes closed and protect with a washcloth.**
2) Allow hair to dry naturally; do not use **a hair dryer or other** electric heat source. Malathion is flammable. Warn to stay away from lighted cigarettes, open flames, and electric heat sources. Do

not cover head with a cap or other occluding material.

3) **Consider applying at bedtime and covering the sleeping pillow with a towel.** Leave on eight (8) hours, then shampoo and rinse thoroughly.

4) Malathion is highly ovicidal, but may not kill all lice eggs. If live lice are seen in 7 to 9 days, repeat Malathion treatment.

3. For infestation of the eyelids or eyebrow, do not use pediculocides. Apply petrolatum ointment to eyelid margins or eyebrow 3 to 5 times daily for 8-10 days, followed by removal of nits.

4. Mild topical antipruritic/anti-inflammatory cream or ointment may be obtained over-the-counter for itching. (May interfere with effectiveness of **topical treatment**).

5. Evidence of secondary infection requires systemic antibiotic treatment. The **client** should be assessed for impetigo treatment or physician referral.

NOTE: Manual removal of nits is advised because pediculocides are not 100% ovicidal, resistance to pediculocides is increasing, **and to avoid diagnostic confusion; which can result in overtreatment with pediculocides. Successful elimination and prevention of head lice infestation is important in effort to limit exposure to pediculocides, which are costly and in some cases ineffective.** Additionally, in a recent study, these products were found in the urine of school children in Georgia, and the long term effects of exposure to pediculocides is unknown.

NON-PHARMACOLOGIC MEASURES

1. Remove nits with a nit comb working through very small sections of hair at a time. Fine toothed metal combs specifically made for removing nits work better for most persons. **Be sure to comb the hair close to the scalp where most unhatched nits will be located. Wet hair combing is recommended over dry hair combing.**

NOTE: Wet hair may slow the lice making them easier to find and remove. Dry combing can cause a build-up of static electricity which has been reported to physically eject an adult louse from the head more than 1 meter.

Check for lice and nits on the comb, and clean the comb often. The hair should be combed thoroughly and meticulously, focusing on small areas of hair at a time. Use good lighting and look carefully for lice and nits by parting off small sections of hair. If possible check outside in daylight. Remov**e any lice and** nits found**. Continue daily nit combing on wet hair, checking for any new lice or nits that were missed; continue for 2-3 weeks until lice and nits are no longer found.**

2. **It is important that all other close contacts are checked by a trained person and treated if active infestation is found. If possible, treat all infested persons at the same time. If checking close contacts by a trained person is not practical, advise combing wet hair with a nit comb and then checking the teeth of the comb, to improve detection of live lice and nits.**

3. **Environmental interventions are directed towards items that the infested person has been in contact with during the 48 hours prior to treatment.**

   a. Launder clothing, bedding, towels and other items that have been used by the infested person in the past 2 days in hot water and/or dry on high heat **for 20 minutes. Items that are not washable can be dry cleaned or** sealed in a plastic bag **and stored** for 2 weeks**.**
   b. Vacuum **furniture**, floorings, car seats **and other fabric covered items.** Fumigation of the home is not recommended, and can be toxic.
   c. Soak brushes, combs and hair accessories in hot water (at least 130 degrees F) for 10 minutes.

CLIENT EDUCATION/COUNSELING

1. **Instructions vary for pediculocide products. Follow product instructions. If re-treatment is recommended in 7 to 10 days, re-treat on day 9.**

2. **Stress importance of checking** all other close contacts **and treating** infested **contacts** at the same time to prevent re-infestation.

3. **Do** not use conditioners, shampoo/conditioner combinations or crème rinses on hair prior to treatment. **Do not re-wash hair for 1-2 days after the lice medication is removed.**

4. Teach **importance of using pediculocides as instructed. It is important to completely saturate the hair and scalp with pediculocide, be sure to include behind the ears and at the back of the neck.**

   NOTE: Inadequate treatment can sometimes be mistaken for drug resistance.

5. **Do** not **get** pediculocides and other chemicals in the eyes, **nose or mouth**. Cover eyes with towel. Instruct child to close eyes tightly. **If pediculocides gets in the eyes,** flush the eyes with large amounts of **cool** water immediately **and seek medical care.**

6. **Using vinegar: water solutions and other products after NIX may interfere with effectiveness and are not recommended.**

7. **Using a hair dryer alone, will not eliminate a head lice infestation. Malathion is flammable.**

8. **Home remedies to control head lice, (e.g., vinegar, mayonnaise, petroleum jelly, olive oil, isopropyl alcohol, butter and water submersion up to 6 hours have not been proven effective in killing lice or eggs). Lice do not have air sacs or lungs and are not easily suffocated. Lice can survive for prolonged periods without air.**

9. **Chemicals such as gasoline and kerosene, or animal products should never be used.**

10. **Do not use more than one pediculocide product at a time.**

11. Itching may persist for 1-2 weeks even after adequate treatment, and should not be considered a reason for reapplication of medication.

12. **Avoid head-to-head or hair-to-hair contact. This is the most common** mode of transmission**. Other ways to** prevent transmission **include:**

    a. Do not share combs, brushes or head gear/coverings with other persons.
    b. Hang coats where they do not touch those of other persons.
    c. **Do not lie on furniture, pillows, stuffed animals or other items that have recently been used by an infested person.**
    d. Practice good handwashing and cleaning under fingernails to prevent transmission especially after scratching.

13. **General Hair Care Recommendations**

    a. Shaving a child's head or cutting the hair very short is not necessary to eliminate the infestation. This can be distressing, especially to young girls and has the potential to carry a social stigma with it.

    b. Modest shortening of the hair to a length acceptable to both the child and the parent will make combing easier.

14. Assure that head lice infestation is a common problem in the school-age population and affects children of all socio-economic groups.

15. Instruct caregiver that child may return to daycare or school the next day after first treatment for head lice. It is not recommended that child be excluded from school based on the presence of nits.

16. Teach as with all medications, to keep pediculocides safely stored, locked out of reach of children.

17. Contact clinic if any problems obtaining medications or questions about treatment.

18. Return to clinic if active infestation is suspected after completion of treatment.

FOLLOW-UP

1. Assess if infestation is active.

2. **Evaluate compliance with treatment plan and response to therapy. Possible reasons for treatment failure include: inadequate treatment, resistant lice, re-infestation.** Re-treatment may be necessary. **Reinforce teaching**. Consider use of an alternate regimen if not responding to treatment.

CONSULTATION/REFERRAL

1. Consult with physician regarding any question of management.

2. Pregnant or breastfeeding client.

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STANDARD NURSE PROTOCOL FOR PHARYNGITIS

DEFINITION Inflammation of the pharynx, and surrounding lymph tissue (tonsils).

ETIOLOGY Viral causes:

1. Adenoviruses.
2. Coronaviruses.
3. Enteroviruses.
4. Rhinoviruses.
5. Respiratory syncytial virus (RSV).
6. Herpes simplex virus (HSV).
7. Herpangina caused by Coxsackie virus and echovirus.
8. Hand-foot-and-mouth disease caused by Coxsackie virus.
9. Infectious mononucleosis caused by Epstein-Barr virus.
10. Human immunodeficiency virus (HIV).

Bacterial causes:

1. *Group A beta-hemolytic streptococcus* (most frequent bacterial cause).
2. *Neisseria gonorrhoe*ae.
3. *Corynebacterium diphtheriae.*
4. *Group C Streptococcus*.

Other causes:

1. *Mycoplasma pneumoniae*.
2. *Candida albicans*.
3. Kawasaki Disease.
4. Noninfectious causes:
   a. Allergic rhinitis or post-nasal drip.
   b. Mouth breathing.
   c. Trauma.
   d. Exposure to irritants such as cigarette smoke/marijuana.

SUBJECTIVE Client may complain of:

1. Sore throat, difficulty swallowing, sudden onset of fever, headache, abdominal pain, vomiting and malaise.

2. Small oral vesicles or ulcers on tonsils, pharynx, or posterior buccal mucus.

OBJECTIVE

1. Pharyngitis due to *Group A beta-hemolytic streptococcus* (common in school-

age children; uncommon if less than 3 yrs old):

a. Fever.
b. Erythematous pharynx and tonsillar area, often with white or yellow exudate.
c. Anterior cervical lymph nodes are often tender and enlarged.
d. Improper antimicrobial treatment, can lead to serious suppurative (direct extension from pharynx) and nonsuppurative complications arising from immune responses to acute infections (rheumatic fever).
e. A scarlatiniform rash (selected strains) – a blanching erythematous rash with a sandpaper texture that is diffusely distributed but is most prominent in the intertriginous areas.

2. Viral pharyngitis:
   a. When multiple small ulcerations are present on examination, this is diagnostic for a viral stomatitis/pharyngitis (usually Coxsackie). Strep will not cause these ulcerations.
   b. Significant respiratory symptoms (cough, rhinorrhea, congestion) strongly suggest, but do not prove, a viral etiology.
   c. All of the typical findings described for strep pharyngitis above may be present with viral pharyngitis (exudates, nodes, abdominal pain, vomiting, headache). A rash may also accompany a viral pharyngitis. However, it is not generally a 'scarlatiniform' rash; therefore, unless ulcerations are present, it is critical to understand that a viral pharyngitis cannot be distinguished from a strep pharyngitis without laboratory testing.

3. Pharyngitis caused by *Corynebacterium diphtheriae*:
   a. Gray pseudomembranous exudate on the nasal mucosa, tonsils, uvula or pharynx.
   b. Bleeding occurs when membrane is removed.

4. Pharyngitis caused by *Neisseria gonorrhoeae:*
   Usually asymptomatic. Discovered as part of an evaluation of a child for sexual abuse. Also consider: clients who practice orogenital sex, sexually active adolescents.

5. Pharyngitis caused by *Mycoplasma pneumoniae*:
   (Uncommon in children less than 5 years of age; common in school age children, adolescents and young adults.)

Signs and symptoms indistinguishable from streptococcal disease unless there is concurrent pneumonia. (Group A and group B streptococci are rarely the causative agents of pneumonia, except in neonates and severely debilitated clients.)

6. Pharyngitis caused by *Candida albicans*:
   a. Filmy, or patchy, white exudate on mucous membranes, Difficult to remove by scraping, causing bleeding.
   b. May have history of antibiotic use, steroid use or are immunocompromised.

7. Peritonsillar abscess (most common in adolescents following tonsillitis):
   a. Begins with typical symptoms e.g., sore throat, fever, dysphagia, malaise, poor appetite. Characterized by muffled 'hot potato' voice, and trismus (contraction of masseter muscles).
   b. PE findings include an asymmetric tonsillar bulge, with swelling into the soft palate and displacement of uvula.
   c. Lymph node enlargement and tenderness common.

8. Pharyngitis due to infectious mononucleosis (mono):
   a. Symptoms and objective findings similar to those for streptococcal pharyngitis.
   b. Spleen may be enlarged.

ASSESSMENT

Pharyngitis: Group A Streptococcal or Viral if none of the following apply:

- Immunocompromised.
- Unimmunized against diphtheria.
- Suspected sexual abuse.
- Signs/symptoms suggesting pneumonia.
- H/O pharyngeal trauma.
- Trismus, neck stiffness, asymmetry of tonsils.

NOTE: If any of the above applies, then referral is indicated.

PLAN

DIAGNOSTIC STUDIES

1. If multiple small ulcers are present on examination, then viral pharyngitis may be assumed. No testing is necessary.

2. Collect specimens for a rapid strep test and throat culture at the same time. If the rapid strep test is negative (may be falsely negative in approximately 10% of cases) and suspicion is high, send throat culture to laboratory. If the rapid strep test is positive, then the swab for culture may be discarded. To maximize yield, both tonsils and the posterior pharynx should be swabbed.

3. Consider Monospot test if client has been ill for at least 5-7 days.

4. Consider CBC with differential. Atypical lymphocytes are seen with mononucleosis.

THERAPEUTIC

PHARMACOLOGIC

1. For presumed viral pharyngitis (presumed based on multiple small ulcers OR a negative rapid strep test), treatment is symptomatic. NOTE: The diagnosis of viral pharyngitis is ‘presumed’ pending a reliable and prompt culture result. If reliable and prompt (within 3 days of culture) is in doubt, then antibiotic treatment should be considered as described below. Update client allergy information before ordering medications.

2. Additional factors that would weigh in favor of such ‘expectant’ treatment would be:
   a. close contact with a proven case of strep pharyngitis,
   b. a very typical scarlatiniform rash
   c. unreliable follow-up.

3. Antibiotic treatment for strep throat, if positive throat culture or positive antigen-detection test.

Antibiotic Treatment for Possible and Probable Strep Throat
NOTE: If positive throat culture or positive antigen-detection test.

Antibiotic	Dosage	Duration/Comments
Penicillin V 125 mg/5 mL suspension 250 mg/5 mL suspension 250 mg tablets **OR**	Child ≤ 27 kg**:** 250mg PO bid Child > 27 kg/adult: 500mg PO bid	10 days
Amoxicillin 125mg/5mL suspension 250mg/5mL suspension 250 mg chewable tabs **OR**	Child > 3 months: 50mg/kg/day PO once daily, maximum of 1000mg	10 days
Benzathine penicillin G (When compliance with oral med a concern) **OR**	Child ≤ 27kg: 600,000 units IM x 1 Child >27kg/adult: 1,200,000 units IM x 1	- Observe for 30 minutes after injection, for possible anaphylaxis - To reduce discomfort, bring medication to room temperature before injecting
For penicillin**-**allergic clients:		
Azithromycin (Zithromax) 100mg/ 5mL suspension 200mg/5mL suspension 250mg capsule **OR**	Child ≥ 2 years**:** 12 mg/kg/day PO as a single dose to a max of 500mg	5 days
Cephalexin **125mg/5mL suspension** **250mg/5mL suspension** **250mg capsules or tablets** **500mg capsules or tablets**	**Child 1>year: 25-50 mg/kg/day in equally divided does every 12 hours to a max of 500mg twice per day**	**10 days** **-To be avoided in those with immediate (type I) hypersensitivity to a penicillin**
Clarithromycin 125mg/5ml 250mg/5mL 250mg tablets	Child ≥ 6months: 7.5 mg/kg every 12 hours [maximum, 250 mg twice per day]	10 days

OR		
Clindamycin 75mg/5mL 75mg capsule 150mg capsule	Infant/Child/Adult: 20 mg/kg/day divided in 3 doses [maximum, 1.8 g/day]	10 days

CLIENT EDUCATION/COUNSELING

1. Seek health care immediately if the pain becomes more severe or if dyspnea develops, or if drooling, stiff neck, possible dehydration, difficulty swallowing, or inability to fully open the mouth occurs.

2. Increase fluid intake.

3. Warm saline gargles, lozenges, or hard candy may help soothe sore throat.

4. May use acetaminophen or ibuprofen for pain relief – see acetaminophen & ibuprofen dosage charts. Counsel to not use acetaminophen and ibuprofen in alternating fashion.

5. Teach parents to read labels and find other sources of acetaminophen that are often in over the counter medications and can cause toxicity.

6. Clients with streptococcal pharyngitis may return to school or work after they have been on antibiotic therapy for a full 24 hours. Clients with presumed viral pharyngitis may return to school when afebrile and able to participate in activities without undue fatigue or discomfort.

7. Teach importance of completing entire course of antibiotics even if client is feeling better (important to prevent rheumatic fever).

8. Teach common side effects of the antibiotic, storage, interactions, when the drug will expire and any other pertinent information.

9. Discard or sanitize old toothbrush. Sanitize toothbrush by rinsing with hydrogen peroxide or Listerine® after each use until the antibiotic course is completed. Get a new toothbrush after antibiotic course is completed.

10. Observe for and return if there is discolored urine, arthritis or failure to improve after 48 hours if treated, 72 hrs if untreated.

11. Especially with suspected bacterial infections, advise that symptomatic family members should seek medical evaluation.

12. Contact clinic if any problems obtaining medications.

FOLLOW-UP

1. If no significant improvement in 3-4 days (2-3 days if treatment for strep was initiated), client should return to health care provider. The considerations and responses at that time would be as follows:

Case History	Possibilities	Response
Rapid Strep or Strep Culture positive and Antibiotic treatment started	Non-compliance	IM bicillin as in treatment guidelines above
	Antibiotic treatment failure (concomitant Staph in pharynx interfering with effectiveness of Penicillin)	Clarithromycin as in treatment guidelines above
	Carrier state	Refer if past hx suggests carrier state, otherwise as above and arrange for culture when asymptomatic
	Peritonsillar abscess	Refer
Rapid Strep negative, Antibiotic treatment started, Strep culture negative	Viral Pharyngitis	Symptomatic treatment, Stop antibiotic; assess hydration; consider mononucleosis
Rapid Strep negative, Antibiotic treatment not started, Strep culture positive	Strep pharyngitis	Begin antibiotic treatment
Rapid Strep and Culture Negative; No antibiotic treatment	Viral Pharyngitis	Symptomatic treatment, assess hydration; consider mononucleosis

2. Post-treatment throat cultures for clients with streptococcal pharyngitis if there is a suspicion of a strep carrier state (recurrent positive strep tests). If post-treatment strep culture is positive, then the client should be referred to determine need to eliminate the carrier state.

CONSULTATION/REFERRAL

1. Complications of streptococcal pharyngitis.
2. Recurrence of streptococcal pharyngitis.
3. Proven or suspected mononucleosis.
4. No improvement 2 days after first follow-up as described above under 'Follow-up'.
5. Pregnant or **breastfeeding** client.

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STANDARD NURSE PROTOCOL FOR PINWORMS

DEFINITION A parasitic nematode causing infestation of the intestines and rectum. Pinworms are the most common human worm infection in the United States. Pinworms are indigenous to the climate of the southern United States, usually affecting young children and their families. Adult worms are 2-13 mm long and live in the intestines. Females deposit eggs on the perianal area, primarily at night, causing intense pruritis. Scratching contaminates the fingers and allows transmission back to the host or to contacts.

ETIOLOGY The nematode, *Enterobius vermicularis.*

SUBJECTIVE

1. May be asymptomatic.
2. Nocturnal perianal pruritus is the primary symptom.
3. Restlessness and disturbed sleep are common.
4. Young females may experience genital irritation with vulvovaginitis and dysuria.
5. History of caretaker's observation of worms in anal area at night while child is sleeping.
6. Other symptoms may include anorexia, enuresis, insomnia, and grinding teeth during sleep.

OBJECTIVE

1. Diagnostic Criteria
   a. Laboratory identification of eggs from perianal area: Apply transparent adhesive tape to the perianal area to pick up any eggs; apply tape to a glass slide and examine under a low-power microscope. A single test will usually detect 50% of infestations, 3 tests should detect 70%, and 5 tests should detect 100%. (Obtain specimens in the early morning before client bathes or defecates.)

   OR

   b. Observation of pinworm(s) during exam.
2. May have local irritation or secondary infection of scratched skin.

ASSESSMENT Pinworms

PLAN **THERAPEUTIC**

PHARMACOLOGIC

1. If not taking piperizine, theophylline, and does not have liver disease, then the following is an option but has more side-effects (anorexia, nausea, vomiting, diarrhea):

Pyrantel pamoate (Pin-X, Pyrantel Pamoate Suspension), available as suspension of 250 mg/5 mL and a caplet form containing 62.5 mg per caplet.

a. 11mg/kg/dose (maximum 1 gram) as a single dose PO

OR

b. 1 mL (50 mg) per 5 kg (11 lbs) of body weight as a single dose PO per the following chart:

	Dosage		
Weight	Suspension	Chewable tablets	Caplet
25-37 lbs (11-16 kg)	2.5 mL= ½ tsp.	½	2 caplets
38-62 lbs (17-28 kg)	5 mL= 1 tsp.	1	4 caplets
63-87 lbs (29-39 kg)	7.5 mL= 1 ½ tsp.	1 ½	6 caplets
88-112 lbs (40-50 kg)	10mL= 2 tsp.	2	8 caplets
113-137 lbs (51-62 kg)	12.5 mL= 2 ½ tsp.	2½	10 caplets
138-162 lbs (63-73 kg)	15mL= 3 tsp.	3	12 caplets
163-187lbs (74-84 kg)	17.5 mL= 3 ½ tsp.	3½	14 caplets
188 lbs and over **(85 kg and over)**	20mL = 4 tsp.	4	16 caplets
NOTE: Do not use with history of liver disease.			

NOTE: If client weighs less than 25 lbs or is less than 2 years old, refer to physician.

c. Repeat treatment once in 14 days.

2. Treat all household members simultaneously, with one of the above regimens.

CLIENT EDUCATION/COUNSELING

1. Consult a physician if medication side effects such as anorexia, abdominal cramps, nausea, vomiting, diarrhea,

headache, or dizziness persist.

2. Stress personal hygiene, particularly hand washing before eating and after using the toilet.

3. Pajamas and bed linens of symptomatic family members should be washed in regular laundry detergent at time of treatment.

4. Upholstered furniture and carpet should be vacuumed. Other flooring should be wet mopped.

5. Bathe immediately upon arising for several mornings after treatment.

6. Keep fingernails trimmed short.

7. Wear snug fitting underwear to deter direct contact by scratching.

8. Petroleum jelly applied at the perianal area may decrease egg dispersal.

9. Contact clinic if any problems obtaining medications.

FOLLOW-UP:

If no improvement in one month.

REFERRAL

1. Child under 2 years of age or weighing less than 25 pounds.

2. Pregnant or lactating.

3. Clients with any of the other conditions listed above that are contraindications for treatment or who are on drugs that adversely interact with pyrantel pamoate.

4. Clients who develop side effects from treatment.

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STANDARD NURSE PROTOCOL FOR RINGWORM: NON-HAIRY SKIN (TINEA CORPORIS)

DEFINITION Superficial fungal infection involving the face, trunk or limbs.

ETIOLOGY Several different fungi. Transmitted by direct contact with an infected person, animal, or contaminated articles.

SUBJECTIVE Pruritic (common) or asymptomatic.

OBJECTIVE

1. Erythematous scaling patches (usually 1-2) that are round or oval. The lesions start small, then expand outward with clearing of the eruption in the center of the patch and activity restricted to the border of the lesion, as a ring. The border of the lesion is usually raised and scaly but may include small pustules or vesicles. Appearance of lesions is sometimes altered by prior application of topical corticosteroids and can mislead the examiner.

2. Lesions are most common on the trunk, face, and arms.

3. Granuloma Annulare can mimic Tinea Corporis. The distinguishing feature of Tinea is the scale which may be subtle and delicate but will always be present with untreated Tinea. If it is not present and there is only one isolated lesion, then consideration should be given to referral to rule out Lyme Disease (not the most common cause of Granuloma Annulare, but the most serious cause).

ASSESSMENT Tinea corporis (Ringworm of the skin)

PLAN **THERAPEUTIC**

PHARMACOLOGIC

If thickening of the skin has occurred, apply a non-prescription topical anti-fungal preparation. May choose one of the following:

1. Clotrimazole 1% (e.g., Lotrimin, available as Lotrimin AF, cream or solution). Apply to affected areas twice daily for 4 weeks.

OR

2. Miconazole nitrate 2% (e.g., Micatin), cream. Apply to

affected areas twice daily for 4 weeks.

OR, if can't use the above

3. Tolnaftate 1% (e.g., Tinactin), cream or solution. Apply to affected areas twice daily for 4 weeks.

CLIENT EDUCATION/COUNSELING

1. Contacts of infected persons should perform periodic inspections for signs of infection and seek medical evaluation as needed.

2. Avoid direct contact with known sources of infection. Infected animals need veterinary examination.

3. Do not share clothing. Launder and dry clothing on hottest acceptable temperatures.

4. Advise against OTC corticosteroid topical medications, they will exacerbate lesions.

5. Keep lesions dry. Fungi thrive in moist areas.

6. Avoid tight fitting clothing and clothing that restricts air movement. Cotton clothing is preferable.

7. Children with lesions should not be excluded from the classroom as long as clothing or a light bandage covers the lesions.

8. It is important to apply the topical antifungal for 4 weeks, even if the rash clears in less than 4 weeks, to prevent recurrence.

9. Return to clinic if no significant improvement in 7 to 9 days.

10. Return to clinic sooner if lesions worsening.

11. Contact clinic if any problems obtaining medication.

FOLLOW-UP

One to two weeks if no improvement

CONSULTATION/REFERRAL

1. Children less than 2 years of age.

2. Severe or widespread infection.

3. Secondary bacterial infection.

4. Failure to respond to treatment. May require oral therapy. Also several skin conditions can closely mimic ringworm, these include: granuloma annulare, nummular eczema, pityriasis rosea, psoriasis, seborrheic dermatitis, tinea versicolor, erythema chronicum migrans, and early Lyme disease.

5. If there has been tick exposure, refer immediately. Early Lyme disease is an urgent diagnosis.

6. If present on scalp (tinea capitis).

7. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR RUBRAL/HEAT RASH

DEFINITION

Heat rash ("prickly heat") is characterized by an erythematous papular rash, distributed in areas where sweat glands are concentrated. Obstruction of the eccrine sweat ducts occurs often in neonates and often produces one or two clinical pictures depending on the level of obstruction:

1. Miliaria crystallina is characterized by tiny (1-2 mm), superficial grouped vesicles, without erythema, over intertriginous areas and adjacent skin (neck, upper chest). Obstruction occurs in the statum corneum portion of the eccrine duct.
2. Miliaria rubra is more common. Obstruction of the eccrine duct deeper in the epidermis results in erythematous, grouped papules in the same area. Rarely, these may progress to pustules.

ETIOLOGY

This rash results from obstruction of the ducts of the sweat glands. The ducts become distended and break, leaking sweat into the skin, which causes the irritation. Heat and high humidity in the external environment cause sweating that leads to swelling and plugging of the sweat gland orifice.

SUBJECTIVE

1. Parent notices fine, red raised rash on child; may see pustules under neck and armpits.

2. Itching.

3. History of over-dressing.

4. History of predisposing environmental factors (e.g., hot spells in summer or house kept too warm).

OBJECTIVE

1. Rash is erythematous and vesiculopapular. Lesions are pinhead size and may coalesce on an erythematous patch or remain isolated. The sudden appearance of red patches of small papules and/or vesicles are discrete and accompanied by red areolae.

2. Rash is distributed in areas of sweat gland concentration and friction: over the trunk, neck, back of head, shoulders, chest, axillae, face, antecubital and popliteal fossae, and intertriginal areas.

ASSESSMENT

Rubral/heat rash, according to lesion appearance and history (hot, humid environment).

Differentiate from: contact dermatitis (history of contact, distribution in area of contact, edematous, erythematous and vesicular lesions) or candidiasis (shiny, intensely inflamed, sharply-defined border, and satellite lesions).

PLAN

THERAPEUTIC

NON-PHARMACOLOGIC MEASURES

1. Avoid overdressing the child. The parent should dress the child as she/he would dress self for weather conditions.

2. Avoid hot, humid conditions. Keep client in cool and dry environment as much as possible. Use air conditioner, fan and/or dehumidifier, if possible.

3. Keep client's skin clean and dry.

4. Bathe client in tepid water for cooling.

PHARMACOLOGIC

1. In severe cases, may apply nonprescription 1% hydrocortisone cream three times a day for 1-2 days.

CLIENT EDUCATION/COUNSELING

1. If hydrocortisone cream used, apply sparingly.

2. Use mild or hypoallergenic soap for bathing.

3. Use mild detergents to launder clothes and avoid bleach and fabric softeners.

4. Keep client's fingernails short.

5. Avoid dressing client or placing client in contact with irritating clothing (e.g., synthetic fabrics, wool, nylon, plastic liners). Light cotton clothing is preferred.

6. Avoid extended sun exposures.

7. Return for reevaluation if condition does not improve with proper management.

FOLLOW-UP

1. **No follow-up needed if symptoms resolve within two weeks.**

2. **Re-evaluate if symptoms persist or worsen beyond 2 weeks.**

CONSULTATION/REFERRAL

1. If there is no improvement with treatment.

2. Exacerbation of the rash.

3. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR SCABIES

DEFINITION

Infestation with the *Sarcoptes scabiei* mite. The initial skin lesion is a burrow made by an impregnated female to lay her eggs. It appears as a fine, wavy, dark line boring from a few mm to 1 cm in length, with a minute papule at the open end. (Papules or vesicles contain the mite.) After several days, sensitivity to the mite results in pruritis followed by punctate excoriations from scratching and impetiginous and eczematous changes at the site of the lesion. A generalized urticarial rash may also develop.

The condition is highly contagious and is spread predominately by skin-to-skin contact and to a lesser degree by contact with contaminated clothing or linens. Transmission to household members and sexual contacts is frequent. Outbreaks in schools, day care centers and nursing homes have occurred.

ETIOLOGY

The *Sarcoptes scabiei* mite. The female is about 0.44 mm long and has 4 sets of legs. The male is about half her size. Fertilization occurs on the skin surface. The male dies 1-2 days after copulating. The impregnated female burrows into the stratus corneum and lays 1-3 eggs daily throughout her 30-day life cycle. (Mites do not survive more than 3 days away from the skin.) The eggs hatch in 3-5 days and the larvae return to the skin to grow, molt and mature. In persons without previous exposure the incubation period is approximately 4 to 6 weeks. Thus itching and lesions may be inapparent during the initial infestation and these persons are asymptomatic carriers. Repeat infestations generally lead to more rapid development of symptoms within 1 to 4 days. (Explanation: pruritis is actually secondary to a delayed hypersensitivity reaction to mite feces and eggs, not to the physical presence of the mite itself. Once sensitized, the host reacts much more quickly with an immune response.)

SUBJECTIVE

1. Intense itching, most severe at night.

2. Rash.

3. May have history of known exposure to scabies, or of several family/group members having a similar itchy rash.

OBJECTIVE

1. Observation of burrows and red papular vesicles or pustules, distributed according to age:

    a. Infants. The palms, soles, neck, face, scalp, legs and

buttocks are commonly affected. Burrows are absent and vesicles, pustules, bullae and eczematous lesions are common.

b. Older children, adolescents and adults. The lesions begin in the interdigital spaces and spread to the wrist, elbows, ankles, buttocks, umibilicus, belt line, groin, genitalia, areola, female breast and axillae. The upper back, neck, face, scalp, palms and soles are usually spared.

2. Red, itchy rash, pustules and excoriation.

3. Secondary infection from scratching.

NOTE: Atypical forms of scabies do occur and can be related to such things as personal hygiene, by the presence of another skin disease or in altered immunologic response in clients suffering from malnutrition, or other neurologic or physical disorders/diseases (Norwegian scabies).

ASSESSMENT

Scabies, based on history and suspicious lesions.
(With appearance varying, differential diagnosis depends on the type of lesion present. Papulovesicular lesions can appear similar to papular uritcaria, chicken pox, drug eruptions, canine scabies, viral exanthems, dermatitis herpetiform, and folliculitis. If the lesions are eczematous, atopic dermatitis and seborrheic dermatitis must be ruled out. Nodular scabies may be misdiagnosed as urticaria pigmentosa, histeocytosis and insect bite granuloma.)

Confirmatory diagnosis can be made microscopically.

PLAN

DIAGNOSTIC STUDIES

Microscopic visualization of the mite. The suspected lesion is immobilized between the forefinger and the thumb and the top is removed with a Number 15 scalpel blade laid parallel to the skin surface, after a drop of mineral oil is placed on the skin. No anesthesia is required. The specimen is then placed on a glass slide, with a cover-slip, and examined under low power for the mite, eggs or larvae.

NOTE: A scraping is not necessary when there is an intensely pruritic rash in the typical locations that meets any of the following additional criteria:

1. History of close contact with a known case of scabies.

2. Burrows.

THERAPEUTIC

PHARMACOLOGIC

1. Permethrin 5% Cream (Elimite) single application for children 2 months or older. Do not bathe or shower before applying the cream. Thoroughly massage into all skin from the neck down to the soles of the feet, avoiding contact with mucous membranes, eyes and mouth. Also include the head, scalp and neck in infants and toddlers. Remove by washing after 8-14 hours. (Thirty grams or half of a 60-gram tube should be sufficient for a child.)

   May repeat permethrin treatment once in 7 days.

   Clients often experience pruritus after treatment. This is rarely a sign of treatment failure and is not an indication for retreatment. Demonstrable living mites after 7 days indicate that retreatment is necessary.

   Worsening of asthma has been reported.

2. Cool baths with mild soap, nonprescription hydrocortisone cream topically or diphenhydramine (e.g., Benadryl) orally for itching, which may persist for several weeks.

   Hydrocortisone cream – Tropical: Children greater than 2 years: Apply to affected area 1-4 times/day.

   Diphenhydramine-
   Children 2 years of age to younger than 6 years of age: Diphenhydramine hydrochloride elixir 12.5 mg/5 mL.
   May give 6.25 mg every 4 to 6 hours; do not exceed 37.5 mg/day.

   Children 6 to 12 years: 12.5mg every 4 hours maximum: 75mg/day.

   NOTE: Dosing should be based on severity of symptoms. Do not use topical diphenhydramine.

NON-PHARMACOLOGIC MEASURES

1. **Keep fingernails clean and well-trimmed.**

2. **Simultaneously with treatment, launder all bedding, towels, wash cloths and clothing that have been in contact with the client for the 4 days prior to treatment. Laundering should be done in hot water and drying in the hot cycle of the clothes dryer. If washing/drying is not possible, store the items in a plastic bag for a week to avoid re-infestation.**

CLIENT EDUCATION/COUNSELING

1. Name of condition and clear directions for treatment.

2. Encourage to wash hands often, clean under fingernails, wear clean clothes daily and not to exchange clothes with others.

3. Elimite may temporarily increase itching, edema and redness. Mild and transient stinging and/or burning of the skin may also occur. These reactions are associated with the severity of the infestation.

4. Children should be allowed to return to school or child-care 24 hours after treatment has been completed. Itching may continue for several days after effective treatment. This is a hypersensitivity response and does not mean that the child can spread the infection to others.

5. Disinfecting the environment is unnecessary and unwarranted.

6. **All** close **personal and household** contacts **within the preceding month** need **examination and** prophylactic treatment **at the same time as the index case.** Manifestations of scabies infestation may not appear for as long as 2 months after exposure, during which time they can be transmitted.

7. **Contact clinic if any problems obtaining medications.**

FOLLOW-UP

1. Re-examine in one week. May re-treat once if no improvement, though single application of permethrin 5% cream is usually curative.

2. A client symptomatic longer than 4 weeks after treatment should be re-evaluated for possible re-exposure.

CONSULTATION/REFERRAL

1. Severe/widespread infection, or secondary bacterial infection.

2. Infection of the scalp (usually infants).

3. Any of the following:
   a. Less than 2 months of age.
   b. Pregnant or lactating.
   c. Failure to respond to 2 rounds of permethrin treatment.

4. **Immunocompromised client.**

5. **Refer close personal contacts of index case for examination and prophylactic treatment at the same time as the index case.**

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STANDARD NURSE PROTOCOL FOR TEETHING

DEFINITION Inflammation of the gum tissue caused by eruption of primary teeth.

ETIOLOGY In general, an infant's first tooth erupts at 6 months and one each month thereafter until all 20 have erupted. However, this is highly variable from child to child. One child might begin teething as early as 3 months, while another would not begin until age 12 months. The central lower incisors are usually the first to erupt.

SUBJECTIVE

1. The infant may be irritable and fretful.
2. The infant may have decreased appetite.
3. The infant may suck his fist, fingers or other objects, more than usual.
4. Some parents report increased drooling.

OBJECTIVE

1. Erupting teeth are sometimes preceded by a bluish discoloration of the proximal gum, a benign process.
2. Gums proximal to erupting tooth may be swollen.
3. Erupting tooth felt with finger, or seen.
4. Teething associated with diarrhea, fever, and other illness is likely coincidental and further examination is warranted.

ASSESSMENT Teething

PLAN **THERAPEUTIC**

PHARMACOLOGIC

1. Systemic analgesia (acetaminophen or ibuprofen) in appropriate doses. (Ibuprofen preferred for teething if infant is older than 6 months, due to anti-inflammatory effect.) See tables below for acetaminophen and ibuprofen dosages. Do not give acetaminophen and ibuprofen in an alternating fashion.

IBUPROFEN CHILDREN'S SUSPENSION
(for children ages 6 months and older)
(100 mg/5 mL in 4 and 16 oz bottles, fruit flavored)

(5**-10** mg/kg/dose q 6-8 hours as needed)

NOTE: **Treatment for greater than 10 days is not recommended.**
No more than 4 doses in 24 hours.

Age	Weight	Dose
6-11 months	1**2**-17 lbs (**5.5** – **7.9** kg)	1/**2** teaspoon (**50** mg)
12-23 months	18-23 lbs (8 – 10**.9** kg)	**3/4** teaspoon (**7**5mg)
2-3 years	24-35 lbs (11–**15.9** kg)	**1** teaspoon (**100** mg)

ACETAMINOPHEN

NOTE: Healthcare Professionals should be aware that acetaminophen infant drop products with both the new and old concentrations may be available on pharmacy shelves and in the clinic medication room. Either product may be continued to be used, but the concentration must be verified and used according to labeled dosing directions. Healthcare professionals should verify product concentration prior to providing dosing information. Dose may be repeated every 4 hours, as needed, but do not give more than 5 doses in 24 hours.

Age	Weight	Acetaminophen (80 mg/0.8mL): Infant's Anacin - 3 Drops; Panadol Drops; Tempra Drops; Tylenol Drops.	Acetaminophen (160 mg/5 mL): Children's Anacin - 3 liquid; Panadol Liquid; Childrens Tempra Syrup; Children's Tylenol Suspension.
0-3 Months	6-11 lbs (2.5-5.4 kg)	1/2 dropperful 0.4 mL(40 mg)	1.25 mL (40mg)
4-11 months	12-17 lbs (5.5-7.9 kg)	1 dropperful 0.8 mL (80 mg)	2.5 mL (80 mg)
12-23 months	18-23 lbs (8.0-10.9 kg)	1 1/2 droppersful 1.2 mL (120 mg)	3.75 mL (120 mg)
2-3 years	24-35 lbs (11-15.9 kg)	2 droppersful 1.6 mL (160 mg)	5 mL (160mg)

2. Avoid topical anesthetics (teething gels). They can cause profound numbness of the entire oral cavity and pharynx and suppress the gag reflex. They can also induce allergies to 'caine' anesthetics.

NON-PHARMACOLOGIC MEASURES

1. Be **client** and soothe the infant.

2. Offer infant chilled teething rings of hard rubber or plastic, or a clean, cold, wet washcloth for chewing on.

FOLLOW-UP

As needed.

CLIENT EDUCATION/COUNSELING

1. Counsel **parent** about the above therapeutic measures.

2. Be sure that the infant/child does not chew on things that would break or splinter in the mouth.

3. Teach parent to read labels and find other sources of acetaminophen that are often in over the counter medications and can cause toxicity.

4. Teach parent not to give acetaminophen and ibuprofen in alternating fashion to control pain/discomfort.

CONSULTATION/REFERRAL

Eruption cysts or hematomas.

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STANDARD NURSE PROTOCOL FOR THRUSH (ORAL CANDIDIASIS)

DEFINITION

Superficial fungal infection of the mouth, frequently occurring in healthy newborns and young infants. Uncommon in children 12 months and older, except those receiving antibiotic therapy, or with other underlying conditions and/or immune suppression.

ETIOLOGY

The causative organism is usually *Candida albicans*, which is acquired from the following sources:

1. In newborns and infants, from infected mother's vagina during birth and/or from infected mother's breast via breastfeeding.

2. By contamination of caretaker's hands or objects shared by infected infants.

3. Adult with vulvovaginal candidiasis, through contamination of her hands. (See protocol for vulvovaginal candidiasis).

4. Infants/children with candidal diaper dermatitis, through contamination of hands.

SUBJECTIVE

1. Often no symptoms.

2. Creamy white patches in the mouth, may be curd-like in nature.

3. With extensive involvement, pain during feeding and swallowing.

4. May have history of recent steroid, antibiotic or chemotherapy treatment.

5. Mother may have history of or concurrent candida infection of vaginal area and/or breasts.

OBJECTIVE

1. White filmy coating or patches covering all or part of the tongue, gingiva, buccal mucosa and, occasionally, the lips, that does not remove easily with scraping. (Don't confuse with milk curds left on the tongue after feeding, which are easily removed).

2. If patches are removed, they leave a painful, red bleeding lesion.

3. The **client** may have candidal diaper dermatitis that needs treatment. (See Diaper Dermatitis protocol).

4. May have an inadequate oral intake because of mouth pain. Check for dehydration (uncommon).

ASSESSMENT Oral Candidiasis (Thrush)

PLAN **DIAGNOSTIC STUDIES**

Potassium hydroxide preparation of scrapings of lesions to detect budding yeast, with or without hyphae. (This study is usually not needed when typical lesions are present.)

THERAPEUTIC

PHARMACOLOGIC

1. Nystatin (Mycostatin) oral suspension,100,000 units/mL,

   For post-term infants dosage is 200,000 units (2 mL) divided as 1mL in each side of the mouth four (4) times a day for two weeks.

   For **neonates and** premature infants who have not yet reached their expected due date use 100,000 units (1mL) divided as ½ mL in each side of the mouth four (4) times a day for two weeks.

   The suspension should be retained in the mouth for as long as possible. One way to accomplish this is to apply a portion of the dose to two Q-tips and gently massage these Q-tips against the plaques. Avoid feeding for 5-10 minutes after the dose.

2. Treatment of nursing mother:
   Nystatin (similar to Mycostatin) ointment applied to nipple and areola areas after each feeding
   OR
   Nystatin oral suspension 100,000 units/mL; swab 1 mL on each breast nipple four times daily after feeding, for 2 weeks.

Avoid feeding for 5-10 minutes after application, if possible.

3. If diaper rash is present, treat according to Nurse Protocol for Diaper Dermatitis due to candidiasis.

FOLLOW-UP

In two weeks if no improvement, or sooner if worsens.

CLIENT EDUCATION/COUNSELING

1. Continue treatment for two weeks, even if the mouth appears to have cleared before the fourteenth day.

2. Properly treated, thrush should not be a cause for weaning from the breast.

3. Breast-fed infants and their mothers are to be treated simultaneously.

4. Household members and caretakers should practice good handwashing, especially when caring for infant.

5. Rubber/plastic nipples and pacifiers should be boiled for 10 minutes, or replaced after beginning treatment. Do not allow infants to share pacifiers or nipples.

6. Seek prompt medical evaluation if infant refuses liquids.

7. Contact clinic if any problems obtaining medications.

CONSULTATION/REFERRAL

1. Failure to respond after two weeks of therapy.

2. Weight loss or suspected dehydration.

3. Recurrent or resistant breast infections.

4. Persons with recurrent infections are to be evaluated for HIV infection.

5. Children 12 months old or greater with symptoms of thrush.

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STANDARD NURSE PROTOCOL FOR TINEA PEDIS

DEFINITION Dermatophyte infections of the skin of the feet and toes.

ETIOLOGY *Trichophyton rubrum* is the most common pathogen. *Trichophyton mentagrophytes* causes more inflammatory lesions.

The fungus is transmitted by direct contact with contaminated surfaces in moist areas such as swimming pools, community showers or baths and locker rooms. Tinea pedis occurs most frequently in adolescents and adults. Risk factors include sweaty feet and occlusive footwear.

SUBJECTIVE

1. May be asymptomatic.
2. Mild itching.
3. May have burning, stinging and other sensations.

OBJECTIVE

1. On the sole and heel: usually non-inflammatory scaling, occasionally with thickening and cracking of the skin. May have groups of vesicles or exfoliation of the skin. Foul odor is common.
2. Between the toes: scaling or fissuring, fine vesicles or pustules, maceration.
3. Potassium hydroxide (KOH) skin-scraping: hyphae demonstrated

ASSESSMENT Tinea pedis

PLAN **THERAPEUTIC**

PHARMACOLOGIC

1. One of the following products. Continue treatment for 1-2 weeks after clinically cleared. Apply to normal skin 2 cm beyond affected area.

   a. Over-the-counter products, applied twice daily for 2-4 weeks to the affected areas.
      1) Miconazole (e.g., Micatin) 2% cream
      OR
      2) Clotrimazole (e.g., Lotrimin)) 1%

solution, cream or lotion

OR

3) Tolnaftate 1% (e.g., Tinactin),

OR

4) Terbinafine (Lamisil) 1% Cream, **must be 12 years of age or older**

OR

b. Prescription products
   1) Ketoconazole 2% cream (e.g., Nizoral) - Apply once daily for 6 weeks.
   2) Econazole 1% cream - Apply once daily for 4-6 weeks.

2. Burrow's solution may be used as a foot soak, 20-30 minutes twice daily, for lesions between the toes.

CLIENT EDUCATION/COUNSELING

1. Wear rubber or wooden sandals in community showers and locker rooms.

2. Wash the feet with a benzoyl peroxide bar after showering.

3. Carefully dry between the toes after bathing/showering. A hair dryer on low setting may be used after toweling dry.

4. Change socks frequently. Avoid occlusive footwear. Remove shoes and socks, when possible, to allow air circulation for feet and toes.

5. Apply dusting or drying powders as necessary. Using antifungal powders may prevent recurrence of infection.

6. Completion of therapy is important.

7. Avoid spreading the infection to others. Good hand-washing, thorough cleaning of bathrooms and avoidance of sharing bath towels and wash clothes may inhibit transmission.

8. Contact clinic if any problems obtaining medications.

FOLLOW-UP

Recheck in two weeks if not improved.

CONSULTATION/REFERRAL

1. No improvement after two weeks of treatment.
2. Severe infection or secondary bacterial infection.
3. Extension of the disease to the nails.
4. **Pregnant or breastfeeding client.**

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STANDARD NURSE PROTOCOL FOR UPPER RESPIRATORY INFECTION (URI) (COMMON COLD)

DEFINITION

An acute infection of the upper respiratory tract involving the nose, pharynx, sometimes the paranasal sinuses and, perhaps, the middle ears. It lasts several days. Since the activity of the viruses in the upper respiratory tract can impair local defense mechanisms, invasion by bacteria may occur and cause infections of the ears and sinuses.

ETIOLOGY

Numerous viruses. In the U.S., peak incidences in children occur in early fall (when schools open), midwinter and early spring. Colds occur most commonly during the second and third years of life, and the average child has from three to eight infections per year. Malnutrition seems to increase susceptibility to colds.

SUBJECTIVE

1. General malaise.
2. Nasal stuffiness, nasal discharge, sneezing, cough.
3. Mild sore throat.
4. Watery eyes.
5. Decreased appetite, particularly in infants.

OBJECTIVE

1. Low-grade fever (less than 101°F or less than 38.5° Celsius) occurs more commonly in children under 3 years old and lasts from a few hours to a few days. Older children usually have no fever; if they have a fever, evaluate for other causes, such as strep throat, otitis media, or pneumonia.
2. Erythematous, edematous nasal mucosa, with clear, thick nasal discharge initially. The discharge may become mucoid or purulent as the illness resolves.
3. Mildly erythematous pharynx.
4. Mild conjunctivitis.
5. Erythematous tympanic membranes in infants. (Rule out otitis media.)

ASSESSMENT

Common cold/upper respiratory infection (URI)

PLAN THERAPEUTIC

PHARMACOLOGIC

1. Acetaminophen or Ibuprofen orally - Pediatric (See dosage chart with Nurse Protocol for Fever) if fever is associated with discomfort or decreased fluid intake. Do not use aspirin.

2. Treatment of cough is discouraged because cough is a protective mechanism that helps clear the lung of infectious particles. **NOTE: In October 2008, the FDA issued a statement in support of Consumer Healthcare Products Association voluntary modification of product labels of OTC cough and cold medicines to state "do not use" in children under 4 years of age.** They are of no proven benefit and are associated with significant untoward effects. Prescription cold preparations have also not been shown to be beneficial. Generally, prescription cold medications contain higher concentrations of medication or medication combinations not available OTC. These would also be expected to be associated with significant untoward effects.

NON-PHARMACOLOGIC MEASURES

1. Increase oral fluid intake.

2. Infants: Use saline nose drops - one to two drops in each nostril, followed by gentle (caution: may aggravate nasal congestion if nasal mucosa is injured) aspiration of nasal secretions with rubber suction bulb, particularly before feeding.

3. Avoid environmental respiratory irritants (e.g., cigarette smoke in the home).

4. Elevate head of bed slightly.

5. **Nasal dilator strips are adhesive bands placed on the nose that dilate nasal air passages thus relieving nasal congestion. Over the counter strips (e.g. Breathe-Right® Strips) are FDA-approved for use in children 5 years and older.**

CLIENT EDUCATION/COUNSELING

1. Rest and increased fluid intake.

2. Seek prompt medical evaluation if chest pain, dyspnea, signs of dehydration, wheezing, moist frequent cough, persistent abdominal pain or vomiting, persistent lethargy, agitation, behavioral changes, or confusion occur.

3. Seek prompt medical evaluation for child less than 3 months of age with temperature elevation.

4. Stress importance of good hand washing technique and proper disposal of tissues.

5. Caution parent not to use **OTC cough and cold medications, including Zicam and** Vicks VapoRub® without consulting physician.

6. **Do not give cough drops to young children. They are a choking a hazard.**

FOLLOW-UP

1. No follow-up needed if symptoms resolve within one week.

2. Reevaluate if symptoms persist beyond 7-10 days
   OR
   if there is deterioration with return of fever after apparent improvement after 4-6 days of illness (suspect pneumonia).

CONSULTATION/REFERRAL

1. Any infant or child with suspected secondary infection (e.g., pneumonia, sinusitis) or URI symptoms persisting longer than 2 weeks.

2. Persistent lethargy or irritability for >2 hours despite adequate treatment of fever.

3. Any infant/child
   a) under 3 months of age with a temperature elevation.
   b) under 6 months of age with temperature over 102.2°F.
   c) 6 to 24 months of age with temperature over 102°F and less than 2 pneumococcal immunizations.

4. Pregnant or breastfeeding client.

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STANDARD
NURSE PROTOCOLS
FOR
WOMEN'S HEALTH

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2011-2012 WOMEN'S HEALTH CLINICAL REVIEW TEAM

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Women's Health Nurse Protocol Approval

The District Health Director may approve and sign the Women's Health Nurse Protocols if no modifications/revisions are made.

It is recommended that the Women's Health Nurse Protocols be adopted without modification. However, if modifications/revisions are made to the Women's Health Nurse Protocols at the district level, it is recommended that a legal review be conducted at the district level to assure compliance with current statutes, rules, regulations and practice standards. A physician with family planning experience must also be included in the review process and provide an approval decision and signature on the attached Physician Signature form.

The approved revisions along with the Physician Signature form should then be forwarded to State Office Women's Health Program for an approval decision and signature by the Women's Health Medical Consultant.

Physician Signature Form

CERTIFIED NURSE PROTOCOL REVIEW
Women's Health Nurse Protocols for 2011

Physician Name:_____Phone_____

Signature:_____

Date Reviewed _____

Specialty _____

Affiliations_____

_____

_____

_____

This certifies that the following **standard** nurse protocols have been reviewed for use by Public Health Nurses **(RNs)** in the expanded role and **Advance Practice Registered Nurses (APRNs)** in Public Health (list by title of nurse protocol):

Example: Standard Nurse Protocol For Combined Oral Contraceptives - Revision Date February 2011

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World Health Organization (WHO) Medical Eligibility Criteria for Contraceptive Use

TYPE OF CONTRACEPTIVE		
CONDITION	**CATEGORY** I=Initiation C=Continuation	**CLARIFICATIONS/ EVIDENCE**
Condition	Condition classified from 1 to 4 The categories for fertility awareness-based methods and surgical sterilization are described at the beginning of the relevant section.	Clarifications and evidence regarding the classification

NA denotes a condition for which a ranking was not given by the Working Group but for which clarifications have been provided.

Classification of categories:

Each condition was defined as representing either an individual's characteristics (e.g., age, history of pregnancy) or a known pre-existing medical/pathological condition (e.g., diabetes, hypertension). It is expected that national and institutional health and service delivery environments will decide the most suitable means for screening for conditions according to their public health importance. Client history will often be the most appropriate approach.

The conditions affecting eligibility for the use of each contraceptive method were classified under one of the following four categories:

1. A condition for which there is no restriction for the use of the contraceptive method.
2. A condition where the advantages of using the method generally outweigh the theoretical or proven risks.
3. A condition where the theoretical or proven risks usually outweigh the advantages of using the method.
4. A condition which represents an unacceptable health risk if the contraceptive method is used.

Abbreviations:
COC – Combined oral contraceptive
CIC – Combined injectable contraceptive
P/R – Patch/Ring
POP – Progestin-only pill
DMPA – Depot medroxyprogesterone acetate
NET-EN – Norethinsterone enantate
LNG/ETG – Levonorgestrel/Etonorgestrel (Norplant & Jadell/Implanon)
Cu IUD – Copper IUD (ParaGard)
LNG IUD – Levonorgestrel IUD (Mirena)

Using the categories in practice:

Categories 1 and 4 are self-explanatory. Classification of a method/condition as category 2 indicates the method can generally be used, but careful follow-up may be required. However, provision of a method to a woman with a condition classified as category 3 requires careful clinical judgment and access to clinical services; for such a woman, the severity of the condition and the availability, practicality, and acceptability of alternative methods should be taken into account. For a method/condition classified as category 3, use of that method is not usually recommended unless other more appropriate methods are not available or acceptable. Careful follow-up will be required.

Where resources for clinical judgment are limited, such as in community-based services, the four-category classification framework can be simplified into two categories. With this simplification, a classification of Category 3 indicates that a woman is not medically eligible to use the method.

CATEGORY	WITH CLINICAL JUDGMENT	WITH LIMITED CLINICAL JUDGMENT
1	Use method in any circumstances	Yes (Use the method)
2	Generally use the method	
3	Use of method not usually recommended unless other more appropriate methods are not available or not acceptable	No (Do not use the method)
4	Method not to be used	

WHO Medical Eligibility Criteria for Contraceptive Use
The *WHO Medical Eligibility Criteria for Contraceptive Use* (4th edition) is available at http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf

This document aims to provide guidance to national family planning/reproductive health programs in the preparation of guidelines for service delivery of contraceptives. It should not be seen or used as the actual guidelines but rather as a reference.

A summary of the classification changes or major condition modifications from the *WHO Medical Eligibility Criteria for Contraceptive Use* (3rd edition) is given in Table 3.

The WHO has 4 cornerstones of family planning guidance. Together, the 4 cornerstones support the safe and effective provision and use of family planning methods.
The 4 cornerstones can be found on the WHO Web site at
http://www.who.int/reproductivehealth/publications/family_planning/en/index.html

4 Cornerstones of Family Planning Guidance

1) *Medical Eligibility Criteria for Contraceptive Use* (4th edition) -
provides guidance on whether people with certain medical conditions can safely and effectively use specific contraceptive methods.
http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf

2) *Selected Practice Recommendations for Contraceptive* Use (2nd edition) -
answers specific questions about how to use various contraceptive methods.
http://whqlibdoc.who.int/publications/2004/9241562846.pdf

3) *Decision-Making Tool for Family Planning Clients and Providers* -
incorporates the guidance of the first 2 cornerstones and reflects evidence on how best to meet clients' family planning needs. It is intended for use during counseling. The tool leads the provider and client through a structured yet tailored process that facilitates choosing and using a family planning method. The Decision-Making Tool also helps to guide return visits.
http://www.who.int/reproductivehealth/publications/family_planning/9241593229/en/index.html

4) *Family Planning: A Global Handbook for Providers* (2011 update) -
offers technical information to help health care providers deliver family planning methods appropriately and effectively. A thorough reference guide, the handbook provides specific guidance on 20 family planning methods and addresses many of providers' different needs, technical information to help health care providers deliver family planning methods appropriately and effectively. A thorough reference guide, the handbook provides specific guidance on 20 family planning methods and addresses many of providers' different needs, from correcting misunderstandings to managing side effects. Like the Decision-Making Tool, this handbook incorporates the guidance of the first 2 cornerstones. It also covers related health issues that may arise in the context of family planning.
http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf
The handbook can also be found on the INFO Project Web site at
http://www.fphandbook.org

STANDARD NURSE PROTOCOL FOR COMBINED ORAL CONTRACEPTIVES

DEFINITION

Combined oral contraceptives (OC) are birth-control pills that include a combination of an estrogen and a progestin. Estrogen and progesterone are two hormones which direct many of the processes surrounding the menstrual cycle. The amount of estrogen and progestin in each pill may vary depending on when the pill is taken. Combined OC are commonly referred to as the "pill(s)."

ETIOLOGY

Combined OC work primarily before fertilization**. The estrogen works by preventing an egg from being released from the ovaries most of the time.** The progestin in all combined OC provide most of the birth control activity by: thickening cervical mucus to prevent sperm penetration into the upper genital tract, blocking the luteinizing hormone (LH) surge prohibiting ovulation, and inhibiting capacitation of the sperm which may delay sperm transport.

Some progestin effects additionally alter the environment that would be required for embryogenesis to proceed by: disrupting transport of the fertilized ovum, inducing endometrial atrophy, changing underlying vascular function and structure and altering the metalloproteinase in the endometrium which may inhibit implantation.

SUBJECTIVE

1. **Client provides a** detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and the *WHO Medical Eligibility Criteria for Contraceptive Use*.

2. If breastfeeding, has been breastfeeding at least 6 months **postpartum.**

3. **If non-breastfeeding, is at least 21 days postpartum.**

4. If age 35 or older, does not smoke.

5. If age 40 or older, and has any co-morbidities (to include the following: BMI of 30 or greater, diabetes, hypertension, smoking), must use other non-estrogen containing methods.

6. **If on Antiretroviral Therapy, does not take Ritonavir-boosted protease inhibitors. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

7. **If on Anticonvulsant Therapy, does not take certain anticonvulsants (e.g., phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine, lamotrigine). Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

8. **If on Antimicrobial Therapy, does not take a rifamycin derivative. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

9. **Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for taking combined OC. Medical conditions include:**
   - **Hypertension**
   - **Deep vein thrombosis (DVT) / Pulmonary embolism**
   - **Known thrombogenic mutations**
   - **Ischaemic heart disease**
   - **Stroke**
   - **Known hyperlipidaemias**
   - **Valvular heart disease (complicated)**
   - **Positive (or unknown) antiphospholipid antibodies**
   - **Migraine headaches without aura and age 35 or older**
   - **Migraine headaches with aura (at any age)**
   - **Breast cancer**
   - **Diabetes – nephropathy/retinopathy/neuropathy, other vascular disease or diabetes of greater than 20 years' duration**
   - **Gall-bladder disease (symptomatic) – medically treated, current**
   - **History of cholestasis – past combined OC-related**
   - **Viral Hepatitis – acute or flare (initiation of combined OC)**
   - **Cirrhosis – severe (decompensated)**
   - **Liver Tumours – benign hepatocullular ademona, malignant (hepatoma)**

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

   OR

2. Physical exam deferred up to 3 months.
   Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that **client** agreed to have physical exam delayed.

ASSESSMENT **Client** has no condition representing an unacceptable health risk for taking **combined OC**.

PLAN **DIAGNOSTIC STUDIES**

1. Lipid profile beginning by age 45. Rescreen every 5 years or more often depending on test results and risk factors for CVD. **Women with cardiovascular risk factors may need to be tested at a younger age. The need to perform a lipid profile on women age 20-44 should be based on the client's comprehensive health assessment, which includes the screening of risk factors for CVD. Cardiovascular risk factors include family history of CVD, hypertension, dyslipidemia, diabetes, obesity (BMI), and smoking. An individual's risk of heart disease increases as the number of risk factors increases. Refer to http://www.womenshealth.gov/heart-health-stroke/heart-disease-risk-factors for more information on cardiovascular heart disease risk factors. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile. The decision to draw a lipid profile will be based on a clinical evaluation that is determined by the RN and/or the APRN/physician. For more information on increased blood cholesterol levels and estrogen-containing contraceptives, refer to Standard Nurse Protocol for Abnormal Lipid Profiles While Using Hormonal Contraceptives.**

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

1. **Select a combined OC based on the hormonal dose, the client's medical history (clinical picture), preference, past experiences with combined OC and other contraceptives, cost and potential side effects.**

Both WHO and FDA recommend using the lowest dose pill (35 mcg or less) that is effective. (See Appendix A)

2. **Determine appropriate pill initiation (start-up) method to begin taking pills.**

3. **Provide instructions on selected combined OC usage to include: pill initiation (start-up) method, daily pill routines, and missed pills.**

4. **Provide education/counseling to include: informed consent, side effects and danger signs, effectiveness and back-up methods, preconception health and future fertility, and risks of STD/HIV.**

5. **Dispense up to a 12-month supply of combined OC to client with current physical exam.**

   OR

6. **Dispense first 3-month supply of combined OC to client with deferred physical exam.**

7. **Schedule follow-up exam.**

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to the seven basic elements of informed consent (BRAIDED - Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. **Educate client on the** choices for pill initiation:
   a. Quick Start: This approach has been shown to be more successful than the other approach for starting pills.
      1) The **client** takes the first pill on the day of her clinic visit, as long as she is not pregnant.
      2) If she needs emergency contraception: Provide emergency contraception.
      3) Start the pills no later than the next day.
      4) Use a back-up method for 7 days; **unless quadphasic, then use back-up method for 9 days**.
      5) If the **client** is worried about an undetectable early pregnancy:
         a) She may choose to start the pills that day and return for a urine pregnancy test in 2 weeks

            OR

         b) She may choose to wait until the 1st day of her menses.

b. First Day Start:
   1) Start taking the pills on the first day of menses.
   2) Use a back-up method for 7 days; **unless quadphasic, then use back-up method for 9 days**.

c. Sunday Start
   1) Start taking the pills on the first Sunday of menses. Don't wait to start the first pill on the Sunday after menses ends.
   2) Use a back-up method for 7 days; **unless quadphasic, then use back-up method for 9 days**.

d. Switching from other methods:
   1) Start **combined OC** immediately following the guidelines for the quick start method.
   2) For **clients** with an IUD, go ahead and start **combined OC** when the appointment for IUD removal is made.
   3) If a woman is amenorrheic as a result of history of using Depo Provera injection and is late for reinjection, she can start the **combined OC** the same day with a 7-day use of back-up method; **unless quadphasic, then use back-up method for 9 days**. Add emergency contraception and follow up pregnancy test if she has had recent unprotected sex.

3. **Explain instructions for combined OC** use.
   a. Take pills at the same time every day.
   b. Use **a** back-up **barrier method** for the first 7 days of **combined OC initiation; unless quadphasic, then use back-up barrier method for 9 days.**
   c. **Use a back-up barrier method if a pill is missed. A missed pill(s) increase the risk of pregnancy. Refer to pill package insert for missed pill(s) instructions.**
   d. **Offer Plan B or emergency contraceptive pills (ECP) if pill(s) was missed and client had unprotected sex in the last 5 days.**

4. **Discuss** side effects and danger signs (ACHES).

5. **Discuss effectiveness of combined OC** and back-up methods.

6. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit).**

7. Counsel on the use of condoms to reduce the risk of STD/HIV.

8. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), if smoker or tobacco user.

9. **Discuss common drug interaction risks between combined OC and herbal substances. Herbal supplements such as St. John's Wort may increase metabolism of estrogen and cause side effects, and/or decrease effectiveness.**

10. Emphasize importance of keeping immunizations current; assess **client's** immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If **client** declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. **Client should** return as scheduled for evaluation or contact clinic if side effects, danger signs, or **symptoms of pregnancy** develop. Outside of clinic hours, seek physician or emergency care if danger signs develop.

2. If **client** did not receive a physical exam, have her return within 3 months for an exam and reassessment.

3. Established **clients** should return for evaluation at the end of the current supply of pills, or sooner if side effects, danger signs, or **symptoms of pregnancy** develop.

CONSULTATION/REFERRAL

1. **Refer client to physician if client develops any of the following** danger signs:
   a. Abdominal pain (severe).
   b. Eye problems (vision loss or blurring).
   c. Speech problems.
   d. Chest pain (severe), coughs, shortness of breath.
   e. Severe leg pain (calf or thigh).
   f. Severe headaches that start or become worse after beginning to take **combined OC.**
   g. Dizziness, weakness, numbness or depression.

2. **Seek consultation, as applicable**, on serious health concerns expressed by **client.**

3. **Advise client to continue treatment with physician if client** is under the supervision of **physician** for a health problem.

4. **Seek consultation, as applicable,** if client has abnormal initial laboratory values or develops abnormal laboratory values and/or physical findings that indicate **combined OC** should not be continued.

5. **Refer** to nutritionist if **client** has poor dietary intake, is overweight or underweight, is anemic or has any chronic disease related to poor nutrition.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007**. (Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th** ed., **2009,** <**http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf**> **(May 16, 2011)**
4. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
5. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
6. **"A Resource for Contraception and Healthy Sex," <http://www.contracept.org> (May 16, 2011)**
7. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
8. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
9. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (August 22, 2011)**

STANDARD NURSE PROTOCOL FOR ABNORMAL LIPID PROFILES WHILE USING HORMONAL CONTRACEPTIVES

DEFINITION

Increased blood cholesterol levels are causally related to an increased risk of coronary heart disease. Coronary risk rises progressively with cholesterol levels, particularly when total cholesterol levels rise above 200 mg/dL. Borderline total cholesterol levels are 200-239 mg/dL and high levels are 240 mg/dL or greater. Desirable levels of low-density lipoprotein cholesterol (LDL) are less than 100 mg/dL. Desirable levels of high-density lipoprotein cholesterol (HDL) are greater than 60 mg/dL and are as significant as total cholesterol levels.

ETIOLOGY

Ethinyl estradiol increases HDL cholesterol and reduces LDL cholesterol. Progestins diminish the magnitude of the favorable impact; the more androgenic formulations have a more pronounced negative effect. Although triglyceride levels increase somewhat with estrogen-containing contraception, there is little concern because those remnants are not atherogenic. However, estrogen-containing contraceptives should be avoided if their use will be anticipated to raise triglycerides levels to more than 350 mg/dL and place the woman at risk for pancreatitis.

SUBJECTIVE

Client provides a detailed health history that may include risk factors for increased cholesterol levels. Risk factors include:

- Family history of cardiovascular disease prior to age 50
- History of hypertension
- History of smoking cigarettes
- Diabetes or gestational diabetes
- BMI of 27 or greater

OBJECTIVE

Abnormal blood cholesterol levels which includes at least one of the following:

- Fasting total cholesterol 200 mg/dL or greater
- Fasting HDL cholesterol less than 50 mg/dL
- Fasting LDL cholesterol greater than 130 mg/dL
- Fasting triglycerides greater than 150mg/dL

ASSESSMENT

Elevated Cholesterol and/or Triglycerides (hypertriglyceridemia)

PLAN

DIAGNOSTIC STUDIES

Fasting total cholesterol, lipid profile (to include HDL, LDL) and triglycerides. Assessment cannot be made on screening total cholesterol only.

THERAPEUTIC

PHARMACOLOGIC

Change to nonhormonal contraceptive method, such as IUD

CLIENT EDUCATION/COUNSELING

1. **Counsel client on increased** risk factors associated with **CVD,** smoking, hypertension, diabetes and obesity.

2. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

3. **Counsel client on** lifestyle changes such as diet modifications to lower blood cholesterol, diet low in fat, high in fiber (plenty of whole grains, vegetables and fruits).

4. Advise **client** to increase exercise and/or physical activity.

5. **Advise client that** lower dose OC probably do not adversely affect lipid levels in most women.

FOLLOW-UP

Recheck lipid profile in 3–6 months **or as directed by managing physician.**

CONSULTATION/REFERRAL

1. Refer to physician immediately **if client has at least one of the following abnormal blood cholesterol levels:**
   - Total cholesterol 200 mg/dL or greater
   - HDL cholesterol less than 50 mg/dL
   - LDL cholesterol greater than 130 mg/dL
   - Triglycerides greater than 150 mg/dL

   a. **If client has elevated cholesterol and/or triglycerides (hypertriglyceridemia) and no other risk factors for CVD (e.g., diabetes, hypertension, BMI greater than 30, age 40 or greater, smoking), client may restart hormonal contraceptive with physician's written approval. (Refer to *WHO Medical Eligibility Criteria Use* for medical conditions that represent an unacceptable health risk for taking hormonal contraceptives.)**

b. **If client has elevated cholesterol and/or triglycerides (hypertriglyceridemia) and multiple risk factors for CVD (such as diabetes, hypertension, BMI greater than 30, age 40 or greater, smoking) that represent an unacceptable health risk for taking hormonal contraceptives, client must be managed by physician for hormonal contraceptive methods. (Refer to *WHO Medical Eligibility Criteria Use*.)**

2. Refer to nutritionist for dietary counseling as needed.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. *Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III),* Executive Summary, NIH, Publication No. 01-3670, National Heart, Lung, and Blood Institute, HHS, Bethesda, MD, 2002. **(Current)**
4. "Cholesterol," American Heart Association, <http://www.heart.org/HEARTORG/Conditions/Cholesterol/Cholesterol_UCM_001089_SubHomePage.jsp> **(May 16, 2011)**
5. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th** ed., **2009,** <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> **(May 16, 2011)**
6. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
7. **CDC, *"U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**

STANDARD NURSE PROTOCOL FOR HYPERTENSION WHILE TAKING COMBINED ORAL CONTRACEPTIVES

DEFINITION

Women who use **combined** oral contraceptives **(OC)** rarely develop hypertension. However, the probability of developing hypertension increases with age. Hypertension may appear at any time and is not limited to the first months of use. **Combined OC**-related hypertension is usually mild to moderate (a rise over baseline of 10-20 mmHg diastolic and/or 20 to 40 mmHg systolic). The hypertension is usually reversible within one to three months after discontinuing **combined OC.** Only a few cases progressing to malignant hypertension have been reported.

ETIOLOGY

Variables such as previous toxemia of pregnancy or previous renal disease do not predict whether a woman will develop hypertension while using **combined OC**. The mechanism for an effect of **combined OC** on blood pressure is thought to involve the renin angiotensin system.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history) that may reveal risk factors for hypertension. Risk factors include:**
   - **Family history of hypertension**
   - **Race (African American)**
   - **BMI equal to or greater than 30 kg/m^2 and/or waist circumference in female equal to or greater than 35 inches.**
   - **Habitual high salt intake**
   - **Lifestyle elements: sedentary, smoking, stress**
   - **Certain chronic conditions such diabetes and high cholesterol**

2. **Client is currently taking combined OC and hypertension has developed.**

OBJECTIVE

Blood pressure, measured according to Nurse Protocol for Primary Hypertension in Adults**,** shows:

1. Systolic blood pressure 140 mmHg or greater on three or more separate occasions.

   OR

2. Diastolic blood pressure 90 mmHg or greater on three or more separate occasions.

NOTE: See Standard Nurse Protocol for Primary Hypertension in Adults

ASSESSMENT

Hypertension, possibly related to **combined OC**

PLAN THERAPEUTIC

PHARMACOLOGIC

Change to another contraceptive method. **For appropriate selection, please refer to Standard Nurse Protocol for Progestin-Only Pill, Standard APRN Protocol for IUD Insertion: Copper T380A, or Standard APRN Protocol for IUD Insertion: Mirena LNG IUD.**

NON-PHARMACOLOGIC MEASURES

Review the following lifestyle modifications, as applicable, with all clients:

1. Achieve/maintain desirable body weight or BMI of 18.5-24.9 kg/m^2.

2. Reduction of dietary sodium (1500 mg to no more than 2300 mg/day) and dietary counsel regarding the Dietary Approaches to Stop Hypertension (DASH), Reduced Sodium Diet. **Persons who are 40 years of age or older, African Americans, and persons with high blood pressure should consume no more than 1,500 mg per day.**
   For specific recommendations, see: <http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm>

3. Reduction of dietary fats and cholesterol **to meet DASH recommendations.**

4. Moderation of alcohol intake (less than one ounce [30mL] ethanol/day for men and less than 0.5 oz. [15mL] for women). One ounce of ethanol equals 24 oz. beer, 10 oz. wine, or 3 oz. 80-proof whiskey.

5. Adequate dietary potassium intake (if renal function is normal and not taking drugs known to raise potassium, such as Angiotensin-Converting Enzyme Inhibitors) of 4700 mg/day.

6. Regular aerobic physical activity at least 30 minutes per day, most days of the week.

7. **Smokers and tobacco users should receive cessation counseling and be referred to the Georgia Quit Line 1-877-270-STOP (7867).**

8. Adequate intake of calcium, 1000-1500 mg/day **based on age.**

NOTE: Refer to Georgia Dietetic Association Diet Manual and Nutrition Practice Guidelines: A Manual of the Georgia Dietetic Association 4th edition, 2010, for lists of foods rich in potassium and calcium.

CLIENT EDUCATION/COUNSELING

1. **Counsel client** on lifestyle changes that may help lower blood pressure, including recommendations to:
   - Limit sodium intake to no more than 1500-2300 mg/day.
   - Eat a diet rich in vegetables, fruits and low-fat dairy products such as low-fat milk and yogurt.
   - Exercise and/or increase physical activity.
   - Quit smoking.
   - Decrease intake of caffeine and alcohol.
   - Avoid over-the-counter oral decongestants and diet pills.
   - Attain and maintain optimal weight.
   - Attain and maintain adequate calcium.

2. Discuss possible risks and complications of hypertension.

FOLLOW-UP

Monitor blood pressure monthly, for 3 months.

CONSULTATION/REFERRAL

1. **Immediately refer client to the Emergency Room with accelerated hypertension characterized by systolic pressure 180 mmHg or greater or diastolic pressure 110 mmHg or greater on any occasion.**

2. For uncontrolled blood pressure consistently 140 mmHg or greater systolic, or 90 mmHg or greater diastolic, **refer to physician. Discontinue combined OC until further instructions or recommendations from physician.**

3. **Refer client** to nutritionist for diet counseling about optimal food intake to attain/maintain normal blood pressure, Na intake and weight.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins, et al., *Protocols for Nurse Practitioners in Gynecologic Settings*, 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Leon Speroff and Marc Fritz, *Clinical Gynecologic Endocrinology and Infertility*, **8th** ed., Lippincott Williams & Wilkins, Philadelphia, **2010. (Current)**
4. *Dietary Reference Intakes for Water, Potassium, Sodium, Chloride and Sulfate*, The National Academies, **2005**, **< http://www.nap.edu> (May 16, 2011).**
5. **Georgia Dietetic Association Diet Manual and Nutrition Practice Guidelines: A Manual of the Georgia Dietetic Association, 4th edition, Atlanta, GA: Georgia Dietetic Association, 2010. (Current)**
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7. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
8. **Your Guide to Lowering Your Blood Pressure with DASH, *National Heart Lung and Blood Institute,* 2006, <http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm> (May 16, 2011)**
9. **CDC, *"U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**

STANDARD NURSE PROTOCOL FOR SPOTTING OR BREAKTHROUGH BLEEDING WHILE TAKING ORAL CONTRACEPTIVES

DEFINITION **Breakthrough bleeding (BTB) is an abnormal uterine bleeding that occurs between menstrual periods in women taking OC. A light amount of BTB is referred to as spotting. Spotting and BTB are generally not a sign of any serious problems.**

ETIOLOGY **Spotting and BTB are most common (30-50%) in women taking combined OC, but also may occur with other hormonal contraceptives. Spotting and BTB are most likely to occur during the first few months after a woman begins taking OC and generally resolves by the third or fourth month of use.**

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client** may have a recent history **which includes the following:**

   - **started new OC or changed OC**
   - missed OC or incorrect usage
   - intermenstrual spotting/ bleeding for several months
   - GI problems such as vomiting or diarrhea
   - abnormal vaginal discharge and/or odor
   - dyspareunia or pelvic pain
   - **history of abnormal pap**
   - **pain during menses**
   - **pain or bleeding at sexual intercourse**
   - **new sex partner**
   - **smoking**
   - **new medications**

3. **Client** may have history of taking antiseizure medications (phenobarbital, phenytoin, carbamazepine, or promidone), **antibiotic use**, rifampin, topiramate or griseofulvin.

OBJECTIVE Pelvic exam is negative for other causes of bleeding.

ASSESSMENT Spotting or BTB while taking OC.

PLAN **DIAGNOSTIC STUDIES**

1. Urine dipstick if indicated.

2. Gonorrhea and chlamydia tests, if indicated.

3. Pregnancy test if indicated.

4. Hemoglobin/hematocrit if indicated.

5. Wet prep if indicated.

THERAPEUTIC

PHARMACOLOGIC

NOTE: Please refer to Appendix A to determine appropriate OC formulation.

1. For women with persistent irregular bleeding after 2-3 months, consider changing to other formulations, although no research indicates any specific OC is best at eliminating spotting or bleeding.

2. If spotting or bleeding before completion of active OC, increase the progestin content of the OC either by changing to a different monophasic formulation or by switching to a triphasic formulation that increases the progestin level of active OC.

   OR

3. If spotting continues after the withdrawal bleed, increase the estrogen in the each tablet or decrease the progestin in the early pills (especially with triphasic formulation).

   OR

4. For mid-cycle spotting/bleeding, increase both estrogen/ progestin mid-cycle with OC such as Triphasil and Tri-Levlen.

CLIENT EDUCATION/COUNSELING

1. Reassure new OC users that breakthrough bleeding **generally** decreases dramatically over the first 3-4 months of pill **initiation.**

2. Reinforce proper **administration** of OC, especially **the importance of** taking pills at the same time each day.

3. Counsel on use of alternate **contraceptive** method if OC are discontinued.

4. Counsel on use of condoms to reduce the risk of STD/HIV.

5. **Advise that** BTB occurs at a higher rate in women who smoke.

6. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), **if smoker or tobacco user.**

7. **Discuss common drug interaction risks between OC and herbal substances. Herbal substances such as St. John's Wort may increase metabolism of estrogen and cause side effects and/or decreased effectiveness.**

8. **Discuss the decreased efficacy of OC when taking antibiotics, and the need for additional back-up method during this time.**

FOLLOW-UP

Reassess **spotting or BTB** in 3 months depending on the acuity of the problem.

CONSULTATION/REFERRAL

1. **Seek consultation, as applicable**, if spotting or BTB continues.

2. **Seek consultation, as applicable, if client has** abnormal diagnostic test results.

3. **Refer client to physician** for pelvic pathology.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Leon Speroff and Marc Fritz, *Clinical Gynecologic Endocrinology and Infertility*, **8th** ed., Lippincott Williams & Wilkins, Philadelphia, **2010. (Current)**
4. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**

STANDARD NURSE PROTOCOL FOR PROGESTIN-ONLY PILL (MINIPILL)

DEFINITION

Progestin-only pills are also known as minipills. Minipills contain only a progestin and are taken daily with no hormone free days. Minipills have lower progestin doses than combined pills and no estrogen. The amount of progestin in the minipill is less than the amount in the lowest-dose combination oral contraceptives.

ETIOLOGY

Minipills prevent pregnancy by: inhibiting ovulation, thickening and decreasing cervical mucus preventing sperm penetration, suppressing mid-cycle peaks of LH and FSH, inhibiting progesterone-receptor synthesis, reducing number/size of endometrial glands associated with a thin atrophic endometrium, reducing activity of the cilia in the fallopian tubes, arresting movement of the blastocyst, and premature luteolysis (diminished function of the corpus luteum).

Minipills do not suppress the milk supply once breastfeeding is well established and studies have found no adverse effects on infant health. The minipill is often used after a woman has experienced one of the estrogen-excess side effects with use of combination pills.

Because minipills often cause irregular bleeding, undiagnosed abnormal vaginal bleeding is one of the more important contraindications to their use. Also, minipills do not protect against ectopic pregnancy as effectively as they protect against intrauterine pregnancy.

SUBJECTIVE

1. **Client provides a** detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and the *WHO Medical Eligibility Criteria for Contraceptive Use*.

2. **If breastfeeding, has been breastfeeding at least 6 weeks postpartum.**

3. **If on Antiretroviral Therapy, does not take Ritonavir-boosted protease inhibitors. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

4. **If on Anticonvulsant Therapy, does not take certain anticonvulsants (e.g., phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine). Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

5. If on Antimicrobial Therapy, does not take a rifamycin derivative. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.

6. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for taking the minipill. Medical conditions include:

- **Deep vein thrombosis (DVT)**
- **Pulmonary embolism - acute**
- **Ischaemic heart disease (continuation of minipill)**
- **Stroke (continuation of minipill)**
- **Positive (or unknown) antiphospholipid antibodies**
- **Migraine headaches with aura (continuation of minipill)**
- **Breast cancer**
- **Cirrhosis – severe (decompensated)**
- **Liver Tumours – benign hepatocellular adenoma; malignant (hepatoma)**

7. May complain of estrogen-excess side effects while taking combined oral contraceptives, such as headaches, leg pain, weight gain, nausea.

8. Breastfeeding **client** must give a history of no unprotected intercourse within the prior two weeks **of starting minipills.**

9. May want lowest-dose oral contraceptive available.

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

OR

2. Physical exam deferred up to 3 months.
Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that client agreed to have physical exam delayed.

3. Pregnancy test, if indicated, is negative.

ASSESSMENT

Client has no condition representing an unacceptable health risk if taking minipills.

PLAN

DIAGNOSTIC STUDIES

1**. The lipid profile may be obtained at the clinician's discretion if needed. The decision to draw a lipid profile will be determined by the RN and/or the APRN/physician, which is based on a clinical evaluation of the individual client. The RN**

may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile.

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

1. Order any FDA approved progestin-only OC. **(See Appendix A)**

2. If breastfeeding, wait until breastfeeding well established (usually at six weeks postpartum) before starting mini pills. May begin mini pills on the first day of menses or on any day that pregnancy has been ruled out.

3. Always take one pill every day at the same time. Taking a pill more than a few hours late increases the risk of pregnancy, and missing two or more pills in a row greatly increases the risk. When one packet is finished, take the first pill from the next packet on the very next day. All pills are active, hormonal pills. There is no wait between packets.

4. With missed pills or more than three hours late taking the pills, use a barrier method or avoid sex for two days. Take the last missed pill as soon as possible and continue taking one pill each day as usual.

5. If pills were not taken on schedule and **client** has had unprotected sex in the past 72 hours **(3 days)**, may want to use emergency contraceptive pills (ECP) to reduce the risk of pregnancy (See Nurse Protocol for Emergency Contraceptive Pills).

6. If **client** currently taking OC or took previously without problems, may dispense appropriate number of cycles until next exam is to be performed.

7. **If client is amenorrhoeic, client can start minipills at any time, as long as pregnancy test is negative. She will need back-up method for the next 2 days.**

8. **<u>Postpartum (breastfeeding)</u>:**
   a. **If client is between 6 weeks and 6 months postpartum and amenorrheic, she can start minipills at any time. If she is fully or nearly fully breastfeeding, no back-up method is needed.**
   b. **If she is more than 6 weeks postpartum and her menstrual cycles have returned, she can start minipills as advised for other women having menstrual cycles.**

9. **<u>Postpartum (non-breastfeeding)</u>:**
   a. **If client is less than 21 days postpartum, she can start minipills at any time. No back-up method is needed**.
   b. **If client is 21 or more days postpartum and her menstrual cycles have not returned, she can start minipills at any time, as long as pregnancy test is negative. She will need back-up method for the next 2 days.**
   c. **If her menstrual cycles have returned, she can start minipills as advised for other women having menstrual cycles.**

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to seven basic elements of informed consent (BRAIDED - Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. The minipill may cause irregular bleeding or amenorrhea.

3. Danger signs:
   a. Abdominal pain may be due to an ovarian cyst or ectopic pregnancy.
   b. A delayed period after several months of regular cycles may be a sign of pregnancy.
   c. Repeated, very severe headaches.

4. The minipill must be taken at about the same time every day. The margin for error is less with the minipill than with the combined OC.

5. There appear to be no significant metabolic effects and there is an immediate return to fertility upon discontinuation of the minipill.

6. **Advise client to refer to the pill package insert for missed pill(s) instructions.**

7. **Offer Plan B or emergency contraceptive pills (ECP) if pill was missed or taken late and client had unprotected sex in the past 72 hours. ECP reduce the risk of pregnancy. (See Nurse Protocol of Emergency Contraceptive Pills.) Restart the pill no later than the next day after emergency contraception was used.**

8. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

9. Counsel on the use of condoms to reduce the risk of STD/HIV.

10. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), if smoker or tobacco user.

11. Emphasize importance of keeping immunizations current; assess **client's** immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If **client** declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp

FOLLOW- UP

1. **Client should** return as scheduled for evaluation or contact clinic if side effects, danger signs, or symptoms of possible pregnancy **develop**. Outside of clinic hours, seek physician or emergency care if danger signs develop.

2. If **client** did not receive a physical exam, have her return within 3 months for an exam and reassessment.

3. Established **clients** should return for an evaluation at the end of the current supply of pills, or sooner if side effects, danger signs, or **symptoms of pregnancy** develop.

CONSULTATION/REFERRAL

1. **Refer client to physician if client develops** danger signs.

2. **Refer to nutritionist if client** has poor dietary intake, is overweight or underweight, is anemic or has any chronic disease related to poor nutrition.

3. **Seek consultation, as applicable, if client has abnormal initial laboratory values or develops abnormal laboratory values and/or physical findings that indicate the minipill should not be continued.**

4. **Refer to physician if client has** suspected pregnancy (e.g., missed menses after several regular cycles), especially if she has signs of ectopic pregnancy such as abdominal pain or tenderness, or fainting.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings, 9th ed.*, Springer Publishing Co, New York, 2007. **(Current)**
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4. **World Health Organization (WHO), *Selected Practice Recommendations for Contraceptive Use*, 2nd ed., 2004, <http://www.who.int/reproductivehealth/publications/family_planning/9241562846index/en/index.html> (May 16, 2011)**
5. **World Health Organization (WHO), *Medical Eligibility Criteria for Contraceptive Use,* 4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
6. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
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8. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
9. **CDC, *"U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**

STANDARD NURSE PROTOCOL FOR EMERGENCY CONTRACEPTIVE PILLS (ECP)

DEFINITION

Emergency Contraception is a contraceptive method used to prevent pregnancy. Emergency Contraceptive Pills (ECP) are increased doses of oral contraceptives taken after sexual intercourse to prevent pregnancy. ECP are ineffective if a woman is already pregnant.

ETIOLOGY

ECP work by delaying or preventing ovulation. ECP are most effective if given within 72 hours of unprotected intercourse. The sooner ECP are initiated, the more effective the treatment. ECP will not disrupt a pregnancy once implantation has occurred. There is no evidence that ECP will harm a developing baby once implantation has occurred. The effectiveness of treatment depends on when in the woman's menstrual cycle the emergency contraception is used.

There is no evidence-based medical contraindications to the use of ECP. The duration of use of ECP is less than that of regular use of combined oral contraceptives and progestin only pills and thus would be expected to have less clinical impact.

SUBJECTIVE

1. **Client provides history of unprotected sexual intercourse within the last 120 hours (5 days) and** requests postcoital contraception as an emergency measure only (not as ongoing routine contraception).

   NOTE: Emergency Contraceptive is most effective if given within 72 hours of unprotected intercourse. The sooner ECP are initiated, the more effective the treatment.

2. Precautions:
   When dispensing **Plan B® One-Step or** Plan B® **Two-Step** or **Next Choice:**
   a. History of hypersensitivity to any component of progestin only pills.
   b. Undiagnosed vaginal bleeding.
   c. Known or suspected pregnancy.

   Contraindications when dispensing combined oral contraceptives:
   a. Known or suspected pregnancy.
   b. Hypersensitivity to any component of combined OC.
   c. Acute migraine headaches at the time **client** plans to take the OC.

d. History of thromboembolic disease or pulmonary embolus (Use **Plan B® One-Step or** Plan B® **Two-Step or Next Choice).**

3. If client seeks emergency contraception as a result of rape, non-consensual sex or other concerns with partner, seek STD work up.

OBJECTIVE

1. Negative pregnancy test.

2. Pelvic exam, if indicated.

3. Availability of **Plan B® One-Step and** Plan B® **Two-Step** or **Next Choice**:
   a. 17 years of age or older - Over the counter (OTC).
   b. 16 years of age or younger – Prescription only for females.

ASSESSMENT **Client** requests emergency contraception: no contraindications.

PLAN **THERAPEUTIC**

PHARMACOLOGIC

One-Step

Brand	Manufacturer	Directions	Levo-norgestrel per tablet (mg)	Anti-nausea Rx Recom-mended
Plan B® **One-Step**	**Teva**	**Take one tablet as soon as possible within 72 hours after unprotected intercourse.**	1.5	No

OR

Two-Step

Brand	Manufacturer	**Directions**	Levo-norgestrel per Dose (mg)	Anti-nausea Rx Recom-mended
Plan B® Two-Step	**Teva**	**Take one tablet as soon as possible within 72 hours after unprotected**	0.75	No

Brand	Manufacturer	**Directions**	Levo-norgestrel per Dose (mg)	Anti-nausea Rx Recom-mended
Next Choice	**Watson**	**intercourse, and another tablet 12 hours later.**	**0.75**	**No**

1. Plan B® One-Step - <u>one single dose</u> of 1.5 mg levonorgestrel (1 white pill – 1.5 mg each) as soon as possible within 72 hours after unprotected intercourse.

2. **Plan B® Two-Step or Next Choice - one single dose of 0.75 mg levonorgestrel (1 white pill – 0.75 mg each) as soon as possible within 72 hours after unprotected intercourse, and another single dose of 0.75 mg levonorgestrel 12 hours later. If necessary, adjust the timing for the second dose by a few hours to avoid a middle-of-the-night dose.**

   NOTE: Antiemetics not needed with **Plan B® One-Step,** Plan B® **Two-Step or Next Choice.**

3. If **client** wants to use OC as an ongoing method, initiate a new pack of OC according to manufacturer's directions at the next menstrual cycle, or begin taking OC one tablet daily the day after ECP treatment is complete. Use a back-up method for 7 days if OC started immediately.

CLIENT EDUCATION/COUNSELING

1. **Provide the client with** exact directions for taking medication.
   a. **Swallow Plan B® One-Step dosage (1.5 mg) as soon as possible within 72 hours after unprotected sex.**
      OR
   b. **Swallow the first dose of Plan B® Two-Step or Next Choice as soon as possible within 72 hours after unprotected sex.**
      AND
      Swallow the second dose of Plan B® Two-Step or Next Choice 12 hours after taking the first dose.

2. **Advise client to not take any extra pills. More pills will not decrease the risk of pregnancy any further but may increase the risk of nausea, possible causing vomiting.**

3. **Inform client that next menstrual period may start a few days earlier or later than usual.** The next menstrual period should begin within the next 2 or 3 weeks. If no menses in 3 weeks advise **client** to return to clinic for pregnancy test.

4. **Discuss the** risks of nausea and emesis.
   a. The nausea is usually mild and should stop within a day or so after treatment.
   b. If severe gastrointestinal side effects occur after the first dose of combined ECP, **client** may need additional medication.
   c. If **client** vomits within **two** hour**s** after either dose, take an additional dose.
   d. If **client** vomits more than two hours after taking the pills, additional pills are not recommended.

5. Strongly encourage **client** to choose an acceptable, ongoing method of birth control.

6. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

7. **Advise client that ECP does not protect against STD/HIV.** Counsel on the use of condoms to reduce the risk of STD/HIV.

8. **Provide information to the Emergency Contraception Hotline (1-888-NOT-2-LATE). The Hotline is an automated, toll free confidential service available 24 hours a day in English and Spanish. In addition to basic information, each caller hears a recording of the names and telephone numbers of the five closest ECP providers.**

9. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), if smoker or tobacco user.

FOLLOW-UP

1. **Return to clinic if menses** has not started in 3 weeks, or if next menses is unusually light or painful.

2. Return to clinic for long-term birth control method if not provided at visit.

CONSULTATION/REFERRAL

1. **Refer client to physician** immediately, if nausea/vomiting cannot be controlled.

2. **Refer client to physician if client develops** any serious side effects of **oral contraceptives**.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Leon Speroff et al., *Clinical Gynecologic Endocrinology and Infertility,* **8th** ed., Lippincott Williams and Wilkins, Baltimore, MD, **2010. (Current)**
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5. **World Health Organization (WHO), *Medical Eligibility Criteria for Contraceptive Use,* 4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
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9. **World Health Organization (WHO), *Family Planning: A Global Handbook for Providers*, 2007, <http://www.unfpa.org/webdav/site/global/shared/documents/publications/2007/family_planning.pdf> (May 16, 2011)**
10. ***Plan B One-Step*, Teva Women's Health, Inc., 2010, <http://www.planbonestep.com> (May 24, 2011)**
11. ***Next Choice-Step*, Watson Pharma, Inc., 2011, <http://www.mynextchoice.com> (May 24, 2011)**
12. ***The Emergency Contraception Website*, Office of Population Research at Princeton University and the Association of Reproductive Health Professionals, 2011, <http://ec.princeton.edu/index.html> (May 24, 2011)**
13. **CDC, *"U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
14. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (July 5, 2011)**

STANDARD NURSE PROTOCOL FOR IUD-RELATED DYSMENORRHEA

DEFINITION

Dysmenorrhea is pain during menstruation that interferes with daily activities. Intrauterine device (IUD) related dysmenorrhea is painful menses during IUD use.

ETIOLOGY

The main symptom of dysmenorrhea is pain with menses. The pain is concentrated in the abdomen, pelvic region, or lower back. Symptoms often co-occurring with menstrual pain include nausea, vomiting, diarrhea, headaches, weakness, dizziness or lightheadedness. Moderate to severe dysmenorrhea may be an indication for removal of the IUD.

Differential diagnosis includes mechanical pressure of IUD against wall of uterus, partial expulsion, pelvic inflammatory disease (PID), endometriosis, cancer, leiomyomata and ectopic pregnancy. Since cramping and abdominal pain may be signs of pregnancy or infection, those two problems must always be ruled out.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client reports painful menses and gives history of current IUD.**

3. Client may have a recent history which includes the following:
   - heavy or late menses
   - PID/STD
   - vaginal infection/discharge
   - recent **sexual** partner change or multiple **sexual** partners
   - pain with IUD in past

4. **Client provides** IUD type, **insertion** date, **and date of last string check.**

OBJECTIVE

1. External exam usually within normal limits.

2. Internal exam usually within normal limits; may note vaginal discharge or partially-expelled IUD. Note length of IUD strings.

3. Bimanual exam usually within normal limits; may note tenderness on examination; may feel partially-expelled IUD.

ASSESSMENT

IUD-related dysmenorrhea

PLAN

DIAGNOSTIC STUDIES

1. Sensitive urine pregnancy test.

2. Hemoglobin/hematocrit, if indicated.

3. Gonorrhea and chlamydia tests; vaginal wet mount, if indicated.

4. Pap smear, if indicated.

THERAPEUTIC

PHARMACOLOGIC

Prostaglandin inhibitors/nonsteroidal anti-inflammatory drugs such as:

1. Ibuprofen 400 mg PO every 4 hours as needed for pain. (Maximum dose 1.2 gm/day)

   OR

2. **Naproxen 500 mg PO for one dose, then 250 mg PO every 6-8 hours as needed for pain. (Maximum dose 1250 mg/day)**

   OR

3. Over-the-counter-strength products (e.g., Advil, Nuprin, Aleve, Motrin IB, coated aspirin, or acetaminophen) per package directions prn.

NON-PHARMACOLOGIC MEASURES

1. Heating pad or hot-water bottle to pelvic region; hot baths or showers; warm liquids taken orally.

2. For moderate to severe dysmenorrhea not relieved by any of the above, the IUD may be removed by APRN/physician if the **client** desires and replaced with progestin-releasing IUD.

CLIENT EDUCATION/COUNSELING

1. Discuss findings, treatment rationale.

2. **Counsel on the use of condoms to reduce the risk of STD/ HIV.**

3. Discuss correct use and side effects of medications.

FOLLOW-UP

Return to the clinic if symptoms are not relieved or if foul discharge begins.

CONSULTATION/REFERRAL

Refer client to physician if symptoms not relieved by the above measures.

REFERENCES

1. Robert Hatcher et al, *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al, *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
4. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (July 5, 2011)**

STANDARD NURSE PROTOCOL FOR IUD-RELATED MENORRHAGIA

DEFINITION

Menorrhagia refer to menstrual periods that occur at regular intervals but are marked by prolonged bleeding (greater than 7 days) or excessive blood loss (greater than 80 mL.) IUD-related menorrhagia is prolonged or excessive bleeding with an IUD in place.

ETIOLOGY

Presence of IUD in utero. **Bleeding problems constitute one of the more common IUD complications. Women using the copper-releasing IUD (Cooper T380A) usually have heavier menses. Excessive bleeding with the Cooper T380A can be treated with non-steroidal anti-inflammatory drugs. Since local prostaglandin production is involved with excessive bleeding, any prostaglandin synthetase inhibitor should help. Starting in advance of menses does not give better results than starting with the onset of flow. If hemoglobin levels drop, oral iron supplementation can be started. Excessive menstrual bleeding may be an indication for removal of the IUD.**

Other causes to consider may be: pelvic inflammatory disease (PID), partial expulsion of the IUD, dysfunctional uterine bleeding as a result of an endocrine imbalance, cancer of the cervix or endometrium, cervical or uterine polyps, abnormal perimenopausal bleeding, fibroids, and pregnancy.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client reports prolonged or excessive menstrual bleeding and gives history of current IUD.**

3. **Client may have a recent history which includes the following:**
   - **decrease in appetite**
   - **dizziness, weakness or tiredness**
   - **pale skin color**

OBJECTIVE

1. External exam usually within normal limits.

2. Internal exam may be within normal limits**;** or may note partially-expelled IUD or feel **IUD** in the cervical canal**;** and/or may elicit pain upon cervical motion.

3. Bimanual exam may be within normal limits**;** or may elicit tenderness or pain in uterus and adnexal areas, characteristic of PID.

ASSESSMENT IUD-related menorrhagia.

PLAN **DIAGNOSTIC STUDIES**

1. Hematocrit or hemoglobin.

2. Sensitive urine pregnancy test.

3. Gonorrhea and chlamydia tests; vaginal wet mount~~s~~, if indicated.

4. Pap smear, if indicated.

THERAPEUTIC

PHARMACOLOGIC

1. If hemoglobin below normal, treat according to Nurse Protocol for Iron-Deficiency Anemia.

2. **Prostaglandin inhibitors/nonsteroidal anti-inflammatory drugs as needed to help reduce menstrual blood loss and for relief of pain.** Begin at the onset of menses and continue for at least 3 days.

   a. Ibuprofen 400 mg PO every 4 hours as needed for pain. (Maximum dose 1.2 gm/day)

   OR

   b. Naproxen 500 mg PO for one dose, then 250 mg PO every 6-8 hours as needed for pain. (Maximum dose 1250 mg/day)

   OR

   c. Over-the-counter-strength products (e.g., Advil, Nuprin, Aleve, Motrin IB, coated aspirin, or acetaminophen) per package directions prn.

NON-PHARMACOLOGIC MEASURES

1. Remove the IUD (by APRN **or physician**) for the following:
   a. Partial expulsion**.**
   b. **Excessive menstrual blood loss**.
   c. **Client's** request for removal of IUD for any reason.

2. **Strongly consider IUD removal (by APRN or physician) for the following:**
   a. **hemoglobin has dropped 2 gm/dL or more from previous reading**
   b. **hemoglobin is less than 9 gm/dL**
   c. **hematocrit has dropped 6% or more over 4-6 weeks**
   d. **hematocrit is less than 27%.**

3. **If IUD is removed, may initiate alternate contraceptive method. Combined contraceptives (combined oral pills, Ortho Evra Patch, Nuvaring, Depo-Provera) may decrease bleeding and blood loss. Also the levonorgestrel IUD (Mirena) generally improves menorrhagia. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for the selected contraceptive method.**

CLIENT EDUCATION/COUNSELING

1. **Counsel client on the importance of** iron rich foods **in the daily diet of menstruating women.**

2. **Discuss** signs of possible pelvic infection and excessive bleeding.

3. **Reinforce importance of** check**ing** for IUD string after each period.

4. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), if smoker or tobacco user.

FOLLOW-UP

Return in 4-6 weeks for evaluation of bleeding and hematocrit/ hemoglobin.

CONSULTATION/REFERRAL

1. **Immediately** refer **client to physician** if suspect ectopic pregnancy.

2. **Refer client to physician if menorrhagia continues for 1-2 menstrual periods after pharmacologic measures started.**

3. **Refer client to physician** if no improvement in anemia after 4 weeks of **iron supplemental** therapy.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings*, 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
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STANDARD NURSE PROTOCOL FOR MEDROXYPROGESTERONE ACETATE (Injectable Contraceptive)

DEFINITION

Medroxyprogesterone acetate is a progestin-only (estrogen-free) long acting reversible hormonal contraceptive birth control drug which is injected every 3 months or 12 weeks. Medroxyprogesterone acetate is commonly known as Depo-Provera.

ETIOLOGY

Depo-Provera inhibits ovulation by suppressing levels of follicular-stimulating hormone (FSH) and luteinizing hormone (LH) and by eliminating the LH surge. The pituitary gland remains responsive to gonadatropin-releasing hormone, which suggests that the site of action of medroxyprogesterone acetate is the hypothalamus.

SUBJECTIVE

1. **Client** desires **Depo-Provera** as choice of contraception.

2. **Client provides** detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and to the *WHO Medical Eligibility Criteria for Contraceptive Use*.

3. **Client provides** known risk factor(s), medical condition(s) or medication use that can increase the risk of developing osteoporosis.
   a. **Women with medical co-morbidities that place them at risk for osteoporosis and fracture, such as chronic corticosteroid use, disorders of bone metabolism, a strong family history of osteoporosis or women with anorexia nervosa, may not be well suited for long-term Depo-Provera use. Consider alternative contraceptives in client with significant risk factors for osteoporosis.**

4. **If breastfeeding, has been breastfeeding at least 6 weeks postpartum.**

5. **Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for taking Depo-Provera. Medical conditions include:**
   - **Multiple risk factors for arterial cardiovascular disease (such as older age, smoking, diabetes and hypertension)**

- **Elevated blood pressure levels (systolic equal to or greater than 160 mmHg or diastolic equal to or greater than 100 mmHg)**
- **Vascular disease**
- **Deep vein thrombosis (DVT) / Pulmonary embolism - acute**
- **Ischaemic heart disease**
- **Stroke**
- **Positive (or unknown) antiphospholipid antibodies**
- **Severe thrombocytopenia (initiation)**
- **Migraine headaches with aura (continuation)**
- **Unexplained vaginal bleeding**
- **Breast cancer**
- **Diabetes – nephropathy/retinopathy/neuropathy**
- **Cirrhosis – severe (decompensated)**
- **Liver Tumours – benign hepatocullular ademona; malignant (hepatoma)**

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

   OR

2. Physical exam deferred up to 3 months.
   Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (Form 3700) that client agreed to have physical exam delayed.

3. Pregnancy test, if indicated, is negative. If necessary, (amenorrhea or irregular menses) repeat pregnancy test after a two-week interval of abstinence or consistent use of a reliable method of contraception.

4. **Age Range:**
   The *WHO Medical Eligibility Criteria for Contraceptive Use* indicates the following for the use of Depo-Provera:
   a. Women in the age range of 18 through 45 years - WHO Category 1 (use method in any circumstances).
   b. Women who are less than 18 or more than 45 years of age - WHO Category 2 (generally use the method).
   c. Women who are less than 18 years of age and have a BMI greater than 30 - WHO Category 2 (generally use the method).

5. **Bone Mineral Density**
   a. According to the WHO, most studies have found that women lose bone mineral density while using Depo-Provera , but regain bone mineral density after

discontinuing Depo-Provera. Therefore, all Depo-Provera users should have the FDA black box warning clearly explained to them and a discussion of alternatives if they choose to change methods.

b. Hatcher recommends that all women using Depo-Provera, including teens, should be taking in sufficient calcium in diet or be encouraged to take calcium supplements. Also encourage users to exercise regularly and avoid smoking.

c. If needing a birth control for more than 2 years may consider another birth control method or test of bone density. Use longer than 2 years is not recommend.

NOTE: In November 2004, the FDA issued the following "black box warning" in the Depo-Provera package labeling. Clinicians are advised to review the following warning, which has been added to the prescribing information:

"Women who use Depo-Provera Contraceptive Injection may lose significant bone mineral density. Bone loss is greater with increasing duration of use and may not be completely reversible. It is unknown if use of Depo-Provera Contraceptive Injection during adolescence or early adulthood, a critical period of bone accretion, will reduce peak bone mass and increase the risk of osteoporotic fracture in later life. Depo-Provera Contraceptive Injection should be used as a long-term birth control method (e.g., longer than 2 years) only if other birth control methods are inadequate."

In June 2005, WHO reviewed the evidence on this subject and concluded:

"there should be no restriction on the use of Depo-Provera (DMPA), including no restriction on duration of use, among women aged 18 to 45 who are otherwise eligible to use the method."

WHO further recommended:

"Among adolescents (menarch to age17) and women over age 45, the advantages of using Depo-Provera usually outweigh the theoretical safety concerns regarding fracture risk. Since data are insufficient to determine if this is the case with long-term use among these age groups, the overall risks and benefits for continuing use of the method should be reconsidered over time with the individual user."

ASSESSMENT **Client** has no condition representing an unacceptable **health** risk if using **Depo-Provera**.

PLAN **DIAGNOSTIC STUDIES**

1. **The lipid profile may be obtained at the clinician's discretion if needed. The decision to draw a lipid profile will be determined by the RN and/or the APRN/physician, which is based on a clinical evaluation of the individual client. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile.**

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

NOTE: Allergic reactions may occur. Encourage client to remain in the clinic at least 20 minutes after each injection. Refer to the Allergic Reaction Nurse Protocol as needed.

1. **Availability:**
   Depo-Provera is provided in either 1 mL vials or prefilled syringes containing 150 mg.

2. **Storage:**
   Depo-Provera is to be stored at room temperature 20° to 25°C (68° to 77° F). Both the vial and the pre-filled syringe should be vigorously shaken at least one minute just before use to ensure the dose is uniformly suspended **(refer to package insert).**

3. **Administration:**
   Depo-Provera 150 mg IM, injected deep**ly** into the deltoid or **gluteus maximus** muscle. Depending on the size of the client, may need to use a 1.5-inch needle. Do not massage the injection site, and also instruct client not to massage site. (Massaging area may reduce duration of action and thereby effectiveness).

4. **Initiation:**
   a. **To ensure the client is not pregnant at the time of the first injection, the first injection should be given ONLY during the first 5 days of a normal menstrual period; ONLY within the first 5-days postpartum if not breastfeeding; and if exclusively breastfeeding, ONLY at the sixth postpartum week. No back-up method needed.**

5. **Continuation:**
   a. **The manufacturer recommends re-injection of Depo-Provera IM between 11 and 13 weeks after a previous injection.**
   b. **At each re-injection follow-up visit, ask the date of the last menses, ask about any problems or concerns, specifically signs and symptoms of pregnancy, any changes in contraceptive or STD prevention needs. If the client is not having any unacceptable symptoms or problems, she may receive re-injection.**

6. **Managing Late Injections:**
   a. **Ensure negative pregnancy test.**
   b. **The manufacturer recommends excluding pregnancy before proceeding with re-injection in a client who returns more than 13 weeks (91 days) after a previous Depo-Provera IM injection. A back-up method is recommended for the first 7 days after the injection.**

7. **Switching from Hormonal Method:**
   a. **When switching other contraceptive methods, Depo-Provera CI should be given in a manner that ensures continuous contraceptive coverage based upon the mechanism of action of both methods, (eg., clients switching from oral contraceptives should have their first injection of Depo-Provera CI on the day after the last active tablet or at the latest, on the day following the final inactive tablet).**

8. Assess the **client** for risk factors for osteoporosis. Depo-Provera use plus risk factors for osteoporosis may pose an increased risk of osteoporosis. Discuss potential risk for bone loss and consider alternative contraceptives in **clients** with significant risk factors for osteoporosis. It is up to the clinician along with the **client** to consider bone

density monitoring if **Depo-Provera** is the desired method and there are concerns about particular risk factors for osteoporosis.

9. Recommend calcium/vitamin D supplement(s) daily if client's diet is calcium deficient.

10. Treatment of side effects: Heavy bleeding – Consult/referral.

    a. For bleeding irregularities, rule out infection or cervical lesions. May give:
        1) A combined low-dose oral contraceptive for 1-3 cycles.
        2) Ibuprofen 400 mg PO every 4 to 6 hours as necessary. (Maximum dose 1.2 gm/day)

CLIENT EDUCATION/COUNSELING

1. Counsel client according to seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. **Emphasize the importance of the** schedule associated with use of this method of contraception. Instruct client to use back-up contraception during the first week after **the injection if injections are late.**

3. **Discuss danger signs (ACHES) and other warning signs including** repeated painful headaches, heavy bleeding, jaundice, severe lower abdominal pain (may be sign of pregnancy), and pus, prolonged pain, or bleeding at the injection site.

4. Common side effects may include: bleeding/menstrual irregularities, weight changes, headache, nervousness, abdominal pain, dizziness, and weakness or fatigue. Less common side effects include: decreased libido, backache, leg cramps, depression, nausea, acne, vaginitis, breast pain, hair loss, bloating, rash, and hot flashes. Common side effects may not be relieved until the drug clears the body 6-8 months after the last injection. Bleeding irregularities are very common (30% in the first year and 10% thereafter). If necessary, bleeding can be treated with medication.

5. Call or return if there are questions about possible side effects or development of reasons to avoid use, such as weight gain, heavy bleeding, headaches or depression.

6. **Advise client that** amenorrhea usually occurs in one year or less **after Depo-Provera initiation. Reassure that this is not a medical problem.** Counsel women in their 40s not to think they are going through menopause when amenorrhea occurs.

7. **Review the FDA black box warning and WHO recommendations on Depo-Provera and bone mineral density.**

8. **Depo-Provera** may decrease the amount of calcium in the bones. It is not known if use during the reproductive years affects the risk of fracture in later postmenopausal years.

9. **Discuss the importance of calcium in the bones.** The critical years for building bone mass are from prior to adolescence to about age 30. A decrease of calcium in the bones is of most concern for teenagers and those women who have the following risk factors: low body weight, bone disease, anorexia nervosa, strong family history of osteoporosis, drugs that can lower the amount of calcium in the bones (drugs for epilepsy or steroids), high intake of alcohol, sodas, caffeine and smoking.

10. Counsel **client** on adequate calcium intake from foods like milk, cheese, yogurt or ice cream or a calcium/vitamin D supplement daily; regular exercise; and avoiding alcohol, smoking and excessive intake of sodas and caffeine.

11. **Discuss effectiveness of Depo-Provera and back-up methods.**

12. **Advise client that Depo-Provera is a long acting contraceptive and not easily reversible. It takes at least 3 months for fertility to return after last injection. Anovulation may last for more than 1 year after discontinuation.** The average delay to ovulation is about 9 months (range of 4-31 months) after the last injection and does not increase with longer duration of use.

13. There is minimal to no apparent increased risk for breast cancer.

14. No adverse effects have been noted in infants of mothers using **Depo-Provera** during lactation. Quality and quantity of breast milk is not adversely affected.

15. **The effects of medroxyprogesterone acetate on lipid metabolism are inconsistent. Both increases and decreases**

in total cholesterol, triglycerides, low-density lipoprotein (LDL) cholesterol, and high-density lipoprotein (HDL) cholesterol have been observed in studies.

16. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

17. **Counsel on the use of condoms to reduce the risk of STD/ HIV.** Medroxyprogesterone acetate offers no protection from STD/HIV.

18. Refer **client** to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867), if smoker or tobacco user.

19. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines as indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document the refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. **Return for re-injection of Depo-Provera between 11 and 13 weeks after previous injection.**

2. Outside of clinic hours, seek physician or emergency care if warning signs develop.

CONSULTATION/REFERRAL

1. **Refer client to physician if client** develops any danger signs.

2. **Refer client to physician for** development of prolonged side effects (e.g. irregular bleeding) **or contraindicating conditions.**

3. Management of chronic coexisting medical problems. **Advise client to continue treatment with physician if client is under the supervision of physician for a health problem.**

4. **Refer to nutritionist, if applicable, for calcium deficiency related to poor nutrition.**

5. Call appropriate manufacturer for product information.

REFERENCES

1. "Black Box Warning Added Concerning Long-Term Use of Depo-Provera Contraceptive Injection," *FDA Talk Paper*, T04-50, FDA, November 17, 2004. **(Current)**
2. *Depo-Provera Contraceptive Injection Physician Prescribing Information*, Pharmacia and Upjohn Company, 2004, <**http://labeling.pfizer.com/ShowLabeling.aspx?id=522** > **(August 23, 2011)**
3. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
4. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
5. WHO, Hormonal Contraception and Bone Health, **2007**, **http://www.who.int/reproductivehealth/publications/family_planning/pbrief1/en/index.html> (May 16, 2011)**
6. "General Screenings and Immunizations for Women," Office on Women's Health, <**http://www.womenshealth.gov/prevention/general**> **(May 16, 2011)**
7. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
8. **"A Resource for Contraception and Healthy Sex," <http://www.contracept.org> (May 16, 2011)**
9. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
10. **World Health Organization (WHO), *Selected Practice Recommendations for Contraceptive Use*, 2nd ed., 2004, <http://www.who.int/reproductivehealth/publications/family_planning/9241562846index/en/index.html> (May 16, 2011)**
11. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**

STANDARD NURSE PROTOCOL FOR ORTHO EVRA™ TRANSDERMAL SYSTEM (CONTRACEPTIVE PATCH)

DEFINITION

ORTHO EVRA™ is a transdermal patch applied to the skin that releases **ethinyl estradiol (an estrogen hormone) and norelgestromin (a progestin hormone)** to prevent pregnancy.

ETIOLOGY

ORTHO EVRA™ acts by suppressing gonadotropins, similar to combination oral contraceptives. Although the primary mechanism of this action is inhibition of ovulation, other alterations include changes in the cervical mucus which increase the difficulty of sperm entry into the uterus, and changes in the endometrium which reduce the likelihood of implantation.

SUBJECTIVE

1. **Client provides a** detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and the *WHO Medical Eligibility Criteria for Contraceptive Use*.

2. If breastfeeding, has been breastfeeding at least 6 months **postpartum**.

3. **If non-breastfeeding, is at least 21 days postpartum.**

4. If age 35 or older, and does not smoke.

5. **If age 40 or older, and has any co-morbidities (to include the following: BMI of 30 or greater, diabetes, hypertension, smoking), must use other non-estrogen containing methods.**

6. **If on Antiretroviral Therapy, does not take Ritonavir-boosted protease inhibitors. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

7. **If on Anticonvulsant Therapy, does not take certain anticonvulsants (e.g., phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine or lamotrigine). Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

8. **If on Antimicrobial Therapy, does not take a rifamycin derivative. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

9. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for using the patch. Medical conditions include:

- **Hypertension**
- **Deep vein thrombosis (DVT) / Pulmonary embolism**
- **Known thrombogenic mutations**
- **Ischaemic heart disease**
- **Stroke**
- **Known hyperlipidaemias**
- **Valvular heart disease (complicated)**
- **Positive (or unknown) antiphospholipid antibodies**
- **Migraine headaches without aura and age 35 or older**
- **Migraine headaches with aura (at any age)**
- **Breast cancer**
- **Diabetes – nephropathy/retinopathy/neuropathy, other vascular disease or diabetes of greater than 20 years' duration**
- **Gall-bladder disease (symptomatic) – medically treated, current**
- **History of cholestasis – past combined OC-related**
- **Viral Hepatitis – acute or flare (initiation of patch)**
- **Cirrhosis – severe (decompensated)**
- **Liver Tumours – benign hepatocullular ademona, malignant (hepatoma)**

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

   OR

2. Physical exam deferred up to 3 months.
   Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that client agreed to have physical exam delayed.

ASSESSMENT

Client has no condition representing an unacceptable **health** risk if using the patch.

PLAN

DIAGNOSTIC STUDIES

1. Lipid profile beginning by age 45. Rescreen every 5 years or more often depending on test results and risk factors for CVD. **Women with cardiovascular risk factors may need to be tested at a younger age. The need to perform a lipid profile on women age 20-44 should be based on the client's comprehensive health assessment, which includes the screening of risk factors for CVD. Cardiovascular risk factors include family history of CVD, hypertension, dyslipidemia,**

diabetes, obesity (BMI), and smoking. An individual's risk of heart disease increases as the number of risk factors increases. Refer to http://www.womenshealth.gov/heart-health-stroke/heart-disease-risk-factors for more information on cardiovascular heart disease risk factors. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile. The decision to draw a lipid profile will be based on a clinical evaluation that is determined by the RN and/or the APRN/physician. For more information on increased blood cholesterol levels and estrogen-containing contraceptives, refer to Standard Nurse Protocol for Abnormal Lipid Profiles While Using Hormonal Contraceptives.

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/ procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

1. Availability:
ORTHO EVRA™ Patch, box of three patches

2. Application:
a. Remove liner and apply the sticky surface of the patch on clean, dry skin of the lower abdomen, buttocks, upper outer arm, or upper torso (not on the breasts).
b. Press down firmly on the patch with the palm of the hand for 10 seconds. Make sure that the edges stick well.
c. Avoid placing patch on the exact same site for 2 consecutive weeks.
d. Location of patch should not be altered in mid week.

3. Initiation:

a. Apply the first patch on the first day of menses or on the Sunday following the first day of menses. If client starts on the first day, she does not need a back-up method. If she begins the patch after the first day of her period, the package insert recommends use of back-up method for 7 days.

b. Alternatively, client does not need to wait for menstrual period to apply first patch if reasonably certain she is not pregnant (negative pregnancy test). Use of back-up method for 7 days is recommended with the immediate start approach.

c. The first day **the patch is applied** is designated as "Patch-Change Day."

d. Remove the patch and apply a new patch on Patch-Change Day on weeks 2 and 3. Apply the new patch to a different area of skin to reduce skin irritation.

e. No patch is applied on week 4. **Menstrual period will begin during week 4.**

4. Management of Missed/Forgotten Patches:

a. <u>1st Week</u>

1) Apply new patch as soon as possible.

2) Record this day of the week as new Patch-Change Day.

3) Use back-up method for first 7 days of patch use.

4) If new patch was applied 3 or more days late (patch was left off for 10 days or more in a row) and client had unprotected sex in last 120 hours, offer emergency contraception.

b. <u>2nd – 3rd Week</u>

1) *1-2 days late*:

- **Apply a new patch as soon as remembered.**
- **Keep the same Patch-Change Day.**
- **No need for back-up method.**

2) *More than 2 days late*:

- **Stop current cycle and start a new 4-week cycle by applying a new patch immediately.**
- **Record this day of the week as the new Patch-Change Day.**

- **Use back-up method for first 7 days of patch use.**

c. <u>4th Week</u>

1) Remove the patch.

2) Start the next cycle on the usual Patch-Change Day.

3) No need for back-up method.

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to the seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation.)

2. The absorption of medication is identical when applied on any of the four suggested areas of the body.

3. Women who use Ortho Evra are exposed to about 60% more estrogen than if they were taking a typical birth control pill containing 35 micrograms of estrogen. In general, increased estrogen exposure may increase the risk of developing serious blood clots (for instance, in the legs or lungs) that can block blood vessels and cause death or serious disability. However, it is not known whether women using Ortho Evra are at a greater risk of having these serious problems. One study found a doubling of this risk and another study found no increased risks. The manufacturer of Ortho Evra is doing studies on this.

4. The transdermal contraceptive patch may be less effective in women with body weight of 198 lbs **(90 kg)** or higher. May consider back-up method such as condoms if weight is 198 lbs **(90 kg)** or higher.

5. Check the patch every day to make sure it is sticking. Avoid touching the sticky surface.

6. Do not apply creams, oils, or cosmetics near the patch site.

7. If the patch becomes loose and is still sticky, try to reattach it. If it is not sticky, replace it with a new patch, and then change the new patch on the usual **Patch-C**hange **D**ay.

8. Do not attempt to tape down a patch that has become loosened.

9. **To remove the patch, grasp it by an edge and pull it off. Fold it closed on itself on the adhesive side to seal in the medication. Discard the patch in the garbage; do not flush it into the toilet.**

10. **Remove any stickiness or adhesive that remains on the skin by using baby oil or lotions.**

11. Counsel on the use of condoms to reduce the risk of STD/HIV.

12. The primary side effects of the patch are headache, nausea, application site reactions, and breast discomfort. Women using the patch are more likely to experience breakthrough bleeding and/or spotting during the first 2 months compared with users of a combined OC. Discuss danger signs (ACHES).

13. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

14. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

15. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. Return as scheduled for evaluation or contact clinic if side effects or danger signs develop.

2. If **client** did not receive a physical exam, have her return within 3 months for an exam and reassessment.

3. Established **clients** should return for evaluation at the end of the current supply of patches, or sooner if side effects or danger signs develop. Outside of clinic hours, seek physician or emergency care if danger signs develop.

CONSULTATION/REFERRAL

1. **Refer client to physician if client** develops any danger signs.

2. **Seek consultation, as applicable, on serious health concerns expressed by client.**

3. **Advise client to continue treatment with physician if client** is under the supervision of **physician** for a health problem.

4. **Seek consultation, as applicable, if client** has abnormal initial laboratory values or development of abnormal values or physical findings that indicate patch should not be continued.

5. **Refer** to nutritionist as indicated.

REFERENCES

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6. **"A Resource for Contraception and Healthy Sex," <http://www.contracept.org> (May 16, 2011)**
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9. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
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STANDARD NURSE PROTOCOL FOR NuvaRing®

DEFINITION The NuvaRing® is a vaginal contraceptive loop made with a flexible polymer, which contains estrogen and progestin.

ETIOLOGY All combination hormonal contraceptives suppress gonadotropins. Although the primary effect of this action is inhibition of ovulation, other alterations include changes in the cervical mucus (which increase the difficulty of sperm entry into the uterus) and the endometrium (which reduce the likelihood of implantation).

SUBJECTIVE

1. **Client provides a** detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and the *WHO Medical Eligibility Criteria for Contraceptive Use*.

2. If breastfeeding, has been breastfeeding at least 6 months **postpartum.**

3. **If non-breastfeeding, is at least 21 days postpartum.**

4. If age 35 or older, and does not smoke.

5. **If age 40 or older, and has any co-morbidities (to include the following: BMI of 30 or greater, diabetes, hypertension, smoking), must use other non-estrogen containing methods.**

6. **If on Antiretroviral Therapy, does not take Ritonavir-boosted protease inhibitors. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

7. **If on Anticonvulsant Therapy, does not take certain anticonvulsants (e.g., phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine or lamotrigine). Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

8. **If on Antimicrobial Therapy, does not take a rifamycin derivative. Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for clarification of this classification.**

9. **Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for using NuvaRing®. Medical conditions include:**

- **Hypertension**
- **Deep vein thrombosis (DVT) / Pulmonary embolism**
- **Known thrombogenic mutations**
- **Ischaemic heart disease**
- **Stroke**
- **Known hyperlipidaemias**
- **Valvular heart disease (complicated)**
- **Positive (or unknown) antiphospholipid antibodies**
- **Migraine headaches without aura and age 35 or older**
- **Migraine headaches with aura (at any age)**
- **Breast cancer**
- **Diabetes – nephropathy/retinopathy/neuropathy, other vascular disease or diabetes of greater than 20 years' duration**
- **Gall-bladder disease (symptomatic) – medically treated, current**
- **History of cholestasis – past combined OC-related**
- **Viral Hepatitis – acute or flare (initiation of patch)**
- **Cirrhosis – severe (decompensated)**
- **Liver Tumours – benign hepatocullular ademona, malignant (hepatoma)**

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

   OR

2. Physical exam deferred up to 3 months.
   Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that client agreed to have physical exam delayed.

ASSESSMENT

Client has no conditions representing an unacceptable health risk if using the NuvaRing®.

PLAN

DIAGNOSTIC STUDIES

1. Lipid profile beginning by age 45. Rescreen every 5 years or more often depending on test results and risk factors for CVD. **Women with cardiovascular risk factors may need to be tested at a younger age. The need to perform a lipid profile on women age 20-44 should be based on the client's comprehensive health assessment, which includes the screening of risk factors for CVD. Cardiovascular risk factors include family history of CVD, hypertension, dyslipidemia, diabetes, obesity (BMI), and smoking. An individual's risk of heart disease increases as the number of risk factors increases. Refer to http://www.womenshealth.gov/heart-**

health-stroke/heart-disease-risk-factors for more information on cardiovascular heart disease risk factors. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile. The decision to draw a lipid profile will be based on a clinical evaluation that is determined by the RN and/or the APRN/physician. For more information on increased blood cholesterol levels and estrogen-containing contraceptives, refer to Standard Nurse Protocol for Abnormal Lipid Profiles While Using Hormonal Contraceptives.

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

1. Availability:
NuvaRing® is dispensed in box of 3 NuvaRing ® sachets.

2. **Storage:**
Store out of direct sunlight.
NOTE: Prior to dispensing to the user, refrigerate at 2-8° C (36-46° F). After dispensing to the user, NuvaRing® can be stored for up to 4 months at room temperature out of direct sunlight. When dispensed to the user, place an expiration date on the label not to exceed either 4 months from the date of dispensing or the expiration date, whichever comes first.

3. **Insertion:**
   a. Remove NuvaRing® from the foil pouch
   b. Hold NuvaRing® between your thumb and index finger, press the sides together while lying down, squatting, or standing with one leg up
   c. Press opposite sides of the ring together, and gently push the folded ring into your vagina. If you feel discomfort after inserting NuvaRing®,

slide it farther in until it feels comfortable. The exact position of NuvaRing® is not important for it to be effective**. Once inserted, keep NuvaRing® in place for 3 weeks in a row.**

4. Initiation:

a. Insert NuvaRing® into vagina during the first five days of menstrual cycle, even if still bleeding.

1) If ring inserted on Day 1 of menses, no back-up method is needed.

2) If ring inserted on Day 2-5 of cycle, additional back-up method needed for the first 7 days.

b. **May insert NuvaRing® into vagina on any cycle day if reasonably certain she is not pregnant (negative pregnancy test). Use a back-up method for 7 days.**

c. **Leave the NuvaRing® in place for 3 weeks. The NuvaRing® may remain in the vagina during sexual intercourse.**

d. **After 3 weeks of use, remove the NuvaRing® for 7 days. No NuvaRing® is inserted during week 4. During the 7 ring-free days (week 4), withdrawal bleeding will occur.**

5. **Continuation:**

a. After 7 ring-free days, insert a new **NuvaRing® into the vagina to begin the cycle again. Insert the new NuvaRing® on the same day of the week the previous NuvaRing® was inserted, even if the menses is not finished.**

6. **Late Replacement or Removal:**

a. If the NuvaRing® is out of the vagina for more than 3 hours during weeks 1 or 2, re-insert the ring as soon as possible. Use a back-up method for the next 7 days.

b. If the NuvaRing® is out of the vagina for more than 3 hours during week 3, stop the current cycle and discard the ring.

1) Insert a new ring immediately and keep it in place for 3 weeks, starting a new cycle. The client may not experience a withdrawal bleed from her previous cycle. A back-up method must be used until the new ring has been used continuously for 7 days.

OR

2) Have a withdrawal bleed and insert a new ring no later than 7 days from when the last ring was removed/ expelled. A back-up method must be used until the new ring has been used continuously for 7 days. This option should only be chosen if the ring was used continuously for the preceding seven days.

c. If client waited more than 7 days before inserting a new NuvaRing®, or kept NuvaRing® in longer than 4 weeks, insert a new NuvaRing® as soon as possible and begin a new 4-week cycle. Consider a pregnancy test and emergency contraception plus a back-up method for the first 7 days after reinsertion of new ring.

d. Offer emergency contraception if a new ring was inserted 3 or more days late and client had unprotected sexual intercourse in the last 120 hours (5 days).

7. **Removal & Disposal:**

a. Remove the NuvaRing® by hooking the index finger under the forward rim or by grasping the rim between the index and middle finger and pulling the ring out.

b. Place the used NuvaRing® in the foil pouch and throw it away in a trash container out of the reach of children and pets (do not flush it down the toilet).

8. Women switching from estrogen-progestin oral contraceptives to the vaginal ring should insert the ring within 7 days of the last hormonally-active tablet and no later than the day that a new oral contraceptive cycle would have been started; a back-up method of contraception is not needed.

CLIENT EDUCATION/COUNSELING

1. Counsel the **client** according to the seven elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. If client is switching from progestin-only pills, insert the first ring on the same day she takes the last pill.

3. The NuvaRing® does not require fitting or placement in a specific position, nor the use of spermicidal jelly. It does not need to surround the cervix. If discomfort is felt, the device is probably not placed high enough in the vagina.

4. **Do not rely upon a diaphragm as a back-up method because NuvaRing® may interfere with the correct placement and position of a diaphragm.**

5. Keep the foil pouch. After removal of the **NuvaRing®** in 3 weeks, dispose of the NuvaRing® in the pouch. Do not flush it down the toilet. Keep it out of reach of children and animals.

6. The primary side effects of the NuvaRing® are similar to those of combined OC pills. Some women may experience vaginal irritation or infection.

7. **Discuss side effects and danger signs (ACHES). Also discuss other danger signs including worsening depression, spitting up blood or sudden shortness of breath (could signify a blood clot in the lung).**

8. NuvaRing® can be accidentally expelled when it has not been inserted properly, while removing a tampon, or when straining to move the bowels. If expelled, rinse ring with cool/lukewarm water and re-insert promptly (within 3 hours from the time it was expelled). If **ring is** lost, insert a new one.

9. The NuvaRing® does not need to be removed for intercourse.

10. Check for possible pregnancy if:
    a. Miss a period and the device was out of the vagina for longer than 3 hours.
    b. Miss a period and waited longer than a week to insert a new device.
    c. Miss a period and the NuvaRing® was in place more than 4 weeks.
    d. Followed instructions, but miss 2 periods in a row.

11. If scheduled for laboratory tests or major surgery, tell the health care provider that you are using the NuvaRing®.

12. Ovulation resumes during the first recovery cycle after discontinuation, suggesting rapid return of fertility.

13. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

14. NuvaRing® does not protect against HIV infection and other sexually transmitted diseases. Counsel on use of condoms to reduce the risk of STD including HIV.

15. Cigarette smoking increases the risk of serious cardiovascular side effects from combination oral contraceptive use and NuvaRing®.

16. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

17. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. Return as scheduled for evaluation or contact clinic if side effects or danger signs develop.

2. Established **clients** should return for evaluation at the end of the current supply, or sooner if side effects or danger signs develop. Outside of clinic hours, seek physician or emergency care if danger signs develop.

CONSULTATION/REFERRAL

1. **Refer client to physician if client** develops any danger signs.

2. **Seek consultation, as applicable, if client has** abnormal initial laboratory values or development of abnormal values or physical findings that indicate the ring should not be continued.

3. **Refer** to nutritionist as indicated.

4. If **client** is under the supervision of medical provider for a health problem, **advise client to continue treatment with physician.**

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins, et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
4. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
5. **World Health Organization (WHO), *Selected Practice Recommendations for Contraceptive Use*, 2nd ed., 2004, <http://www.who.int/reproductivehealth/publications/family_planning/9241562846index/en/index.html> (May 16, 2011)**
6. **World Health Organization (WHO), *Family Planning: A Global Handbook for Providers*, 2007, <http://www.unfpa.org/webdav/site/global/shared/documents/publications/2007/family_planning.pdf> (May 16, 2011)**
7. ***NuvaRing,* Schering Corporation, Kenilworth, NJ, 2008 <http://www.nuvaring.com/Consumer/index.asp> (May 16, 2011)**
8. **M. Zieman, R.A. Hatcher et al., *A Pocket Guide to Managing Contraception*, Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
9. **"A Resource for Contraception and Healthy Sex," <http://www.contracept.org> (May 16, 2011)**
10. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
11. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
12. ***NuvaRing Physician Prescribing Information*, Organon USA Inc., 2008, <http://www.spfiles.com/pinuvaring.pdf > (August 23, 2011)**

STANDARD NURSE PROTOCOL FOR VAGINAL CONTRACEPTIVE DIAPHRAGM

DEFINITION

The diaphragm is a dome-shaped rubber cup that is inserted into the vagina before intercourse. **It consists of a soft rubber or latex cup that is fitted for size.**

ETIOLOGY

The dome of the diaphragm covers the cervix. The posterior rim rests in the posterior fornix and the anterior rim fits snugly behind the pubic bone. **The diaphragm acts as a barrier and** prevents sperm from entering. Spermicidal cream or jelly placed in the dome prior to insertion add to its effectiveness **by killing any sperm that might slip around the edge of the diaphragm.**

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and the *WHO Medical Eligibility Criteria for Contraceptive Use*.**

2. **Refer to *WHO Medical Eligibility Criteria for Contraceptive Use* for medical conditions that represent an unacceptable health risk for using a diaphragm. Medical conditions include:**
   - **HIV/AIDS or high risk of HIV infection**
     - **Antiretroviral Therapy**
   - **History of Toxic Shock Syndrome**
   - **Known allergy or hypersensitivity to latex or natural rubber**

3. Client reports no full-term delivery within the past 6-12 weeks.

OBJECTIVE

1. **Physical examination and laboratory tests according to programmatic guidelines.**

   OR

2. **Physical exam deferred up to 3 months.**
   Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that client agreed to have physical exam delayed.

3. Pelvic exam shows:
   a. Adequate vaginal tone to hold the diaphragm in place.
   b. Absence of uterine prolapse, severe cystocele or rectocele.
   c. Uterus is not fixed in retroflexed or retroverted position.
   d. Notch behind the symphysis pubis is adequate to support the rim of the diaphragm.

4. **Client** is physically able to insert a diaphragm.

ASSESSMENT

Client has no condition representing an unacceptable **health** risk if using the diaphragm.

PLAN

DIAGNOSTIC STUDIES

1. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

2. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

Contraceptive jelly/ cream containing spermicide.

NOTE: Increased use of nonoxynol 9 is associated with risk of vaginal irritation, therefore increased risk of HIV transmission.

NON-PHARMACOLOGIC MEASURES

Fit **client** for appropriate size and type of diaphragm.
(See Appendix A)

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to the seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. Insertion, removal and care of diaphragm, with return demonstration.

3. Once in position, the diaphragm provides effective contraceptive protection for 6 hours.

4. After intercourse, the diaphragm must be left in place for at least 6 hours, but it should be removed as soon as possible thereafter. Continuous wearing of a contraceptive diaphragm for more than 24 hours is not recommended.

   If more than one act of intercourse in 6 hours, do not remove diaphragm. Add additional spermicide before each act of intercourse. **Increased use of nonoxynol 9 is associated with risk of vaginal irritation, therefore increased risk of HIV transmission.**

5. Prevention of toxic shock syndrome
   a. Do not use diaphragm during menses.
   b. Do not leave diaphragm in place for more than 24 hours.
   c. Seek care for danger signs of toxic shock:
      1) Temperature of 101° F or higher.
      2) Diarrhea.
      3) Vomiting.
      4) Muscle aches.
      5) Rash appearing like sunburn.

6. Diaphragm will need to be refitted and replaced with new diaphragm at least every 2 years or:
   a. After vaginal delivery.
   b. After gynecologic or lower abdominal surgery.
   c. After weight loss or gain of over 10 pounds.
   d. After second trimester abortion.

7. **Discuss risks that decrease the effectiveness of the diaphragm (eg., petroleum jelly can weaken latex causing tears and leaks).**

8. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

9. Counsel on use of condoms to reduce the risk of STD/HIV.

10. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

11. Emphasize importance of keeping immunizations current, assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and

administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

Return to clinic in one month, with diaphragm in place, to assess for proper fit.

REFERRAL/CONSULTATION

1. Signs/symptoms of toxic shock syndrome.

2. Signs/symptoms of urinary tract infection **or vaginal infection** as appropriate.

3. Signs/symptoms of cystocele or rectocele.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins, et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. **Ortho Women's Health & Urology, New Jersey, Ortho-McNeil-Janssen Pharmaceuticals Inc., 2011. <http://www.ortho-mcneilpharmaceutical.com/ortho-mcneilpharmaceutical/about/home.html> (May 24, 2011)**
4. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
5. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
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STANDARD NURSE PROTOCOL FOR BACTERIAL CYSTITIS

NOTE: Females under age 18 must be established Women's Health **clients**.

DEFINITION Cystitis is a bladder inflammation.

ETIOLOGY **Cystitis is a common lower urinary tract infection that affects the bladder and not the kidneys. Cystitis is usually caused by bacteria (generally e-coli) which travel to the bladder from the urethra. Women are more likely to develop cystitis after sexual intercourse. Bacterial cystitis may be characterized by dysuria, frequency, urgency and low fever.**

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family health) that may reveal factors that increase the risk for bacterial cystitis.**

2. **Client may report recent history which includes the following:**

   a. Frequency, burning on urination
   b. Urgency, with or without incontinence
   c. Suprapubic pain and/or tenderness

3. No symptoms of vaginal infection
   If indicated, do work-up for possible vaginal infection, chlamydia and gonorrhea

4. No recent history of fever, shaking chills, unilateral flank pain, inability to urinate or a sudden decrease in urine volume. No history of kidney disease.

OBJECTIVE

1. Lower abdominal tenderness on palpation.

2. Temperature less than 100ºF.

3. Diagnostic criterion: Dipstick urinalysis positive for either white blood cells (WBC) and/or nitrites, **hematuria, abnormal urine discoloration or odor.**

ASSESSMENT Bacterial cystitis

PLAN **DIAGNOSTIC STUDIES**

1. Urine pregnancy test, if any possibility of pregnancy.

2. If diagnosis is **questionable**, obtain clean-catch urine for urinalysis and culture and sensitivity.

3. If abnormal vaginal discharge or discharge from the urethra, perform wet prep and perform tests for gonorrhea and chlamydia.

THERAPEUTIC

PHARMACOLOGIC

1. Trimethoprim 160 mg/sulfamethoxazole 800 mg (Bactrim DS, Septra DS, Sulfatrim DS).
   1 tablet PO, with food, every 12 hours for 3 days.

   NOTE: Do not give if **client** has a history of allergy to the drug components; asthma, kidney or liver disease, folic acid deficiency states, G6-PD deficiency, or any other blood dyscrasia; is taking thiazide diuretics, warfarin (Coumadin), phenytoin (Dilantin), or methotrexate; is pregnant; or, is breastfeeding an infant less than 2 months old, or with or an elevated bilirubin (see Referral/Consultation).

   OR

2. Nitrofurantoin (Macrobid®)100 mg, 1 capsule PO with food, every 12 hours for 7 days or Macrodantin 50 mg, 1 tab PO four times a day for 7 days.

   NOTE: Do not give if **client** has a history of nitro-furantoin allergy, kidney or liver disease, optic neuritis, G6-PD deficiency or anemia; is taking sulfinpyrazone/ Anturane, probenecid, or magnesium-containing antacids; or is breastfeeding an infant less than one month old or with G6-PD deficiency.

   OR

3. If allergic or otherwise intolerant of treatments above, is at least 18 years old and not pregnant or breast-feeding,
   a. Norfloxacin (Noroxin®) 400 mg, 1 tablet PO every 12 hours for 3 days if uncomplicated and due to *E. coli*, *K. pneumoniae*, or *P. mirabilis*.
   b. All other organisms, Norfloxacin 400 mg, 1 tablet PO 2 times a day for 7 – 10 days.

   Take at least 2 hours before or 2 hours after food, milk products, iron or zinc supplements, antacids and/or other medications.

NOTE: Do not give if **client** has a history of quinolone antibiotic allergy, tendon rupture, atherosclerotic cardiovascular disease, kidney or liver disease, neurologic disorder or blood dyscrasia; or is taking theophylline, caffeine (e.g., in pain and fever-relieving medications), cyclosporine, warfarin (Coumadin®), probenecid, nitrofurantoin or sucralfate (Carafate®).

4. For non-curative symptomatic relief, if **client** is age 12 or older, is not pregnant or breast-feeding, and has no history of liver disease:
   a. Phenazopyridine Hydrochloride (Pyridium®) 200 mg, 1 tablet PO 3 times a day after meals as needed for **2 days when used concomitantly with an antibacterial agent.**

      OR

   b. Nonprescription phenazopyridine hydrochloride 95 mg (AzoStandard, Azo-Gesic, Prodium) for less than 2 days. Follow package directions.

   Discontinue medication immediately if any yellowish or orange discoloration of skin or eyes is noted. This medication may stain contact lenses.

NON-PHARMACOLOGIC MEASURES

1. Increase fluid intake (cranberry juice might be suggested) and empty bladder frequently.

2. Warm sitz baths.

CLIENT EDUCATION/COUNSELING

1. **Stress** the importance of taking the full course of treatment, unless serious side-effects occur.

2. **Discuss common** drug-specific instructions and cautions:
   a. For trimethoprim/sulfamethoxazole: avoid sun exposure, discontinue drug immediately if develop a rash or signs of liver problems. Drink a full glass of water with each dose.
   b. For nitrofurantoin: discontinue drug if develop peripheral neuropathy, visual problems, diarrhea, or symptoms of liver or lung problems.
   c. For norfloxacin: avoid sun exposure, discontinue drug if develop diarrhea, tendon symptoms, rash or other allergic symptoms. Drink a full glass of water. May cause dizziness/drowsiness.

d. Phenazopyridine may cause discoloration of urine and may stain panties. Recommend pantyliners.

3. **Discuss** potential risk factors for cystitis and prevention strategies.

4. **Advise that** eating or consuming cultured milk products (yogurt, buttermilk) may help prevent vaginal yeast infection while antibiotics are being taken.

5. Seek medical care immediately if medication side-effects or systemic symptoms develop.

6. **Discuss that** post-menopausal women may have increased susceptibility for cystitis because of a decrease in vaginal lactobacilli and an increased pH. Cultured milk products (yogurt, buttermilk) which contain live active cultures are good dietary sources of lactobacilli. Look for product containers labeled **"lactobacillus acidophilus."**

FOLLOW-UP

1. **Client** should call the clinic if cystitis symptoms are not improved within 48 hours of starting therapy.

2. If no improvement in 48 hours after starting therapy or if symptoms persist after therapy is complete, either perform complete UA, culture and sensitivity and treat or refer for testing.

REFERRAL/CONSULTATION

1. **Refer to physician** if **client** is pregnant.

2. **Refer to physician if client has any of the following:**
   a. gross hematuria in a specimen uncontaminated by menses
   b. systemic complaints such as temperature equal to or greater than 100°F, fast pulse, shaking chills or unilateral flank pain
   c. recurrent cystitis within one month, or more than 3 episodes in one year
   d. If follow-up urinalysis reveals unexplained (non-menstrual) microhematuria without WBC or nitrite.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Constance Uphold and Virginia Graham, *Clinical Guidelines in Family Practice,* 4th ed., Barmarrae Books, Inc., Gainesville, FL, 2003. **(Current)**
3. **"Cystitis – acute", *MedlinePlus*, U.S. National Library of Medicine, <www.nlm.nih.gov/medlineplus/ency/article/000526.htm> (May 16, 2011)**
4. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (July 5, 2011)**

NURSE PROTOCOL FOR DYSMENORRHEA (PRIMARY)

DEFINITION

Primary dysmenorrhea is painful menstruation without identifiable causes; it is also known as spasmodic dysmenorrhea.

ETIOLOGY

Elevated levels of prostagladins E2 and F in the endometrium cause uterine contractions. This increases intrauterine pressure, creating uterine ischemia and spasmodic pain. **The main symptom of dysmenorrhea is pain with menses that is concentrated in the abdomen, pelvic region, or lower back. Symptoms often co-occurring with menstrual pain include nausea, vomiting, diarrhea, headaches, weakness, dizziness or lightheadedness.** Differential diagnosis includes: pelvic inflammatory disease, endometriosis, adenomyosis, endometrial hyperplasia, endometrial cancer, leiomyomata, ectopic pregnancy, IUD with partial expulsion.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).** Note history of: parity, menarche, method of contraception, pelvic inflammatory disease/sexually transmitted diseases, onset of symptoms/changes over time, family history of dysmenorrhea, nutritional status.

2. **Client reports cramping pain in the lower abdomen just before or during menstruation**.

3. **Client** may report symptoms of congestive (secondary) dysmenorrhea: irritability, depression, nervousness, exhaustion, backache, constipation, bloating, weight gain, breast tenderness, dull ache, and/or onset of symptoms prior to menses.

4. **Client** may report symptoms of spasmodic dysmenorrhea: nausea, vomiting, diarrhea, weakness, dizziness, pelvic cramping, abdominal/back/thigh cramping, sweating, pallor, and/or headache.

OBJECTIVE

Physical examination usually within normal limits, unless secondary factors are present.

ASSESSMENT

Primary dysmenorrhea

PLAN

DIAGNOSTIC STUDIES

As indicated:
Pap smear, gonorrhea/Chlamydia tests, vaginal wet mount, pregnancy test.

THERAPEUTIC

PHARMACOLOGIC

1. Over the counter analgesics – Coated aspirin, Aleve®, Motrin IB®, Nuprin®, acetaminophen (e.g., Tylenol®), per package directions prn.

   OR

2. Ibuprofen 400 mg PO every 4 hours as needed for pain. (Maximum dose 1.2 gm/day)

   OR

3. **Naproxen 500 mg PO for one dose, then 250 mg PO every 6-8 hours as needed for pain. (Maximum dose 1250 mg/day)**

   NOTE: Do not order if **client** has a history of allergic reaction to aspirin.

4. **May initiate contraceptive method if** method poses no unacceptable health risk: OC, medroxyprogesterone acetate, Ortho Evra Patch, NuvaRing® may decrease symptoms.

NON-PHARMACOLOGIC

1. Topical heat.

2. Regular exercise may be helpful.

CLIENT EDUCATION/COUNSELING

1. **Inform client that** primary dysmenorrhea probably does not affect fertility.

2. Assess **client's** knowledge of activities that may provide relief.

3. Caution **client** if taking prostaglandin inhibitors (Aleve®, Motrin Ibuprofen®, Nuprin®, aspirin)
   a. Prolonged chronic use may cause kidney problems and GI upset.
   b. Stop medication and report severe persistent headaches, fever and muscle aches, which may be signs of aseptic meningitis.

4. **Counsel on the use of condoms to reduce the risk of STD/HIV.**

FOLLOW-UP

Return to clinic if no relief from therapy **after 6-8 weeks.**

CONSULTATION/REFERRAL

1. **Refer to physician** for differential diagnosis, as indicated.

2. Refer to physician if no relief from therapy or **if client develops** severe side effects of medication.

REFERENCES

1. Robert Hatcher et al., Contraceptive Technology, 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins, et al., *Protocols for Nurse Practitioners in Gynecologic Settings*, 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Constance Uphold and Mary Graham, *Clinical Guidelines in Family Practice*, 4th ed., Barmarrae Books, Inc., Gainesville, FL, 2003. (Current)
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STANDARD NURSE PROTOCOL FOR IRON-DEFICIENCY ANEMIA IN NON-PREGNANT AND NON-LACTATING WOMEN 18 AND OVER

DEFINITION **Anemia is a condition in which the body does not have enough healthy red blood cells. Red blood cells provide oxygen to the body. Iron deficiency anemia develops due to low iron levels.**

ETIOLOGY **Iron-deficiency anemia, the most common type of anemia, is present in 20% of all premenopausal women in the United States.** The primary cause of iron-deficiency anemia in premenopausal women is loss of blood through menstruation. In postmenopausal women, bleeding is usually from the GI tract (chronically bleeding lesions, reflux esophagitis, peptic ulcers, gastric or colorectal adenocarcinomas). Iron-deficiency anemia also commonly occurs during pregnancy. **Iron-deficiency anemia can usually be corrected with iron supplementation.**

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client may be asymptomatic if anemia is mild**.

3. **Client** may report history which includes the following:

    a. Pallor, **fatigue,** malaise, and/or anorexia
    b. History of GI bleeding
    c. Changes in stool color or bleeding from hemorrhoids
    d. Excessive blood loss during menses or history of fibroid tumors
    e. Poor dietary intake of iron rich foods, and pica
    f. History of drug/medication use, especially aspirin and other nonsteriodal anti-inflammatory drugs
    g. Nonspecific complaints of headache, poor concentration, and/or palpitations
    h. **Uncomfortable tingling or crawling feeling in the legs (restless leg syndrome)**
    i. **Frequent blood donations**

4. With severe anemia, the **client** may also present with:

    a. Weakness and faintness
    b. Increased heart rate
    c. Shortness of breath
    d. Dizziness **or lightheadedness**
    e. Symptoms of heart failure

f. Confusion and dementia
g. Nausea and loss of appetite
h. Headaches
i. Bleeding gums
j. Sore tongue

5. No history of major hemoglobinopathies (e.g., sickle cell anemia, sickle C disease, sickle beta thalassemia, hemoglobin c disease).

OBJECTIVE

1. **Client** may have **the following:**
   a. Pallor, best seen in conjunctivae.
   b. Atrophy of the surface or edges of the tongue.
   c. Inflammation/cracking of the lips.
   d. Spoon nails (thin and concave from side to side).
   e. Tachycardia, flow murmur.

2. Hemoglobin below 12 gm/dL for a non-smoker and below 12.3 gm/dL for smoker or hematocrit below **35.7%** for non-smoker and below 36.9% for smoker.

ASSESSMENT

Iron-deficiency anemia, presumptive if:

- **no suggestion of sickle cell or other hemoglobin variants**
- **negative stool occult blood x 3, if clinically indicated**

PLAN

DIAGNOSTIC STUDIES

Stool occult blood x 3, if clinically indicated or **client** is age 35 years or older.

THERAPEUTIC

PHARMACOLOGIC

1. Treatment of iron deficiency anemia:
   a. Ferrous Sulfate 300 mg PO bid up to 300 mg qid or 250 mg (extended release) PO 1-2 times daily.
   OR
   b. Ferrous fumarate 150-200 mg elemental iron PO daily in divided doses; 60-100 mg elemental iron PO twice daily, up to 60 mg elemental iron PO qid.

2. Prophylaxis of iron deficiency:
   a. Ferrous Sulfate 300 mg PO daily.
   b. Ferrous fumarate 60-100 mg elemental iron PO daily.

Note: To avoid GI upset, start with a single daily dose and increase by 1 tablet per day each week or as tolerated until desired daily dose is achieved. Do not give if client has sickle cell or hemoglobin variants.

CLIENT EDUCATION/COUNSELING

1. **For best absorption, take iron supplements on an empty stomach.** If the iron upsets the stomach, take iron with a small amount of food, but not with dairy products, coffee or tea.

2. Introduce iron gradually to minimize stomach upset. Take one tablet once a day x 1 week and then increase to twice daily if needed.

3. Beverages consumed with meals or supplements have a dramatic effect on iron absorption.
   a. **Vitamin C** (Orange juice ~ 1 cup) doubles the absorption of iron.
   b. Tea, coffee or milk can reduce absorption to less than one half and should be consumed in moderation between meals or supplements.

4. Antacids, tetracycline, cimetidine and pancrelipase interfere with iron absorption. Do not take iron within 3 hours of taking these medications. Iron affects other medications and a pharmacist or health care provider should be consulted before starting another medication.

5. Iron supplements may cause black or dark green bowel movements, diarrhea, or constipation.

6. Counsel **client** on other common side effects of iron therapy.

7. Too much iron is dangerous. Iron tablets may look like candy and a package of iron tablets can poison a child. Keep iron supplements out of the reach of children.

FOLLOW-UP

Recheck hemoglobin/hematocrit at the end of 4**-6** weeks of initial treatment.

1. If the hemoglobin has increased **by** 1 gm/dL **or more**, or hematocrit by 3% **or more**, continue treatment for 2-3 months to replenish iron stores, **then recheck hemoglobin/hematocrit.**

2. If the hemoglobin is not increased **at least** 1 gm/dL or hematocrit by **at least** 3%:
   a. Assess for compliance with therapy, diet, enteric parasites and other possible anemia-causing conditions.
   b. Refer to a physician for further evaluation.

CONSULTATION/REFERRAL

1. **Refer to physician if** hemoglobin less than 9 gm/dL or hematocrit less than 27%.

2. If after 4**-6** weeks, the hemoglobin does not increase **at least** 1 gm/dL or hematocrit by **at least** 3%, despite compliance with iron supplementation regimen and the absence of acute illness, refer to physician.

3. **Refer any client** with sickle cell anemia or **other** hemoglobin variants **to physician.**

4. **Refer client to physician** if there is evidence of other medical problems.

REFERENCES

1. Constance Uphold and Virginia Graham, *Clinical Guidelines in Family Practice,* 4th ed., Barmarrae Books, Inc., Gainesville, FL, 2003. (Current)
2. CDC, "*Recommendations to Prevent and Control Iron Deficiency in the United States,"* MMWR, Vol. 47, No. RR-3, April 3, 1998. (Current)
3. **Mayo Clinic, "Iron Deficiency Anemia," <http://mayoclinic.com/health/iron-deficiency-anemia/DS00323> (May 16, 2011)**
4. **"Iron Deficiency Anemia", *MedlinePlus*, U.S. National Library of Medicine, <www.nlm.nih.gov/medlineplus/ency/article/000584.htm> (May 16, 2011)**
5. ***Handouts: Iron Deficiency Anemia*, National Anemia Action Council, <www.anemia.org/patients/information-handouts/iron-deficiency> (May 16, 2011)**
6. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (July 5, 2011)**

STANDARD NURSE PROTOCOL FOR LOCAL ESTROGEN THERAPY FOR TREATMENT OF VULVAR/VAGINAL ATROPHY

DEFINITION

Vaginal atrophy is thinning and inflammation of the vaginal walls due to a decline in estrogen. This condition is also called atrophic vaginitis or urogenital atrophy.

ETIOLOGY

Vaginal atrophy is caused by a decrease in estrogen production. Symptoms of urogenital atrophy are seen in almost half of untreated menopausal women as well as in 10-25% of women receiving conventional doses of systemic hormone therapy (HT). The vagina as well as the urethra and trigone of the bladder are estrogen-dependent tissues. When circulating estrogen levels drop because of transient or permanent ovarian failure (including menopause) or because of anti-estrogenic medications, these tissues atrophy.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client** may **report history which includes:**

   a. vaginal irritation
   b. pruritis
   c. vaginal dryness **or itching**
   d. dyspareunia **(pain during sex)**
   e. light bleeding after intercourse
   f. dysuria
   g. **urinary** incontinence
   h. **menopausal symptoms** (hot flushes/flashes, insomnia, and night sweats)

OBJECTIVE

Physical exam findings of urogenital atrophy including the following:

1. Pale, thin friable vaginal epithelium
2. Loss of vaginal rugae and elasticity
3. Sparse pubic hair
4. Dryness of labial skin and loss of turgor
5. Introital petechiae or fissure
6. Erythematous urethral meatus
7. Eversion of urethral mucosa, urethral caruncle

ASSESSMENT

Vulvovaginal atrophy associated with menopause.
According to product package insert, no contraindications to using vaginal estrogen.

NOTE: contraindications for vaginal estrogen products are the same as for systemically administered estrogen.

PLAN

DIAGNOSTIC STUDIES

1. Consider FSH and/or thyroid studies if menopause is in question.

2. Wet prep, urine dip stick, STD tests as indicated to rule out vaginitis and cystitis.

3. Pap smear and mammogram according to Georgia Breast and Cervical Cancer Screening Program guidelines.

4. Fasting lipid profile and glucose.

5. Additional screening tests for age as indicated.

THERAPEUTIC

PHARMACOLOGIC

1. For relief of atrophic vaginitis:

   Premarin vaginal cream (or equivalent), 0.5-2 gm daily intravaginally for 3 weeks and one week off. Lower doses may be effective. Medication should be discontinued as promptly as possible.
   a. **Client** should use lowest dose possible to relieve symptoms.
   b. Treatment with vaginal cream longer than 6-12 months requires ultrasonic monitoring of endometrial thickness with biopsy when indicated as estrogen cream is absorbed systemically.
   c. Latex condom, diaphragm and cervical cap may be weakened by vaginal cream.

2. For ASCUS Pap smear with evidence of atrophy:
   Premarin vaginal cream (or equivalent), 0.5-2 gm daily intravaginally for 3 weeks. Lower doses may be effective. Medication should be discontinued as promptly as possible.

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. Vaginal estrogen cream provides the quickest response and subsequent relief of symptoms of atrophic vaginitis.

3. Vaginal moisturizers such as Replens, applied on a regular basis, have been shown to be beneficial for local vaginal symptoms.

4. Vaginal estrogen cream may weaken latex condoms, diaphragms and cervical caps, therefore reducing their effectiveness.

5. Regular sexual activity has been shown to help maintain vaginal health.

6. Counsel on good health practices, including diet, intake of calcium and vitamin D, weight-bearing exercises and increase in physical activity, breast and cervical cancer screening, safer sex and STD/HIV risk reduction and testing.

7. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

FOLLOW UP

1. As needed for specific problems.

2. Evaluate response to therapy in 3 months or sooner.

3. Annual physical exam, Pap smears and mammograms according to BCCP guidelines.

REFERRAL/CONSULTATION

1. For any questions regarding management.

2. For ultrasound of endometrium and biopsy and **as** indicated if treatment with vaginal cream is longer than 6-12 months.

3. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. "Premarin Vaginal Cream," *Physician Prescribing Information*, Wyeth Pharmaceuticals, Inc., **2010**, **<http://labeling.pfizer.com/showlabeling.aspx?id=132> (May 16, 2011)**
4. **Aetna IntiHealth, "Vaginal Atrophy (Atrophic Vaginitis)," March 2009, <www.intelihealth.com/IH/ihtIH/:/9339/9504.html> (May 16, 2011)**
5. **Kraft, Sy, "What is Atrophic Vaginitis (Vaginal Atrophy)? What Causes Atrophic Vaginitis?" *Medical News Today,* 20 May 2010, <http://www.medicalnewstoday.com/articles/189406.php> (May 16, 2011)**
6. **Mayo Clinic, "Menopause," <http://www.mayoclinic.com/health/menopause/DS00119> (May 16, 2011)**
7. **Nanette Santoro, "Women want to know: Predicting the final menses," *Sexuality, Reproductive, & Menopause*, May 2007, Vol. 5, No. 2, p. 6-10. <http://www.srm-ejournal.com/article.asp?AID=7103&UID> (May 16, 2011)**

STANDARD APRN PROTOCOLS

STANDARD APRN PROTOCOL FOR AMENORRHEA (PRIMARY AND SECONDARY)

DEFINITION

Amenorrhea is defined as the absence of menses. Primary amenorrhea is defined as no menstrual period **by the age of 15, lack of any secondary sexual characteristics by age 13, or no menses within 5 years after the development of breasts, pubic or axillary hair.**

Secondary amenorrhea is defined as absence of menstrual periods for a length of time equivalent to a total of at least three of the previous cycle intervals or six-twelve months of amenorrhea in a woman who normally experiences irregular menses.

ETIOLOGY

Primary:
1. Gonadal failure.
2. Congenital absence of uterus and vagina.
3. Constitutional delay.

Secondary:
1. Pregnancy; breastfeeding.
2. Pituitary disease or tumor; disruption of hypothalamic- pituitary axis.
3. Menopause.
4. Too little body fat (about 22% required for menses).
5. Excessive exercise (e.g., long-distance running, ballet dancing, gymnastics, figure skating, etc.).
6. Rapid weight loss.
7. Cessation of menstruation following use of OC or medroxyprogesterone acetate.
8. Recent change in lifestyle (e.g., increased stress).
9. Thyroid disease.
10. Polycystic ovary disease.
11. Anorexia nervosa or other eating disorders.
12. Premature ovarian failure, ovarian dysgenesis, infection, hemorrhage, necrosis, neoplasm.
13. Asherman's Syndrome.
14. Cervical stenosis.
15. Medications including psychotropics.
16. Chronic illness.
17. Tuberculosis.

SUBJECTIVE

1. **Client provides a detailed health history (includes menstrual, sexual, contraception, personal health and family history).**

2. **Client** reports absence of menses (as defined above).

3. **Client may have a** history which include**s the following:**

   a. Changes in skin/hair, vision/hearing or voice
   b. Palpitations
   c. Breast size changes or galactorrhea
   d. Vasomotor symptoms
   e. Changes in weight, dietary habits
   f. Cold or heat intolerance
   g. Known medical problems
   h. Stress
   i. Exercise patterns (changes or rigorous)
   j. **Recent pregnancy**
   k. Genital tract procedures

OBJECTIVE

1. May be obese or underweight for height.

2. May note on physical examination:
   a. Skin/hair changes – dry skin or warm, moist skin, excessive sweating, palmar erythema, acne, hirsutism, **balding,** purple abdominal striae, absence of pubic or axillary hair.
   b. Facial plethora, moon facies, exophthalmos, ocular signs, visual fields defect, impaired auditory acuity, abnormal thyroid size and consistency, fine silky scalp hair or alopecia pattern.
   c. Tachycardia.
   d. Breast tissue atrophy, galactorrhea.
   e. "Buffalo" hump of back.
   f. On pelvic exam:
      1. External – Vulvar atrophy, clitoromegaly.
      2. Internal – Atrophic vaginal mucosa, change in cervical mucous or imperforate hymen.
      3. Bimanual – Softening of cervix or cervical uterine junction, cervical stenosis, uterine or ovarian atrophy or enlargement.

ASSESSMENT

Primary amenorrhea.
OR
Secondary amenorrhea with or without galactorrhea.

PLAN

DIAGNOSTIC STUDIES

1. Pregnancy test.

2. For secondary amenorrhea only:
   a. Amenorrhea with galactorrhea:
      1) Amenorrhea with galactorrhea, and not breastfeeding:
         a) Draw fasting prolactin level(s) prior to breast exam or 1 week after exam and no nipple stimulation for 1 week **in addition to** thyroid-stimulating hormone (TSH) test (for underlying hypothyroidism).
            OR
         b) May refer to physician for diagnostic testing.
      2) **Amenorrhea with galactorrhea and normal prolactin level/ TSH values and negative pregnancy test:**
         a) Perform Progestin challenge test.
            OR
         b) May refer to physician for diagnostic testing.
   b. Amenorrhea without galactorrhea:
      1) **May refer to physician for diagnostic testing**.
         OR
      2) Draw TSH test (for underlying hypothyroidism).
      3) **Consider follicle-stimulating hormone (FSH) and luteinizing hormone (LH) test if applicable.**
      4) Amenorrhea without galactorrhea and normal TSH and negative pregnancy test: Perform Progestin challenge test.

THERAPEUTIC

PHARMACOLOGIC

Progestin **challenge test**
Medroxyprogesterone **Acetate** 5-10 mg 1 tab PO daily for 5-10 days.

1. If bleeding occurs with progestin challenge test (usually within 2-7 days)
   AND
   a. **Client** desires contraception and OC do not pose an unacceptable health risk, begin any FDA approved 35 mcg or less OC. (**See Appendix A)**
      OR
   b. **Client** does not desire contraception, give medroxyprogesterone acetate, 10 mg PO daily, for

the first 10 days of every month, for 3 consecutive months.

2. If no bleeding occurs with progestin challenge test, repeat pregnancy test.

CLIENT EDUCATION/COUNSELING

1. Give menstrual calendar and counsel on its use.

2. Inform that bleeding usually occurs within 2 weeks after treatment (frequently 2-7 days).

3. Discuss what can be expected during future evaluation. Explain that accurate diagnosis may take time.

4. Review female anatomy and menstrual cycle to help her understand the testing being done.

5. Discuss contraception, as indicated.

6. Explain that post-pill amenorrhea or resumption of normal menses may take up to 6 months.

FOLLOW-UP

Return in two weeks if no withdrawal bleeding has occurred after medroxyprogesterone acetate or no withdrawal bleeding with OC.

CONSULTATION/REFERRAL

1. If **client** has primary amenorrhea.

2. Positive pregnancy test, refer for prenatal care.

3. Amenorrhea with galactorrhea and abnormal test results.

4. **If client does not have a withdrawal bleed after progestin challenge test and negative pregnancy test, refer for further evaluation.**

5. **Client** fails to have spontaneous menses within 3 months after treatment.

6. Suspected eating disorders, or polycystic ovarian syndrome.

7. If **client** has abnormal laboratory test(s).

8. **Client has neurological symptoms such as headache or abnormal neurological exam.**

9. **May refer for diagnostic testing (i.e., prolactin level, TSH, FSH, LH).**

REFERENCES

1. Robert Hatcher et al., Contraceptive Technology, 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecological Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Leon Speroff and Marc Fritz, *Gynecologic Endocrinology and Infertility,* **8th** ed., Lippincott, Williams and Wilkins, Philadelphia, PA, **2010. (Current)**
4. **Provera® (medroxyprogesterone acetate tablet), *Physician Prescribing Information,*** <http://media.pfizer.com/files/products/uspi_provera.pdf> **(May 16, 2011)**

STANDARD APRN PROTOCOL FOR CONTRACEPTIVE IMPLANT INSERTION: IMPLANON

NOTE: **All clinicians performing insertions and/or removals of IMPLANON must complete the IMPLANON Clinical Training Program, a required comprehensive hands-on workshop. Only clinicians who complete the program will be able to order the product. You must be an advanced practice clinician or a physician in order to attend the required training.**
For training information, call 1-877-IMPLANON (1-877-467-5266).

DEFINITION

Implanon® is a small, thin, implantable hormonal contraceptive that is effective for up to three years. The subdermal contraceptive implant (Implanon®) is an etonogestrel-impregnated 4 cm plastic rod. It is placed under the skin of the upper arm. Implanon does not contain estrogen. It prevents pregnancy primarily by inhibiting ovulation. Other contraceptive effects include thickening cervical mucus and thinning the endometrial lining. The implant must be removed at the end of the third year of use and may be replaced with a new implant if continued contraception is desired.

SUBJECTIVE

1. Desires an implant **for long-term contraception.**

2. Has detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and to the *WHO Medical Eligibility Criteria for Contraceptive Use*.

OBJECTIVE

1. Physical examination and laboratory tests according to programmatic guidelines.

OR

2. Physical exam deferred up to 3 months.
Document reason for deferral on chart. Document on Request for and Consent to Family Planning Services (form 3700) that client agreed to have physical exam delayed.

3. **Pregnancy must be excluded before inserting IMPLANON.**

ASSESSMENT

Client has no condition representing an unacceptable risk if using Implanon.

PLAN

DIAGNOSTIC STUDIES

1. Pregnancy test if indicated to rule out pregnancy before inserting Implanon.

2. **The lipid profile may be obtained at the clinician's discretion if needed. The decision to draw a lipid profile will be determined by the RN and/or the APRN/physician, which is based on a clinical evaluation of the individual client. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile.**

3. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high-risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

4. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

PHARMACOLOGIC

1. Local anesthesia with 2 mL of 1% lidocaine should be injected under the skin and along the insertion track.

2. Insert Implanon per manufacturer's directions. May be inserted any time in the cycle as long as pregnancy has been ruled out and manufacturer's instructions regarding back-up contraception are followed.

   NOTE: Before insertion, the **client** must read and sign the consent form provided by the manufacturer in addition to the program's method specific consent form.

NON-PHARMACOLOGIC MEASURES

1. Take precautions to avert a vasovagal reaction (syncope/ fainting). Allow the **client** to lie still several minutes after insertion. Ask about pain or feeling faint. If the **client** says she feels like she can sit up, have her sit up slowly while being supported. If no problems in 1-2 minutes, allow her to stand.

2. Treat signs of vasovagal reaction (pallor/cyanosis, pinched-face look, dilated pupils, weak and rapid pulse, rapid shallow breathing, hypotension) according to the Emergency Guidelines**, Policies and Procedures** section of this manual.

3. Ice to insertion area for discomfort.

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. In addition to the manufacturer's consent form, the packaging also includes a User Card. The User Card should be filled out and given to the **client** after Implanon insertion so she will have a record of the location of Implanon and when Implanon should be removed.

3. Teach **client** how to check for Implanon.

   a. The implant should be palpated by both the clinician and **client** before **client** goes home to ensure proper placement.
   b. The **client** may confirm placement at any time by palpating her inner upper arm.
   c. If **client** cannot feel the implant, she should use another method of contraception (e.g., condoms or abstinence) and return to the clinic.

4. Review warning signs and symptoms of possible insertion site problems: redness, swelling, or purulent discharge at insertion site.

5. **Counsel client on common side effects: menstrual changes or bleeding irregularities (spotting, light bleeding, prolonged bleeding or no bleeding), emotional lability, weight gain, headache, acne, depression.**

6. **Further counsel client regarding unpredictable bleeding irregularities, so that they know what to expect. Women who use Implanon are likely to have changes in their vaginal bleeding patterns, especially during the first three months of use, which are often unpredictable. These may include changes in bleeding frequency or duration, or amenorrhea. Amenorrhea and oligomenorrhea are common.**

7. Take over-the-counter ibuprofen or acetaminophen and/or apply ice to insertion area for discomfort.

8. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

9. Use condoms to reduce the risk of STD, including HIV.

10. Outside of clinic hours, seek physician or emergency care if warning signs develop.

11. Implanon is approved for use for 3 years.

12. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

13. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. Return as scheduled for evaluation or contact clinic if side effects or danger signs develop.

2. If **client** did not receive a physical exam, have her return within 3 months for an exam and reassessment.

3. After an Implanon has been in place for 3 years, check with manufacturer regarding possible approval for a longer time.

CONSULTATION/REFERRAL

1. Difficult Implanon insertion or removal.

2. Suspected ectopic pregnancy.

3. Other complications related to implant use.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
3. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
4. **"Every Woman, Every Time," *A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
5. **"Implanon," Schering-Plough, 2009 <http://www.implanon-usa.com> (May 16, 2011)**
6. **Implanon® Patient Labeling Schering-Plough, 2009, <http://www.spfiles.com/piimplanon.pd.pdf> (May 16, 2011)**
7. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
8. **"Get clinical training, " IMPLANON, 2011 <http://www.implanon-usa.com/en/HCP/get-clinical-training/index.asp> (August 23, 2011)**

STANDARD APRN PROTOCOL FOR IMPLANON® REMOVAL

<u>NOTE:</u> All clinicians performing insertions and/or removals of IMPLANON must complete the IMPLANON Clinical Training Program, a required comprehensive hands-on workshop. Only clinicians who complete the program will be able to order the product. You must be an advanced practice clinician or a physician in order to attend the required training.
For training information, call 1-877-IMPLANON (1-877-467-5266).

DEFINITION Removal of Implanon® at the **client**'s request, due to clinical findings such as pregnancy or side effects, or per guidelines that Implanon® must be removed after 3 years.

SUBJECTIVE

1. **Client** desires Implanon® removal.
2. May be pregnant.
3. Complains of severe side effects.
4. Three years may have elapsed since insertion.

OBJECTIVE

1. Positive pregnancy test.
2. Clinical findings of severe side effects or a contraindication for continuing with Implanon®.

ASSESSMENT Removal of Implanon® is desired or recommended.

PLAN

DIAGNOSTIC STUDIES

Implant palpable under skin and exact position localized. If implant is not palpable, do not attempt to begin removal process. Implant must be localized with ultrasound using a high frequency linear array transducer (10 megahertz or greater) or MRI. Only remove a non-palpable implant once the location of the implant has been established. If imaging methods fail, call the manufacturer, Organon, at 1-877-467-5266 for further instructions.

THERAPEUTIC

Per manufacturer's instructions, remove the Implanon® capsule through a very small incision over the tip that is closest to the elbow.

1. Per manufacturer's removal instructions:
   a. Inject local anesthetic under the distal tip of the implant.
   b. Make a 2-3 mm incision just above the tip of the rod.
   c. Gently push the tip of the implant through the incision and grasp with a hemostat or forceps for removal.
   d. Place bandage over incision.

2. If implant is not palpable but has been localized by ultrasound and is found to be deeply inserted, referral to a specialist with expertise in deep removals is highly recommended. This specialist should have a good understanding of the vessels and nerves of the arm. Any adverse events associated with removal should be reported to Organon at 1-877-467-5266.

CLIENT EDUCATION/COUNSELING

1. Provide **client** with instructions for care. Take over-the-counter ibuprofen or acetaminophen for discomfort if needed.

2. Discuss alternative contraceptive method, if desired.

3. Menses may be delayed or irregular for a month or more after removal.

4. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

5. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document the refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. May follow-up in 1-2 weeks for incision check, if indicated.

2. Return, as needed, for contraception or annual exam.

CONSULTATION/REFERRAL

1. Difficult/failed removal.

2. Successful removal, **client** pregnant.

3. Persistent side effects.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
3. **"General Screenings and Immunization for Women," Office on Women's Health, < http://www.womenshealth.gov/prevention/general/> (May 16, 2011)**
4. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
5. **"Implanon," Schering-Plough, 2009 <http://www.implanon-usa.com> (May 16, 2011)**
6. **Implanon® Patient Labeling Schering-Plough, 2009, <http://www.spfiles.com/piimplanon.pd.pdf> (May 16, 2011)**
7. **"Get clinical training, " IMPLANON, 2011 <http://www.implanon-usa.com/en/HCP/get-clinical-training/index.asp> (August 23, 2011)**

STANDARD APRN PROTOCOL FOR IUD INSERTION: COPPER T380A

DEFINITION

The Copper T380A (ParaGard®) intrauterine device, is a copper-bearing contraceptive device **that prevents pregnancy for up to 10 years.** It prevents pregnancy by immobilizing sperm, inhibiting fertilization and preventing implantation due to local inflammatory responses and endometrial effects.

SUBJECTIVE

1. Desires an IUD for **long-term contraception.**

2. Not at high risk for sexually transmitted infections.

3. Has detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and to the *WHO Medical Eligibility Criteria for Contraceptive Use.*

OBJECTIVE

1. Normal pelvic exam at the time of insertion.

2. Annual physical exam is current according to Title X Guidelines.

3. Negative pregnancy test at the time of insertion.

4. Laboratory tests:

   a. **Cervical Cytology rules out cervical cancer.**
   b. Negative gonorrhea and chlamydia tests within last 60 days.
   c. Wet mount if indicated.
   d. Hemoglobin or hematocrit within the last 60 days.

ASSESSMENT

Client has no condition representing an unacceptable risk if using a Copper T380A.

PLAN

DIAGNOSTIC STUDIES

1. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

2. Screen women for colorectal cancer according to district policy/procedure for colorectal cancer screening.

PHARMACOLOGIC

1. May give an over-the-counter (OTC) nonsteroidal anti-inflammatory agent 30-60 minutes before the procedure to reduce discomfort.

2. Insert Copper T380A per manufacturer's directions. May be inserted any time in the cycle as long as pregnancy has been ruled out.

   NOTE: Before insertion, the client must read and sign the consent form if provided by the manufacturer in addition to the program's method specific consent form.

3. If hemoglobin below 12.0 gm/dL for non-smoker or below 12.3 gm/dL for smoker or hematocrit below 35.7% for non-smoker or below 36% for smoker, treat according to appropriate nurse protocol for age for iron deficiency anemia.

NON-PHARMACOLOGIC MEASURES

1. Take precautions to avert a vasovagal reaction (syncope/ fainting) caused by uterine manipulation and sounding. After IUD insertion, allow the **client** to lie still for at least 30 seconds (while explaining how to check for strings). Ask about pain or cramping. If the **client** says she feels okay, have her sit up slowly while being supported. If no problems in 30 seconds, allow her to stand.

2. Treat signs of vasovagal reaction (pallor/cyanosis, pinched-face look, dilated pupils, weak and rapid pulse, rapid shallow breathing, hypotension) according to the Emergency Guidelines, **Policies and Procedures** section of this manual.

CLIENT EDUCATION/COUNSELING

1. Counsel client according to seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. Teach **client** how to check for IUD strings.
   a. The IUD can be expelled without being noticed.

b. Check for the strings frequently during the first months, then after each menses and any time there is abnormal cramping while menstruating.
c. Inspect tampons on removal for IUD.
d. If **client** cannot feel the strings, or if the plastic part is felt, use another method of contraception and return to the clinic.
e. Most likely cause of IUD failure is expulsion with risk highest during the first year, particularly within the first 3 months after insertion.

3. Review warning signs and symptoms of possible problem: abdominal pain, **vaginal** discharge, **pain with intercourse**, missing string, **pregnancy symptoms, heavy bleeding.**

4. There is a small increased risk of PID, which is most likely to occur within the first 2-3 weeks after insertion.

5. Menstrual irregularities (spotting, light bleeding) are common in the first 3-6 months after insertion.

6. Take over-the-counter ibuprofen or naproxen sodium **per package directions if needed for discomfort**.

7. Should strongly consider changing to another contraceptive method if behavior puts client at risk for PID (multiple partners, partner with multiple partners).

8. **Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)**

9. Use condoms to reduce the risk of STD, including HIV.

10. Outside of clinic hours, seek physician or emergency care if warning signs develop.

11. The T380A is approved for use for 10 years.

12. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

13. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document the refusal. See the Georgia Immunization Program Manual, Recommended Schedule and

Guidelines, for current immunization schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. Re-examine and evaluate the **client** shortly after the first post-insertion menses, but no later than three months afterwards.

2. If **client** had a low hemoglobin or hematocrit, recheck after completion of at least 4–6 weeks of iron therapy:
   a. If hemoglobin drops more than 2 gm/dL or hematocrit drops 6% or more, strongly consider removal and treat according to appropriate nurse protocol for age for iron deficiency anemia. If hemoglobin is less than 9 gm/dL or hematocrit less than 27%, strongly consider removal and treat according to protocol.
   b. If IUD removed for the above reasons:
      1) Repeat hemoglobin/hematocrit in 1-2 months.
      2) Provide an alternate method of contraception.

3. If evidence of pelvic inflammatory disease, see Nurse Protocol for Pelvic Inflammatory Disease (PID). IUD removal is not necessary unless no improvement after 2-3 days of antibiotic treatment.

4. If pregnancy occurs, counsel **client** that IUD should be removed at time of diagnosis whether pregnancy is continued or terminated.

5. After a T380A has been in place for 10 years, check with manufacturer regarding possible approval for a longer time.

CONSULTATION/REFERRAL

1. Difficult IUD insertion or removal.

2. Suspected **uterine or** ectopic pregnancy.

3. **To MD for IUD removal if pregnant.**

4. Other complications related to IUD use.

5. Presence of actinomyces on Pap smear report and evidence of pelvic infection.

6. **To MD for further evaluation if presence of actinomyces on Pap smear report and client requests insertion/reinsertion of IUD.**

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. "ParaGard," *Physician Prescribing Information*, Duramed Pharmaceuticals, Inc., 2006, **<http://www.drugs.com/pro/paragard.html> (May 16, 2011)**
4. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
5. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
6. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
7. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**

STANDARD APRN PROTOCOL FOR IUD INSERTION: MIRENA® LNG Intrauterine System

DEFINITION

The levonorgestrel-releasing intrauterine system (brand name Mirena®) system consists of a small T-shaped frame with a steroid reservoir that contains levonorgestrel, a potent progestin found in many combination oral contraceptives, progestin-only pills, and implants.

The LNG intrauterine system releases a low dose of levonorgestrel (20 mcg per day) into the uterine cavity for at least five years, a system similar to that of levonorgestrel implants or levonorgestrel-containing mini-pills. As with these methods, thickening the cervical mucus and inhibition of ovulation, sperm motility and function are considered the primary means of preventing pregnancy. A weak foreign-body effect is also noted which could decrease implantation.

SUBJECTIVE

1. Desires an IUD **for** long-term contraception.

2. History is negative for pelvic inflammatory disease unless there has been a subsequent intrauterine pregnancy.

3. Has detailed health history (includes menstrual, sexual, contraception, personal health and family history) that does not reveal a condition representing an unacceptable health risk according to the product prescribing information and to the *WHO Medical Eligibility Criteria for Contraceptive Use*.

OBJECTIVE

1. Normal pelvic exam at the time of insertion.

2. **Annual physical exam is current according to Title X Guidelines.**

3. Negative pregnancy test at the time of insertion.

4. Laboratory tests:
   a. **Cervical Cytology rules out cervical cancer.**
   b. Negative gonorrhea and chlamydia tests within the last 60 days.
   c. Wet mount if indicated.
   d. Hemoglobin or hematocrit within the last 60 days.

ASSESSMENT

Client has no condition representing an unacceptable risk if using the Mirena.

PLAN

DIAGNOSTIC STUDIES

1. **The lipid profile may be obtained at the clinician's discretion if needed. The decision to draw a lipid profile will be determined by the RN and/or the APRN/physician, which is based on a clinical evaluation of the individual client. The RN may consult with and/or refer client to the APRN/physician, if needed, to further determine the client's risk for CVD and the need for a lipid profile.**

2. Blood glucose beginning by age 45. Consider screening women at an earlier age in the presence of high-risk factors for diabetes. Rescreen every 3 years or more often depending on test results and high risk factors. For Recommended Tests and Immunizations for Women with High-Risk Factors refer to www.womenshealth.gov.

3. Screen women for colorectal cancer according to district policy/ procedure for colorectal cancer screening.

THERAPEUTIC

PHARMACOLOGIC

1. May give an over-the-counter (OTC) nonsteroidal anti-inflammatory agent 30-60 minutes before the procedure to reduce discomfort.

2. **If pregnancy test is negative, may insert Mirena into the uterine cavity within 7 days of onset of menstruation. The Mirena releases 20 mcg levonorgestrel/day over 5 years. The Mirena may be removed and replaced with a new unit at anytime during the menstrual cycle. Do not leave any one system in place for greater than 5 years.**

NON-PHARMACOLOGIC MEASURES

1. Take precautions to avert a vasovagal reaction (syncope/ fainting) caused by uterine manipulation and sounding. After IUD insertion, allow the **client** to lie still for at least 30 seconds (while explaining how to check for strings). Ask about pain or cramping. If the **client** says she feels okay, have her sit up slowly while being supported. If no problems in 30 seconds, allow her to stand.

2. Treat signs of vasovagal reaction (pallor/cyanosis, pinched-face look, dilated pupils, weak and rapid pulse, rapid shallow breathing, hypotension) according to the Emergency Guidelines, **Policies and Procedures** section of this manual.

CLIENT EDUCATION/COUNSELING

1. Counsel **client** according to seven basic elements of informed consent (BRAIDED – Benefits Risks Alternatives Inquiries Decision Explanation Documentation).

2. Teach **client** to check for IUD strings.
   a. The IUD can be expelled without being noticed.
   b. Check for the strings frequently during the first months, then after each menses and any time there is abnormal cramping while menstruating.
   c. Inspect tampons on removal for IUD removal.
   d. If **client** cannot feel the strings, or if the plastic part is felt, use another method of contraception and return to the clinic.

3. Review warning signs and symptoms of possible problem: **vaginal** discharge, abdominal pain, **pain with intercourse**, missing string, **pregnancy symptoms, or heavy bleeding.**

4. Take over-the-counter ibuprofen or naproxen sodium **per package directions as needed for discomfort.**

5. Should consider changing to another contraceptive method if behavior puts client at risk for PID (i.e., multiple partners, partners with multiple partners).

6. Provide counseling on preconception health counseling and future fertility. (Refer to Preconception Health Toolkit)

7. Use condoms to reduce the risk of STD/HIV.

8. Discuss altered menstrual bleeding patterns:
   a. 1 to 4 months: may have frequent spotting.
   b. 1 to 6 months: reduced duration and amount of bleeding.
   c. Overall 90% reduction in menstrual bleeding.
   d. After 12 months, about 20% of women have no bleeding.
   e. The **client** should keep a menstrual record and report a sudden change in menses or suspected pregnancy immediately.
   f. Give **client** copy of Mirena post-insertion instructions.

9. The Mirena system reduces dysmenorrhea and leads to a significant reduction in the amount and length of bleeding.

10. After the system is removed, menstruation returns within 30 days. Fertility rapidly returns to normal.

11. Outside of clinic hours, seek physician or emergency care if warning signs develop.

12. As with other progestin-only methods, persistent ovarian follicles can occur. They do not require treatment or removal of the Mirena, and they usually resolve spontaneously. However, regular follow-up by ultrasound is recommended until cysts disappear.

13. The Mirena is effective for five years.

14. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

15. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document the refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

1. Re-examine and evaluate the **client** shortly after the first post-insertion menses, but no later than three months afterwards.

2. If evidence of pelvic inflammatory disease, see Nurse Protocol for Pelvic Inflammatory Disease. IUD removal not necessary unless no improvement after 2-3 days of antibiotic treatment.

3. If pregnancy occurs, advise **client** IUD should be removed at time of diagnosis whether pregnancy is continued or terminated.

CONSULTATION/REFERRAL

1. Difficult IUD insertion or removal.

2. Suspected **uterine or** ectopic pregnancy.

3. **To MD for IUD removal if pregnant.**

4. Other complications related to IUD use.

5. Presence of actinomyces on Pap smear report and evidence of pelvic infection.

6. **To MD for further evaluation if presence of actinomyces on Pap smear report and client requests insertion/reinsertion of IUD.**

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. **"Mirena (levonorgestrel-releasing intrauterine system)," *Physician Prescribing Information*, Bayer HealthCare Pharmaceuticals, Inc., 2009, <http://berlex.bayerhealthcare.com/html/products/pi/Mirena_PI.pdf> (May 16, 2011)**
4. **World Health Organization** (WHO), *Medical Eligibility Criteria for Contraceptive Use,* **4th ed., 2009, <http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf> (May 16, 2011)**
5. **"General Screenings and Immunizations for Women," Office on Women's Health, <http://www.womenshealth.gov/prevention/general> (May 16, 2011)**
6. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**
7. **Zieman M, Hatcher RA et al. *A Pocket Guide to Managing Contraception*. Tiger, Georgia: Bridging the Gap Foundation, 2010. (Current)**
8. **CDC, "*U.S. Medical Eligibility Criteria for Contraceptive Use, 2010,"* MMWR 2010; 59, <http://www.cdc.gov/mmwr> (June 6, 2011)**
9. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio <http://online.lexi.com> (July 5, 2011)**

STANDARD APRN PROTOCOL FOR LOST IUD STRINGS

DEFINITION **Inability to visibly locate IUD (intrauterine device) strings or inability to feel the IUD strings.**

ETIOLOGY **Lost IUD strings may be the result of** expulsion of the IUD, retraction of the strings into the uterine cavity, perforation of the IUD through the cervix or uterine wall, **or** use of an IUD (from another country) that never had a string attached. In some rare instances, clinicians have intentionally cut strings off or cut the strings short.

SUBJECTIVE **Client** may report that she cannot feel IUD strings on self-exam.

OBJECTIVE No IUD strings visible upon careful examination of the vagina and cervical opening, and inability to feel the strings.

ASSESSMENT IUD strings not visible.

PLAN **DIAGNOSTIC STUDIES**

Sensitive urine pregnancy test (HCG).

THERAPEUTIC

1. **If pregnancy test is positive, immediately refer client to physician.**

2. If pregnancy is ruled out by HCG and exam:

   a. Prepare cervix as with insertion.

   b. Gently rotate cytobrush inside cervical canal to snag IUD string. If unsuccessful, attempt to retrieve the IUD string using curved forceps, alligator forceps, or IUD retriever. Use tenaculum if necessary to steady the cervix.
      1) If strings located and **client** wants removal, remove the IUD with gentle, steady traction. Provide another method of contraception if appropriate.
      2) If dislodgement or abnormal placement suspected, remove IUD. Provide alternative contraceptive methods.
      3) Consider giving doxycycline 100 mg bid for 7-10 days if aggressive probing for string retrieval or IUD removal difficult.

3. If unsuccessful in locating strings:
   a. Refer for pelvic ultrasound or if necessary, abdominal x-rays.
   b. If the IUD is identified as properly positioned in the uterus, no action is necessary; reassure the **client.**
   c. If ultrasound identifies the IUD, but unable to identify in uterus, refer to MD. Advise alternative method of contraception.

CLIENT EDUCATION/COUNSELING

1. If the IUD is removed, advise the **client** to use another method of contraception.

2. Check for IUD strings after each menstrual period.

3. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

FOLLOW-UP

Return to clinic as needed for contraception or yearly exam.

CONSULTATION/REFERRAL

1. **Immediately refer client to physician, if pregnancy test is positive.**

2. Consult with a physician for any questions regarding management (see APRN Protocol for IUD Removal).

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
3. Leon Speroff and Phillip Darney, *A Clinical Guide for Contraception,* **5th ed**., Lippincott, Williams and Wilkins, Baltimore, MD, **2010. (Current)**

STANDARD APRN PROTOCOL FOR IUD REMOVAL/COMPLICATIONS AND ACTIONS

DEFINITION

Removal of an IUD by the clinician at the **client's** request, due to clinical findings such as pregnancy, infection or partial expulsion, or per recommended time frame for the device. It is important to comply with a woman's wishes if she wants to have her IUD removed.

SUBJECTIVE

1. **Client** may request IUD removal for any reason.

2. **Client** may report a condition that precludes IUD use, such as suspected or confirmed pregnancy, or no longer in a stable, mutually monogamous relationship.

3. **Client** may complain of dysmenorrhea, dyspareunia, menorrhagia, aching, abdominal pains, and tenderness on ambulation, malaise, and chills/fever.

4. History of use of the Copper T380A for 10 years or Mirena for 5 years.

OBJECTIVE

May have findings on pelvic exam or laboratory tests that require IUD removal such as: partial expulsion, enlargement of uterus, positive pregnancy test, other pelvic infection/disease.

ASSESSMENT

Indications for removal of IUD.

PLAN

DIAGNOSTIC STUDIES

If indicated:

1. Sensitive urine pregnancy test.

2. Wet mount of vaginal secretions.

3. Gonorrhea and chlamydia tests.

THERAPEUTIC (by APRN or MD)

NOTE: Easier removal may be possible at the time of menses or at midcycle.

1. If **client** is not pregnant, remove IUD slowly, applying gentle, steady traction to string with sponge forceps.

2. If **client** is not pregnant and the IUD cannot be removed with gentle traction, use a tenaculum to steady the cervix and straighten the anteversion or retroversion.

3. If the **client** is not pregnant and the strings are not visible, probe for them in the cervical canal with a cytobrush or cotton tipped applicator, narrow (e.g., alligator-type) forceps or IUD retriever. See Nurse Protocol for Lost IUD Strings.

4. **If client is pregnant, client should be counseled on the possibility of disruption of pregnancy and miscarriage with removal of IUD, risk and benefits. After counseling, refer client to physician for removal of IUD.**

CLIENT EDUCATION/COUNSELING

1. Choose a non-hormonal method of contraception for two menstrual cycles if the **client** desires pregnancy or any method if the **client** does not desire pregnancy.

2. Delay pregnancy for 2-3 months, to allow uterus to regain normal endometrium.

3. There are no known major long-term side effects after removal of an IUD.

4. In pregnant **client**, advise her that she is at increased risk of preterm labor and spontaneous abortion if IUD is left in place. However, reassure her that the fetus is not at increased risk for birth defects with IUD in place. Advise **client** that at time of removal she is also at risk for spontaneous abortion, although spontaneous abortion risk is less with removal than if IUD were left in place.

5. Provide counseling on preconception health counseling and future fertility. (Refer to PCH Toolkit)

6. If smoker or tobacco user, refer to local cessation program and/or Georgia Tobacco Quit Line, 1-877-270-STOP (7867).

7. Emphasize importance of keeping immunizations current; assess client's immunization status and administer vaccines indicated according to the current Advisory Committee on Immunization Practices childhood or adult immunization schedule. If client declines vaccination, document refusal. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for current **immunization** schedules and

administration guidelines for each vaccine. The Georgia Immunization Manual may be accessed online at http://www.health.state.ga.us/programs/immunization/publications.asp.

FOLLOW-UP

Return to clinic as needed, for contraception or yearly exam.

CONSULTATION/REFERRAL

Refer or consult with physician if:

1. Difficult/failed removal.
2. Successful removal, **client** pregnant.
3. Unable to visualize and/or probe for strings.

TABLE OF IUD COMPLICATIONS AND ACTIONS

CONDITION	ACTION
1. Pain from tenaculum application to the cervix.	1. May consider application of topical anesthesia such as Lidocaine gel, etc.
2. Pain with sounding of the uterus during insertion.	2. Sound slowly and gently consider smaller sound. If severe, check alignment of uterine cavity.
3. Cramping/pain immediately after insertion, for a day or so thereafter, or with each menses: a. if severe b. if mild	3. a. Consider IUD removal by APRN b. See Nurse Protocol IUD Related Dysmenorrhea
4. Pain at time of insertion, persistent and increasing, and signs of abdominal tenderness: a. if strings are present b. if strings are absent	4. a. Presume partial perforation has occurred; remove IUD and treat for pelvic infection. b. Consider possibility of perforation. Refer client to physician.
5. Partial expulsion of an IUD	5. Remove IUD. Pregnancy test as indicated.
6. Pelvic inflammatory disease	6. See Nurse Protocol for Pelvic Inflammatory Disease.
7. Spontaneous abortion	7. Refer to physician.
8. **Uterine Pregnancy or** Ectopic pregnancy	8. Refer to physician.

REFERENCES

1. Robert Hatcher et al., *Contraceptive Technology,* 19th ed., Ardent Media, Inc., New York, 2007. **(Current)**
2. Leon Speroff and Phillip Darney, *A Clinical Guide for Contraception,* **5th ed**., Lippincott Williams and Wilkins, Baltimore, **2010. (Current)**
3. Joellen Hawkins et al., *Protocols for Nurse Practitioners in Gynecologic Settings,* 9th ed., Springer Publishing Co., New York, 2007. **(Current)**
4. **"*Every Woman, Every Time," A Preconception Care Toolkit for Georgia*, 2010, <http://www.fpm.emory.edu/Preventive/projects/GAPCCToolkit.htm> (May 16, 2011)**

APPENDIX A

Contraceptives

Monophasic Oral Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Necon 1/50M	28 Pills	Norethindrone	1	Mestranol	50	Norinyl 1/50, Ortho-Novum 1/50
Norinyl 1/50	28 Pills	Norethindrone	1	Mestranol	50	Ortho Novum, Necon 1/50,
Zovia 1/50	28 Pills	Ethy. Diacetate	1	E.estradiol	50	None
Ogestrel	28 Pills	Norgestrel	0.5	E.estradiol	50	None
Ovcon 50	28 Pills	Norethindrone	1	E.estradiol	50	None

Monophasic Oral Contraceptives (Low Dose)

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Zovia 1/35	28 Pills	Ethy. Diacetate	1	E.estradiol	35	Kelnor
Kelnor 1/35	28 Pills	Ethy. Diacetate	1	E.estradiol	35	Zovia
Necon 1/35	28 Pills	Norethindrone	1	E.estradiol	35	Ortho Novum 1/35, Norinyl 1/35,Nortrel 1/35
Norinyl 1/35	28 Pills	Norethindrone	1	E.estradiol	35	Necon 1/35, Norinyl 1/35, Ortho-Novum 1/35
Nortrel 1/35	21 Pills	Norethindrone	1	E.estradiol	35	Ortho Novum 1/35, Necon 1/35, Norinyl 1/35
Nortrel 1/35	28 Pills	Norethindrone	1	E.estradiol	35	Ortho Novum 1/35, Necon 1/35, Norinyl 1/35
Ortho-Novum 1/35	28 Pills	Norethindrone	1	E.estradiol	35	Necon 1/35, Norinyl 1/35, Nortrel 1/35
Brevicon 0.5/35	28 Pills	Norethindrone	0.5	E.estradiol	35	Modican, Necon .5/35, Nortrel .5/35
Modicon 0.5/35	28 Pills	Norethindrone	0.5	E.estradiol	35	Brevicon, Necon 0.5/35, Nortrel .5/35
Necon 0.5/35	28 Pills	Norethindrone	0.5	E.estradiol	35	Brevicon, Modicon, Nortrel .5/35
Nortrel 0.5/35	28 Pills	Norethindrone	0.5	E.estradiol	35	Brevicon, Modicon, Necon .5/35
ZenChent 52544-0953-28	28 Pills	Norethindrone	0.4	E.estradiol	35	Ovcon 35, Balziva
Balziva	28 Pills	Norethindrone	0.4	E.estradiol	35	Ovcon 35, Zenchent
Ovcon 35	28 Pills	Norethindrone	0.4	E.estradiol	35	ZenChent, Balziva
Mono Nessa	28 Pills	Norgestimate	0.25	E.estradiol	35	Ortho-Cyclen, Sprintec, Previfem
Ortho-Cyclen	28 Pills	Norgestimate	0.25	E.estradiol	35	Mono Nessa, Sprintec, Previfem
Ortho-Cyclen	29 Pills	Norgestimate	0.25	E.estradiol	35	Mono Nessa, Sprintec, Previfem
Previfem	28 Pills	Norgestimate	0.25	E.estradiol	35	Mono Nessa, Ortho-Cyclen, Sprintec
Sprintec	28 Pills	Norgestimate	0.25	E.estradiol	35	Mono Nessa, Ortho-Cyclen, Previfem
Apri.-28	28 Pills	Desogestrel	0.15	E.estradiol	30	Desogen, Ortho-Cept, Reclipsen, Solia
Desogen	28 Pills	Desogestrel	0.15	E.estradiol	30	Apri, Ortho-Cept, Reclipsen, Solia
Ortho-Cept	28 Pills	Desogestrel	0.15	E.estradiol	30	Apri, Desogen, Reclipsen, Solia
Reclipsen	28 Pills	Desogestrel	0.15	E.estradiol	30	Desogen, Ortho-Cept, Apri, Solia
Solia	28 Pills	Desogestrel	0.15	E.estradiol	30	Desogen, Ortho-Cept, Apri, Reclipsen
Yasmin	28 Pills	Drospirenone	3	E.estradiol	30	Ocella, Zarah
Zarah	28 Pills	Drospirenone	3	E.estradiol	30	Ocella, Yasmin
Ocella	28 Pills	Drospirenone	3	E.estradiol	30	Yasmin, Zarah
Levora	28 Pills	Levonorgestrel	0.15	E.estradiol	30	Portia, Levlen, Nordette
Nordette	28 Pills	Levonorgestrel	0.15	E.estradiol	30	Portia, Levora, Levlen
Portia-28	28 Pills	Levonorgestrel	0.15	E.estradiol	30	Levlen, Levora, Nordette
Junel 1.5/30	21 Pills	Nor. Acetate	1.5	E.estradiol	30	Microgestin 1.5/30, Loestrin 1.5/30
Loestrin 1.5/30	21 Pills	Nor. Acetate	1.5	E.estradiol	30	Microgestin 1.5/30, Junel 1.5/30
Microgestin 1.5/30	21 Pills	Nor. Acetate	1.5	E.estradiol	30	Loestrin 1.5/30, Junel 1.5/30
Junel Fe 1.5/30	28 Pills	Nor. Acetate	1.5	E.estradiol	30	Loestrin Fe 1.5/30, Microgestin Fe 1.5/30
Loestrin Fe 1.5/30	28 Pills	Nor. Acetate	1.5	E.estradiol	30	Microgestin 1.5/30, Junel Fe 1.5/30
Microgestin Fe 1.5/30	28 Pills	Nor. Acetate	1.5	E.estradiol	30	Loestrin Fe 1.5/30, Junel Fe 1.5/30
Cryselle	28 Pills	Norgestrel	0.3	E.estradiol	30	Lo/Ovral, Low-Ogestrel
Lo/Ovral	28 Pills	Norgestrel	0.3	E.estradiol	30	Cryselle, Low-Ogestrel
Low-Ogestrel	28 Pills	Norgestrel	0.3	E.estradiol	30	Cryselle, Lo/Ovral
Generess FE 0.8/25 mcg **Chewable w/Iron**	28 Pills	Norethindrone	0.8	E.estradiol	25	Ovcon FE
Zeosa FE 0.4mg/35mg **Chewable w/Iron**	28 Pills	Norethindrone	0.4	E.estradiol	35	Ovcon FE
Femcon FE 0.4mg/35mg **Chewable w/Iron**	28 Pills	Norethindrone	0.4	E.estradiol	35	Ovcon FE

Monophasic Oral Contraceptives (Ultra-Low Dose)

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Aviane-28	28 Pills	Levonorgestrel	0.1	E.estradiol	20	Levlite, Lessina, Lutera, Sronyx
Lessina-28	28 Pills	Levonorgestrel	0.1	E.estradiol	20	Levlite, Aviane, Lutera, Sronyx
Lutera-28	28 Pills	Levonorgestrel	0.1	E.estradiol	20	Aviane, Lessina, Levlite, Sronyx
Sronyx	28 Pills	Levonorgestrel	0.1	E.estradiol	20	Aviane, Lessina, Levlite, Lutera
Junel Fe 1/20	28 Pills	Nor. Acetate	1	E.estradiol	20	Loestrin Fe 1/20, Microgestin Fe 1/20
Mircrogestin Fe 1/20	28 Pills	Nor. Acetate	1	E.estradiol	20	Junel Fe, Loestrin Fe 1/20
Junel 1/20	21 Pills	Nor. Acetate	1	E.estradiol	20	Loestrin 1/20, Microgestin 1/20
Loestrin 1/20	21 Pills	Nor. Acetate	1	E.estradiol	20	Junel 1/20, Microgestin 1/20
Microgestin 1/20	21 Pills	Nor. Acetate	1	E.estradiol	20	Loestrin 1/20, Junel 1/20

Contraceptives

Biphasic Oral Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Kariva	28 Pills	Desogestrel	0.15/ 0.0	E.estradiol	20/10	Mircette, Azurette
Azurette	28 Pills	Desogestrel	0.15/ 0.0	E.estradiol	20/10	Mircette, Kariva
Mircette	28 Pills	Desogestrel	0.15/ 0.0	E.estradiol	20/10	Kariva, Azurette
Necon 10/11	28 Pills	Norethindrone	0.5/1.0	E.estradiol	35	None

Multiphasic Oral Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Estrostep FE	28 Pills	Nor. Acetate	1	E.estradiol	20/30/35	Tilia, Tri-Legest
Tilia FE 3/ 7/ 9/ 7	28 Pills	Nor. Acetate	1	E.estradiol	20/30/35	Estrostep FE, Tri-Legest
Tri-Legest FE	28 Pills	Nor. Acetate	1	E.estradiol	20/30/35	Estrostep FE, Tilia
Cesia	28 Pills	Desogestrel	0.1/0.125/0.15	E.estradiol	25	Cyclessa, Velivet, Caziant
Caziant	28 Pills	Desogestrel	0.1/0.125/0.15	E.estradiol	25	Velivet, Cesia, Cyclessa
Cyclessa	28 Pills	Desogestrel	0.1/0.125/0.15	E.estradiol	25	Velivet, Cesia, Caziant
Velivet	28 Pills	Desogestrel	0.1/0.125/0.15	E.estradiol	25	Cyclessa, Cesia, Caziant
Enpresse-28 6/5/10	28 Pills	Levonorgestrel	0.05/0.075/0.125	E.estradiol	30	Trivora
Trivora-28 6/5/10	28 Pills	Levonorgestrel	0.05/0.075/0.125	E.estradiol	30	Empresse
Necon 7/7/7	28 Pills	Norethindrone	0.5/0.75/1.0	E.estradiol	35	Ortho-Novum 7/7/7, Nortrel 7/7/7
Nortrel 7/7/7	28 Pills	Norethindrone	0.5/0.75/1.0	E.estradiol	35	Ortho-Novum 7/7/7, Necon 7/7/7
Ortho-Novum 7/7/7	28 Pills	Norethindrone	0.5/0.75/1.0	E.estradiol	37	Nortrel 7/7/7, Necon 7/7/7
Aranelle 7/9/5	28 Pills	Norethindrone	0.5/1.0/0.5	E.estradiol	35	Leena, Tri-Norinyl
Leena 7/9/5	28 Pills	Norethindrone	0.5/1.0/0.5	E.estradiol	35	Aranelle, Tri-Norinyl
Tri-Norinyl 7/9/5	28 Pills	Norethindrone	0.5/1.0/0.5	E.estradiol	35	Aranelle, Leena
Ortho Tri-Cyclen Lo	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	25	Tri-Lo Sprintec
Ortho Tri-Cyclen Lo	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	25	Tri-Lo Sprintec
Tri-Lo Sprintec	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	25	Tri-Cyclen Lo
Ortho Tri-Cyclen	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	35	Tri-Sprintec,Tri-Nessa, Tri-Previfem
Tri-Nessa	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	35	Ortho Tri-Cyclen, Tri-Sprintec, Tri-Previfem
Tri-Previfem	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	35	Ortho Tri-Cyclen, Tri-Sprintec, Tri-Nessa
Tri-Sprintec	28 Pills	Norgestimate	0.18/0.215/0.25	E.estradiol	35	Ortho Tri Cyclen, Tri-Nessa, Tri-Previfem

Quadphasic Oral Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Natazia	28 Pills	Dienogest	2 and 3	Estradial Valerate	1, 2, and 3	None

Extended Cycle Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Jolessa	91 Pills	Levonorgestrel	0.15	E.estradiol	30	Seasonale, Quasense
Quasense	91 Pills	Levonorgestrel	0.15	E.estradiol	30	Seasonale, Jolessa
Seasonale	91 Pills	Levonorgestrel	0.15	E.estradiol	30	Jolessa, Quasense
Seasonique	91 Pills	Levonorgestrel	0.15	E.estradiol	30	None
Lo Seasonique	91 Pills	Levonorgestrel	0.1-0.02	E.estradiol	30	None
Loestrin 24	28 Pills	Nor. Acetate	1.0 (+75mg FF)	E.estradiol	20	None
Yaz	28 Pills	Drospirenone	3	E.estradiol	20	None
Lybrel 90mcg	28 Pills	Levonorgestrel	0.9	E.estradiol	20	None

Progestin Only Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Camila	28 Pills	Norethindrone	0.35	None		Micronor, Nor QD, Errin, Jolivette, Nora-BE
Errin	28 Pills	Norethindrone	0.35	None		Nor-QD, Camila, Micronor, Jolivette, Nora-BE
Jolivette	28 Pills	Norethindrone	0.35	None		Nor-QD, Camila, Micronor, Errin, Nora-BE
Ortho-Micronor	28 Pills	Norethindrone	0.35	None		Nor-QD, Camila, Errin, Jolivette, Nora-BE
Nor-QD	28 Pills	Norethindrone	0.35	None		Micronor, Camila, Errin, Jolivette, Nora-BE
Nora-BE	28 Pills	Norethindrone	0.35	None		Nor-QD, Camila, Errin, Jolivette, Micronor

Vaginal Ring Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
NuvaRing	3 Rings	Etonogestrel	0.12/day	E.estradiol	0.015/day	None

Contraceptives

Injectable DMPA Contraceptives

Name	PKG Count	Progestin	mg	Estrogen	mcg	Same Formula
Medroxyprogesterone / Depo-Provera	1	Progesterone	150	None		Depo-Provera

Transdermal (patch) Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Ortho Evra	1 Week	Norelgestromin	0.15/day	E.estradiol	0.02/day	None

Intrauterine (IUD) Contraceptives

Name	Count	Method of Delivery	mg	Estrogen	mcg	Same Formula
Paragard T 380A Intrauterine Copper Device - 10 year device	1	Spermicide				None
Mirena IUS DS - 5 year device	1	Levonorgestrel			20/day	None

Implant Contraceptives

Name	Count	Method of Delivery	mg	Estrogen	mcg	Same Formula
Implanon	1	Etonogestrel	68			None

Emergency Contraceptives

Name	Cycle Count	Progestin	mg	Estrogen	mcg	Same Formula
Plan B One-Step	1 Pill	Levonorgestrel	0.75	None		NextChoice
NEXT CHOICE™	2 Pills	Levonorgestrel	0.75	None		Plan B
Ella ULIPRISTAL ACETATE 30 MG	1 Pill		30	None		None

Spermicidals - Foam, Film, Gels, Suppositories

Name	Method of Delivery	mg	Estrogen	mcg	Same Formula
VCF Vaginal Contraceptive Foam	Nonoxynol-9				Delfen
VCF Vaginal Contraceptive Film	Nonoxynol-9				None
Delfen Contraceptive Foam w/applicator	Nonoxynol-9				VCF

Barriers - Diaphragms/ Caps / Condoms

Name	Method of Delivery	mg	Estrogen	mcg	Mfr	Same Formula
DIAPHRAGM COILSPRING 100MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 105MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 50MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 55MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 60MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 65MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 70MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 75MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 80MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 85MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 90MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM COILSPRING 95MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 55MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 60MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 65MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 70MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 75MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 80MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 85MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 90MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
DIAPHRAGM FLATSPRING 95MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO ALL-FLEX DIAPHRAGM 65M LATEX-FREE	Non-Systemic				Ortho	None
ORTHO ALL-FLEX DIAPHRAGM 70M LATEX-FREE	Non-Systemic				Ortho	None
ORTHO ALL-FLEX DIAPHRAGM 75M LATEX-FREE	Non-Systemic				Ortho	None
ORTHO ALL-FLEX DIAPHRAGM 80M LATEX-FREE	Non-Systemic				Ortho	None
ORTHO ALL-FLEX FITTING SET	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 55MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 60MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 65MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 70MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 75MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 80MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 85MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 90MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None
ORTHO-DIAPHRAGM ALLFLEX 95MM W/ORTHO-GYNOL	Non-Systemic				Ortho	None

Department of Public Health, Office of Pharmacy, September 14, 2011

STANDARD

NURSE PROTOCOLS

FOR

HIV/AIDS

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RECOMMENDATIONS FOR USE OF THE HIV/AIDS-RELATED STANDARD NURSE PROTOCOLS

The HIV Nurse Protocol Committee recommends the following HIV-related nurse protocols for use by public health nurses. Use of other standard nurse protocols, such as the STD Nurse Protocols, and/or other HIV-related protocols by public health nurses should be based on the nurse's experience, training, and competency.

Nurses working in public health clinics must also follow the HIV Section manual, "Medical Guidelines for the Care of HIV-Infected Adults and Adolescents, June 2005." These guidelines include sections such as Initial Evaluation, Women's Health, Transgender Care, Immunizations, Routine Interim Visits, and Urgent Care. The guidelines are available online at http://health.state.ga.us/pdfs/epi/hivstd/HIVmedicalguidelinesJune2005.pdf. Nurses should ensure that HIV-infected clients receive the recommended adult immunizations. For the latest recommendations see http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm.

The HIV Nurse Protocol Committee supports the use of the AIDS Education and Training Centers (AETC) manual, "The Clinical Manual for Management of the HIV-Infected Adult," **2011** edition, as a reference guide for midlevel provider practice available online at http://www.aidsetc.org/. The Committee further recommends use of the **2011** manual in conjunction with more frequently updated references, such as the current edition of *Medical Management of HIV Infection* by John G. Bartlett and Joel E. Gallant, and the U.S. Public Health Service (USPHS) HIV-related guidelines. Advance Practice Registered Nurses (APRNs) should list these documents in the "Reference Guidelines for Practice" section of the **APRN** protocol agreement and add HIV/AIDS-related medications to the APRN formulary. Please note that the APRN agreement must exclude controlled substances.

Due to the rapidly evolving management of HIV disease, the HIV Nurse Protocol Committee recommends that individual protocols be locally updated as USPHS HIV-related guidelines are revised. Compliance with USPHS HIV/AIDS-related guidelines is a requirement of the Health Resources and Service Administration (HRSA) for sites receiving Ryan White Comprehensive AIDS Resources Emergency (CARE) Act funding. These guidelines are considered "living" documents and are available online at the AIDSinfo website http://aidsinfo.nih.gov/; therefore, changes in these guidelines supersede information in the following HIV/AIDS-related nurse protocols.

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STANDARD NURSE PROTOCOL FOR CONTINUATION OF ANTIRETROVIRAL THERAPY IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Antiretroviral therapy refers to a combination of medications used to treat HIV infection. These drug combinations are commonly called highly active antiretroviral therapy (HAART). Currently, there are six classes of these drugs approved by the Food and Drug Administration (FDA): nucleoside and nucleotide reverse transcriptase inhibitors , non-nucleoside reverse transcriptase inhibitors , protease inhibitors, fusion inhibitors , Chemokine receptor 5 antagonists, and integrase strand transfer inhibitors. Since the mid-1990s, when studies demonstrated the superiority of three-drug regimens over single or dual drug regimens, national guidelines have mandated the use of three or more drugs in combination to treat HIV infection.

Once a HAART regimen is initiated, it is generally continued indefinitely unless the client experiences medication intolerance, severe side effects, adverse reactions, or treatment failure.

SUBJECTIVE

1. Currently taking an appropriate HAART regimen.

2. Reports medication adherence and a desire to continue current HAART regimen.

3. Absence of adverse reactions or significant side effects to antiretroviral medications.

4. Absence of allergies to antiretroviral medications.

5. CD4 count and HIV viral load history.

6. Resistance testing history.

7. Obtain a complete medication profile to determine whether or not there are any clinically significant drug-drug interactions.

NOTE: Medication profiles should include over-the-counter (OTC) medications, herbals, vitamins, and prescription medications.

OBJECTIVE

1. No evidence of virologic or immunologic failure as defined in the Department of Health and Human Services (DHHS) antiretroviral guidelines.

2. The most recent complete blood count (CBC) with differential and platelet count, chemistry profile including liver and renal functions,

and lipid profile are within acceptable values.

3. No evidence of past or current resistance to the HAART regimen.

NOTE: Interpretation of resistance testing is often complex and requires consultation with specialists in HIV drug resistance. Consult the physician regarding results of resistance testing (e.g., drug resistance mutations detected with a genotype).

4. If ordering abacavir, no evidence of Human Leukocyte Antigen – B*5701 (HLA-B*5701) positive test result.

5. If ordering a CCR5 antagonist (e.g., maraviroc), no evidence of Chemokine receptor 4 (CXCR4) or dual/mixed coreceptor tropism.

NOTE: Maraviroc should be considered a fully active antiretroviral agent in treatment-experienced clients who have only R5 virus and who are naïve to CCR5 inhibitors.

ASSESSMENT No contraindications for continuation of antiretroviral regimen.

PLAN

DIAGNOSTIC STUDIES

1. Repeat CD4 count and HIV viral load, if indicated.

2. Repeat CBC with differentials, chemistry profile including liver and renal function, and lipid profile, if indicated.

THERAPEUTIC

1. Order one-month supply of each antiretroviral medication the client is currently taking. See the latest DHHS antiretroviral guidelines, "Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents," for recommendations including antiretroviral regimens, agent formulations and dosing, adverse events, and drug-drug interactions. The guidelines are available online at http://www.aidsinfo.nih.gov/.

2. Review the client's current medication list for possible drug-drug interactions. Include prescription medications, OTC drugs/products, and nutritional or herbal supplements.

NOTE: Antiretroviral medications frequently have drug-drug interactions that require dose modifications. Check with the physician, a pharmacist, drug and HIV references, and/or the latest DHHS antiretroviral guidelines for appropriate dose modifications. Other online references include:

- HIV Insite, *Database of Antiretroviral Drug Interactions*, http://www.hivinsite.org/InSite?page=ar-00-02

- AIDSMeds.com, *Check My Meds*, http://www.aidsmeds.com/cmm/

CLIENT EDUCATION/COUNSELING

1. Review current drug regimen including drug storage, dose, route of administration, schedule, food requirements or restrictions, side effects, potential drug-drug interactions, and follow-up monitoring.

2. Provide measures to promote adherence such as written medication schedules and pillboxes.

3. Discourage client from stopping HAART regimen without consulting provider first.

NOTE: Simultaneously discontinuing all drugs in a HAART regimen may lead to "functional" monotherapy of one drug due to the drug's longer half-life compared with the other drugs (e.g., data have shown that efavirenz or nevirapine drug levels may persist for 21 days or longer). Currently there are no guidelines for optimal discontinuation intervals between drugs. Check with the physician concerning discontinuation instructions. Clients with hepatitis B coinfection receiving one or a combination of NRTIs (i.e., emtricitabine, lamivudine, or tenofovir) may experience an exacerbation of hepatitis upon drug discontinuation.

4. Instruct client to return for scheduled appointment. Stress that failure to keep appointments may result in discontinuation of medications.

5. Ask client to immediately report adverse drug reactions, side effects or other changes in health that he/she feels are important to his/her care provider.

NOTE: If client experiences hypersensitivity reactions to abacavir, it should be discontinued immediately. **Clients with who have a HLA-B*5701-positive screen should not be prescribed abacavir, and positive status should be recorded as an abacavir allergy. Clients including those with negative screening tests should be warned to consult their provider immediately if they note two or more of the hallmark symptoms, including fever, skin rash, GI symptoms (nausea, vomiting, diarrhea, abdominal pain), respiratory symptoms (cough, dyspnea, pharyngitis) and/or constitutional symptoms (malaise, fatigue, myalgia) especially during the first month of therapy.** If the client stops taking abacavir because of adverse reactions, it should not be re-started. Abacavir hypersensitivity reactions can be fatal.

6. Instruct client that HIV medications, especially PIs and NNRTIs, have a high potential for significant drug interactions.

7. Ask client to check with his/her pharmacist or provider about interactions before taking a new medication, nutritional or herbal supplement, or OTC drug/product.

8. Request that the client not “borrow” medications from friends or family or obtain prescription drugs outside the care of his/her physician (e.g., erectile dysfunction agents).

9. Instruct client to bring all medications, nutritional or herbal supplements, and OTC drugs/products to his/her medical appointments.

FOLLOW-UP

Return appointment with the **APRN** or physician in 2-4 weeks.

CONSULTATION/REFERRAL

1. Refer the following to the physician:
   a. Non-adherent clients.
   b. HAART regimens that do not follow the latest USPHS treatment guidelines.
   c. Suspected treatment failure.
   d. Adverse reactions to HAART or severe/significant side effects.
   e. Results of drug resistance testing.

2. Consult with the physician concerning any abnormal lab results.

3. Consult with the physician concerning instructions for discontinuing HAART regimens.

4. Consult with the physician concerning antiretroviral therapy in clients with renal or hepatic insufficiency.

5. Consult with the physician if a client on an abacavir-containing regimen is HLA-B*5701 positive.

6. Consult with the physician if a client on a CCR5 antagonist has CXCR4 or dual/mixed coreceptor tropism.

REFERENCES

1. AIDS Education and Training Centers, "Drug-Drug Interactions with HIV-Related Medications," *Clinical Manual for Management of the HIV-Infected Adult,* 2006 ed., 2007**,** <http://www.aids-etc.org/aetc/aetc?page=cm-312_drug> (**February 1, 2011**).
2. "Check My Meds," *AIDSMeds.com*, <http://www.aidsmeds.com/cmm/> (**February 1, 2011**).
3. **John Bartlett and Joel Gallant, *2009-2011 Medical Management of HIV Infection*, Johns Hopkins University, 2009**.
4. Department of Health and Human Services, Guidelines on the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, **January 10, 2011, http://www.aidsinfo.nih.gov/contentfiles/adultandadolescentgl.pdf (February 1, 2011).**
5. "HIV Insite," *Database of Antiretroviral Drug Interactions*, <http://www.hivinsite.org/InSite?page=ar-00-02> (**February 1, 2011**).
6. Carl A. Kirton, et al. (eds.), "Guidelines for the Initiation of Antiretroviral Therapy," *Handbook of HIV/AIDS Nursing*, Mosby, St Louis, 2001, pp. 65-82. (Current)

STANDARD NURSE PROTOCOL FOR NEW ONSET (ACUTE) DIARRHEA IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Acute diarrhea is a change in normal bowel movements characterized by abrupt or gradual onset of frequent (more than 3-4 per day) liquid or soft stools for more than 3 days and less than 14 days. Large volume of stools with periumbilical pain usually indicates small bowel disease. Small volume, frequent stools, which may be associated with urgency, tenesmus, lower abdominal cramps or perianal pain, are usually associated with colonic and/or anorectal disease.

ETIOLOGY

There are many possible causes of acute diarrhea ranging from medication side effects to infections.

SUBJECTIVE

1. Assess pattern of diarrhea: onset, duration, amount, frequency, and appearance (e.g., foul-smelling, frothy, black, watery, visible blood, pus, mucus).

2. Assess whether or not diarrhea is interfering with activities of daily living.

3. May or may not be accompanied by one or more of the following:
   a. Fever.
   b. Abdominal pain/cramping.
   c. Nausea and/or vomiting.
   d. Bloating.
   e. Urgency.
   f. Tenesmus (i.e., anal pain and spasms that may include the urge to defecate without being able to pass stool).
   g. Perianal pain and/or sores.
   h. Recent involuntary weight loss.
   i. Difficulty urinating.

4. May or may not have symptoms of dehydration (e.g., thirst, decrease in urine output, dark-colored urine, dry skin and mucous membranes, fatigue, light-headedness, and rapid heart beat).

5. May or may not report a history of the following:
   a. Taking medications which cause diarrhea (e.g., protease inhibitors).
   b. Antibiotics taken within the last 6-8 weeks.
   c. Recent hospitalization.
   d. Recent travel to a foreign and/or developing country or camping trip.

e. Exposure to potentially contaminated food or water (e.g., ingestion of raw **meat, eggs,** or shellfish, lake or stream water, or recalled food products).
f. Recent herbal or alternative therapies.
g. Exposure to a pet or another animal with diarrhea.
h. Exposure to a coworker or family member with similar illness.
i. Recent receptive anal sex and/or oral-anal sexual contact and/or sexually transmitted disease.
j. Working in daycare, healthcare, or food industry.
k. Food intolerance (e.g., lactose intolerance).
l. Irritable bowel syndrome or inflammatory bowel disease.
m. Anxiety disorders, panic attacks, or new emotional stress.
n. Laxative abuse or eating disorder.
o. Alcohol or other recreational drug use.

OBJECTIVE

1. May or may not have fever and/or recent weight loss.

2. May or may not have signs of dehydration (e.g., postural hypotension, orthostatic pulse, tachycardia, dry mucous membranes, poor skin turgor, and lethargy).

3. May or may not have hyperactive or hypoactive bowel sounds, abdominal tenderness or distention, organomegaly, perianal lesions or tissue breakdown, or heme-positive stools.

4. Current CD4 count.

ASSESSMENT

New onset (acute) diarrhea

PLAN

THERAPEUTIC

PHARMACOLOGIC

If client is afebrile and without bloody stools and/or abdominal pain, and diarrhea is concomitant with starting of antiretroviral agents (e.g., nelfinavir), may order:

1. Calcium 500 mg tablets by mouth two times/day for 7 days,
AND/OR
2. Loperamide HCL 4 mg by mouth initially and then 2 mg after each stool to a maximum of 16 mg/day for 7 days.

NOTE: Antidiarrheal agents should not be used in cases of bloody diarrhea or if suspect *C. difficile*-related diarrhea. In clients taking atazanavir or tipranavir, avoid simultaneous administration of antacids (e.g., Tums with calcium); give atazanavir or tipranavir 2 hours before or 1 hour after these medications.

NON-PHARMACOLOGIC

1. Adjust diet and fluid intake to decrease diarrhea and maintain adequate hydration and electrolyte levels (see below in client education/counseling).

2. If history of lactose intolerance, avoid dairy products or take lactaid pills before ingesting dairy products.

3. Discontinue any newly started herbal or alternative therapy.

4. If diarrhea is associated with recent antibiotic therapy the normal bacterial flora of the intestinal tract may need to be replaced, increase intake of probiotics either through over-the-counter *Lactobacillus* products or through food products (e.g., buttermilk or yogurt).

NOTE: If allergic to milk or dairy products or sensitive to lactose, avoid using Lactobacillus products. Cases of severe infections with Lactobacillus have been reported in **clients** with late stage AIDS. The use of probiotics in **clients** with low CD4 counts should be done with caution.

CLIENT EDUCATION/COUNSELING

1. Instruct client to maintain hydration and electrolyte levels by ingesting ½-strength Gatorade, broth, soups, ½-strength fruit juices.

NOTE: Formula for inexpensive oral rehydration solution - dissolve the following in 1L (approximately 33 ounces) of water: ¾ teaspoon table salt, 1 teaspoon baking soda, and 4 tablespoons sugar, then add 1 cup of orange juice or 2 bananas.

2. Instruct client to avoid foods that tend to aggravate diarrhea, including milk/dairy products, and foods that are greasy, high-fiber or very sweet. Also, avoid products that contain alcohol or caffeine.

3. Encourage client to eat small meals every 2-3 hours. Gradually add soft, bland foods to diet, including bananas, plain rice, boiled potatoes, toast, crackers, cooked carrots, and skinless baked chicken.

4. Instruct client to keep perianal area clean and dry. May use sitz baths and perineal hygiene cleaners and skin-protection ointments to maintain skin integrity.

5. Inform client given calcium or loperamide HCL that he/she should experience improvement of symptoms within a few days. If symptoms do not improve within 2-3 days or if symptoms worsen, contact provider. If constipation occurs, reduce doses.

NOTE: Instruct clients taking atazanavir or tipranavir to avoid simultaneous administration of antacids (e.g., Tums with calcium); take atazanavir or tipranavir 2 hours before or 1 hour after antacids.

6. Stress the importance of not stopping antiretroviral therapy or other medications unless he/she has consulted with his/her provider first.

7. If suspect infectious diarrhea, instruct client to not work as a food handler until diarrhea is controlled. Stress importance of hand washing.

8. Instruct client on ways to prevent diarrhea in the future, including: drinking bottled or purified water, using proper food handling and cooking techniques, avoiding recalled food products, and performing proper hand-washing techniques.

FOLLOW-UP

Return appointment in one week, if symptoms have not improved/ resolved.

CONSULTATION/REFERRAL

1. Refer clients immediately to the physician for any of the following (client may require hospitalization):
   a. Fever over 101 degrees Fahrenheit.
   b. Blood in the stool.
   c. Signs and symptoms of dehydration.
   d. Profuse diarrhea.
   e. CD4 counts less than 100 cells/mm^3.
   f. Abdominal pain and/or distention.
   g. Perianal pain and/or lesions.
   h. Recent involuntary weight loss of 3-5 lbs. or more.

i. Difficulty urinating.
j. Suspect infectious agent causing diarrhea.
k. Suspect laxative abuse.

2. Consult with physician to discontinue and/or change medications that may be causing diarrhea.

3. Refer to mental health provider if client has new emotional stress, history of eating disorder/laxative abuse, anxiety disorder or panic attacks.

4. May refer to dietitian/nutritionist for further dietary recommendations.

5. Consult physician concerning clients who have persistent diarrhea for >7 days in spite of taking antidiarrheal agents.

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STANDARD NURSE PROTOCOL FOR PERSISTENT (CHRONIC) DIARRHEA IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Chronic diarrhea is a change in normal bowel movements characterized by frequent (more than 3-4 per day) liquid or soft stools for more than 2 weeks. Large volume of stools with periumblical pain usually indicates small bowel disease. Small volume, frequent stools, which may be associated with urgency, tenesmus, lower abdominal cramps or perianal pain, are usually associated with colonic and/or anorectal disease.

ETIOLOGY

Chronic diarrhea in HIV-infected adults is often related to an enteric pathogen or medications. However, in some clients no cause is identified.

SUBJECTIVE

1. Assess pattern of diarrhea: onset, duration, amount, frequency, appearance (e.g., foul-smelling, frothy, black, watery, visible blood, pus, mucus).

2. Assess whether or not diarrhea is interfering with activities of daily living.

3. May or may not be accompanied by one or more of the following:
   a. Fever.
   b. Abdominal pain/cramping.
   c. Nausea and/or vomiting.
   d. Bloating.
   e. Urgency.
   f. Tenesmus (i.e., anal pain and spasms that may include the urge to defecate without being able to pass stool).
   g. Perianal pain and/or sores.
   h. Involuntary weight loss.
   i. Difficulty urinating.

4. May or may not have symptoms of dehydration (e.g., thirst, decrease in urine output, dark-colored urine, dry skin and mucous membranes, fatigue, light-headedness, and rapid heart beat).

5. May or may not report a history of the following:
   a. Taking medications which cause diarrhea (e.g., protease inhibitors).
   b. Antibiotics taken within the last 6-8 weeks.

c. Recent hospitalization.
d. Recent travel to a foreign and/or developing country or camping trip.
f. Exposure to potentially-contaminated food or water (e.g., ingestion of raw meat, eggs, or shellfish, lake or stream water, or recalled food products).
g. Recent herbal or alternative therapies.
h. Exposure to a pet or another animal with diarrhea.
i. Exposure to a coworker or family member with similar illness.
j. Recent receptive anal sex and/or oral-anal sexual contact and/or sexually transmitted disease.
k. Working in daycare, healthcare, or food industry.
l. Food intolerance (e.g., lactose intolerance).
m. Irritable bowel syndrome or inflammatory bowel disease.
n. Anxiety disorders, panic attacks, or new emotional stress.
o. Laxative abuse or eating disorder.
p. Alcohol or other recreational drug use.

OBJECTIVE

1. May or may not have fever and/or weight loss.

2. May or may not have signs of dehydration (e.g., postural hypotension, orthostatic pulse, tachycardia, dry mucous membranes, poor skin turgor, and lethargy).

3. May or may not have hyperactive or hypoactive bowel sounds, abdominal tenderness or distention, organomegaly, perianal lesions or tissue breakdown, heme-positive stools.

4. Current CD4 count.

ASSESSMENT

Persistent (chronic) diarrhea

PLAN

DIAGNOSTIC STUDIES

1. CBC and serum chemistry (i.e., electrolytes, BUN, and creatinine).

2. Stool for *C. difficile* toxin assay. Repeat up to two additional assays for *C. diff* toxin if the first is negative.

NOTE: Recent studies indicate that community-associated *Clostridium difficile* is increasing and may not be linked to recent antibiotic use. Some studies identified a possible link with proton pump inhibitor therapy.

3. Stool for:
   a. Bacterial culture (if negative repeat x 1-2).
   b. Mycobacterial culture if CD4 count less than 100/mm^3.
   c. AFB smear (if negative repeat x 1-2) if CD4 count less than 100/mm^3.
   d. Ova and Parasites (O&P) examination for intestinal parasites (repeat specimen collection for 3 consecutive days):
      PLUS
      1) Modified acid-fast stain for *Cryptosporidia*, *Cyclospora*, *Isospora.*
      2) Chromotrope or other stains for Microsporidia.
   e. *Giardia* antigen detection by direct Immunofluorescence or by enzyme-linked immunoassay (EIA).

4. May order direct Immunofluorescence or enzyme-linked immunoassay (EIA) for detection of *Cryptosporidia* antigens.

THERAPEUTIC

PHARMACOLOGIC

If client is afebrile and without bloody stools and/or abdominal pain; and/or client is taking antiretroviral agents, which may cause diarrhea (e.g., nelfinavir), may order:

1. Calcium 500 mg tablets by mouth two times/day,
   AND/OR
2. Loperamide HCL 4 mg by mouth initially and then 2 mg by mouth after each stool to a maximum of 16 mg/day,
   AND/OR
3. Stool Bulking Agents
   a. Psyllium powder (e.g., Metamucil®) mixed in 2/3 of fluid required on package instructions by mouth daily or two times/day,
      OR
   b. Psyllium fiber wafers, 2 wafers by mouth daily or two times/day,
      OR
   c. Oat bran tablets 1500 mg by mouth two times/day.

NOTE: Antidiarrheal agents should not be used in cases of bloody diarrhea or if suspect *C. difficile*-related diarrhea. Psyllium should be taken at least 2-3 hours before or after other drugs because it can decrease effects of certain drugs. In clients taking atazanavir or tipranavir, avoid simultaneous administration of

antacids (e.g., Tums with calcium); give atazanavir or tipranavir 2 hours before or 1 hour after these medications.

NON-PHARMACOLOGIC

1. Adjust diet and fluid intake to decrease diarrhea and maintain adequate hydration and electrolyte levels (see below in client education/counseling).

2. If history of lactose intolerance, avoid dairy products or take lactaid pills before ingesting dairy products.

3. Discontinue any newly started herbal or alternative therapy.

4. If diarrhea is associated with recent antibiotic therapy, the normal bacterial flora of the intestinal tract may need to be replaced, increase intake of probiotics either through over-the-counter *Lactobacillus* products or through food products (e.g., buttermilk or yogurt).

NOTE: If allergic to milk or dairy products or sensitive to lactose, avoid using Lactobacillus products. Cases of severe infections with Lactobacillus have been reported in **clients** with late stage AIDS. The use of probiotics in **clients** with low CD4 counts should be done with caution.

CLIENT EDUCATION/COUNSELING

1. Instruct client to maintain hydration and electrolyte levels by ingesting ½-strength Gatorade, broth, soups, ½-strength fruit juices.

NOTE: Formula for inexpensive oral rehydration solution - dissolve the following in 1L (approx. 33 ounces) of water: ¾ teaspoon table salt, 1 teaspoon baking soda, and 4 tablespoons sugar, then add 1 cup of orange juice or 2 bananas.

2. Instruct client to avoid foods that tend to aggravate diarrhea, including milk/dairy products, and foods that are greasy, high-fiber or very sweet. Also avoid products that contain alcohol or caffeine.

3. Encourage client to eat small meals every two-three hours. Gradually add soft, bland foods to diet, including bananas, plain rice, boiled potatoes, toast, crackers, cooked carrots, and skinless baked chicken.

4. Instruct client to keep perianal area clean and dry. Client may use

sitz baths, perineal hygiene cleaners, and skin-protection ointments to maintain skin integrity.

5. Inform client given calcium or loperamide HCL that he/she should experience improvement of symptoms within a few days. If symptoms do not improve within 2-3 days or if symptoms worsen, contact provider. If constipation occurs, reduce doses.

NOTE: Instruct clients taking atazanavir or tipranavir to avoid simultaneous administration of antacids (e.g., Tums with calcium); take atazanavir or tipranavir 2 hours before or 1 hour after antacids.

6. Instruct client to notify provider if symptoms worsen or do not improve.

7. Stress the importance of not stopping antiretroviral or other medications unless he/she has consulted with his/her provider first.

8. If suspect infectious diarrhea, instruct client to not work as a food handler until diarrhea is controlled. Stress importance of hand washing.

9. Instruct client on ways to prevent diarrhea in the future, including: drinking bottled or purified water, using proper food handling and cooking techniques, avoiding recalled food products, and performing proper hand-washing techniques.

10. Inform clients who have well water or private water sources to consider testing water source by obtaining test kit and instructions from local Environmental Health office.

FOLLOW-UP

Return appointment as needed, if symptoms have not improved or do not resolve.

CONSULTATION/REFFERAL

1. Refer client immediately to the physician for the following (client may require hospitalization):
   a. Fever over 101 degrees Fahrenheit.
   b. Blood in the stool.
   c. Signs and symptoms of dehydration.
   d. CD4 counts less than 100 cells/mm^3.
   e. Abdominal pain and/or distention.
   f. Perianal pain and/or lesions.
   g. Involuntary weight loss of over 5 lbs.

h. Difficulty urinating.
i. Suspect infectious agent causing diarrhea.
j. Suspect laxative abuse.

2. Consult with physician to discontinue and/or change medications that may be causing diarrhea.

3. Notify physician and/or **APRN** of stool studies and lab results. If specific etiology revealed, refer to physician and/or nurse practitioner for treatment.

4. If stool studies are negative and symptoms continue, consult with physician for further testing (e.g., endoscopy, sigmoidoscopy, or colonoscopy).

5. Refer to mental health provider if client has new emotional stress, history of eating disorder/laxative abuse, anxiety disorder or panic attacks.

6. May refer to dietitian/nutritionist for further dietary recommendations.

7. If antidiarrhea treatment was ordered and did not improve or resolve diarrhea, consult physician.

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STANDARD NURSE PROTOCOL FOR DISSEMINATED MYCOBACTERIUM AVIUM COMPLEX PROPHYLAXIS IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION/ INDICATION

HIV-infected persons with CD4 counts less than 50/mm^3 should receive primary prophylaxis to prevent a first episode of disseminated *Mycobacterium avium* complex (DMAC) disease.

Persons with disseminated DMAC should receive lifelong therapy (i.e., secondary prophylaxis or maintenance therapy), unless immune reconstitution occurs due to highly active antiretroviral therapy (HAART).

Primary prophylaxis should be discontinued in clients who have responded to HAART and have sustained CD4 counts greater than 100/mm^3 for 3 months or more (immune reconstitution). Primary prophylaxis should be reintroduced if the CD4 count decreases to less than 50-100/mm^3.

Secondary prophylaxis should be discontinued in clients who have completed at least 12 months treatment for DMAC, are asymptomatic for DMAC, have responded to HAART, and have sustained CD4 counts greater than 100/mm^3 for 6 months or more. Secondary prophylaxis should be reintroduced if the CD4 count decreases to less than 100/mm^3.

ETIOLOGY

DMAC is a bacterial infection composed of *Mycobacterium avium* and *Mycobacterium intracellulare* organisms. These organisms are found in the environment, such as food, water, soil and animals. MAC organisms may enter the body via the gastrointestinal or respiratory tracts. Data suggests that DMAC results from new infection instead of reactivation of latent infection.

SUBJECTIVE

1. May or may not have a history of DMAC and/or treatment for DMAC.

2. No history of active tuberculosis (TB).

3. No symptoms suggestive of DMAC (e.g., fevers, chills, night sweats, weight loss, abdominal pain or diarrhea).

4. Absence of allergies to macrolide antibiotics (e.g., clarithromycin, erythromycin) or ethambutol.

5. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include over-the-counter medications, herbals, vitamins, and prescription medications.

OBJECTIVE

1. CD4 count less than 50/mm^3, unless history of DMAC disease with treatment.

2. Absence of signs of current DMAC infection (e.g., weight loss, fever, enlarged spleen or liver, abdominal tenderness).

3. If blood culture for MAC performed, is negative for MAC.

4. Complete blood count (CBC) with differential and platelet count, liver and renal functions within acceptable values.

5. No signs of active TB.

ASSESSMENT

Candidate for DMAC prophylaxis (primary or secondary), at risk of DMAC disease

PLAN

THERAPEUTIC

PHARMACOLOGIC

1. Primary Prophylaxis (Prevention of First Episode of DMAC Disease)
   If no history of DMAC, and CD4 count less than 50/mm^3, order:
   a. Azithromycin 1,200 mg by mouth once per week
      OR
   b. Clarithromycin 500 mg by mouth two times/day

2. Secondary Prophylaxis (Chronic Maintenance Therapy)
   If history of DMAC disease with treatment, order:
   a. First Choice:
      Clarithromycin 500 mg by mouth two times/day
      PLUS
      Ethambutol 15 mg/kg by mouth daily
      OR
   b. Alternative:
      Azithromycin 500–600 mg by mouth daily
      PLUS
      Ethambutol 15 mg/kg by mouth daily

NOTE: Aluminum- and magnesium-containing antacids decrease serum levels of azithromycin. Avoid concurrent administration of aluminum or magnesium containing antacids with azithromycin. Aluminum-containing antacids decrease absorption of ethambutol. Avoid concurrent administration of aluminum-containing antacids for at least 4 hours following ethambutol. Clarithromycin has many drug-drug interactions and doses may need to be adjusted. If break-through DMAC occurs, there is a chance it may be macrolide resistant. Rifabutin is an alternative prophylactic agent for DMAC disease but, because of associated drug interactions, physicians should make the decision about ordering this medication.

CLIENT EDUCATION/COUNSELING

1. Explain reason for regimen. Review current drug regimen, including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring.

2. Instruct client to stop the medications and immediately report adverse drug reactions, side effects (e.g., rash, vomiting, severe diarrhea, fever, chills, numbness or tingling in arms or legs, persistent loss of appetite, vision changes) or other changes in health that he/she feels are important to his/her care provider.

3. If client is taking ethambutol, instruct to report vision changes immediately.

4. Instruct that taking medications as ordered and keeping appointments is very important to prevent this life-threatening illness.

5. Explain that prophylaxis may be discontinued due to sustained rise in CD4 count while on HAART, but may need to be re-started in the event of stopping HAART, CD4 counts dropping or if health condition worsens.

6. Instruct client to report any signs and symptoms of DMAC to the provider.

7. Ask female client to inform the provider if she is, or is planning to become, pregnant.

FOLLOW-UP

1. Monitor for medication adherence, adverse drug events and medication side effects.

2. Obtain and monitor CBC with differential and platelet count, and renal and liver function tests, within 4-6 weeks of initiation of regimen and then as indicated.

3. Monitor for signs/symptoms of DMAC.

4. Obtain and monitor CD4 counts and percentage at least every 3-6 months.

5. Monitor vision in clients taking ethambutol by providing vision checks monthly, which include visual acuity and red/green color discrimination.

CONSULTATION/REFERRAL

1. Notify the physician of the following:
   a. Abnormal lab values.
   b. Medication side effects and/or adverse events.
   c. Signs/symptoms of DMAC.
   d. Changes in visual acuity or red/green color discrimination.

2. Defer the decision to discontinue primary or secondary prophylaxis to physician.

3. Defer the decision to initiate rifabutin as an alternative prophylactic agent for DMAC disease to the physician.

4. Refer pregnant clients to the physician.

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STANDARD NURSE PROTOCOL FOR HERPES ZOSTER (SHINGLES) IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Herpes zoster is a viral illness that usually presents as a vesicular rash, with pain and itching, in a unilateral dermatomal distribution. The duration of vesicles and crusts, as well as significant pain, is usually 2-3 weeks. Thoracic dermatomes are most frequently involved, followed by cranial nerve, cervical, lumbar, and sacral dermatomes. Involvement of the trigeminal nerve can cause infection of the eye, which may lead to blindness. Rarely, the eyes are affected when other dermatomes are infected.

Herpes zoster is seen throughout the course of HIV infection and is particularly common in healthy-appearing individuals before the onset of other HIV-related symptoms, but frequency of disease is highest with CD4 counts less than 200 cells/mm^3 and is not reduced by antiretroviral therapy. It may be particularly painful, necrotic and hemorrhagic in HIV-infected persons. Necrotic lesions may last for up to six weeks and cause severe scarring.

Disseminated varicella zoster virus (VZV) infection is uncommon, but when it occurs it usually involves the skin and/or visceral organs. Dissemination to the skin may appear identical to primary VZV infection (i.e., chickenpox). If dissemination occurs to the viscera, it may involve the lungs, liver or central nervous system (CNS) and may be fatal. The CNS is the primary target for herpes zoster dissemination in clients co-infected with HIV**.** Chronic lesions of VZV may be verrucous (i.e., resembling warts or psoriasis). Secondary bacterial infections of the skin may occur, which may be severe (e.g., necrotizing fasciitis) and require hospitalization.

NOTE: VZV is contagious and contact or airborne-spread from vesicle fluid may cause chickenpox in non-immune persons (i.e., no history of chickenpox or shingles and/or varicella seronegative). Non-immune healthcare workers should not take care of clients with VZV infection until all of the client's lesions are dry and crusted. Localized herpes zoster has been reported to occur with increased frequency within the first 4 months after initiating HAART, especially in those who experienced increases in their CD8 cells.

ETIOLOGY

Herpes zoster is caused by reactivation of VZV (i.e., reactivation of chickenpox).

SUBJECTIVE

1. May report numbness, itching or pain in a dermatomal distribution that precedes the appearance of lesions by many days (prodrome).

2. Complains of painful and/or itching skin blisters or ulcerations along one side of the face or body.

3. May complain of:
   a. Severe pain in area after rash has healed.
   b. Disseminated skin lesions.
   c. Loss of or change in vision.
   d. Respiratory symptoms.
   e. Symptoms of encephalitis (e.g., headaches, vomiting, lethargy, ataxia, tremor and dizziness).

4. Conduct pain assessment using pain tool/scale (e.g., faces of pain or 0-10 numerical scale).

5. May report a history of:
   a. Shingles.
   b. Chickenpox.

6. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include over-the-counter medications, herbals, vitamins and prescription medications.

7. Absence of drug allergies to acyclovir, valacyclovir or famciclovir.

OBJECTIVE

1. Vesicular lesions with erythematous bases following dermatomes; may be bullous, hemorrhagic and/or necrotic.

NOTE: Lesions in the eye area or tip of nose, along the trigeminal nerve, represent a therapeutic emergency.

2. May have allodynia (i.e., pain provoked by normally innocuous stimuli) and/or sensory deficits.

3. May have dermatomal scarring and/or hypopigmentation.

4. May or may not have signs of disseminated skin or visceral disease (e.g., respiratory signs, altered mental status).

5. Review previous lab results for evidence of renal impairment.

ASSESSMENT Herpes Zoster

PLAN **DIAGNOSTIC STUDIES**

Swabs from a fresh lesion can be submitted for viral culture, direct fluorescent antigen testing, or polymerase chain reaction (PCR).

THERAPEUTIC

PHARMACOLOGIC

1. If client does not have clinical features of disseminated or visceral infection, and if lesions are not near the eye, begin treatment:
   a. Acyclovir (Zovirax) by mouth 800 mg 5 times/day for **7-**10 days,

      OR

   b. Famciclovir 500 mg by mouth three times/day for 7-10 days,

      OR

   c. Valacyclovir 1 gm by mouth three times/day for 7-10 days.

NOTE: Treatment should begin within 72 hours of outbreak. Prompt treatment should be instituted in all immunosuppressed clients with herpes zoster if presentation occurs within 1 week of rash onset or any time before full crusting of lesions. Famciclovir or valacyclovir are the recommended treatment for localized dermatomal herpes zoster. Dose reductions are required for **clients** with renal impairment. Acyclovir resistance may occur in clients previously treated with acyclovir. **If there is Acyclovir Resistance, contact the provider for other options.**

2. For pain management: May instruct client to try over-the-counter analgesics but to avoid aspirin because of the risk of Reye syndrome. Client may require prescription analgesics.

NON-PHARMACOLOGIC

1. Bathe skin lesions in mild soap and water. Avoid deodorant astringent soaps. Use a separate cloth for

bathing affected area to avoid dissemination. Pat skin dry without rubbing it.

2. A saline wet-to-dry dressing can be applied 2-3 times/day to debride necrotic tissue. Apply antibiotic ointments to aid in the prevention of secondary infection.

3. For clients with post-herpetic neuralgia, vigorous stimulation (e.g., brisk rubbing of the area with a towel) of the affected area may reduce pain.

CLIENT EDUCATION/COUNSELING

1. Inform client that VZV is contagious, and contact or airborne spread from vesicle fluid may cause chickenpox in non-immune persons (i.e., no history of chickenpox or shingles). Client should avoid exposing non-immune persons to VZV. If a non-immune HIV-infected person has been exposed, he/she should seek medical care as soon as possible (within 96 hours after exposure) to receive prophylactic treatment.

2. Review current drug regimen, including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring.

3. Instruct client to report adverse drug reactions or side effects to his/her care provider.

4. Instruct client to report: signs/symptoms of disseminated disease, secondary infections (e.g., fever, worsening skin lesions), facial lesions, especially near eye or on tip of nose or recurrence of lesions to provider.

5. Explain that pain may continue even after skin lesions heal and client should inform provider of continued pain.

6. Explain that recurrences may occur, and to notify provider.

7. Ask female client to inform the provider if she is, or is planning to become pregnant.

FOLLOW-UP

As needed, until lesions heal.

CONSULTATION/REFERRAL

1. Notify physician immediately if the client has lesions on the face or near the eye. Client may need STAT referral to an ophthalmologist.

2. Refer all clients with severe, disseminated or visceral infection, or renal impairment/failure to physician.

3. Consult with physician regarding appropriate pain management.

4. Consult physician if signs/symptoms of secondary infection are present.

5. Refer pregnant clients to physician.

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STANDARD NURSE PROTOCOL FOR ORAL CANDIDIASIS IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Oral candidiasis is the most common superficial fungal infection in HIV-infected persons. There are four clinical presentations in people with HIV: pseudomembranous, erythematous (atrophic), hyperplastic and angular cheilitis.

ETIOLOGY

Primarily caused by an overgrowth of *Candida albicans*, and less often by other *Candida* species, *C. tropicalis*, *C. krusei*, *C. glabrata* and/or *C. parapsilosis*.

SUBJECTIVE

1. May or may not be symptomatic.

2. May or may not complain of: white patches on tongue and oral mucosa, smooth red areas on dorsal tongue, burning or painful mouth areas, changes in taste sensation, sensitivity to spicy foods and/or decreased appetite.

3. May or may not have a history of oral or esophageal candidiasis.

4. Absence of signs/symptoms of esophageal candidiasis (e.g., client does not report painful swallowing, retrosternal pain, and nausea).

5. Absence of allergies to antifungal agents.

6. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include over-the-counter medications, herbals, vitamins and/or prescription medications.

OBJECTIVE

May have patches/lesions anywhere on the hard and soft palates, under the tongue, on the buccal mucosa or gums or extending back into the posterior pharynx. These lesions or forms of oral candidiasis can be further classified as follows:

1. Pseudomembranous candidiasis (thrush) appears as white plaques, which can be scraped off with a tongue depressor, revealing a bleeding, macerated surface below them. Lesions may be as small as 1-2 mm in size, or extensive plaques covering the entire hard palate.

2. Erythematous candidiasis (atrophic candidiasis) is a red, flat lesion or lesions on the palate and/or dorsal tongue surface. The tongue may have depapillated red mucosal areas on its dorsal surface.

3. Angular cheilitis (not exclusively due to *Candida*) presents with fissuring and redness at either one or both corners of the mouth, and may appear alone or in conjunction with another form of oral Candida infection.

4. Hyperplastic candidiasis (*Candida* leukoplakia) presents as firm, adherent white lesions often found bilaterally on the tongue. May be more resistant to therapy than other forms of candidiasis.

ASSESSMENT Oral Candidiasis

PLAN **THERAPEUTIC**

1. Mild to Moderate Cases

NOTE: The client should not take anything else orally for 30 minutes after using the following topical agents. Adherence to these regimens is often poor because of time requirements.

a. Clotrimazole one troche (10 mg) dissolved in mouth 5 times/day for 14 days,

OR

b. Nystatin premixed suspension (100,000 units/ml) swish 4-6 ml for 5 minutes and swallow, 4-5 times per day for 14 days.

NOTE: Nystatin premixed suspension has a high sugar content (suspension is 33-50% sucrose) and may increase the incidence of dental caries. If Nystatin suspension is used for long periods, refer client to dentist for fluoride rinses to decrease the incidence of dental caries.

OR

c. Paddock Nystatin Powder (this is sugar-free) - mix 1/8 teaspoon (500,000 units) in 4-6 ounces of water and swish and swallow 4 times/day for 14 days.

NOTE: This product contains no preservatives and therefore should be used immediately after mixing and should not be stored. It is designed for extemporaneous preparation of a single dose at a time.

2. Severe Cases
   Fluconazole two 100 mg tablets PO x 1, then 100 mg tablet PO daily for 14 days.

NOTE: Treatment with fluconazole can result in selective growth of non-*Candida* species, and should only be implemented when necessitated by more severe disease. Oral candidiasis can develop resistance to fluconazole. Fluconazole may interact with other medications. Review the client's current medication list, including OTC drugs/products and nutritional or herbal supplements, and check for drug-drug interactions.

3. Maintenance Therapy (Frequent or Severe Recurrences)
   a. Clotrimazole one 10 mg troche dissolved in mouth 3 times/day,
      OR
   b. Fluconazole 100 mg tablet by mouth daily,
      OR
      Fluconazole 100 mg by mouth three times/week.

NOTE: Use fluconazole with caution when considering chronic maintenance therapy because it has been associated with refractory and azole-resistant candidiasis.

4. Angular cheilitis
   a. 2% ketoconazole cream applied to affected area two times/day for 14 days,
      OR
   b. 1% clotrimazole cream applied to affected area two times/day for 14 days.

CLIENT EDUCATION/COUNSELING

1. Instruct client to maintain good oral hygiene and to avoid mouth trauma (e.g., use a soft toothbrush, don't eat food or drink liquids that are too hot in temperature or too spicy).

2. Rinse mouth of all food before using topical agents and take nothing by mouth for 30 minutes after using agents.

3. Explain reason for regimen. Review current drug regimen, including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring.

4. Explain that he/she may need maintenance therapy because frequent relapse is common, and to notify provider if condition worsens, does not improve or if relapse occurs.

5. For clients who have candidiasis under dentures or partial denture plates, instruct to:
   a. Remove prosthesis before use of topical agents, such as clotrimazole or Nystatin.
   b. At bedtime, place the prosthesis in a chlorhexidine solution, then apply a thin coating of Nizoral cream on the acrylic portion of the appliance until reinserting it into the mouth.

6. Ask female clients to inform the provider if she is or is planning to become pregnant. If taking fluconazole, instruct to stop taking this medication and notify provider.

7. Instruct clients who are on long-term oral Nystatin suspension to maintain good oral hygiene and to rinse with topical fluoride daily.

8. If the client is taking fluconazole, ask client to check with his/her pharmacist or provider about interactions before taking a new medication, nutritional or herbal supplement or OTC drug/product.

FOLLOW-UP

1. Routine appointments, as indicated, at least every 3-6 months.

2. For clients taking fluconazole, monitor liver and renal function and serum potassium every 6-12 weeks.

CONSULTATION/REFERRAL

1. Notify physician of the following:
   a. Severe or unresponsive candidiasis.
   b. Abnormal lab results, as indicated.
   c. Suspect esophageal candidiasis (e.g., client reports painful swallowing, retrosternal pain, and nausea).

2. Refer pregnant clients to a physician.

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STANDARD NURSE PROTOCOL FOR OROLABIAL HERPES SIMPLEX IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Herpes simplex virus (HSV) primarily infects the orolabia (i.e., mouth and lips), genitals, and anorectal area. In addition, HSV can infect the esophagus, brain, and retina.

Infections with HSV type 1 (HSV-1) and type 2 (HSV-2) are common**.** Initial infection with HSV-1 usually occurs in childhood. Approximately 95% of HIV-infected persons are seropositive for either HSV-1 or HSV-2 and 70% are seropositive for HSV-2. Severity and frequency of HSV recurrence may increase with advancing immunosuppression.

Primary infection of the orolabial area with HSV in the immunocompetent client is usually asymptomatic. HIV-infected clients with immunosuppression may present with painful vesicular eruptions of the lip, tongue, pharynx, and buccal mucosa. These vesicles quickly rupture and become ulcers. Associated signs and symptoms include fever, malaise, cervical lymphadenopathy, and pharyngitis.

Recurrent HSV infection usually presents as small vesicles that ulcerate and may coalesce to form large ulcers. In immunocompetent HIV-infected clients, ulcers usually resolve within 7-10 days. In immunosuppressed HIV-infected clients, HSV infection may be persistent, painful and/or expand to form large, crusted erosions. It also may not respond to routine therapy in HIV-infected clients.

ETIOLOGY

Primary infection, or recurrent disease from latent infection, with herpes simplex virus, type-1 (HSV-1) or type-2 (HSV-2).

SUBJECTIVE

1. Painful blisters followed by ulcers on lips and/or in mouth.

2. May or may not have:
   a. Prodrome of tingling and numbness at the site 12-24 hours before blisters occurred.
   b. Fever.
   c. Uneasiness.
   d. Swollen lymph nodes in neck.
   e. Sore throat.
   f. Persistent ulcers or large crusted erosion.
   g. Severe pain.

h. Symptoms of encephalitis (e.g., headaches, vomiting, lethargy, ataxia, tremor, and dizziness).

3. May have a history of:
   a. Cold sores/fever blisters or genital herpes/ulcers.
   b. Partner with cold sores/fever blisters or genital herpes/ulcers.

4. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include over-the-counter medications, herbals, vitamins and prescription medications.

5. Absence of allergies to acyclovir, valacyclovir or famciclovir.

6. Review previous lab results for evidence of renal impairment.

OBJECTIVE

1. Grouped vesicles and/or large ulcer(s) with scalloped border covered by whitish-yellow film over the oral mucosa and/or perioral area **OR** may have atypical presentation in late stage HIV disease.

2. May have:
   a. Cervical lymphadenopathy.
   b. Swelling and/or erythema of oral mucosa and/or pharynx.
   c. Large, crusted erosion.
   d. Altered mental status.

3. Recent CD4 counts.

ASSESSMENT

Orolabial herpes simplex

PLAN

DIAGNOSTIC STUDIES

May order HSV viral culture, serology, or polymerase chain reaction (PCR) assay.

THERAPEUTIC

1. Most cases resolve within 7-10 days and do not require therapy.

2. In severely immunosuppressed and/or severe prolonged recurrent episodes consider the following therapy:
   a. Acyclovir 400 mg by mouth three times/day for 5-10 days,
      OR
   b. Valacyclovir 1 gm by mouth two times/day for 5-10 days,

OR

c. Famciclovir 500 mg by mouth two times/day for 5-10 days.

NOTE: Dose reductions of these medications are required for **clients** with renal impairment. Acyclovir resistance may occur.

3. For suppressive therapy of frequent or severe recurrences:
   a. Acyclovir 400 mg by mouth two times/day indefinitely,
   OR
   b. Famciclovir 500 mg by mouth two times/day indefinitely,
   OR
   c. Valacyclovir 500 mg by mouth two times/day indefinitely.

NOTE: Dose reductions of these medications are required for **clients** with renal impairment. Acyclovir resistance may occur.

4. May use topical anesthetics (e.g., xylocaine or lidocaine) or mucosal coating agents (e.g., milk of magnesia).

CLIENT EDUCATION/COUNSELING

1. Inform client that HSV can be transmitted to other persons. Therefore, other persons should avoid direct contact with open lesions (e.g., no kissing, no sharing eating utensils, no sharing personal hygiene items and no oral-genital sex).

2. Review current drug regimen including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring.

3. Instruct client to report adverse drug reactions or side effects to his/her care provider.

4. Instruct client to report persistent ulcers, secondary infections and/or continued pain to provider. Instruct client to return in 2 weeks if ulcers do not resolve.

5. Explain to client that recurrences may occur and to notify provider.

6. Ask female client to inform the provider if she is or is planning to become pregnant.

FOLLOW-UP

As needed, if lesions do not heal.

CONSULTATION/REFERRAL

1. Refer severe or persistent cases to physician.

2. Consult physician concerning need for suppressive therapy.

3. Refer pregnant clients to physician.

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STANDARD NURSE PROTOCOL FOR PCP PROPHYLAXIS IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION/ INDICATIONS

Pneumocystis jiroveci pneumonia (PCP) prophylaxis is treatment given to HIV-infected individuals to prevent either a primary episode or recurrence of PCP. According to the CDC, *P. carinii* is now exclusive to the pneumocystis that infects rodents and *P. jiroveci* refers to the species that infects humans. However, the abbreviation remains PCP.

Primary prophylaxis (prevention of first episode) should be administered to all HIV-infected persons with a CD4 count of less than 200/mm^3 and/or a history of oropharyngeal candidiasis. PCP prophylaxis should be considered in HIV-infected persons with a CD4 percentage of less than 14% or a history of an acquired immunodeficiency syndrome (AIDS)-defining illness, who does not otherwise qualify.

Secondary prophylaxis (prevention of recurrence) should be administered to HIV-infected clients who have a history of a previous PCP episode for life unless immune reconstitution occurs as a consequence of highly active antiretroviral therapy (HAART).

Both primary and secondary prophylaxis may be discontinued in clients who have responded to HAART and have sustained CD4 counts greater than 200/mm^3 for 3 months or more (immune reconstitution). Primary prophylaxis and secondary prophylaxis should be reintroduced if the CD4 count decreases to less than 200/mm^3 and secondary prophylaxis should be reintroduced if PCP recurs at a CD4 count of greater than 200/mm^3.

ETIOLOGY

Pneumocystis jiroveci is a fungal organism acquired through inhalation. PCP in HIV-infected persons is usually caused by reactivation of latent *P. jiroveci* organisms.

SUBJECTIVE

1. May or may not have a history of:
   a. Previous PCP episode.
   b. Oropharyngeal candidiasis.
   c. An AIDS-defining illness.

2. No history of active tuberculosis (TB).

3. No complaints of symptoms suggestive of PCP (e.g., non-productive cough, fever, shortness of breath).

4. Absence of allergies to sulfa drugs, dapsone, pyrimethamine and/or atovaquone.

5. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include: over-the-counter and prescription medications, herbals and vitamins.

OBJECTIVE

1. CD4+ cell count <200/mm^3 and/or CD4+ percent <14%.

2. May or may not have oropharyngeal candidiasis.

3. Absence of pulmonary signs and symptoms (e.g., tachypnea).

4. Complete blood count (CBC), renal and liver function and serum potassium within acceptable values.

5. Absence of Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency. (If client has G6PD deficiency, refer to physician for prophylaxis medication.)

ASSESSMENT

Candidate for PCP Prophylaxis (primary or secondary); at risk for PCP.

PLAN

THERAPEUTIC/PHARMACOLOGIC

1. First Choice
   a. Trimethoprim-sulfamethoxazole* (TMP-SMZ) one double-strength (DS) tablet by mouth daily†,
      OR
   b. TMP-SMZ* one single-strength (SS) tab by mouth daily†.

2. Alternative
   a. TMP-SMZ* one DS tablet by mouth 3 times per week† (e.g., Monday, Wednesday, Friday)
      OR
   b. Dapsone Regimens
      1) Dapsone 50 mg by mouth two times/day or 100 mg by mouth daily‡,

OR

2) Dapsone 200 mg by mouth once per week,
PLUS
Pyrimethamine 75 mg by mouth once per week,
PLUS
Leucovorin 25 mg by mouth once per week[†],
OR

3) Dapsone 50 mg by mouth daily,
PLUS
Pyrimethamine 50 mg by mouth once per week,
PLUS
Leucovorin 25 mg by mouth once per week[†],
OR

c. Aerosolized pentamidine (AP) 300 mg once per month via Respirgard II nebulizer[‡§],
OR

d. Atovaquone suspension 1500 mg by mouth daily[†¶].

LEGEND

* Many clients become intolerant of sulfa medications. Severe reactions may include: persistent neutropenia, fever, renal failure, severe erythroderma and Stevens-Johnson syndrome (bullae & desquamation of the skin). Some clients with milder reactions can be desensitized.
[†]Regimen is also effective against toxoplasmosis.
[‡]This regimen is not recommended for prevention of toxoplasmosis.
[§]AP may increase the risk of extrapulmonary pneumocystosis, pneumothorax and bronchospasm. It increases risk of TB transmission to others if client has active pulmonary tubercular disease, unless ventilation (negative pressurized facility with outside venting) is adequate. Do not use in clients in whom TB is suspected.
[¶]Very expensive and should not be used if other alternatives are available.

CLIENT EDUCATION/COUNSELING

1. Explain reason for regimen. Review current drug regimen including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring.

2. Instruct client to stop medications immediately and report adverse drug reactions or side effects (e.g., unusual bleeding or bruising, changes in skin color, sore throat, rash, high fever) to his/her care provider. Also report other changes in health that he/she feels are important.

3. Instruct that taking medications as ordered, or keeping appointments for pentamidine treatments, is very important to prevent this life-threatening form of pneumonia.

4. Explain that prophylaxis may be discontinued due to sustained rise in CD4 count while on HAART, but may need to be re-started in the event of stopping HAART, CD4 counts dropping or if health condition worsens.

5. Inform the client that PCP can occur or recur in spite of prophylaxis and to call his/her care provider if develop a cough, fever and shortness of breath on exertion.

6. Ask female client to inform the provider if she is, or is planning to become pregnant.

7. Inform client that regular blood tests are necessary during therapy.

8. Explain that TMP-SMZ may cause increased sensitivity to sunlight and instruct to wear sunblock, protective clothing and dark glasses or avoid direct exposure to sunlight.

FOLLOW-UP

1. Monitor for medication adherence, adverse drug events and medication side effects.

2. Obtain and monitor complete blood count (CBC), renal and liver function, and serum potassium within 4-6 weeks of initiation of regimen, and then as indicated.

3. Monitor for signs/symptoms of PCP.

4. Obtain and monitor CD4 counts and percentage at least every 3-6 months.

CONSULTATION/REFERRAL

1. Notify the physician of the following:
   a. Abnormal lab values.
   b. Medication side effects and/or adverse events.
   c. Signs/symptoms of PCP.

2. Defer prophylaxis medication decision for G6PD deficient clients to physician.

3. Defer decision to discontinue primary or secondary prophylaxis to physician.

4. Refer pregnant clients to the physician.

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STANDARD NURSE PROTOCOL FOR SEBORRHEIC DERMATITIS IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION

Seborrheic dermatitis is a skin condition commonly seen in HIV-infected persons. It is chronic and usually undergoes periods of exacerbation and remission. The condition occurs in areas where sebaceous glands are concentrated, including the scalp, eyebrows, nasolabial folds, forehead, cheekbones, ears, hairline, chest, axilla and groin.

ETIOLOGY

The probable cause of seborrhea is a yeast, *Pityrosporum ovale* (*Malassezia*). Pathogenesis appears to be inflammatory and may be triggered by allergic response to colonizing microorganisms on the skin.

SUBJECTIVE

1. May or may not report rash, sometimes itchy, or "dry skin" that will not go away in spite of the application of topical moisturizers.

2. May or may not have a history of dandruff and/or seborrheic dermatitis.

OBJECTIVE

1. Fine white scaling, without erythema, affecting the scalp (dandruff),

   AND/OR

2. Scaly/crusty patches and plaques of erythema with indistinct margins and yellowish, greasy scale affecting one or more of the following areas: scalp, eyebrows, nose, nasolabial folds, forehead, cheekbones, ears, hairline, chest, breast folds, axilla, back and/or groin.

ASSESSMENT

Probable Seborrheic Dermatitis

PLAN

DIAGNOSTIC STUDIES

May perform a potassium hydroxide (KOH) preparation to rule out *Candida albicans* and other superficial yeast infections.

THERAPEUTIC

1. For scalp conditions:
   a. Regular use of an over-the-counter dandruff shampoo that contains sulfur and salicylic acid (e.g., Van Seb, Sebulex), selenium sulfide (e.g., Selsun Blue), ketoconazole (e.g., Nizoral), coal tar, **OR** zinc pyrithione (e.g., Head and Shoulders, Danex, Zincon). Instruct client to shampoo daily until condition resolves (usually several weeks), then once

or twice a week.

OR

b. Nizoral 2% shampoo (prescription strength) twice per week for 4 weeks. Instruct client to wet hair, massage well into scalp, leave it for 3-5 minutes, and then rinse thoroughly. After the first 4 weeks, use once every 1-2 weeks to prevent recurrence of dandruff.

OR

c. If shampoo alone is not adequate, a medium-potency topical corticosteroid solution (e.g., triamcinolone 0.1% applied two times/day to the scalp) may be used.

NOTE: Avoid application of medium-potency topical steroids to the face.

2. For other lesions:

Topical 2% ketoconazole cream applied to affected area two times/day until condition resolves, then as needed, two times/day

PLUS

Topical 1% to 2.5% hydrocortisone cream, lotion or ointment to affected area two times/day until condition resolves, then 1% hydrocortisone two times/day as needed.

NOTE: For mild disease, maintenance therapy may consist of 1% hydrocortisone cream

PLUS

2% ketoconazole cream applied only twice weekly or, rarely, once daily.

CLIENT EDUCATION/COUNSELING

1. Explain reason for regimen. Review current drug regimen including: drug storage, dose, route of administration, schedule, side effects and follow-up monitoring. Include the following:
   a. Treatment is for external use only; use exactly as ordered, and do not overuse.
   b. If using special shampoo, follow directions and leave it on the recommended amount of time. Allow shampoo suds onto affected facial areas when possible.
   c. Do not apply topical therapy to open wounds or weeping areas.
   d. Wash and dry area before applying topical creams, ointments, or lotions.
   e. Avoid contact with eyes.
   f. If using topical corticosteroid (e.g., hydrocortisone), avoid exposing treated area to direct sunlight, as it may become sunburned.

2. Explain that seborrheic dermatitis is a chronic condition, which often recurs. Clients should keep their skin as clean and dry as possible, and watch for recurrences, particularly in winter due to dry heat.

3. At the earliest sign of recurrence, instruct client to restart shampoo and/or topical therapy to prevent progression and secondary infection.

4. Instruct client to inform provider if condition worsens or does not improve, or if he/she has signs of secondary infection.

5. Ask female client to inform the provider if she is, or is planning to become, pregnant.

FOLLOW-UP

Routine appointments as indicated, at least every 3-6 months.

CONSULTATION/REFERRAL

1. Notify physician of the following:
   a. Severe or recalcitrant episodes.
   b. Secondary infection is suspected.

2. Refer pregnant clients to physician.

REFERENCES

1. AIDS Education and Training Centers, "Seborrheic Dermatitis," *Clinical Manual for the Management of the HIV-Infected Adult*, **2011**, (**May 3, 2011)**. **(Current)**
2. **John Bartlett and Joel Gallant, *2009-2010 Medical Management of HIV Infection*, Johns Hopkins University, 2010, p. 470.**
3. Timothy Berger, Merle Sande and Paul Volberding, (eds.), "Dermatologic Care of the AIDS Patient," *The Medical Management of AIDS*, 6th ed., W.B. Saunders Company, Philadelphia, 1999, pp. 186-194. **(Current)**
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STANDARD NURSE PROTOCOL FOR TOXOPLASMOSIS PROPHYLAXIS IN HIV-INFECTED ADULT OR ADOLESCENT

DEFINITION/ INDICATION

All HIV-infected persons should be tested for IgG antibody to *Toxoplasma* soon after HIV diagnosis. Persons found to be *Toxoplasma*-seropositive and have CD4 counts less than 100/mm^3 should be administered primary prophylaxis to prevent toxoplasmic encephalitis (TE).

HIV-infected persons who have completed initial treatment for TE should be administered secondary prophylaxis (chronic maintenance therapy) for life, unless immune reconstitution occurs due to highly active antiretroviral therapy (HAART).

Primary prophylaxis should be discontinued in clients who have responded to HAART and have sustained CD4 counts greater than 200/mm^3 for 3 months or more (immune reconstitution). Primary prophylaxis should be restarted if the CD4 count decreases to less than 100-200 mm^3.

Secondary prophylaxis should be discontinued in clients who completed initial therapy for TE, have responded to HAART and have sustained CD4 counts greater than 200/mm^3 for 6 months or more (immune reconstitution), and are asymptomatic for TE. Secondary prophylaxis should be restarted if the CD4 count decreases to less than 200 mm^3.

ETIOLOGY

Toxoplasma gondii is a protozoan organism commonly found in cats, mammals and birds. People become infected by ingesting contaminated, undercooked meat or vegetables, by handling contaminated cat litter, or by gardening or other contact with soil. *T. gondii* can infect any tissue, but the most common sites are the brain, lungs and eyes. In immunocompetent persons the infection is usually controlled, but a small number of organisms survive. Immunodeficiency is the most common cause of reactivation of latent infection.

SUBJECTIVE

1. May or may not have a history of TE and treatment for TE.

2. No history/complaints of neurological symptoms suggestive of TE (e.g., seizures, altered mental status, motor weakness, headaches, and/or cognitive impairment).

3. Absence of allergies to sulfa drugs, dapsone, pyrimethamine, atovaquone and/or clindamycin.

4. Obtain a medication profile to determine whether or not there are any clinically significant drug-drug interactions with treatment.

NOTE: Medication profiles should include over-the-counter medications, herbals, vitamins and prescription medications.

OBJECTIVE

1. *Toxoplasma* seropositive.
2. CD4 count less than 100/mm^3.
3. Absence of neurological signs of TE (e.g., altered mental status, aphasia, ataxia, hemiparesis and cranial nerve palsies).
4. Complete blood count (CBC), renal and liver function and serum potassium within acceptable values.
5. Absence of Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency. (If G6PD-deficient, refer to physician for prophylaxis medication.)

ASSESSMENT

Candidate for toxoplasmosis prophylaxis (primary or secondary); at risk for activation of latent toxoplasmosis infection.

PLAN

THERAPEUTIC

1. Primary Prophylaxis (Prevention of TE)
   a. First Choice
      Trimethoprim-sulfamethoxazole* (TMP-SMZ) one double strength (DS) tablet by mouth daily†,
      OR
   b. Alternative
      1) TMP-SMZ* one single strength (SS) tab by mouth daily†,
         OR
      2) Dapsone Regimens†
         a) Dapsone 200 mg by mouth once per week,
            PLUS
            Pyrimethamine 75 mg by mouth once per week,
            PLUS
            Leucovorin 25 mg by mouth once per week,
            OR
         b) Dapsone 50 mg by mouth daily,
            PLUS

Pyrimethamine 50 mg by mouth once per week,

PLUS

Leucovorin 25 mg by mouth once per week.

OR

3) Atovaquone Regimens[†‡]

a) Atovaquone 1500mg by mouth daily,

OR

b) Atovaquone 1500 mg by mouth daily,

PLUS

Pyrimethamine 25 mg by mouth daily,

PLUS

Leucovorin 10 mg by mouth daily.

2. Secondary Prophylaxis (Chronic Maintenance Therapy)

a. First Choice

Sulfadiazine* 500-1000 mg by mouth 4 times/day,

PLUS

Pyrimethamine 25-50 mg by mouth daily,

PLUS

Leucovorin 10-25 mg by mouth daily[¶],

OR

b. Alternative

1) Clindamycin[§] 300-450 mg by mouth every 6-8 hours,

PLUS

Pyrimethamine 25-50 mg by mouth daily,

PLUS

Leucovorin 10-25 mg by mouth daily[¶],

OR

2) Atovaquone Regimens[†‡]

a) Atovaquone 750mg by mouth every 6-12 hours,

OR

b) Atovaquone 750mg by mouth every 6-12 hours,

PLUS

Pyrimethamine 25 mg by mouth daily,

PLUS

Leucovorin 10 mg by mouth daily.

LEGEND

***Many **clients** become intolerant of sulfa medications. Severe reactions may include persistent neutropenia, fever, renal failure, severe erythroderma and Stevens-Johnson syndrome (bullae & desquamation of the skin). Some **clients** with milder reactions can be desensitized.
[†]Regimen is also effective against PCP.
[‡]Very expensive and should not be used if other alternatives are available.
[§]Clindamycin may cause colitis.
[¶]This regimen is not recommended for the prevention of PCP.

CLIENT EDUCATION/COUNSELING

1. Explain reason for regimen. Review current drug regimen including: dose, drug storage, route of administration, schedule, side effects, and follow-up monitoring.

2. Instruct client to stop medications immediately and report adverse drug reactions or side effects (e.g., unusual bleeding or bruising, changes in skin color, sore throat, rash, high fever) to his/her care provider. Also report other changes in health that he/she feels are important.

3. Instruct that taking medications as ordered is very important to prevent this life-threatening illness.

4. Explain that prophylaxis may be discontinued due to sustained rise in CD4 count while on HAART, but may need to be re-started in the event of stopping HAART or if CD4 counts drop.

5. Instruct client to report any neurological signs/symptoms to provider.

6. Ask female client to inform the provider if she is, or is planning on becoming, pregnant.

7. Inform client that regular blood tests are necessary during therapy.

8. If taking TMP-SMZ or sulfadiazine, explain that these medications may cause increased sensitivity to sunlight and instruct to wear sunblock, protective clothing and dark glasses, or avoid direct exposure to sunlight.

FOLLOW-UP

1. Monitor for medication adherence, adverse drug events and medication side effects.

2. Monitor complete blood count (CBC), renal and liver function, and serum potassium within 4-6 weeks of initiation of regimen, and then as indicated.

3. Monitor CD4 counts and percentage at least every 3-6 months.

4. Monitor for signs/symptoms of TE.

CONSULTATION/REFERRAL

1. Notify the physician of the following:
   a. Abnormal lab values.
   b. Medication side effects and/or adverse events.
   c. Signs/symptoms of TE.

2. Defer decision to discontinue primary or secondary prophylaxis to physician.

3. Refer pregnant clients to the physician.

REFERENCES

1. **"Adult Prevention and Treatment of Opportunistic Infections Guidelines Working Group. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents: Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America," *MMWR*, April 10,2009; Volume 58, pp. 1-198, http://aidsinfo.nih.gov/contentfiles/Adult_OI_041009.pdf (March 23 2011). (Current)**
2. AIDS Education and Training Centers, "Opportunistic Infection Prophylaxis," *Clinical Manual for the Management of the HIV-Infected Adult*, **2011**, **(May 3, 2011).**
3. American Academy of HIV Medicine for the HIV Specialist, "Protozoan/Parasitic Infections: Toxoplasmosis," AAHIVM, Washington D.C., 2007, pp. 375-377. **(March 24, 2011)**. **(Current)**
4. **John Bartlett and Joel Gallant, *2009-2010 Medical Management of HIV Infection*, Johns Hopkins University, 2010, pp. 62-63, 455-457. (March 25, 2011)**
5. Carl Kirton, et al., *Handbook of HIV/AIDS Nursing*, Mosby, St. Louis, 2001. **(Current)**

STANDARD

NURSE PROTOCOLS

FOR

OTHER INFECTIOUS

DISEASES

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STANDARD NURSE PROTOCOL FOR AMEBIASIS, UNCOMPLICATED (Amebic Colitis)

DEFINITION

Infection of the intestinal tract by certain species of **the genus *Entamoeba***. Extraintestinal disease occasionally occurs, with the liver as the most common site.

More severe disease is associated with immunosuppression, malnutrition, young **and old** age, **pregnancy** and residence in tropical countries. Complications may include toxic megacolon, colon or perianal ulceration, and perforation. Progression may occur if other causes of colitis are suspected and infected persons are inappropriately treated with corticosteroids and/or antimotility drugs.

ETIOLOGY

Entamoeba histolytica causes invasive disease. *Entamoeba dispar* **and *Entamoeba moshkovskii* are** noninvasive parasites and do not cause disease **and do not require treatment**. The organisms are excreted as cysts or trophozoites in the feces of infected persons.

Transmission occurs when cysts are ingested. Transmission has occasionally been associated with contaminated food or water, and may occur sexually by oral-anal contact. The incubation period is variable but is usually 1-4 weeks. If untreated, an infected person can excrete cysts intermittently and transmit infection for years. Most cyst passers are asymptomatic.

SUBJECTIVE

1. May be asymptomatic.

2. If history of mild, chronic symptoms **(**abdominal discomfort with loose stools containing blood or mucus alternating with periods of constipation or no symptoms), refer client to a physician.

3. If history of acute symptoms that have progressively increased over 1-3 weeks **(**grossly bloody or mucoid stools accompanied by lower abdominal pain, tenesmus, fever, chills and weight loss**)**, refer client to a physician.

OBJECTIVE

1. Client does not appear acutely ill; no extensive weight loss or fever.

2. Microscopic identification of trophozoites or cysts in feces. Examination of serial samples may be necessary.

NOTE: Trophozoites containing red blood cells are more likely to be *Entamoeba histolytica* than *E. dispar* ***or E. moshkovskii.***

ASSESSMENT Amebiasis, asymptomatic.

PLAN

DIAGNOSTIC STUDIES

If history or physical exam shows evidence of a liver disorder, obtain liver function tests before ordering treatment.

THERAPEUTIC

PHARMACOLOGIC

For asymptomatic (cyst-passing) clients who are not pregnant or breastfeeding and

- for paromomycin therapy, have no history of renal and/or liver disease or hypersensitivity to paromomycin or components
- for iodoquinol therapy, have no history of thyroid disease, no evidence of liver damage, renal disease or pre-existing optic neuropathy, and no hypersensitivity to iodine or 8-hydroxy-quinolones (which are present in cosmetic products).

1. Adults
   a. Paromomycin sulfate 25-35 mg/kg daily, administered in 3 divided doses with meals, for **5** – **10** days.
   OR
   b. Iodoquinol 650 mg, 1 tablet PO three times a day after meals for 20 days, **not to exceed 2gm/day**.
   OR
   Iodoquinol 210 mg, 3 tablets PO three times a day after meals for 20 days.

   NOTE: Additional courses of iodoquinol therapy should not be repeated before an interval of 2 –3 weeks.

2. Children
   a. Preferred regimen: Paromomycin sulfate 25-35 mg/kg daily, administered in 3 divided doses with meals, for **5** – **10** days.
   OR
   b. Iodoquinol **30** - **40** mg/kg/day PO in 3 divided doses, **maximum of 650mg/dose** (not to exceed 1.95 g**m** in 24 hours) for 20 days**.**

NOTE: Long-term or repeated use of Paromomycin may cause a second**ary** infection**.**

CLIENT EDUCATION/COUNSELING

1. Follow the medication schedule for the entire treatment cycle. Immediately report if a rash occurs.

2. If taking paromomycin, promptly report any ringing in the ears, hearing loss or dizziness.

3. Safety for use during pregnancy or lactation has not been established for Iodoquinol**.** Paromomycin is not found in breast milk**, but has not been studied in pregnancy**.

4. Careful hand-washing following defecation, sanitary disposal of feces, and avoidance of nail biting.

5. Treatment of drinking water if traveling in areas without chlorination.

6. Avoidance of oral-anal sexual practices, or use of barrier protection during oral-anal sexual practices.

7. Exclusion of known cyst passers from preparing, processing, and serving food until treatment is completed and follow-up examinations are normal x3 occasions.

8. Thyroid function tests might be unreliable for up to six months after finishing iodoquinol.

FOLLOW-UP

1. Repeat stool exam x3, collected on separate days starting three to four weeks following completion of treatment.

2. Household members and other contacts should have stool studies x3, within a few days up to four weeks. If family members and/or other contacts present with symptoms of the disease, stool studies should be done immediately.

REFERRAL/CONSULTATION

1. Clients with mild, chronic symptoms, symptoms of acute colitis or extra-intestinal symptoms.

2. Clients with contraindications to listed treatments.

3. Any client who develops worsening abdominal symptoms on treatment, or who experiences any liver, eye, thyroid, or peripheral neuropathy symptoms while on iodoquinol.

4. Any client whose follow-up stool exams show persistent infection.

REFERENCES

1. Larry Pickering (ed.), *Red Book 200**9**, Report of the Committee on Infectious Diseases*, 2**8**th ed., American Academy of Pediatrics, Elk Grove Village, IL, 200**9**, pp. 206-208 (Current**)**
2. David L. Heymann, *Control of Communicable Diseases Manual*, 19th ed., American Public Health Association, Washington, DC, 2008. (Current)
3. "Lexi-Drugs Online," *Lexi-Comp Database™*, Lexi-Comp, Inc., Hudson, Ohio (**April 29, 2011)**.
4. Patrick Ayeh-Kumi, M. Phil, William Petri, Jr., "*Diagnosis and Management of Amebiasis*," *Medscape*, October 11, 2002. (Current).

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STANDARD NURSE PROTOCOL FOR PREVENTIVE TREATMENT OF *HAEMOPHILUS INFLUENZAE* TYPE b (Hib) DISEASE CONTACTS

NOTE: Public health nurses must work closely with the local communicable or infectious disease coordinator (or other official) who is monitoring and investigating reported *Haemophilus influenzae* and *Haemophilus influenzae* type b cases and contacts, to ensure that complete vaccination and medical history is obtained for the index case, that household and childcare contacts have been identified, and eligible contacts have been treated when appropriate. In addition, this protocol emphasizes the need for prompt serotyping of *H. influenzae* isolates. **Public health personnel** should ensure the isolate is serotyped and forwarded to the Georgia Public Health Laboratory **for confirmation**.

DEFINITION

Haemophilus influenzae type b (Hib) is a particularly virulent strain of the bacterium *H. influenzae*. *H. influenzae* **can cause invasive infections including** meningitis (an inflammation of the membranes and fluid that surround the brain and spinal cord), **bacteremia**, pneumonia, cellulitis, epiglottitis, septic arthritis and other invasive infections.

Although there are many strains of *H. influenzae*, including typable and nontypable strains, and any strain may cause invasive disease, guidelines for preventive treatment are written only for infections caused by Hib. When an index case of Hib disease is identified, **post-exposure prophylaxis** should be offered to close contacts (defined below) as soon as possible (preferably within 24 hours). Studies have shown that **prophylaxis** with rifampin eradicates greater than 95% of Hib carriage in contacts of primary Hib cases.

<u>Empirical vs. Delayed Prophylaxis of *H. influenzae* cases not known to be Hib</u>: Widespread use of the Hib vaccine has made Hib a rare cause of disease, and offering prophylaxis to all **clients** with invasive *H. influenzae* could result in significant overtreatment. However, a delay in prophylaxis **while** waiting for serotype information to **determine if** *H. influenzae* isolates are **serotype B may result in unnecessary spread of disease**. A proposed approach to optimize early decision-making regarding prophylaxis is based on epidemiologic findings below*, and includes:

1. Promptly obtaining immunization records and medical history for **any child with invasive** *H. influenzae* **disease**.
2. Empirical, early prophylaxis of contacts (without waiting for serotype information) if **the** child with invasive *H. influenzae* disease is unimmunized **OR** incompletely immunized against Hib (defined below in 1a.), **OR** is immunologically compromised.
3. Delaying prophylaxis of contacts until after the isolate is serotyped as Hib is appropriate where the index case is a fully immunized, immunologically normal child or an adult.
4. Consultation is available at 404-657-2588 (Acute Disease

Epidemiology Section, **GA Department of Public Health**), if **needed**.

Serotyping of *H. influenzae* isolates is available at the Georgia Public Health Laboratory and some hospital and reference laboratories. All invasive *H. influenzae* isolates should be promptly sent to the GPHL for confirmatory serotyping.

SENDSS Data epidemiologic findings*: Between 2000 and 2010 in Georgia, Hib caused only 10 (4**%) of **224** invasive *H. influenzae* disease cases in children and 1**3** (2%) of **642** cases in adults (*data limited to **866**/**1371** cases with known age and serotype). Among 10 children with Hib disease, at least 6 were unimmunized, 2 had completed only a partial primary series, **and** 2 had severe immunologic **compromise**. From this it is inferred that fully vaccinated, immunologically normal children are unlikely to have Hib disease.

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Indications and guidelines for preventive treatment (chemoprophylaxis) of Hib disease contacts are:

1. Chemoprophylaxis recommended for:

    a. All household contacts (except pregnant women), irrespective of age, with at least 1 contact younger than 4 years of age who is unimmunized or incompletely immunized.
    NOTE: Household contacts are persons residing with the index case, or who spent 4 or more hours with the index case for at least 5 of the 7 days preceding the day of hospital admission.
    NOTE: Complete immunization means having had at least 1 dose of conjugate vaccine at 15 months of age or older; 2 doses between 12 and 14 months of age; or a 2- or 3-dose primary series when younger than 12 months with a booster dose at 12 months of age or older. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp**.**
    b. All members of a household with a child younger than 12 months of age **who has not received the primary series**.
    c. All occupants of a household with an immuno-compromised child, irrespective of the child's Hib immunization status.
    d. Nursery and child care center contacts, irrespective of age

or immunization status, when 2 or more cases of invasive disease have occurred within 60 days.

e. Index case, if treated with regimens other than cefotaxime or ceftriaxone. Chemoprophylaxis usually is provided just before hospital discharge.

2. Chemoprophylaxis not recommended for:

a. Occupants of households with no children younger than 4 years of age other than the index **client**.
b. Occupants of households when all household contacts younger than 48 months of age have completed their Hib immunization series. See the previous page for definition of complete immunization.
c. Nursery and child care center contacts of one index case, especially those older than 2 years of age.
d. Pregnant women.

ETIOLOGY The bacteria *Haemophilus influenzae*, type b (Hib).

SUBJECTIVE

1. History of household or day-care contact as defined above under "Chemoprophylaxis recommended."

2. No history of Hib immunization/vaccination.

3. Absence of prodromal meningitis symptoms, i.e., respiratory illness or sore throat. Absence of meningitis disease symptoms, i.e., fever, headache, stiff neck or vomiting.

4. No history of hypersensitivity to any of the rifamycins or of liver function impairment.

OBJECTIVE

1. Negative pregnancy test.

2. No signs of respiratory illness or meningitis.

ASSESSMENT Candidate for preventive treatment for *H. influenzae* type b disease exposure.

PLAN

DIAGNOSTIC STUDIES

1. Pregnancy test, if question of pregnancy.

2. Liver function test, if 15 years of age or older and question of liver function impairment.
NOTE: Clients with impaired liver function should be given

rifampin only in case of absolute necessity, with caution and under strict medical supervision.

THERAPEUTIC

PHARMACOLOGIC

1. Rifampin prophylaxis
(Pediatric Drug Chart – see Appendix A, p. 11.31)
Begin preventive treatment as **soon** as possible. If more than 14 days have passed since the last contact with the index case, the benefit of preventive treatment is likely to be decreased.

   a. Nonpregnant adults:
   Rifampin 600 mg PO once a day for 4 days.

   b. Infants less than 1 month old:
   Rifampin 10mg/kg/day PO once a day for 4 days.

   c. Infants over 1 month old and children:
   Rifampin 20 mg/kg (maximum 600 mg) PO once a day for 4 days.

   NOTE: Rifampin as a dry powder may be mixed with applesauce. Rifampin oral suspension, compounded 10 mg/mL with simple or wild cherry syrup, is stable for 4 weeks at room temperature, or in refrigerator, when stored in an amber glass prescription bottle.

2. Evaluate status of all vaccinations and bring up-to-date by administration of the currently recommended doses for each disease. Children who have had Hib disease still need vaccination against Hib. See the Georgia Immunization Program Manual at http://www.health.state.ga.us/programs/immunization/publications.asp**.**

CLIENT EDUCATION/COUNSELING

1. Avoid drinking alcohol while taking rifampin.

2. Avoid breastfeeding because **r**ifampin does enter breast milk.

3. Rifampin may cause the urine, feces, saliva, sputum, sweat and tears to temporarily turn red-orange.

4. Do not use soft contact lenses when on rifampin; permanent discoloration may occur.

5. Since rifampin has been reported to cross the placental barrier and appear in cord blood and in maternal milk, neonates and newborns of rifampin-treated mothers should be carefully observed for any evidence of side effects.

6. The reliability of oral contraceptives and Norplant may be affected. Consideration should be given to using alternative contraceptive measures during, and immediately following, rifampin therapy, until the next cycle.

7. Most people can take rifampin without difficulty. However, any of the following signs or symptoms should be reported, as soon as possible: fever, nausea, vomiting, loss of appetite, dark coffee or tea-colored urine, white/gray/light tan bowel movement, tiredness, weakness, yellow skin or sclera, bruising easily, rash/itching, and/or painful menstruation.

8. Rifampin interacts with many drugs. Check the rifampin product package insert for a complete list of drug interactions.

9. It is important to have all children receive Hib vaccine, starting at 2 months of age.

REFERRAL

1. Clients with adverse reactions to treatment or signs/symptoms of meningitis.

2. If there is an absolute contraindication to use of rifampin, consult physician regarding use of sulfisoxazole or ceftriaxone, as an alternative.

REFERENCES

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4. Georgia Immunization Program, Division of Public Health, "Surveillance and Reporting: *Haemophilus influenzae* Invasive Disease Fact Sheet," *Immunization Program Manual*, 2010.
5. Georgia Department of **Community Health**, Division of Public Health, SENDSS Data **<https://sends.state.ga.us/sends/login.screen (March 29, 2011**).

STANDARD NURSE PROTOCOL FOR PREVENTIVE TREATMENT OF INVASIVE MENINGOCOCCAL DISEASE CONTACTS, INCLUDING MENINGITIS

NOTE: Public health nurses must work closely with the local communicable or infectious disease coordinator (or other official) who is monitoring reported meningococcal disease cases and contacts, to ensure that all eligible contacts have been identified and treated.

DEFINITION

Invasive meningococcal disease includes meningitis (an inflammation of the meninges i.e., the membranes that surround the brain and spinal cord), bloodstream infections or sepsis (often associated with a petechial or purpuric rash or pneumonia). Rarely, other sterile sites (such as joint fluid) may be infected. When an index case of invasive meningococcal disease is identified, preventive treatment should be offered to high-risk household, day-care, and **pre**school contacts as soon as possible (preferably within 24 hours).

Indications and guidelines for preventive treatment (chemo-prophylaxis) of contacts are:

1. High risk - chemoprophylaxis recommended (close contact)
   a. Household contact: especially children **less than 2 years**.
   b. Childcare or **pre**school contact during the previous 7 days.
   c. Direct exposure to the index case's secretions through kissing or sharing toothbrushes or eating utensils, markers of close social contact **at any time during the previous 7 days before onset of illness**.
   d. Mouth-to-mouth resuscitation, unprotected contact during endotracheal intubation during 7 days before onset of the illness.
   e. Frequently sleeps or eats in the same dwelling as the index case.
   f. **Passengers seated directly next to index case during flight lasting more than 8 hours**.

2. Low risk - chemoprophylaxis not recommended
   a. Casual contact: no history of direct exposure to index case's oral secretions, e.g., schoolmate or workmate.
   b. Indirect contact: only contact is with a high-risk contact, no direct contact with the index case.
   c. Health care personnel without direct exposure to the case's oral secretions.

3. In outbreak or cluster
   Chemoprophylaxis for persons other than those at high risk should be given only after consultation with local public health authorities.

ETIOLOGY

Meningococcal disease is caused by *Neisseria meningitidis,* a Gram negative diplococcus (bacteria) with 13 serogroups. Strains belonging to groups A, B, C, Y, and W-135 are implicated most frequently in systemic disease. Asymptomatic colonization of the upper respiratory tract provides the focus from which the organism is spread.

SUBJECTIVE

1. History of contact as defined above under "High risk: chemoprophylaxis recommended."

2. Absence of prodromal meningitis symptoms (respiratory illness or sore throat.) Absence of meningitis disease symptoms (fever, headache, stiff neck or vomiting).

3. No history of hypersensitivity to any of the rifamycins or of liver function impairment.

OBJECTIVE

1. Negative pregnancy test.

2. No signs of respiratory illness or meningitis.

ASSESSMENT

Candidate for preventive treatment for meningococcal meningitis.

PLAN

DIAGNOSTIC STUDIES

1. Pregnancy test, if question of pregnancy.

2. Liver function test, if 15 years of age or older and if question of liver function impairment.

THERAPEUTIC

PHARMACOLOGIC

1. Rifampin
   (Pediatric Drug Chart – see Appendix A, p. 11.31)
   a. Nonpregnant adults: Rifampin 600 mg PO every 12h**r** for 4 doses.
   b. Infants over 1 month old **and children**: Rifampin **10** mg/kg (maximum 600 mg/**dose)** PO every 12h**r** for 4 doses.

c. Infants less than 1 month old: Rifampin **5** mg/kg PO every 12h**r** for 4 doses.

OR

2. Ceftriaxone

NOTE: Give only if the client cannot take rifampin.

a. Adults and children age **15 and older**:
Ceftriaxone 250 mg IM, once.

b. Children **under age 15 years**:
Ceftriaxone 125 mg IM, once.

OR

3. Ciprofloxacin 500 mg PO once, may be given to persons 18 years of age or older to eliminate nasopharyngeal carriage of *N. meningitidis*. Do not give to pregnant or lactating women. Ciprofloxacin has been associated with an increased rate of adverse reactions involving the joints and surrounding tissue structures (like tendons) in children (younger than 18 years of age).

4. Immunoprophylaxis: Since secondary cases can occur several weeks or more after onset of disease, meningococcal vaccine is a possible adjunct to chemoprophylaxis during an outbreak caused by a serogroup covered by the vaccine. No vaccine is available for the prevention of group B disease. See the Georgia Immunization Program Manual, Recommended Schedule and Guidelines, for vaccine information and administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

CLIENT EDUCATION/COUNSELING

1. Meningococcal meningitis is not highly contagious. Even close family members of a meningitis **client** have only a 1 in 250 chance of developing disease from the infected person.

2. The bacteria that causes meningococcal meningitis is spread through intimate, prolonged contact, such as "deep" kissing with exchange of saliva, or exposure to oral secretions with mouth-to-mouth resuscitation or by day-care contacts. The bacteria cannot live outside the human body, and animals do not carry the bacteria.

3. Consult rifampin product package insert for complete listing of interactions. If taking rifampin:
   a. Avoid drinking alcohol.

b. Rifampin interacts with many drugs. Check the rifampin product package insert for a complete list of drug interactions.
c. It is normal for urine, feces, saliva, sputum, sweat and tears to temporarily turn red-orange.
d. Avoid the use of soft contact lenses during treatment because permanent discoloration may occur.
e. The drug may interfere with the reliability of oral contraceptives. Use of an alternative method should be considered during, and immediately following, rifampin therapy.
f. If any of the following signs or symptoms occur, report them as soon as possible: fever, nausea, vomiting, loss of appetite, dark coffee or tea-colored urine, white/gray/light tan bowel movement, tiredness, weakness, yellow skin or sclera, bruising easily, rash/itching, painful menstruation.

4. **The effect of Ciprofloxacin can be decreased by calcium-rich foods such as dairy products, antacids, or calcium supplements. Ciprofloxacin should be taken 2 hours before or 6 hours after eating calcium-rich foods unless they are part of a larger meal that contains other non-calcium rich foods.**

5. Ceftriaxone can cause a false-positive reaction for urine glucose with Benedict's solution, Fehling's solution or with Clinitest tablets, but not with enzyme-based tests such as Clinistix and Tes-Tape.

6. Routine immunization of adolescents and persons at risk for meningococcal disease is recommended. Immunization of college students is recommended by the American College Health Association, and is an actual requirement for admission to some schools. See the Georgia Immunization Program Manual, "Recommended Schedule and Guidelines," for vaccine information and administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

REFERRAL

Clients with adverse reactions to treatment or signs/symptoms of meningitis.

REFERENCES

1. Larry K. Pickering (ed.), *Red Book 200**9**, Report of the Committee Infectious Diseases*, 2**8**th ed., American Academy of Pediatrics, Elk Grove Village, IL, 200**9**, pp. **455**-**463**. (Current)
2. David L. Heymann, *Control of Communicable Diseases Manual*, 19th ed., American Public Health Association, Washington, DC, 200**8**. (Current)
3. American Society of Health-Systems Pharmacists, *American Hospital Formulary Services*, **2011** pp. **150-168, 357-381, 232-249.**

STANDARD NURSE PROTOCOL FOR PREVENTIVE TREATMENT OF PERTUSSIS CONTACTS

NOTE: Public Health Nurses must work closely with the local communicable/infectious disease coordinator (or other official) who is monitoring reported pertussis cases and contacts to ensure that all contacts have been identified and treated.

DEFINITION

Pertussis is a bacterial infection of the upper respiratory tract that can progress to severe paroxysms of coughing, often with a characteristic respiratory whoop, followed by vomiting. Fever is absent or minimal.

Transmission of pertussis is by close contact with respiratory tract secretions of an infected person, who is most contagious before onset of the paroxysmal cough. Macrolide therapy for cases decreases infectivity and may limit spread.

Up to 90% of non-immune household contacts acquire the disease. Immunity wanes over time and adolescents and adults become an important reservoir of infectious organisms. They are often the source of infection for infants, who are at the greatest risk of complications with permanent sequelae.

ETIOLOGY

The bacillus *Bordetella pertussis*. A whooping cough syndrome may also be caused by other organisms, with *Bordetella parapertussis* causing an appreciable portion of clinical cases of pertussis, especially milder cases. In some cases both organisms may be present.

SUBJECTIVE

1. History of recent close contact (e.g., household, day care) to:
   a. A case of pertussis that has been laboratory-confirmed by a positive culture or polymerase chain reaction assay for *Bordetella pertussis*

      OR

   b. A **probable** case of pertussis **i.e. a cough illness lasting 2 weeks or more, with at least one of the following symptoms: paroxysms of coughing, inspiratory "whoop", or post-tussive vomiting; AND absence of lab confirmation.**

2. May or may not have a history of adequate immunization against pertussis.

3. No upper respiratory symptoms.

4. No history of allergy or other contraindications to taking the prophylactic medications. (See Drug Interaction Chart on

page 11.2**6**.)

OBJECTIVE No signs of upper respiratory illness.

NOTE: Refer clients with upper respiratory signs to **the Standard Nurse Protocol for Identification and Treatment of Probable Pertussis Cases.**

ASSESSMENT Candidate for pertussis prophylaxis.

PLAN **THERAPEUTIC**

1. Chemoprophylaxis
   a. Erythromycin (preferably the estolate form):
      NOTE: Do not give in hepatic dysfunction or pre-existing liver disease.
      1) Child (not preferred agent for infants less than 1 month due to infantile hypertrophic pyloric stenosis): Erythromycin 40 mg/kg (maximum of 2 g**m**) PO daily; give in divided doses every six hours for 14 days.
      2) **Adolescents and** Adult**s**:
         Erythromycin 500 mg PO every six hours for 14 days.

      OR

   b. Azithromycin
      1) Child 6 months of age or older:
         Azithromycin 10 mg/kg (maximum of 500 mg) PO in a single dose on day 1, then 5 mg/kg (maximum 250mg/day) PO **on days 2 through 5**.
      2) Children less than 6 months: Azithromycin 10 mg/kg **as a single dose** for 5 days.
      3) Adult:
         Azithromycin 500 mg PO in a single dose on day 1, then 250 mg PO **on days 2 through 5.**

      OR

   c. Trimethoprim/sulfamethoxazole (TMP/SMZ)
      NOTE: Give only if client cannot take others listed. Do not give if pregnant, breastfeeding, has pre-existing liver disease or is allergic to sulfa drugs**. Contraindicated in children less than 2 months of age.**
      1) Child over 6 months of age:
         TMP/SMZ (8 mg/40 mg)/kg/day PO, in two divided doses every 12 hours for 14 days.
      2) **Adolescents and** Adult**s**: TMP/SMZ **160** mg/800 mg PO twice daily for 14 days.

2. Immunization
   Initiate or continue the pertussis immunization schedule for contacts. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

CLIENT/CARETAKER EDUCATION/COUNSELING

1. All close contacts need to take the medication, regardless of age or immunization status, because pertussis immunity is not absolute and may not prevent infection.

2. The importance of compliance with the medication regimen and completing the full course of treatment.
   (Assist the client/caretaker to develop a written plan for taking, or administering, the medication so coverage is as close to around-the-clock as possible.)

3. Notify the clinician if apparent side effects to the medication develop (e.g., if nausea, vomiting, diarrhea, severe abdominal pain, or symptoms of hepatitis occur during the course of erythromycin therapy).

4. Seek medical care if develop symptoms of respiratory illness within 2**1** days (maximum incubation period) of the last exposure to the infected person.

5. Assure that unimmunized or incompletely immunized children under age 7 complete the vaccine series. Review current recommendations for individuals over age 7 years. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

6. Avoid aluminum or magnesium containing antacids 2 hours before and up to 2 hours after taking the macrolide product.

CONSULTATION/REFERRAL

1. Refer all exposed infants less than 6 months of age to a physician.

2. Refer all contacts with respiratory signs/symptoms **to the**

Standard Nurse Protocol for Identification and Treatment of Probable Pertussis Cases.

3. Consult with a physician or refer clients unable to take any of the above medications or who have serious side effects.

REFERENCES

1. Larry Pickering (ed.), *Red Book 200**9**, Report of the Committee Infectious Diseases*, 2**8**th ed., American Academy of Pediatrics, Elk Grove Village, IL, 200**9**, pp. **504**-5**19**. (Current)
2. CDC*, Epidemiology & Prevention of Vaccine-Preventable Diseases*, 1**1**th ed., Atlanta, GA, **May** 200**9**, pp. **199-219**. **(Current)**
3. David L. Heymann, *Control of Communicable Diseases Manual*, 19th ed., American Public Health Association, Washington, DC, 200**8**. **(Current)**
4. Sarah Long, "Pertussis," Kliegman: *Nelson Textbook of Pediatrics*, 18th ed., Chapter 194, W. B. Saunders Company, 2007**, <www.mdconsult.com>** (May 4, 2009**).**
5. Epidemiology Unit, Georgia Division of Public Health, *Notifiable Disease Manual*.
6. CDC, "Recommended Antimicrobial Agents for the Treatment and Postexposure Prophylaxis of Pertussis," *MMWR*, December 2005. (Current**)**
7. "Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio (**April 29, 2011**).

STANDARD NURSE PROTOCOL FOR IDENTIFICATION AND TREATMENT OF PROBABLE PERTUSSIS CASES

NOTE: Public health nurses must work closely with the District Epidemiologists/ Communicable/Infectious Disease Coordinator (or other official) who is monitoring reported pertussis cases and contacts to ensure that all contacts have been identified and treated.

DEFINITION

Pertussis is a bacterial infection of the upper respiratory tract that can progress to severe paroxysms of coughing, often with a characteristic respiratory whoop, followed by vomiting. Fever is absent or minimal.

Transmission of pertussis is by close contact with respiratory tract secretions of an infected person, who is most contagious before onset of the paroxysmal cough. Macrolide therapy for cases decreases infectivity and may limit spread.

Up to 90% of non-immune household contacts acquire the disease. Immunity wanes over time and adolescents and adults become an important reservoir of infectious organisms. They are often the source of infection for infants, who are at the greatest risk of complications with permanent sequelae.

ETIOLOGY

The bacillus *Bordetella pertussis*. A whooping cough syndrome may also be caused by other organisms, with *Bordetella parapertussis* causing an appreciable portion of clinical cases of pertussis, especially milder cases. In some cases both organisms may be present.

SUBJECTIVE

1. Cough illness of 2 weeks or more with one of the following: paroxysms of coughing, inspiratory “whoop,” or post-tussive vomiting, without other apparent cause.

2. Upper respiratory symptoms of coryza (runny nose) sneezing, low-grade fever, and a mild, occasional cough that preceded the prolonged cough.

3. May or may not have a history of adequate immunization against pertussis.

4. No history of allergy or other contraindications to the medications recommended for treatment. (See Drug Interaction Chart on page 11.2**6**)

OBJECTIVE

SIGNS

A cough illness with at least one of the following:
1. fits of coughing (paroxysms)
2. inspiratory whoop
3. post-tussive vomiting

LABORATORY FINDINGS

May or may not have positive culture results. Serology and polymerase chain reaction (PCR) are currently unvalidated diagnostic tests for the identification of pertussis. However, if the case meets the clinical definition, PCR can be used to confirm a diagnosis**.** Consult with the District Epidemiologist or State Epidemiology Branch, Notifiable Diseases Section (404-657-2588) for questions about case confirmation, lab testing, and results.

ASSESSMENT

Candidate for pertussis treatment.

PLAN

DIAGNOSTIC STUDIES

NOTE: All suspect pertussis cases must be laboratory confirmed. All specimens should be submitted to the Public Health Laboratory. Please see Collection and Transport of *Bordetella pertussis* Specimens instruction sheet for details on specimen collection and transport; also see Nasopharyngeal Swab Specimen Collection video at **http://health.state.ga.us/epi/**. Culture media and nasopharyngeal swabs are available from the District Epidemiology Office. Specimen collection is of limited usefulness if done more than 3 weeks after symptom onset. Consult with the District Epidemiologist or state Epidemiology Branch, Notifiable Diseases Section (404/657-2588) for further guidance.

1. Nasopharyngeal swab to collect specimen for culture of *B. pertussis*.

2. Nasopharyngeal swab to collect specimen for Direct Fluorescent Antibody test for *B. pertussis*.

THERAPEUTIC

NOTE: Due to the lengthy turnaround time for laboratory results and because studies have shown that treatment is most effective when administered in the early stages of disease, **clients** should begin treatment for pertussis immediately after presumptive diagnosis.

PHARMACOLOGIC

1. **Treatment**

a. Azithromycin

1) Child 6 months of age or older:
Azithromycin 10 mg/kg (maximum of 500 mg) PO in a single dose on day 1, then 5 mg/kg (maximum 250mg/day) PO **on days 2 through 5**.

2) Children less than 6 months:
Azithromycin 10 mg/kg **as a single dose for** 5 days

3) Adult:
Azithromycin 500 mg PO in a single dose on day 1, then 250 mg PO **on days 2 through 5**.

OR

b. Erythromycin (preferably the estolate form):

NOTE: Do not give in hepatic dysfunction or pre-existing liver disease.

1) Child (not preferred agent for infants less than 1 month due to infantile hypertrophic pyloric stenosis):
Erythromycin 40 - 50 mg/kg (maximum of 2 g**m**) PO daily; give in divided doses every six hours for 14 days.

2) **Adolescents and** Adult**s**:
Erythromycin 500 mg PO every six hours for 14 days.

OR, if cannot take others listed,

c. Trimethoprim/sulfamethoxazole (TMP/SMZ)

NOTE: Give only if client cannot take others listed. Do not give if pregnant, breastfeeding, has pre-existing liver disease or is allergic to sulfa drugs. **Contraindicated in children younger than 2 months of age.**

1) Child over **2** months of age:
TMP/SMZ (8 mg/40 mg)/kg/day PO, in two divided doses every 12 hours for 14 days.

2) **Adolescents and** Adult**s**:
TMP/SMZ 160 mg/800 mg PO twice daily for 14 days.

2. Immunoprophylaxis

Initiate or continue the pertussis immunization schedule for cases. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

CLIENT/CARETAKER EDUCATION/COUNSELING

1. Identify all close contacts **(household contacts and possibly others**) and advise them to seek medical care for prophylaxis regardless of age or immunization status, because pertussis immunity is not absolute and may not prevent infection.

2. Counsel **client** about the importance of compliance with the medication regimen and completing the full course of treatment before returning to school or work (minimum 5 days of treatment). (Assist the client/caretaker to develop a written plan for taking, or administering, the medication so coverage is as close to around-the-clock as possible.)

3. Notify the clinician if side effects of the medication develop (e.g., if nausea, vomiting, diarrhea, severe abdominal pain, or symptoms of hepatitis occur during the course of erythromycin therapy).

4. Assure that unimmunized or incompletely immunized children under age 7 complete the vaccine series. Review current recommendations for individuals over age 7 years. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at http://www.health.state.ga.us/programs/immunization/publications.asp.

5. Avoid aluminum or magnesium containing antacids 2 hours before and up to 2 hours after taking the macrolide product.

6. Erythromycin enteric-coated tablets or an ester derivative (e.g., estolate, ethylsuccinate) may be taken with food to minimize gastrointestinal irritation.

7. If client is presumptively diagnosed and treated in third trimester of pregnancy, instruct client to inform primary care and/or obstetrical provider of presumptive diagnosis (possible risk of transmission to newborn infant**). Client should be counseled to have family members and others who will be in close contact with the newborn vaccinated with Tdap as a protective measure**.

CONSULTATION/REFERRAL

1. Refer all infants less than 6 months of age with respiratory signs/symptoms to a physician.

2. Consult with a physician or the state Epidemiology Branch, Notifiable Diseases Section (404-657-2588) for management of all pregnant women with respiratory signs/symptoms.

3. Consult with a physician or refer clients unable to take any of the above medications or who have serious side effects.

4. If client is presumptively diagnosed and treated in third trimester of pregnancy, inform primary care and/or obstetrical provider of presumptive diagnosis (possible risk of transmission to newborn infant). **All close contacts of newborns should be advised to update their pertussis immunization status with Tdap per CDC guidelines (www.cdc.gov/vaccines/recs/schedules).**

DRUG INTERACTIONS
(Not all inclusive)

Drug for Pertussis Prophylaxis or Treatment:	Reacts with:	Effect:
Erythromycin or Azithromycin	Pimozide (Orap®)	Cardiotoxicity; sudden death
Erythromycin	Rifabutin or Rifampin	May increase levels of rifabutin or rifampin.
Erythromycin or Azithromycin	Alfentanil	Decreased alfentanil clearance
Erythromycin or TMP-SMZ Caution with Azithromycin	Warfarin (Coumadin®)	Increased effect of warfarin
Erythromycin Azithromycin with triazolam	Alprazolam Diazepam Midazolam Triazolam	Increase CNS depressant effect of benzodiazepines.
Erythromycin or Azithromycin	Bromocriptine	Increased bromocriptine levels
Erythromycin	Buspirone (BuSpar®)	Increased buspirone levels
Erythromycin Caution with Azithromycin	Carbamzepine (Carbatrol® or Tegretol®)	Increased levels of carbamazepine
Erythromycin or Azithromycin TMP-SMZ	Cyclosporine (Neoral® or Sandimmune®)	Increased cyclosporine levels (toxicity)
Erythromycin or Azithromycin	Digoxin	Increased digoxin levels in some clients
Erythromycin or Azithromycin	Diospyramide	Cardiac arrhythmias
Erythromycin or Azithromycin	Ergot alkaloids	Ergot toxicity
Erythromycin	Felodipine (Lexxel ® or Plendil ®) and other dihydropyridine calcium antagonists	Increased levels of felodipine (toxicity)
Erythromycin	Grepafloxacin or Sparfloxacin	Cardiac arrhythmias
Erythromycin or Azithromycin	HMG-CoA reductase inhibitors (lovastatin, simvastatin)	Rhabdomyolysis
Erythromycin	Methylprednisolone	May need to decrease prednisolone dose
Erythromycin or Azithroymcin	Tacrolimus (Prograf®)	Nephrotoxicity
Erythromycin Caution with azithromycin	Theophylline	Increased levels of theophylline
Erythromycin	Vinblastine	Vinblastine toxicity
Erythromycin	Valproic acid (Depakene®)	Increased levels of valproic acid
Erythromycin or Azithromycin	Aluminum and magnesium antacids	Decreased peak serum levels but not total absorption of macrolides
Erythromycin or Azithromycin	Antiretroviral agents	Varies; check package insert
Azithromycin or TMP-SMZ Caution with Erythromycin	Phenytoin (Dilantin®)	Increased levels of phenytoin
TMP-SMZ	Dapsone	Increased levels of both drugs
TMP-SMZ	Rifampin	May increase rifampin levels
TMP-SMZ	Sulfonylureas	Increased hypoglycemic response
TMP-SMZ	Methotrexate	Increased levels of methotrexate

REFERENCES

1. Larry Pickering (ed.), *Red Book 200**9**, Report of the Committee Infectious Diseases*, 2**8**th ed., American Academy of Pediatrics, Elk Grove Village, IL, 200**9**, pp. **504**-5**19**. (Current)
2. CDC*, Epidemiology & Prevention of Vaccine-Preventable Diseases*, **Atkinson W., Wolfe S., Hamborsky J., McIntyre L., eds.** 1**1**th ed., **Washington DC: Public Health Foundation, 2009, pp. 199-216** (Current**)**
3. David L. Heymann, *Control of Communicable Diseases Manual*, 19th ed., American Public Health Association, Washington, DC, 2008. **(**Current**)**
4. Epidemiology Unit, Georgia Division of Public Health, *Notifiable Disease Manual*.
5. CDC, *Sexually Transmitted Diseases Treatment Guidelines 20**10***, Vol. 5**9**, No. RR-**12**, **December 17, 2010**
6. "Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio (**April 29, 2011**).
7. **CDC, Updated Recommendations for Use of Tetanus Toxoid, Reduced Diptheria Toxoid and Acellular Pertussis (Tdap) Vaccine from the Advisory Committee on Immunization Practices, 2010 MMWR 2011, 60 (01);13-15.**

STANDARD NURSE PROTOCOL FOR RHEUMATIC FEVER - PROPHYLACTIC ANTIBIOTIC THERAPY

DEFINITION

Clients with history of acute rheumatic fever are at high risk for recurrence if they develop a streptococcal group A upper respiratory tract infection. Because both asymptomatic and symptomatic infections can trigger a recurrence, the most effective protection from recurrences is continuous antibiotic prophylaxis, perhaps for life.

Acute Rheumatic Fever is an inflammatory, multisystem disease that occurs 1-5 weeks to 6 months after infection with group A hemolytic streptococci. It is characterized by focal inflammatory lesions of the connective tissue structures (especially of the heart, blood vessels, and joints) and by the presence of Aschoff bodies in the myocardium and skin. Typically, the onset is signaled by the sudden occurrence of fever and joint pain, possibly followed by manifestation of heart and pericardial disease, abdominal pain, skin changes (erythema marginatum, subcutaneous nodules), and chorea. Minor manifestations include clinical (fever, arthralgias, previous acute rheumatic fever) and laboratory (leukocytosis, elevated ESR, abnormal C-reactive protein) alterations.

ETIOLOGY

Certain M Serotypes of Group A Beta hemolytic *Streptococcus pyogenes*

SUBJECTIVE

Documented history of acute rheumatic fever. No history of allergic reaction to any prophylactic medication being considered.

OBJECTIVE

Assess need for continuous prophylaxis in consultation with primary care provider:

1. Client has had **Acute Rheumatic Fever without** carditis and has been receiving treatment for **5** years or **until age 21**, whichever is longer.
2. Client has had **Acute Rheumatic Fever** with carditis **but without evidence of residual heart disease (no valvular disease**) and has been receiving treatment for **10** years or until age 21, whichever is longer.
3. Client has had **Acute Rheumatic Fever with** carditis and has residual heart disease (**persistent valvular disease) and** last episode was over 10 years ago and client is at least 40 years old **– consider lifelong prophylaxis if valvular disease is severe or exposure to group A streptococcal infection is ongoing (i.e. around school-age children).**

ASSESSMENT

Candidate for secondary prophylaxis of acute rheumatic fever and no contraindication to medication selected.

PLAN **THERAPEUTIC**

PHARMACOLOGIC

1. Penicillin G benzathine (Bicillin L-A)
   a. **Adults and children (60lbs [27 kg] or greater)**: 1.2 million units IM every 3-4 weeks OR 600,000 units IM every 2 weeks
   b. **Clients weighing less than 60 lbs [27 kg**]: **600**,000 units/kg IM every 4 weeks, not to exceed 1.2 million units/dose

NOTE: IM injections are recommended until late adolescence or young adulthood AND free of rheumatic attacks for at least 5 years; if there is risk of noncompliance with injections, then a change to oral prophylaxis is recommended.

OR

2. Penicillin VK tablets 250 mg
   a. Adults and children : 250 mg PO twice daily.
   b. Children less than 5 years of age: 125 mg PO twice daily.

ALTERNATIVES:

3. Sulfadiazine **or sulfisoxazole** 500 mg tablets
   a. Adults and children (60 pounds [**27** kg] or greater): 1 gram PO once daily
   b. Children less than 60 pounds (**27** kg): 500 mg PO once daily

NOTE: If using sulfadiazine, screen for G6PD deficiency and, if positive, consult with MD.

OR

4. If allergic to penicillin and sulfadiazine, give erythromycin. Adults and children **5 years or older**: 250 - **500** mg PO **every 6 -12 hours**.
   a. **Children less than 5 year of age: 30 – 50 mg/kg/day in 2 – 4 divided doses; maximum 2 gm/day**.

NON-PHARMACOLOGIC

1. Client is under medical supervision.

2. Monitoring of medication compliance is jointly managed by public health and primary care providers. Efforts will be made to ensure access to care and medications.

3. An annual consultative report is to be kept on record from primary care provider for specific therapy for each client.

CLIENT EDUCATION/COUNSELING

1. Review importance of preventing recurrences of **Acute Rheumatic Fever.**

2. Counsel client on medications, directions for taking them, potential side effects and what to do about them.

FOLLOW UP

Client should return for reassessment and medication pickup every 3 months or for injections as directed.

REFERRAL/CONSULTATION

Consult with primary care provider for any signs or symptoms of recurrence of **Acute Rheumatic Fever** or if noncompliant with treatment.

REFERENCES

1. Gary Overturf, "Chemoprophylaxis," Long: *Principles and Practice of Pediatric Infectious Diseases*, 3rd ed., Chapter 8, Churchill Livingstone, 200**9, <www.mdconsult.com>,** (**May 17, 2011**). (**Current**).
2. A. Gibofsky and John Zabriskie, "Poststreptococcal Arthritis and Rheumatic Fever," Firestein: *Kelley's Textbook of Rheumatology*, 8th ed., Chapter 105, W. B. Saunders Company, 2008**.** (**Current)**.
3. Constance Uphold and Mary Graham, *Clinical Guidelines in Family Practice*, 4th ed., Barmarrae Books, Inc., Gainesville, Florida, 2003, pp. 380-381. (Current)
4. *Rheumatic Fever*, updated **April 13**, 200**9** by **Mark Raymond Wallace**, Larry Lutwick and Jayashree Ravisnan Kar, <http://www.emedicine.com/med/topic3435.htm> (**March 29, 2011**).
5. American Academy of Pediatrics, *Red Book 200**9**, Report of the Committee on Infectious Diseases,* 2**8**th ed., 200**9**, pp. 61**6**-62**8**. (Current**)**
6. David L. Heymann, *Control of Communicable Diseases Manua*l, 19th ed., American Public Health Association, Washington, DC, 2008. (Current).
7. **C. Armstrong, "AHA Guidelines on Prevention of Rheumatic Fever and Diagnosis and Treatment of Acute Streptococcal Pharyngitis," American Family Physician, http://circ.ahajournals.org/content/vol 119/issue 11**
8. "Lexi-Drugs Online," *Lexi-Comp Database™*, Lexi-Comp, Inc., Hudson, Ohio **(April 29, 2011).**

APPENDIX A

Rifampin Pediatric Drug Chart

Chart 1
Rifampin 5 mg/kg (do not exceed 600 mg/dose)

Kg weight	Rifampin dose
1	5
2	10
3	15
4	20
5	25
6	30
7	35
8	40
9	45

Chart 2
Rifampin 10mg/kg (do not exceed 600 mg/dose)

Kg weight	Rifampin dose
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90

Chart 3
Rifampin 20mg/kg (do not exceed 600mg/dose)

Kg weight	Rifampin dose
1	20
2	40
3	60
4	80
5	100
6	120
7	140
8	160
9	180
10	200
11	220
12	240
13	260
14	280
15	300
16	320
17	340
18	360
19	380
20	400
21	420
22	440
23	460
24	480
25	500
26	520
27	540
28	560
29	580
30	600

EMERGENCY GUIDELINES, POLICIES, PROCEDURES AND PROTOCOLS

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2011-2012 EMERGENCY CLINICAL REVIEW TEAM

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Immunization Nurse Consultant

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GUIDELINES FOR EMERGENCY KITS/CARTS IN PUBLIC HEALTH CLINIC SITES

A. GENERAL POLICY

Local factors such as anticipated EMS response time, the availability of a physician and the ability of trained personnel to initiate an emergency procedure in the event of vasovagal syncope, and/or an acute anaphylaxis/allergic reaction will determine the need for supplies beyond the minimum and expanded protocol/procedure for some clinics. Emergency plans and procedures should be coordinated with the local Emergency Medical System (EMS).

All emergency drugs and supplies should be kept together in a secured kit or cart that is easily moveable and readily accessible/visible during clinic service hours. Inventory should be checked monthly with careful attention to medication expiration dates and the working condition of equipment.

B. DEFINITION OF EMERGENCY KIT/CART

Emergency kits/carts are those drugs and supplies which may be required to meet the immediate therapeutic needs of clients and which are not available from other authorized sources in sufficient time to prevent risk or harm to clients. Medications may be provided for use by authorized health care personnel in emergency kits/carts, provided such kits/carts meet the following requirements:

1. Storage

Emergency kits/carts shall be stored in limited-access areas and sealed with a disposable plastic lock to prevent unauthorized access and to insure a proper environment for preservation of the medications in them.

2. Labeling - Exterior

The exterior of emergency kits/carts shall be labeled so as to clearly and unmistakably indicate that it is an emergency drug kit/cart and is for use in emergencies only.

3. Labeling – Interior

All medications contained in emergency kits/carts shall be labeled in accordance with the name of the medication, strength, quantity, and lot # and expiration date.

4. Removal of Medications

Medications shall be removed from emergency kits/carts only pursuant to nurse protocol/procedure, by authorized clinic personnel or by a pharmacist.

5. Inspections

Each emergency kit/cart shall be opened and its contents inspected by **RN/APRN/Pharmacist/MD** monthly with the exception of oxygen (every 6 months). The monthly inspection shall be documented on an Emergency Check-Off Log sheet which includes:

a. the listing of all emergency supplies and equipment,
b. the name of the medication(s), its strength, quantity, lot # and expiration date,
c. the staff member's name who performed the inspection and
d. the inspection date.

Upon completion of the inspection, the emergency kit/cart shall be resealed with the appropriate disposable plastic key.

6. Minimum Medication(s)

a. Epinephrine 1:1000, 1 ml (2 ampules)
b. Diphenhydramine 50 mg/mL (2 ampules)
c. Diphenhydramine elixir/solution 12.5 mg/5 mL (1 bottle)
d. Diphenhydramine HCl 25 mg caps (1 bottle)
e. Portable oxygen (generally administered **15 L/ min by non-rebreather mask in situations of chest pain or difficulty breathing or by nasal cannula at 2 L/ min if client has history of emphysema or chronic lung disease).**

7. Minimum Supplies

a. Blood pressure cuffs (adult and child)
b. Stethoscope
c. Flashlight/extra batteries
d. Copy of emergency protocols/procedures
e. Allergic Reaction/Acute Anaphylaxis Record
f. Bag-valve-mask (AMBU) for resuscitation (**Infant/Child/A**dult)
g. Copy of initialed current Monthly Checklist of Drugs and Supplies
h. Nasal cannula for oxygen administration
i. Needles and syringes
j. Filter needles, 5 micron, for use when aspirating a medication from a glass ampule, to reduce contamination

8. Recommended Additional Supplies and Medications

(For use where additional protocol/procedures and trained personnel are available)

a. IV needles/infusion sets
b. IV fluids (normal saline is recommended)
c. Gauze pads, tape
d. Oral airways (Adult/Child/Infant)
e. Pulse-oximeter
f. Automated external defibrillator (AED)
g. **Accucheck/strips**
h. **Portable Suction**
i. **Non-rebreather mask (Adult/Child/Infant)**
j. **Epinephrine Auto-injector 0.15 mg (3 doses)**
k. **Epinephrine Auto-injector 0.3 mg (3 doses)**
l. **Dextrose 50**

GUIDELINES FOR ALTERED LEVEL OF CONSCIOUSNESS/SYNCOPE (FAINTING)

DEFINITION

Syncope (fainting) is a transient **loss of consciousness accompanied by loss of postural tone due to decreased blood supply to the brain. Syncope is commonly a benign vasovagal event; however, it may represent a serious medical event, particularly in the elderly. Typical vasovagal syncope occurs in a person in upright position with appropriate stimulus (e.g., fear or pain from blood draw or injection). By definition, vasovagal symptoms resolve when recumbent position restores blood flow to the brain. The main goal of evaluation of clients who faint, are dizzy or have altered LOC is to identify those who are at risk for or are experiencing acute medical emergencies such as volume depletion, cardiac, metabolic or neurologic event.**

ETIOLOGY

Vasovagal syncope is usually due to emotional stress related to fear or pain (e.g., having blood drawn or an injection).

OBJECTIVE

1. **Fall in blood pressure**
2. **Dizziness.**
3. **Nausea.**
4. **Diminished vision**.
5. Slow pulse.
6. Pallor, perspiration.
7. May progress to loss of **postural tone and** consciousness.

ASSESSMENT

Loss of postural tone and consciousness, etiology to be determined

PLAN

1. **Protect client from fall injury**. Position the client in the recumbent position **with legs elevated. Loosen tight clothing at the neck and waist. If the client does not immediately regain consciousness, call 911 for EMS support and consider lateral decubitus position to prevent aspiration or airway obstruction. Consider initiating oxygen.** If sitting, do not lower head by bending at waist (may further compromise venous return to heart).

2. Monitor blood pressure and pulse**. If these return to baseline normal for that client and the client regains consciousness and has no persistent complaints or abnormal signs/symptoms**, observe the client **for at least 20 minutes**.

3. Do not give anything by mouth or allow the client to resume an upright position until feeling of weakness has passed.

4. **Client may leave the clinic (ideally accompanied) when able to take oral fluids and ambulate (unless- non-ambulatory as baseline), and has no complaints or symptoms.**

5. If client does not stabilize, call **911 for** EMS **transport to** closest **appropriate hospital Emergency Department**.

6. **Signs and symptoms of instability requiring hospital evaluation:**
   a. **Persistent hypotension.**
   b. **Cardiac arrhythmia (including bradycardia or tachycardia).**
   c. **Persistent altered level of consciousness.**
   d. **Persistent complaints (e.g., dizziness, chest pain, difficulty breathing, abdominal pain).**
   e. **Any injury sustained during episode.**

CLIENT EDUCATION/COUNSELING

1. **Emphasize the importance of staying well hydrated.**

2. **Advise client to resume normal activity.**

3. **Advise client to call 911 for any chest or abdominal pain, difficulty breathing, dizziness or weakness or any recurrence of “fainting”.**

REFERENCES

1. **Morag, R. MD, FACEP; "*Syncope*"; eMedicine; October 22, 2010; http://emedcine.medscape.com/article/811669-overview (March 15, 2011)**
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PROCEDURES FOR ALLERGIC REACTIONS, INCLUDING ACUTE ANAPHYLAXIS IN ADULTS, INFANTS AND CHILDREN

DEFINITIONS

Allergic reactions that are potentially life-threatening (anaphylactic) reactions, after exposure to an antigen which has been injected, ingested or inhaled.

Reactions range from mild, self-limited symptoms to rapid death:

1. Mild to moderate allergic reactions involve signs and symptoms of the gastrointestinal tract and skin. Observing the client for rapid increase in severity of signs and symptoms is important, as the sequence of itching, cough, dyspnea and cardiopulmonary arrest can lead quickly to death.

2. Severe/anaphylactic reactions involve signs and symptoms of the respiratory and/or cardiovascular systems. These may initially appear minor (i.e., coughing**,** hoarseness, dizziness, mild wheeze) but any involvement of the respiratory tract or circulatory system has the potential to rapidly become severe. Death can occur within minutes. Therefore, prompt and effective treatment is mandatory if the client's life is to be saved.

ETIOLOGY

Agents commonly associated with allergic reactions/anaphylaxis, include:

1. Medications:
- **a. Over the counter, especially non-steroidal anti-inflammatory drugs.**
- **b. Prescribed medication, especially antibiotics; may occur with vaccines.**
- **c. Illicit or illegal drugs.**
- **d. Herbal or home remedies.**

2. Food:
- **a. Especially tree nuts, peanuts, shellfish and eggs.**

3. Environmental:
- **a. Stings (e.g., bee, wasp, yellow jacket, hornet, fire ants).**
- **b. Pollens, grass, molds, smoke, animal dander.**
- **c. Iodinated contrast media.**

SUBJECTIVE & OBJECTIVE

Allergic reaction may affect one or more organ systems:

1. **Skin:**
   - **a. Itching and hives or welts (localized or generalized).**
   - **b. Flushing or skin edema.**
   - **c. Tingling.**
   - **d. Itching.**
2. **Gastrointestinal:**
   - **a. Abdominal pain.**
   - **b. Nausea, vomiting.**
   - **c. Diarrhea.**
3. **Cardiac:**
   - **a. Dizziness or fainting (hypotension).**
   - **b. Palpitations.**
   - **c. Chest pain.**
4. **Respiratory:**
   - **a. Difficulty breathing.**
   - **b. Bronchospasm, wheezing.**
   - **c. Upper airway swelling (including lips and tongue).**

.

ASSESSMENT

Allergic reaction**: By definition, involvement of two or more organ systems OR presence of respiratory compromise or shock indicate a** severe **allergic reaction** (anaphylaxis). **Most severe reactions occur soon after exposure**. **The faster a reaction develops, the more severe it is likely to be.**

PLAN

THERAPEUTIC

1. Cutaneous symptoms only (mild)

Step 1 Diphenhydramine PO or IM:

Note: Children younger than 2 years of age should receive diphenhydramine only after consulting with a physician.

Diphenhydramine PO:

Pediatric:

2 to 5 years: 6.25 mg every 4-6 hours; maximum: 37.5 mg/day.

6 to 11 years: 12.5-25mg every 4-6 hours; maximum: 150 mg/day.

12 years or older: 25-50 mg every 4-6 hours; maximum: 300 mg/day.

Adults: 25-50mg every 6-8 hours.

OR

Diphenhydramine IM:

Diphenhydramine IM Dosing (The standard dose is 1 mg/kg body weight, up to 100 mg) **May repeat dose every 6 – 8 hours; Adult not to exceed 400 mg/day. Child not to exceed 300 mg/day.**	
Weight lbs (kg)	Diphenhydramine Dose (Injection: 50 mg/mL)
24-37 (11-17)	15 mg / 0.3 mL
37-51 (17-23)	20 mg / 0.4 mL
51-77 (23-35)	30 mg / 0.6 mL
77-99 (35-45)	40 mg / 0.8 mL
>99 (>45)	50 to 100 mg / 1 – 2 mL

Step 2 Complete Allergic Reaction Record.

Step 3 Observe for 60 minutes.

Step 4 If any respiratory or circulatory signs develop, proceed to 2. below (Severe Reactions).

Step 5 If, after 60 minutes, the client's symptoms are still limited to the skin and the client is comfortable, then:

a. **Advise adult** client to take diphenhydramine **orally every** 6 to **8** hours **if** symptoms pers**ist**. Advise that if anytime the client experiences dizziness, difficulty breathing or chest pain to call 911.

b. **Advise parent to give pediatric client diphenhydramine orally every 4 - 6 hours, if symptoms persist. Advise that if anytime the child experiences dizziness, difficulty breathing or chest pain to call 911.**

c. Inform the client that he/she has an apparent allergy to the causative agent and advise that this information should be provided to all

healthcare givers in the future.

d. If the causative agent was a medication being dispensed for additional use at home, then this plan should **be** reconsidered and an alternative medication should be used that is in a different chemical family **that** is not regarded as having "cross-reactivity" with the causative agent.

2. Severe Reactions (**anaphylaxis) Reactions involving more than one organ system or causing difficulty breathing or hypotension/shock are by definition severe and may progress rapidly to death. Early recognition and early treatment with epinephrine are essential in preventing this outcome.**

Step 1 Call for HELP

a. Have someone call EMS/911 and/or the physician.
b. Do not leave the client unattended!
c. Assure open airway; begin CPR if indicated.
d. Assign one person to keep the anaphylaxis record and be the timekeeper.
e. **Administer epinephrine**:

NOTE: Administer into thigh (more effective at achieving peak blood levels than into deltoid area).

Epinephrine IM Dosing (Dosing by body weight is preferred; the standard dose is 0.01 mg/kg body weight, up to 0.5 mg.)	
Weight lbs (kg)	Epinephrine IM Dose (1mg/ml=1:1,000 wt/volume)
<9 (<4)	Weigh baby and calculate appropriate dose
9-15 (4-7)	0.06 mg/0.06 mL
15-24 (7-11)	0.10 mg/0.10 mL
24-31 (11-14)	0.12 mg/0.12 mL
31-37 (14-17)	0.16 mg/0.16 mL
37-42 (17-19)	0.18 mg/0.18 mL
42-51 (19-23)	0.20 mg/0.20 mL
51-77 (23-35)	0.30 mg/0.30 mL
77-99 (35-45)	0.40 mg/0.40 mL
>99 (>45)	0.50 mg/0.50 mL

May repeat every 15-20 minutes PRN for a total of 3 doses (≤1.5 mL [1.5 mg] total)

OR

If at least 33lbs (15kg)

EpiPen (Epinephrine Auto Injection) may repeat using an additional EpiPen every 15-20 minutes as needed for a total of 3 doses			
Weight lbs (kg)	**Product**	**Dose**	**Auto Injection**
33-66lbs (15-29kg)	**EpiPen Jr**	**0.15 mg**	**Delivers 0.15 mg per injection**
66lbs (30kg) or greater	**EpiPen**	**0.3 mg**	**Delivers 0.3mg per injection**

OR

If at least 33lbs (15kg)

Adrenaclick™ **(Epinephrine Auto Injection) may repeat using an additional** Adrenaclick™ **every 15-20 minutes as needed for a total of 3 doses**			
Weight lbs (kg)	**Product**	**Dose**	**Auto Injection**
33-66lbs (15-29kg)	Adrenaclick™ 0.15mg	**0.15 mg**	**Delivers 0.15 mg per injection**
66lbs (30kg) or greater	Adrenaclick™ 0.3mg	**0.3 mg**	**Delivers 0.3mg per injection**

OR

If at least 33lbs (15kg)

Twinject (Epinephrine Auto Injection) may repeat using the same device after partial disassembly every 15-20 minutes as needed for a total of 3 doses			
Weight lbs (kg)	**Product**	**Dose**	**Auto Injection**
33-66lbs (15-29kg)	**Twinject 0.15 mg/0.15 mL**	**0.15 mg**	**Delivers 0.15 mg per injection**
66lbs (30kg) or greater	**Twinject 0.3mg/0.3 mL**	**0.3 mg**	**Delivers 0.3mg per injection**

f. **Apply oxygen at 15 L/minute by non-rebreather mask.**

Step 2 Place client in supine position, legs elevated, **if tolerated.**

Step 3 Begin monitoring Vital Signs with BP every 5 minutes.

Step 4 Any client who has received epinephrine must be transported by EMS to closest appropriate hospital emergency department; copy of anaphylaxis record must go with client to hospital.

CLIENT EDUCATION/COUNSELING

1. When a client is given an agent (e.g., antibiotic or vaccine) capable of inducing anaphylaxis, he/she should be advised or encouraged to remain in the clinic for at least 30 minutes.

2. **Inform client that he/she has an apparent allergy to the causative agent and advise that this information should be provided to all healthcare givers in the future.**

3. **Advise the client to call 911 if any difficulty breathing, dizziness or chest pain occurs.**

4. **Advise the adult client that cutaneous symptoms may be treated with diphenhydramine every 6 - 8 hours. Advise the pediatric client that cutaneous symptoms may be treated with diphenhydramine every 4 – 6 hours. Persistent or worsening symptoms should be evaluated by the client's primary care provider.**

REFERRAL

1. Immediately refer clients with wheezing, laryngeal edema, hypotension, shock or cardiovascular collapse **to ER via EMS.**

2. Refer to primary care provider for further evaluation those clients with itching, redness welts/hives.

FOLLOW-UP

1. Place an allergy label on the front cover of the client's medical record.

2. Educate the client/caretaker about medical alert bracelets for anaphylactic reactions.

3. If the allergic reaction is immunization-induced, complete a vaccine adverse event record (VAERS).

ALLERGIC REACTION / ANAPHYLAXIS RECORD – page 1

District/Clinic Site _____ Date _____

Client Demographic Information:

Name: _____

DOB _____/_____/_____ AGE _____ months / years

Estimated/Actual Weight *(please circle one)* Infant / Child / Adult _____lbs/kg

Event which preceded reaction:

_____ Immunization
_____ Medication administered
_____ Biologicals administered
_____ Other: (please explain) _____

TIME OF REACTION: _____ AM / PM TIME EMS CALLED: _____ AM / PM

Signs and Symptoms: (please check)

_____ Apprehension
_____ Flushing and/or skin edema
_____ Palpitations
_____ Numbness and tingling
_____ Itching
_____ Localized or generalized urticaria (rash, welts)
_____ Choking sensation
_____ Coughing/**hoarseness**/wheezing
_____ Difficulty breathing
_____ Nausea and vomiting
_____ Severe hypotension
_____ Vasomotor collapse
_____ Loss of consciousness

Other (e.g., dizziness**)**: _____

OTHER OBSERVATIONS / COMMENTS: _____

_____

_____

SIGNATURE OF RN/APRN:
_____

DISPOSITION: _____

REVIEWER: _____

NOTE: *Send copies of both pages of this record with client referred to a physician's office or hospital*

ALLERGIC REACTION / ANAPHYLAXIS RECORD – page 2

1. Call for HELP.
   Assign timekeeper/recorder.
   TIME EMS **CALLED:**_____**AM/PM**
   TIME EMS ARRIVED:_____**AM/PM**
   TIME EMS DEPARTED TO HOSPITAL:_____**AM/PM**
   Hospital's Name:_____
   Client's status when transported to hospital:_____

2. Assure AIRWAY.
   Check VITAL SIGNS q 5 minutes.
   CPR if necessary.

Client Name:_____
Client Weight**:**_____

DOB:_____

VITAL SIGNS (monitor every 5 minutes)

Time	B/P	Pulse	Resp
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__

CPR Indicated: _____YES _____NO
TIME CPR started:_____AM / PM
TIME CPR ended: _____AM / PM

Oral Diphenhydramine
12.5 mg/5 mL (Elixir/Solution)
OR 25 mg, 50 mg (Capsules)

TIME	ORAL DOSE
_____	_____
_____	_____

IM Diphenhydramine 50 mg/mL vial

TIME	IM DOSE
_____	_____

Epinephrine 1:1000 w/v ampule

TIME	DOSE	ROUTE
_____	_____	IM
_____	_____	IM
_____	_____	IM

EpiPen® Auto-Injector
TIME Administered: _____**AM/PM**
TIME Administered:_____ **AM/PM**
TIME Administered: _____**AM/PM**

EpiPen® Junior Auto-Injector
TIME Administered: _____**AM/PM**
TIME Administered: _____**AM/PM**
TIME Administered: _____**AM/PM**

Twinject 0.15 mg/0.15 mL _____ **AM/PM**
Twinject 0.15 mg/0.15 mL_____ **AM/PM**
Twinject 0.15 mg/0.15 mL _____**AM/PM**

Twinject 0.3 mg/0.3 mL_____ __**AM/PM**
Twinject 0.3 mg/0.3 mL_____ **AM/PM**
Twinject 0.3 mg/0.3 mL _____**AM/PM**

Adrenaclick™ 0.15 mg _____ **AM/PM**
Adrenaclick™ 0.15 mg _____**AM/PM**
Adrenaclick™ 0.15 mg _____ **AM/PM**

Adrenaclick™ 0.3 mg _____ **AM/PM**
Adrenaclick™ 0.3 mg _____ **AM/PM**
Adrenaclick™ 0.3 mg _____ **AM/PM**

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1. **Ludwig Fleisher, *Textbook of Pediatric Emergency Medicine*, 6th ed., 2010, Chapter 82, "Asthma and Allergic Emergencies,"**
2. ***Guidelines for the Diagnosis and Management of Food Allergy in the United States: Report of the NIAID-Sponsored Expert Panel***, Journal of Allergy Clinical **Immunology, Vol. 126, 2010, pp. 1105-18. (http://www.jacionline.org/article/S0091-6749(10)01566-6/fulltext)**
3. **Choo, KLJ, "Glucocorticoids for the Treatment of Anaphylaxis: Cochrane Systematic Review" Allergy Vol. 65 No. 10, October 2010, p 1205.**
4. **Krohmer,Sahni, Schwartz, Wang: *Clinical Aspects of Prehospital Medicine*, Kendall-Hunt Publisher, 2009, Chapter 21, "Allergies, Stings," p. 205. (Current)**
5. **The diagnosis and management of anaphylaxis: an updated practice parameter. Journal of Allergy Clinical Immunology 2005 Mar; 115(3 Suppl):S483-523.**
6. **"Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio (June 15, 2011).**

POLICY FOR REVIEWING EMERGENCY PROTOCOLS/ PROCEDURES IN PUBLIC HEALTH CLINIC SITES

A review of emergency protocol/procedures shall be completed at least once annually at each clinic site. The Nursing Supervisor shall arrange for the annual review and completion of the attached checklist.

Staff member(s) listed below participated in training updates for all age ranges and performed in a mock emergency drill on _____.
(Date)

District Health Director:

Printed Name_____

Signature_____ Date_____

District Public Health Nursing and Clinical Director:

Printed Name_____

Signature_____ Date_____

Name(s) of Staff Member(s)

_____

_____

_____

_____

_____

EMERGENCY CHECKLIST
FOR PUBLIC HEALTH CLINIC SITES

PURPOSE

To assure that each site is equipped and prepared to handle emergencies that may occur. The Nursing Supervisor and District Public Health Nursing & Clinical Director will assure that this checklist is completed annually for each site and that follow-up occurs for any inadequacies/incomplete areas.

#	EMERGENCY ITEM	Complete/ Adequate	Incomplete/ Inadequate	Comments
1.	Emergency numbers posted on each phone			
2.	Exits clear			
3.	Hallways clear			
4.	Staff able to describe action to take in case of emergency			
5.	Staff demonstrates use of anaphylaxis equipment			
6.	Emergency **kit/cart** stored in secured area except during clinic hours			
7.	Emergency **kit/cart** stocked according to district protocol for anaphylaxis			
8.	All staff trained in emergency procedures and certified in CPR (every 2 years)			
9.	Practice emergency drill(s) conducted and documented at least annually. **NOTE:** Drills should include age-group variations (i.e., adults, infants and children.)			

County_____

Nursing Supervisor: Printed Name _____

Signature _____

Date of Review: _____ Date Corrected: _____

District Public Health Nursing
& Clinical Director: Printed Name _____

Signature _____

EVALUATION TOOL FOR PRACTICE DRILL

		Yes	No
A.	Response Team		
1.	Team effort utilized and well-coordinated.	_____	_____
2.	Response team timely.	_____	_____
3.	Client assessment complete.	_____	_____
4.	Code Blue* called.	_____	_____
5.	Emergency Medical Services/ Physician notified.	_____	_____
6.	Emotional support provided to significant others, if applicable.	_____	_____
B.	Client Outcome		
1.	Level of consciousness assessed.	_____	_____
2.	Vital signs monitored.	_____	_____
3.	Appropriate drugs given.	_____	_____
4.	CPR instituted, if applicable.	_____	_____
5.	EMS/physician responded.	_____	_____
6.	Documentation complete.	_____	_____

C. Recommendations/Comments:

_____

_____

_____

Site_____ Date_____

Evaluator: Printed Name_____

Signature _____

*****_*Though Code Blue is not specified in the anaphylaxis protocol/procedures, it should be used to signal the emergency.*_

STANDARD NURSE PROTOCOL FOR SHOCK/ HEMORRHAGE

DEFINITION

Shock is a critical condition brought on by a sudden drop in blood flow (and thus oxygen delivery) through the body. Shock that is unrecognized and untreated can lead to permanent organ damage or death.

ETIOLOGY

Shock may result from blood loss, dehydration, allergic reaction, infection, pulmonary embolism, or myocardial infarction/heart failure. Common causes of shock in females with reproductive capacity include 1) ruptured ectopic pregnancy, 2) pulmonary embolism (especially smokers on birth control pills), 3) ruptured ovarian cyst, 4) placental abruption, 5) severe, chronic untreated dysfunctional bleeding, and 6) severe PID.

SUBJECTIVE

Symptoms: dizziness, nausea, weakness, sweating, agitation and/or confusion

OBJECTIVE

1. **Cardiac:** rapid weak pulse; low blood pressure;
2. **Skin:** pale or ashen; cool; sweaty;
3. **Neuro**: altered level of consciousness (agitated, confused, or somnolent)

ASSESSMENT

Shock, etiology to be determined, requiring urgent evaluation and treatment

PROCEDURE

1. **Call 911** or your local emergency number.
2. If **client** is unresponsive, not breathing and/or has no pulse, begin **CPR**.
3. **Stop visible bleeding** by applying direct pressure to bleeding site.
4. Administer oxygen at 15L/ minute by non-rebreather mask, if available. **If only nasal cannula is available, administer oxygen at 4 to 6 L/ minute.**
5. Monitor with pulse-oximeter, if available
6. **Have the person lie down** on his or her back with feet higher than the head, if the **client** can tolerate this position (some **clients** with respiratory distress cannot tolerate supine position). If the person has sustained trauma, consider C-spine immobilization.
7. **Keep the person warm and comfortable.** Loosen belt and tightly fitted clothing and cover the person with a blanket. Even if the person complains of thirst, give nothing by mouth.

8. **Turn the person on his or her side** to prevent choking if the person vomits or bleeds from the mouth.
9. **Client** should be transported by EMS to closest appropriate hospital emergency department.

REFERENCES

1. "Hypovolemic Shock"; Kolecki, P; updated March 11, 2010; http://emedicine.medscape.com/article/760145-overview

2. "Shock"; National Library of Medicine, National Institute of Health; updated March 29, 2011. http://www.nlm.nih.gov/medlineplus/shock.html

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4. "Shock"; National Library of Medicine, National Institute of Health; updated January 10, 2010. http://www.nlm.nih.gov/medlineplus/ency/article/000039.htm

STANDARD NURSE PROTOCOL FOR PUBLIC HEALTH NURSES WORKING IN SCHOOL HEALTH SETTINGS

STANDARD NURSE PROTOCOL FOR RECOGNIZING ALLERGIC REACTIONS, INCLUDING ACUTE ANAPHYLAXIS, AND USE OF AUTO-INJECTABLE EPINEPHRINE BY PUBLIC HEALTH NURSES WORKING IN SCHOOL HEALTH SETTINGS

DEFINITION

"Anaphylaxis is a serious allergic reaction that is rapid in onset and may cause death."[1] Allergic reactions after exposure to an antigen which has been applied topically, injected, ingested or inhaled can range from mild, self-limited symptoms to rapid death.

1. **Mild allergic reactions typically involve the skin (rash, itching).**
2. **Severe/anaphylactic reactions involve multiple organ systems, including skin, respiratory, GI, and cardiac. These may initially appear minor (e.g., coughing, hoarseness, dizziness, mild wheeze, nausea) but any involvement of the respiratory tract or circulatory system has the potential to rapidly become severe. Death can occur within minutes. Therefore, prompt and effective lifesaving treatment is mandatory.**

ETIOLOGY

Any agent capable of producing a sudden degranulation of mast cells or basophils can induce anaphylaxis. Agents commonly associated with allergic reactions/anaphylaxis include:

1. **Medications: over the counter, illicit, illegal or prescribed.**
2. **Food: especially tree nuts, peanuts, shellfish, or eggs.**
3. **Environmental: stings, pollen, iodinated remedies.**

Anaphylaxis can also be exercise induced or idiopathic. Idiopathic anaphylaxis has no identified cause.

SUBJECTIVE and OBJECTIVE

Allergic reaction may affect one or more organ systems:

1. **Skin: hives, itching, swelling, redness**
2. **Gastrointestinal: nausea, vomiting, diarrhea**
3. **Cardiac: palpitations, dizzy, chest pain**
4. **Respiratory: wheezing, difficulty breathing, airway/tongue/lips swelling, cough**

ASSESSMENT

Acute Anaphylaxis, suspected based on clinical presentation and history. Involvement of two or more organ systems OR presence of respiratory difficulty or shock indicate a severe allergic reaction (anaphylaxis). See Table 1. Most severe reactions occur soon after exposure. The faster a reaction develops, the more severe it is likely to be.

TABLE I. Clinical criteria for diagnosing anaphylaxis[1]

Anaphylaxis is highly likely when any one of the following 3 criteria is fulfilled:

1. **Acute onset of an illness (minutes to several hours) with involvement of the skin, mucosal tissue, or both (e.g., generalized hives, pruritus or flushing, swollen lips-tongue-uvula)**
   AND AT LEAST ONE OF THE FOLLOWING
   a. **Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, reduced peak expiratory flow, hypoxemia)**
   b. **Reduced BP or associated symptoms of end-organ dysfunction (e.g., hypotonia [collapse], syncope, incontinence)**

2. **Two or more of the following that occur rapidly after exposure to a likely allergen for that client (minutes to several hours):**
   a. **Involvement of the skin-mucosal tissue (e.g., generalized hives, itch-flush, swollen lips-tongue-uvula)**
   b. **Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, reduced peak expiratory flow, hypoxemia)**
   c. **Reduced BP or associated symptoms (e.g., hypotonia [collapse], syncope, incontinence)**
   d. **Persistent gastrointestinal symptoms (e.g., crampy abdominal pain, vomiting)**

3. **Reduced BP after exposure to known allergen for that client (minutes to several hours):**
   a. **Children: low systolic BP (age specific) or greater than 30% decrease in systolic BP***
   b. **Adults: systolic BP of less than 90 mm Hg or greater than 30% decrease from that person's baseline**

***Low systolic blood pressure for children is defined as less than (70 mm Hg + [2 x age]) from 1 to 10 years, and less than 90 mm Hg from 11 to 17 years.**

[1]Sampson HA, Munoz-Furlong A, Campbell RL, et al: Second symposium on the definition of anaphylaxis: a summary report-Second National Institute of Allergy and Infectious Diseases/Food Allergy and Anaphylaxis Network Symposium. *J Allergy Clin Immunol* 117:391, 2006.

PLAN

THERAPEUTIC

NOTE: Schools may receive and store prescription auto-injectable epinephrine onsite on behalf of a student who is not able to self-administer the medication because of age or any other reason if the parent or guardian provides [O.C.G.A. § 20-2-776(g)]:

1. **A written statement from a physician detailing the name of the medication, method, amount, time schedules by which the medication shall be given must be on file [O.C.G.A § 20-2-776(g)(1)]**
2. **A written statement from the parent or guardian providing release for the school nurse or other designated school personnel to consult with the physician regarding any questions that may arise with regard to the medication, and releasing the school system and its employees and agents from civil liability. The written statement shall be provided at least annually and more frequently if the medication, dosage, frequency of the administration or reason for administration changes. [O.C.G.A. § 20-2-776(g)(2)]**

Severe reaction (Anaphylaxis)
Reactions involving more than one organ system or causing difficulty breathing or hypotension/shock are by definition severe and may progress rapidly to death. Early recognition and early treatment with epinephrine are essential in emergent treatment if needed.

1) Call EMS/911.

2) Do not leave the client unattended.

3) Assure open airway; begin CPR if indicated.

4) Assign one person to keep the anaphylaxis record and be the timekeeper.

5) Administer epinephrine according to the label of the dispensed epinephrine for those students who are not able to self-administer medication based on age or any other reasons.

6) Refer to Correct Method of Administering Auto-Injectable Epinephrine below:

a. Epinephrine dose may be repeated in 5 to 15 minute intervals (up to 3 doses) for client with no clinical improvement or deterioration of status, especially respiratory symptoms.

7) Place client in supine position with legs elevated, if tolerated (precluded for client with emesis and some clients with respiratory distress may not be able to tolerate this position).

8) Monitor vital signs (pulse, respiration and BP) every 5 minutes.

9) Apply and monitor pulse oximetry, if available.

10) Terminate exposure to the causative agent, if it can be identified

a. If insect stinger is present, immediate removal is more important than the method of removal. "Although conventional teaching suggested scraping the stinger out to avoid squeezing remaining venom from the retained venom gland into the tissues, involuntary muscle contraction of the gland continues after evisceration, and the venom contents are quickly exhausted." Tintinalli, et al.

DISPOSITION **Every client treated with epinephrine must be transported by EMS to the closest appropriate hospital emergency department. Copy of Anaphylaxis Record is sent with client to hospital.**

CORRECT METHOD OF ADMINISTERING AUTO-INJECTABLE EPINEPHRINE

Directions for use: Different brands of this medication have different directions for preparing the injector. (Three brands of epinephrine auto-injector are currently available.) All are designed to inject through clothing.

Injection must be to the lateral thigh (do not inject to buttock, deltoid, or IV). Hold the device against the thigh for 10 seconds for drug delivery. Massage the site to enhance absorption.

Client must be transported by EMS to closest appropriate hospital emergency department.

Contraindications: no contraindications in life-threatening allergic reaction

Side effects: increased heart rate and blood pressure. (There are rare cases of stroke and heart attack resulting from epinephrine injection in clients with underlying cardiovascular disease. In clients known to have heart disease, the potential benefit of preventing death from anaphylaxis must be weighed against the potential risk of causing a stroke or heart attack.)

Table 2

KEY DIFFERENCES BETWEEN EPINEPHRINE AUTO-INJECTOR DEVICES[2]				
Auto-Injector Device	**Appearance**	**Preparation for Administration**	**Administration**	**Dose Verification**
EpiPen/EpiPen Jr (0.3 and 0.15 mg epinephrine) Auto-Injectors	**One-step, flip-top carrying case with a blue safety release cap and orange tip at the other end**	• **Flip open yellow top of the EpiPen or the green top of the EpiPen Jr and slide out pen** • **Grasp unit with orange tip pointing downward** • **Form fist around the unit (tip down) and with other hand pull off blue safety release (do not remove until ready to use)**	• **Hold orange tip near outer thigh** • **Swing and firmly push orange tip against outer thigh until it clicks** • **Hold firmly against thigh for ~10 seconds to deliver drug** • **Remove from thigh and massage injection area for 10 seconds**	• **Audible click signals that drug is being delivered** • **After use, window on side of pen is obscured, indicating drug was dispensed** • **Orange needle cover automatically extends, indicating needle was used** • **Used device will no longer fit back into the external carrying case**
Adrenaclick and Epinephrine Injection, USP Auto-Injector, 0.15 mg and 0.3 mg	**Contained in a pull-apart cylindrical case with 2 gray caps on either end (labeled #1 and #2)**	• **Pull apart cylindrical carrying case** • **Slide out the pen** • **Remove gray cap #1 – a red tip will be exposed** • **Remove gray cap #2**	• **Put red tip against middle of outer side of thigh** • **Press red injector tip hard against the thigh until needle enters skin** • **Hold it in place for 10 seconds to deliver the drug**	**If needle is exposed, dose was received**
Twinject (either 0.15 mg (0.15 mL) or 0.3 mg (0.3 mL) each are available for use by injection)	**Contained in a pull-apart cylindrical case with 2 green caps (labeled #1 and #2)**	• **Pull apart cylindrical carrying case** • **Slide out the pen** • **Remove green cap #1 - a red tip will be exposed** • **Removed green cap #2**	• **Put red tip against middle of outer side of thigh** • **Press red injector tip hard against the thigh until needle enters skin** • **Hold in for 10 seconds to deliver the drug**	**If needle is exposed, dose was received**

[2] Brice Labruzzo Mohundro, et al., "Important Considerations When Dispensing Epinephrine Auto-Injector Devices," *Pharmacy Times*, September 23, 2010,

ANAPHYLAXIS RECORD – page 1

School/Site _____ **Date** _____

Client Demographic Information:

Name: _____

DOB _____/_____/_____ **AGE** _____ **months / years**

Estimated/Actual Weight ***(please circle one)*** **Infant / Child / Adolescent** _____**lbs/kg**

Event which preceded reaction:

- _____ **Food ingested**
- _____ **Medication administered**
- _____ **Environmental exposure**
- _____ **Other: (please explain)**

_____

TIME OF REACTION: _____ **AM / PM** **TIME EMS CALLED:** _____ **AM / PM**

Signs and Symptoms: **(please check)**

- _____ **Apprehension**
- _____ **Flushing and/or skin edema**
- _____ **Palpitations**
- _____ **Numbness and/or tingling**
- _____ **Itching**
- _____ **Localized or generalized urticaria (rash, welts)**
- _____ **Choking sensation**
- _____ **Coughing/hoarseness/wheezing**
- _____ **Difficulty breathing**
- _____ **Nausea and/or vomiting**
- _____ **Severe hypotension**
- _____ **Vasomotor collapse**
- _____ **Loss of consciousness**

Other (e.g., dizziness): _____

OTHER OBSERVATIONS / COMMENTS: _____

_____

_____

SIGNATURE OF RN/APRN:

_____

DISPOSITION: _____

REVIEWER: _____

NOTE: Send copies of both pages of this record with client referred to hospital

ALLERGIC REACTION / ANAPHYLAXIS RECORD – page 2

4. Call for HELP.

Assign timekeeper/recorder.
TIME EMS **CALLED:**_____**AM/PM**
TIME EMS ARRIVED:_____**AM/PM**
TIME EMS DEPARTED TO HOSPITAL:_____**AM/PM**
Hospital's Name:_____
Client's status when transported to hospital:_____

2. Assure AIRWAY.
   Check VITAL SIGNS q 5 minutes.
   CPR if necessary.

Client Name:_____
Client Weight:_____
DOB:_____

VITAL SIGNS (monitor every 5 minutes)

Time	B/P	Pulse	Resp
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__
_____	___/___	____	__

CPR Indicated: _____YES _____NO
TIME CPR started:_____AM / PM
TIME CPR ended: _____AM / PM

EpiPen® Auto-Injector
TIME Administered: _____**AM/PM**
TIME Administered:_____**AM/PM**
TIME Administered: _____**AM/PM**

EpiPen® Junior Auto-Injector
TIME Administered: _____**AM/PM**
TIME Administered: _____**AM/PM**
TIME Administered: _____**AM/PM**

Twinject 0.15 mg/0.15 mL _____ **AM/PM**
Twinject 0.15 mg/0.15 mL_____ **AM/PM**
Twinject 0.15 mg/0.15 mL _____**AM/PM**

Twinject 0.3 mg/0.3 mL_____ __**AM/PM**
Twinject 0.3 mg/0.3 mL_____ **AM/PM**
Twinject 0.3 mg/0.3 mL _____**AM/PM**

Adrenaclick™ 0.15 mg _____ **AM/PM**
Adrenaclick™ 0.15 mg _____**AM/PM**
Adrenaclick™ 0.15 mg _____ **AM/PM**

Adrenaclick™ 0.3 mg _____ **AM/PM**
Adrenaclick™ 0.3 mg _____ **AM/PM**
Adrenaclick™ 0.3 mg _____ **AM/PM**

CLIENT EDUCATION/COUNSELING

3. Advise client to contact their primary care physician for follow-up after discharge from the hospital/emergency room.

REFERRAL

2. Immediately refer clients with suspected acute anaphylaxis to ER via EMS.

FOLLOW-UP

2. Document and prominently display known allergies in client's record.

2. Educate the client/caretaker about medical alert bracelets for anaphylactic reactions as appropriate.

4. **Develop a written individualized client care plan as per organizational policy.**

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APPENDICES

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APPENDIX A	**O.C.G.A. § 43-34-23 Delegation of Authority to Nurse or Physician Assistant to Order or Dispense Drugs, Medical Treatments or Diagnostic Studies (with notes on related Codes**)	**13.1**
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APPENDIX A

O.C.G.A. § 43-34-23 (2011)

§ 43-34-23 - Delegation of authority to nurse or physician assistant

(a) As used in this Code section, the term:

(1) "Administer" means to give a unit dose of any drug or to perform any medical treatment or diagnostic study.

(2) "Controlled substance" means any controlled substance, as defined in Code Section 16-13-21, except any Schedule I controlled substance listed in Code Section 16-13-25.

(3) "Dangerous drug" means any dangerous drug, as defined in Code Section 16-13-71, but does not include any controlled substance or Schedule I controlled substance.

(3.1) "Dispense" means to issue one or more doses of any drug in a suitable container with appropriate labeling for subsequent administration to, or use by, a patient.

(4) "Dispensing procedure" means a written document signed by a licensed pharmacist and a licensed physician which document establishes the appropriate manner under which drugs may be dispensed pursuant to this Code section.

(5) "Drug" means any dangerous drug or controlled substance.

(5.1) "Job description" **shall have the same meaning as in Code Section 43-34-102.**

(6) "Nurse" means a person who is a registered professional nurse licensed as such under Article 1 of Chapter 26 of this title.

(7) "Nurse protocol" means a written document mutually agreed upon and signed by a nurse and a licensed physician, by which document the physician delegates to that nurse the authority to perform certain medical

APPENDIX A

acts pursuant to subsection (b) of this Code section, and which acts shall include, without being limited to, the administering and ordering of any drug.

(8) "Order" means to select a drug, medical treatment, or diagnostic study through physician delegation in accordance with a nurse protocol or a physician assistant's job description. Ordering under such delegation shall not be construed to be prescribing nor shall ordering of a drug be construed to authorize the issuance of a written prescription.

(9) "Physician assistant" means a person licensed as a physician assistant pursuant to Article 4 of this chapter, the "Physician assistant Act."

(b) (1) (A) A physician may delegate **the authority contained in subparagraph (B) of this paragraph to:**

(**i**) A physician assistant in accordance with a job description; or

(**ii**) A nurse recognized by the Georgia Board of Nursing as a certified nurse midwife, certified registered nurse anesthetist, certified nurse practitioner, or clinical nurse specialist, psychiatric/mental health in accordance with a nurse protocol.

(B) A physician may delegate to **those health care professionals identified in subparagraph (A) of this paragraph:**

(i) The authority to order controlled substances selected from a formulary of such drugs established by the board and the authority to order dangerous drugs, medical treatments, and diagnostic studies;

(ii) The authority to request, receive, and sign for professional samples and to distribute professional samples to patients. The office or facility at which the healthcare professional identified in subparagraph (A) of this paragraph is working shall maintain a general list of the professional samples approved by the delegating physician for request, receipt, and distribution by the health care professional identified in subparagraph (A) of this paragraph as well as a complete list of the specific number and dosage of each professional sample and medication voucher received. Professional samples that are distributed by a health care professional identified in subparagraph (A) of this paragraph shall be so noted in the patient's medical record. In addition to the requirements of this Code section, all professional samples

APPENDIX A

shall be maintained as required by applicable state and federal laws regulations; and

(iii) The authority to sign, certify, and endorse all documents relating to health care provided to a patient within his or her scope of authorized practice, including, but not limited to, documents relating to physical examination forms of all state agencies and verification and evaluation forms of the Department of Human Services, the State Board of Education, local boards of education, the Department of Community Health, and the Department of Corrections; provided, however,that a health care professional identified in subparagraph (A) of this paragraph shall not have the authority to sign death certificates or assign a percentage of disability rating.

(2) A physician may delegate to a nurse or physician assistant the authority to order dangerous drugs, medical treatment, or diagnostic studies and a nurse or physician assistant is authorized to dispense dangerous drugs, in accordance with a dispensing procedure and under the authority of an order issued in conformity with a nurse protocol or job description, if that nurse or physician assistant orders or dispense those dangerous drugs, medical treatments, or diagnostic studies:

(A) As an agent or employee of:

(i) The D**epartment** of Public Health.

(ii) Any county board of health.

(iii) Any organization:

(I) Which is exempt from federal taxes pursuant to Section (c) (3) of the Internal Revenue Code, as defined in Code Section 48-1-2, other than an organization which is a hospital, preferred provider organization, health maintenance organization, or similar organization; or

(II) Established under the authority of or receiving funds pursuant to 42 U.S.C. Section 254b or 254c of the United States Public Health Service Act,

which organization provides that those medical

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services and dangerous drugs which are ordered or dispensed by its physician assistants and nurses will be provided at no cost to the patient or at a cost based solely upon the patient's ability to pay; and

(B) In conformity with subsection (b) of Code Section 26-4-130 and the rules and regulations established pursuant therto by the State Board Pharmacy.

(3) In addition, a physician may delegate to a nurse or physician assistant the authority to order dangerous drugs, medical treatments, or diagnostic studies and a nurse or physician assistant is authorized to dispense dangerous drugs, in accordance with a dispensing procedure and under the authority of an order issued in conformity with a nurse protocol or job description, if that nurse or physician assistant orders or dispenses such drugs, treatments, or studies to patient of an outpatient clinic:

(A) Which is owned or operated by a licensed hospital;

(B) Which provides such drugs, treatments, or studies free or at a charge to the patient based solely upon the patient's ability to pay; provided, however, such charge shall not exceed the actual cost to the outpatient clinic; and

(C) Whose services are primarily provided to the medically disadvantaged

and that nurse or physician assistant orders or dispenses such drugs in conformity with subsection (b) of Code Section 26-4-130 and the rules and regulations established pursuant thereto by the State Board of Pharmacy.

(4) Delegation of authority to a physician assistant pursuant to this subsection shall be authorized only if that delegation is contained in the job description approved for that physician assistant by the Board

(5) Delegation of authority to a nurse pursuant to this subsection shall be authorized only if that delegation is contained in a nurse protocol for that nurse.

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(c) The board shall be empowered to promulgate rules and regulations governing physicians and physician assistants to carry out the intents and purposes of this Code section, including establishing criteria and standards governing physicians, physician assistants, job descriptions, and nurse protocols. The board shall be authorized to require that protocols not falling within such established criteria and standards be submitted to the board for review and approval or rejection.

(d) Notwithstanding any other provision of law to the contrary, a physician assistant or nurse may perform any act authorized to be performed by that person pursuant to and in conformity with this Code section without such act constituting the practice of medicine.

(e) Nothing in this Code section shall be construed to limit or repeal this article and Articles 4 and 6 of this chapter, relating to physicians, osteopaths physicians, physician assistants, and respiratory therapists, or Article 1 of Chapter 26 of this title, relating to registered nurses.

(f) Nothing in this Code section shall be construed to limit or repeal any existing authority of a licensed physician to delegate to a qualified person any acts, duties, or functions which are otherwise permitted by law or established by custom.

(g) Nothing in this Code section shall be construed to authorize or permit the issuance of a Drug Enforcement Administration license to a nurse who is **not an advanced practice registered nurse.**

(h) Nothing in this Code section shall be construed to limit or repeal the authority of any organization described in division (i) or (ii) of subparagraph (b)(2)(A) of this Code section or any organization established under the authority of or receiving funds pursuant to 42 U.S.C. Section 254b or 254c of the United States Public Health Service Act to supervise its agents or employees or interfere with the employer and employee relationship of any such agents or employees.

(i) Notwithstanding any other provision of law to the contrary, a physician assistant or nurse may perform any act deemed necessary to provide treatment to a hospital or nursing home patient in a life-threatening situation when such act is authorized by standing procedures established by the medical staff of the hospital or nursing home.

APPENDIX A

NOTE: O.C.G.A. § 43-34-23 **Medical Practice Act**, was enacted in 1989. At the same time, the following related changes to other Code sections were also enacted:

O.C.G.A. § 43-34-103 (Physician Assistant Act) was amended by adding a new subsection at the end of Article 4 that states

> "(g) Nothing in this article shall be construed to prohibit a physician assistant from performing those acts the performance of which have been delegated to that physician assistant pursuant to and in conformity with Code Section 43-34**-23.**

O.C.G.A. § 26-4-130 (Pharmacy Law) was amended by adding, in subsection (b), additional language that states

> "(b) Any term used in this subsection and defined in Code Section 43-34-23 (formerly 43-34-26.1) shall have the meaning provided for such term in Code Section 43-34-23 (formerly 43-34-26.1). The other provisions of this chapter and articles 2 and 3 of Chapter 13 of Title 16 shall not apply to persons authorized by Code Section 43-34-23 (formerly 43-34-26.1) to order, dispense or administer drugs when such persons order, dispense, or administer those drugs in conformity with Code Section 43-34-23 (formerly 43-34-26.1). When a person dispenses drugs pursuant to the authority delegated to that person under the provisions of Code Section 43-34-23 (formerly 43-34-26.1) with regard to the drugs so dispensed, that person shall comply with the requirements placed upon practitioners by subsections (c) and (d) of this Code section."

O.C.G.A. § 43-26-5 (General Powers of board) was amended by adding a new paragraph to subsection (a) that states

> "(12) Be authorized to enact rules and regulations for registered professional nurses in their performing acts under a nurse protocol as authorized in code section 43-34-23 (formerly 43-34-26.1)."

APPENDIX B

TITLE 410: GEORGIA BOARD OF NURSING
CHAPTER 410-11 STANDARDS OF PRACTICE
(2011)

NOTE: This is the current text of the Georgia Board of Nursing's Rule 410-11-03. This regulation has not been updated in several years, and some of its references are out of date. The regulation references the Department of Human Resources, which should now be understood to refer to the Department of Public Health. Likewise, the regulation references the nurse protocol statue as Code Section 43-34-26.1, which was renumbered in 2009 and should now be understood to refer to Code Section 43-34-33.

410-11-.03 Use of Nurse Protocols Authorized by O.C.G.A. § 43-34-26.1 by Registered Nurses in Specific Settings

(1) The general purpose of these rules is to protect and safeguard the public by regulating the practice of registered nurses ("RNs") who use protocols in specific settings as authorized by O.C.G.A. § 43-34-26.1.

(2) A RN who uses a nurse protocol in specific settings as authorized by O.C.G.A. § 43-34-26.1 shall:

(a) hold a current license to practice as a registered nurse in Georgia;

(b) adhere to a nurse protocol which is a written document mutually agreed upon and signed by the nurse and licensed physician which delegates to the nurse the authority to perform specified medical acts and provides for immediate consultation with the delegating physician or a physician designated in the absence of the delegating physician;

(c) document preparation and performance specific to each medical act authorized under O.C.G.A. § 43-34-26.1 including ordering dangerous drugs, medical treatments or diagnostic studies and the dispensing of dangerous drugs in accordance with dispensing procedure and under the authority of a physician's order.

(3) The nurse protocol used by a RN pursuant to the provisions of O.C.G.A. § 43-34-26.1 shall comply with the following criteria:

(a) shall bear a current review date; be available upon request; and specify parameters under which delegated medical acts may be performed;

(b) shall include a schedule for periodic review of patient records by

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the delegating physician;

(c) shall be reviewed, revised or updated annually;

(d) shall include a provision for immediate consultation with the delegating physician designated in the absence of the delegating physician;

(e) shall comply with provisions for ordering or dispensing drugs under subsection (b) of Code Section 26-4-130 and the rules and regulations established pursuant thereto by the State Board of Pharmacy and adhere to a written dispensing procedure when dispensing dangerous drugs as required by O.C.G.A. § 43-34-23 (a) (3.1) and (4).

(4) A RN may practice under protocol pursuant to the provisions of O.C.G.A. § 43-34-26.1 as an agent or employee of the following:

(a) The Division of Public Health of the Department of Human Resources.

(b) Any county board of health.

(c) Any organization:

1. Which is exempt from federal taxes pursuant to Section 501(c)(3) of the Internal Revenue Code as defined in Code Section 48-1-2, other than an organization which is a hospital, preferred provider organization, health maintenance organization, or similar organization; or

2. Established under the authority of or receiving funds pursuant to 42 U.S.C. Section 254b or 254c of the United States Public Health Service Act.

3. Which organization provides that those medical services and dangerous drugs which are ordered or dispensed by its nurses will be provided at no cost to patient or at a cost based solely upon the patient's ability to pay.

(d) An outpatient clinic:

1. Which is owned or operated by a licensed hospital;

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2. Which provides such drugs, treatments, or studies free or at a charge to the patient based solely upon the patient's ability to pay; provided, however, such charge shall not exceed the actual cost to the outpatient clinic; and

3. Whose services are primarily provided to the medically disadvantaged.

APPENDIX C

TITLE 480: GEORGIA STATE BOARD OF PHARMACY
CHAPTER 480-30 DISPENSING OF DRUGS UNDER AUTHORITY OF JOB DESCRIPTION OR NURSE PROTOCOL
(2002)

480-30-.01 Definitions.

For purpose of these Rules and Regulations, the following definitions apply:

(a) "Dispensing procedure" means a written document signed by a licensed pharmacist and a licensed practitioner which document establishes the appropriate manner under which drugs may be dispensed under authority of a nurse protocol or job description.

(b) "Drugs" shall mean any dangerous drug under O.C.G.A. § 16-13-71, et seq., or, where applicable, any controlled substance under O.C.G.A. § 16-13-21, et seq.

(c) "Job description" means a document signed by a licensed practitioner that describes the duties which may be performed by a physician assistant, by which document the physician delegates to that physician assistant the authority to perform certain medical acts pursuant to O.C.G.A. § 43-34-23.

(d) "Nurse protocol" means a document mutually agreed upon and signed by a nurse and licensed physician by which document the physician delegates to that nurse the authority to perform certain medical acts pursuant to O.C.G.A. § 43-34-23(b).

480-30-.02 General Requirements.

Any person who dispenses drugs in accordance with a dispensing procedure and under the authority of a job description or nurse protocol shall comply with all record keeping, labeling, packaging, and storage requirements imposed upon pharmacists and pharmacies with regard to such drugs pursuant to O.C.G.A. Title 26, Chapter 4, Title 16, Chapter 13, and those regulations contained in this Chapter.

480-30-.03 Labeling. Amended.

All drugs dispensed in accordance with a dispensing procedure and under authority of a job description or nurse protocol must be labeled with the following information:

(a) Date and identifying serial number;

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(b) Name of patient;

(c) Name of practitioner prescribing;

(d) The name, address and telephone number of the facility where the drugs are dispensed in accordance with a dispensing procedure and under the authority of a job description or nurse protocol;

(e) Name of drug and strength;

(f) Directions for use to the patient;

(g) The expiration date of the drug; and

(h) Any information required by the Drug Enforcement Administration or the Food and Drug Administration.

480-30-.04 Packaging.

All drugs dispensed in accordance with a dispensing procedure or under authority of a job description or nurse protocol must be dispensed in containers meeting the requirements of the Food and Drug Administration and the Consumer Protection Agency, including the use of child-proof and moisture-proof containers.

480-30-.05 Storage.

(1) Any person dispensing drugs in accordance with a dispensing procedure and under authority of a job description or nurse protocol shall exercise diligent care in protecting drugs and records possessed from loss or theft. Agents of the Georgia Drugs and Narcotics Agency (GDNA) shall have the responsibility of offering to such persons written recommendations concerning the satisfactory storage, keeping, handling, and security of such drugs and records. When not in actual use, all drugs shall be stored in a place which is secured.

(2) All drugs which bear or are required to bear, upon the package, the words, "Caution, Federal Law Prohibits Dispensing Without a Prescription" or words of like import, shall be stored in a secured area. All drugs shall be stored beyond the normal reach of small children.

(3) No person dispensing drugs in accordance with a dispensing procedure and under authority of a job description or nurse protocol shall operate in any manner or dispense any drugs under unclean, unsanitary, overcrowded, or unhealthy conditions, or under any condition which endangers the health, safety, or welfare of the public.

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(4) All outdated and deteriorated drugs shall be removed from stock at regular intervals of not more than six months duration, and under no circumstances will any drug be dispensed which bears a date of expiration which has been reached, or is in a deteriorated condition.

480-30-.06 Inspection of Records.

GDNA agents shall have the authority to conduct inspections or audits of all records of drugs received and/or disposed of by any person dispensing drugs in accordance with a dispensing procedure and under authority of a job description or nurse protocol. GDNA agents shall have the authority to examine and copy all such records, and to examine and inventory all prescription drug orders.

480-30-.07 Submission of Dispensing Procedure for Board Review

All licensed pharmacists who sign a dispensing procedure must submit such document to the Georgia State Board of Pharmacy for review. Any such dispensing procedure must be in conformity with this Chapter and O.C.G.A. § 43-34-23 :and shall include the names of all persons dispensing drugs pursuant to such dispensing procedure.

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American Red Cross

Disaster Health Services Protocols

Rev. July 2010

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I. Introduction

Description of Disaster Health Services

Disaster Health Services (HS) workers provide health services to
- Clients affected by a disaster.
- Volunteers and employees on a disaster relief operation when Staff Wellness workers are not present or available.

HS workers provide health services during
- Initial chapter responses
- Disaster relief operations, including all service delivery sites.

In a disaster situation, HS workers provide
- health assessments
- treatment per protocol
- referrals for care

HS workers also
- assist clients with the procurement and/or replacement of essential medications and medical equipment when lost or damaged due to a disaster
- collect and document health surveillance data on clients
    - to identify illness and injury anomalies
    - to reduce the transmission of disease
    - to provide evidence-based research for continuous improvement of the delivery of our services

Disaster Health Services Protocols

Disaster Health Services Protocols describe the parameters within which licensed professionals may deliver medical care when serving as Red Cross Disaster Health Services workers. These protocols have been researched and reviewed by a panel of healthcare professionals and the treatment guidelines supersede *any* guidelines or treatment recommendations from any previous version of the *Protocols*. The treatment guidelines apply to *all* Disaster Health Services workers– *regardless of licensure, experience or the extent of an individual's training*.

Expectations of HS Workers
HS workers are expected to use the *Protocols* and demonstrate sound clinical judgment when providing care to clients. HS workers must comply with the following:
- Medical orders by local physicians for their patients
    - supersede HS protocols

- must be documented by HS workers appropriately and clearly

- When orders by local physicians for their patients exceed the level of care allowed by the *Protocols*, HS workers should:
  - refer the patient to his or her local (non-Red Cross) health care providers *or*
  - arrange transport/transfer to a health care facility as needed
  - contact the Disaster Operations Center (DOC) for further guidance when a patient's health needs exceed the level of treatment outlined in the protocols *and* it is not possible to refer the patient for non-Red Cross care

- When over-the-counter medication (OTC) is available and requested by a client, HS workers may provide OTC medications
  - according to the manufacturer's dosage guidelines *and*
  - after checking with the client regarding allergies, current medications, and any possible contraindications

  NOTE: HS workers should provide education to the client about OTC medication use. See the OTC Drug Information Appendix at the end of the *Protocols*.

- All clients should be referred to his or her health care provider or usual source for medical care as soon as possible after an illness or injury.

Symptom-Based Protocols
The *Disaster Health Services Protocols* are symptom-based to guide the treatment of the symptom rather than a particular disease or illness. The symptoms were chosen from the illnesses and injuries previously covered in *Disaster Health Services Protocols* (rev. 1997) and evidence-based analyses of illnesses and injuries documented on recent disaster relief operations.

NOTE: The *Protocols* sections "Special Considerations", "Communicable Diseases", and "Procedures" are *not* based on symptoms of the clients. These sections identify specific medical situations and diagnoses, including related procedures (e.g. assisting with an auto-injector).

Using the *Protocols:*
When providing care, Disaster Health Services workers
- find the client's symptom in the table of contents and
- follow the corresponding treatment guideline

Treatment guidelines include:
- possible causes that represent a range of possible diagnoses – from minor illness to medical emergencies- that are not intended to be all-inclusive
- symptom-based medical history questions

- physical assessment guidelines to help identify situations that require a referral to a medical facility or the activation of local EMS
- treatment

When a symptom can be treated in the disaster environment by HS workers, the symptom will appear in the *Protocols* with treatment guidelines.

Annual Chapter Protocol Review

Chapters must designate a health professional to conduct an annual review of the *Protocols* to assure that local operations comply with established protocols. The annual review must be documented using the *Review of Disaster Health Services Protocols* form found at the end of this document. Reviewers may provide feedback and comments about the *Protocols* to Disaster Health Services at National Headquarters for possible inclusion in future versions.

Documentation

Workers must document all client health information including assessments, interventions, and outcomes on the confidential *Client Health Record* and record additional narrative on the *Client Health Record Narrative Addendum*.

Clients must sign the *Release of Confidential Information Form* before a HS worker may discuss the client's health information with external health professionals and/or vendors for continuity of care.

The HS activity on the operation is responsible for these confidential medical documents at all times.

HS workers provide care to volunteers and employees on a disaster relief operation when Staff Wellness workers are not available, and should record all care on a *Staff Illness/Injury Report* following established Staff Health procedures. All care provided to relief operation staff should be reported to the Staff Health Manager on the operation as quickly as possible.

Management of Exposures

Health care workers may have accidental exposure to blood or other bodily fluids through

- parenteral (needle stick) contact
- splash to the mucous membranes of the eye, nose or mouth.
- skin that is chapped, cut, has abrasions, acne, dermatitis or other conditions which disrupt skin integrity.

Health care workers must use appropriate levels of Personal Protective Equipment (PPE) as outlined in CDC guidance .

When an accidental exposure to blood or other bodily fluids does occur

1) Wash the affected area and the surrounding skin or tissue immediately.
2) Flush eyes with saline or water rinse when eye splash occurs.
3) Thoroughly clean open scratch or wound and apply appropriate topical antiseptic.
4) Refer to health care professional:
    a. Immediately provide the opportunity to any exposed worker to be seen by a health care professional for possible prophylaxis against Hepatitis B and HIV.
    b. Document the event and the offer on a *Staff Health Illness/Injury Record,* regardless of the worker's decision to accept the offer.
    c. Encourage the worker to follow up with health care professional seen after the exposure and his or her regular physician.
5) When the source of the exposure is known, refer that person to the local health care facility for blood testing. The health care facility is responsible for obtaining consent and reporting results, as appropriate.
6) Document the incident on the *Staff Health Illness/Injury Record*.
7) Report the staff exposure to Staff Wellness leadership (or Disaster Health Services leadership if Staff Wellness is not available) on the operation as soon as possible.
8) The Staff Wellness Manager on the operation
    a. assists with additional paperwork
    b. notifies the Staff Wellness Activity Lead at National Headquarters for follow-up

Acknowledgements

Thanks to everyone who played a role in this revision of the *Disaster Health Services Protocols*. Many HS volunteers and chapters from around the country provided feedback. Special thanks to the Disaster Health Services Program Guidance Team for providing countless hours of editing and recommendations– this document could not have been completed without your assistance.

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II. Symptoms and Care

Abdominal Pain

Treatment Goal:

- Prevent Injury to Client
- Reduce Discomfort
- Assess for more serious health conditions

Possible Causes:

There are many causes of abdominal pain which may be related to conditions of the heart, stomach, bowels, kidneys, gallbladder, pancreas and uterus. Severe or sudden onset pain may be due to menstrual cramps, miscarriage of pregnancy, ectopic pregnancy, ovarian cyst, kidney stones, gall stones, irritable bowel syndrome, appendicitis or an acute cardiac event. Mild or recurrent pain could be due to spicy and/or fatty foods, gas or menstrual cramping.

History:

- Onset and duration of pain
- Location (generalized discomfort vs. localized pain)
- Quality (dull, sharp, cramping, burning, etc) and amount of pain (0-10 scale)
- Presence and amount of vomiting and/or diarrhea and if blood is present in stool or vomit
- Possibility of pregnancy or pelvic inflammatory disease
- Pain also in back, neck, jaw or left shoulder/arm (cardiac pain)
- Sweating and/or shortness of breath (cardiac pain)

Assessment:

- Obtain vital signs and document level of pain on a scale of 0-10
- Inquire about accompanying symptoms- bloating, gas, abnormal bowel movements, nausea/vomiting
- Listen for presence or absence of bowel sounds
- Gently palpate abdomen for tenderness, rigidity or distention
- Assess for rebound pain and/or guarding

Call Local EMS/911 for:

- Severe pain based on a scale of 0-10
- Tachycardia
- Hypotension
- Blood present in vomit or stool.
- Vaginal bleeding in a pregnant woman
- Vaginal bleeding in a non-pregnant woman unrelated to menstrual Bleeding
- Any tenderness or rigidity noted on palpation.
- Absence of bowel sounds
- Rebound pain or guarding present.
- Client has pain in the back, neck, jaw or left arm/shoulder or is showing signs of sweating or shortness of breath

- Fever with severe or persistent nausea/vomiting and/or diarrhea
- Any pediatric client with the following symptoms: forceful vomiting after eating, red/purple jelly-like stools, green-brown vomit, or hard lump in the scrotum, lower abdomen or groin

Refer to Local Healthcare System:

- Pain has not resolved or diminished in 4 to 6 hours
- Pain occurs during pregnancy

Treatment:

- Discourage eating, drinking, or medication until cause of pain is determined
- Recommend rest in a comfortable position
- If pain is thought to be related to menstrual cramping and client is requesting a pain reliever, Ibuprofen (Motrin) is appropriate, unless contraindicated. Follow manufacturer's recommended dosage and see Cramps protocol

Additional Considerations:

- Blood in stool often appears black or tar-like
- A common cause of abdominal pain in children is stress and anxiety, although severe pain should be referred to a physician immediately
- Infants who experience abdominal pain cry loudly and draw their knees toward their chest. This may also be a sign of colic.

See also: Bites – Insect, Chest pain/pressure, Cramps – Abdominal, Indigestion, Nausea/Vomiting, Childbirth, Miscarriage, Poisoning, and Pregnancy

Anxiety

Treatment Goal:

- Protect Client and others from injury
- Appropriate referral to trained mental health professional
- Assess for more serious health condition
- Reduce stress

Possible Causes:

Anxiety may be caused by a stressful situation which results in acute symptoms (panic attack) or chronically in a panic disorder – where feelings of anxiety affect the client without warning and are not related to situational stress. Anxiety and "panic attacks" may be due to a physical condition – difficulty breathing, pain, etc.

History:

- Uncontrollable worry or distress about various issues
- Restlessness and/or irritability
- Fatigue or trouble sleeping
- Difficulty concentrating
- History of anxiety disorder.

Assessment:

- Obtain vital signs and document
- Assess for any potential physical condition which may have triggered the client's anxiety; these include pain, hypoxia (low oxygen, trouble breathing), low blood pressure and other causes
- Consult with Disaster Mental Health for mental health assessment

Refer to Local Healthcare System:

- Disaster Mental Health will make this determination based on their professional assessment.

Treatment:

- Consult with a Disaster Mental Health worker immediately. Disaster Mental Health will make the final determination as to management.
- Try to calm and reassure the client.
- Provide privacy

Additional Considerations:

- A panic attack usually presents as four or more of the following symptoms that appear suddenly: chest pain or discomfort, choking, dizziness/faintness, fear of dying, flushing/chills, fear of "going crazy," nausea/diarrhea, a tingling sensation, fast heart rate or palpitations, shortness of breath, sweating, and/or trembling/shaking.

- It can be difficult to differentiate a "panic attack" from a serious medical illness such as myocardial infarction or pulmonary embolism. When there is any doubt,

have the client transported to the hospital immediately.

- Panic and anxiety may be related to a physical condition – difficulty breathing, pain, etc. All clients with symptoms of anxiety should be assessed for an underlying physical condition which may have caused their symptoms of anxiety.

See also: Breathing Problems, Hyperventilation

Arm/Hand Injury and Pain

Treatment Goal:

- Determine extent of injury
- Prevent further injury from occurring
- Reduce discomfort

Possible Causes:
Muscle strain, dislocation, sprain, fracture, tendonitis. Shoulder and arm pain (particularly left arm) can be a sign of a myocardial infarction (heart attack), especially if there has been no injury. Other symptoms can be shortness of breath, sweating, nausea and chest pain.

History:

- Type of activity client was engaged in when injury occurred
- If the client felt/heard a bone snap
- Past medical history related to musculoskeletal injury/surgery
- Risk factors for coronary artery disease

Assessment:

- Obtain vital signs and level of pain (scale of 0-10)
- Assess all injuries for presence of a pulse distal to the injury, skin color/temperature, and range of motion – do not force movement
- Point tenderness over a specific area is often a sign of a fracture
- Strain: dull pain in the affected muscle that worsens with movement, swelling
- Tendonitis (e.g. tennis elbow): pain at the joint not associated with any trauma/injury. If the area is warm, swollen or red, an infection of the tendon could be present.
- Dislocation: swelling, deformity, severe pain, discoloration, tenderness, and/or numbness of an affected joint
- Sprain: pain and/or swelling at joint, bruising around area of injury
- Fracture: pain/tenderness at site when touched or moved, client has difficulty moving the injured part, client may feel grating sensation, the injured part may move unnaturally, bruising may be present.

Call local EMS/911 for:

- All cases of severe pain – regardless of suspected cause
- If skin is broken over possible fracture site
- Any evidence of compound fracture (bone protruding through open wound)
- If numbness is noted in hand
- If an infection is suspected, have the client transported to the hospital immediately.
- Any extremity that is cool, pale or blue, or if a pulse cannot be detected distal to the injury.
- Any arm pain with shortness of breath, sweating, nausea and/or chest pain/pressure.

Refer to Local Healthcare System:

- All suspected dislocations, sprains and fractures.

Treatment

- Strain: Rest the affected area, apply cool packs (chemical or ice/water mixed) intermittently (less than 20 minutes) for the first 24-48 hours then switch to warm compresses. Elevate the extremity as much as possible. Muscle strains respond well to non-steroidal anti-inflammatory medications (NSAIDs), such as Ibuprofen, if client is requesting pain relief and does not have any contraindications. Follow manufacturer dosage instructions. Assess for allergy to aspirin or NSAIDs.
- Tendonitis: Rest the affected area and apply cool packs intermittently for the first 24-48 hours. If the client requests pain relief medication, non-steroidal anti-inflammatory medications (NSAIDs, such as Ibuprofen) work best at relieving pain and reducing inflammation, unless contraindicated. Assess for allergy to aspirin or NSAIDs.
- Dislocation: Do not move or try to put a dislocated bone back into place. Immobilize the joint as much as possible. Have client transported to a medical facility via EMS if necessary.
- Sprain: Rest the affected area; apply ice packs intermittently for the first 24-48 hours. (Do not apply heat for the first 24 hours). Apply a supportive bandage (ACE wrap) and elevate extremity. Loosen bandage if swelling increases or extremity becomes cold or mottled. Warm compresses can be used after 24-48 hours. If the pain has not resolved or is severe, have the client transported to a medical facility to rule out fracture.
- Closed Fracture (no break in the skin): Immobilize the affected extremity and have client transported to a medical facility.
- Open Fracture (skin is broken): Call local EMS. Using standard precautions, cut clothing away from the wound, being careful not to touch the exposed bone. Cover area with sterile dressing. If bleeding, apply direct pressure to wound. If EMS is not immediately available, splint the fractured area as it is and gently help the client into a comfortable position until EMS arrives.

Additional Considerations

- When unsure of a diagnosis, treat the injury as a fracture. Definitive diagnosis requires professional assessment and radiologic testing at a medical facility.
- Geriatric clients are more prone to musculoskeletal injury and bone fracture.
- Never give children under the age of 18 aspirin due to risk of Reye's Syndrome.
- Collarbone injuries should have a sling placed on the affected arm and secured to the body to reduce movement as much as possible.
- If client is to be transported to a medical facility for further treatment, do not give anything to eat or drink as surgical repair may be required.

See also: Bites, Bruising, Frostbite, Cramps – Muscular, Cuts and Scrapes.

Back Pain

Treatment Goal:

- Reduce discomfort.
- Assess for more serious health condition.

Possible Causes:

Back pain usually involves the lower back and can be caused by a strain/tear of the muscles/ligaments, injury to the disc or vertebrae, nerve pressure or fatigue. Cardiac pain may present itself as pain between the shoulder blades. Kidney stones or kidney infections are frequently associated with severe flank pain and vomiting. Gall bladder or pancreatitis can cause pain to radiate to the back. A thoracic or abdominal aneurysm may present as back pain. Labor may present itself as back pain as well.

History:

- Location, quality and amount of pain (0-10 scale).
- Activities performed when back pain started
- Any recent trauma to back, fall, heavy lifting or unusual activity
- History of previous episodes of the same type of pain and the effectiveness of treatments in the past
- Change in bowel/bladder function associated with the back pain (especially loss of control of the bladder or bowels)
- Associated numbness, tingling, weakness or paralysis of one or both legs
- Associated abdominal pain or pain related to a myocardial infarction (shortness of breath, sweating, nausea or chest pain).
- Does pain radiate from the back to either/both legs?
- Hypertension or heart disease.
- Pregnancy

Assessment:

- Obtain vital signs and document level of pain (on scale of 0-10)
- If the pain started due to a fall and the client is not able to walk afterward, do not attempt to get them up or move them. Call EMS immediately and treat them for comfort only.
- Visually inspect the spine for signs of bruising, swelling or other signs of trauma.
- Observe gait, posture, range of motion, balance and coordination.
- Check for weakness and/or numbness in extremities.

Call local EMS/911 for:

- Pain caused by significant impact injury or trauma.
- Pain is severe and/or the client is unable to walk.
- Back pain is associated with shortness of breath, chest pain, abdominal pain or tenderness, fever, vomiting, sweating, or pulsating mass in the abdomen.
- There is a new onset of numbness, weakness or paralysis of the lower extremities.
- Presence of blood in the urine or the client is having difficulty urinating or passing stool.
- Incontinence or inability to control bladder and/or bowel function.

- Blood pressure is low for the client and/or they are feeling faint.

Refer to Local Healthcare System:

- Pain is not relieved with rest and analgesics.

Treatment:

- Encourage client to avoid activities that exacerbate back pain (lifting).
- Over the counter analgesics are appropriate, if requested by client and not contraindicated. Follow manufacturer's dosage instructions.
- For an acute muscle pull, apply cool packs intermittently for the first 24-48 hours to reduce inflammation and swelling.
- For stiffness or fatigue, place a warm compress on the affected area.

Additional Considerations:

- Pregnant women should always check with their physician before taking any medication.

See also: Cramps – Muscular, Neck Pain/Stiffness; Urination, Difficulty with

Bites – Animal, Domestic or Wild animals, Marine animals

Treatment Goal:

- Prevent further injury or infection
- Reduce discomfort associated with bite
- Stop bleeding, if present

Possible Causes:

Animal bites can be caused by any animal – either domesticated pets (dogs, cats) or wild animals (skunks, squirrels, etc.). Examples of marine animals include jellyfish and stingrays.

History:

- Type of animal that bit the client
- Behavior of animal prior and after bite (if noticed)
- If the animal is domesticated, attempt to determine the name and address of the owner and if it has received appropriate rabies vaccines (provide the name and address to the local animal control authorities).
- Date of the client's last tetanus vaccine

Assessment:

- Obtain vital signs
- Check skin to identify bite mark or any break in skin and/or bleeding
- Look for signs of local swelling and discoloration
- Assess for
- Marine animals: Check skin for remaining tentacles or stingers

Call the local EMS/911 for:

- All animal bites with significant or poorly controlled bleeding
- Bites on the face or neck or with major tissue damage
- All stings by a marine animal that cause an outbreak of hives, weakness, and shortness of breath or chest pain.
- Before calling EMS determine: patient's age, weight and condition, name of the marine animal and time stung.

Refer to Local Healthcare System:

- All animal bites that break the skin
- Any client who cannot remember last tetanus vaccine

Treatment

- Stop bleeding immediately. Using standard precautions hold direct pressure to the wound for five minutes or until bleeding stops. Wear gloves or use a barrier whenever possible.
- Mammals: Wash affected area with soap and water or providone-iodine solution. If skin is broken and/or bleeding, apply clean dressing and direct pressure. Apply antibiotic ointment. For pain, it is appropriate to provide the analgesic requested by client. Follow manufacturer's dosage directions.

- Marine animals: Jellyfish: Soak the area in vinegar, alcohol, seawater, or apply thick paste of baking soda to deactivate stinging cells – fresh water can stimulate cells to release more venom. To remove remaining stinging cells, either shave the area with a razor or rub with a sand/mud and seawater mixture. For pain, apply a hydrocortisone cream to the affected area and/or provide the analgesic requested by client.
- Marine animals: Stingray: Submerge the affected area in hot but not scalding water (110-115˚ F) and call the local EMS. If EMS is not available, keep the affected area submerged in hot water for 90 minutes to deactivate the stingray venom.
- Refer client to local healthcare system
- Notify the local animal control authorities if the treating physician is not required to do so
- Do not attempt to capture and/or contain animal as this may result in harm to you.

Additional Considerations:

- Rabies in domesticated animals is rare in the US but can occur, especially along the US-Mexico border.
- Jellyfish are common in Florida, the Chesapeake Bay and the South Pacific. Do not handle dead jellyfish as their stinging cells are still active.
- Stingrays are commonly found on the floor of shallow tropical waters and use their long tail to pierce the skin and inject venom.

See also: Infection, Shock, Bleeding – External.

Bites – Human

Treatment Goal:

- Prevent infection of the wound
- Reduce discomfort from bite

Possible Causes:
Children will sometimes bite other children as well as some adults. Cutting knuckles on someone's teeth, as in a fist fight, should also be treated as a human bite.
NOTE: A purposeful bite from another adult is reportable to local law enforcement

History:

- Time/location and circumstances surrounding bite
- Date of last tetanus shot of the person who was bitten
- Underlying medical conditions that would predispose client to infection
- Consider age of client as well as other significant medical history (diabetes, chronic alcoholic use)

Assessment:

- Obtain vital signs and document on Incident Report Form
- Document bite site and appearance
- Presence of broken skin, puncture, tear, and bleeding
- Question time frame since bite occurred

Refer to Local Healthcare System:

- **All** bites that break the skin.
- Any old bites that show signs of infection: redness, warmth, swelling or pain with movement.

Treatment:

- Using standard precautions, clean wound with soap and water or a providone-iodine solution (1 percent - 5 percent) for five minutes.
- Educate regarding signs of infection, redness, fever and chills.
- Apply antibiotic ointment to wound to help prevent infection.
- Wrap with clean, sterile dressing. If bleeding, hold direct pressure to wound for five minutes or until bleeding stops, or until client is in the care of advanced medical personnel
- (if shelter resident) Request client to return to HS area 48 hours after treatment for re-evaluation.

Additional Considerations:

- Human bites, especially those on the hands, over joints, face and lip, skull penetration, can lead to serious infection.
- If certain tissue has been bitten off (ear, nose, digit) wrap the tissue in sterile gauze, place in a plastic bag, submerge bag in cool water and send with client to the emergency department.
- Human bites are not considered to be a common route of transmission for HIV.

See also: Infection, Shock

Bites – Insect Bites/Stings
Bees, wasps, ants, spiders, ticks, scorpions

Treatment Goal:

- Identify and prevent a severe allergic reaction
- Prevent infection/injury
- Reduce discomfort

Possible Causes:
Bites and/or stings of mosquitoes, fleas, bedbugs, flies, spiders, ticks, bees, wasps, scorpions, etc. Most insect bites and/or stings do not cause serious injury, although stings from bees, wasps, fire ants and scorpions can cause serious pain, anaphylaxis or even death.

History:

- Ask client if he or she saw the insect that bit or stung him or her and describe it
- Any known allergies to prior stings (especially bees and wasps)
- Date and location of bite or sting
- Symptoms of an allergic reaction or anaphylaxis: lightheadedness, shortness of breath, wheezing or chest 'tightness,' throat 'tightening,' nausea or vomiting.
- Symptoms associated with bites and/or stings (pain, swelling, itching, burning, and redness).
- Severe abdominal pain or eye symptoms (especially in children) could indicate a bite from a black widow spider.

Assessment:

- Obtain vital signs
- Look for bite mark or blister, Bull's eye, spotted or black and blue rash around bite
- Note signs of difficulty breathing or swallowing, profuse sweating or salivation
- Note any tachycardia (heart rate greater than 90 at rest), irregular heartbeat or hypotension (systolic blood pressure less than 100mmHg, or significantly lower than the client's normal blood pressure). This can be a sign of anaphylaxis.
- Swelling to eyes, lips and tongue, or hives on the skin (indicative of an anaphylactic reaction). See Shock protocol.
- Nausea or vomiting, fever and chills, flu like aches
- Assess affected area for redness or swelling
- Small, itchy bumps which disappear in a couple of days (suspect mosquitoes).
- Tiny red, itchy bumps (suspect bedbugs or possibly fleas if client has had contact with dogs or cats)
- Painful red bite/sting with or without blistering (suspect spiders or fire ants)
- Itchy excoriated skin in the head or pubic area (suspect lice, see Lice protocol)
- If stung by a bee, wasp, yellow jacket or fire ant, assess the area for any remaining stinger left under the skin.

Call Local EMS/911 for:

- All cases of suspected allergic or anaphylactic reaction
- All cases of multiple stings by bees, wasps, yellow jackets or fire ants

Refer to Local Healthcare System:

- Any possible infections due to insect bite/sting
- Any suspected case of venomous spider bite (black widow, brown recluse contain venom which can cause tissue damage). If a venomous spider is suspected, place a cold compress on the bite site, keep the client quiet and **Urgently get them into the local health care system**
- Any *suspected* tick bite (red "bulls-eye" shaped rash that appears between 3-30 days after potential exposure to ticks).
- Any tick bite (tick attached to the skin) – early diagnosis and treatment with antibiotics can reduce the severity of Lyme's Disease or Rocky Mountain Spotted Fever.
- Any suspected scorpion sting, especially in the elderly and children.

Treatment:

The treatment is dependant on the type of insect.

- Clients with a history of severe allergic reactions (suspected anaphylaxis) may be carrying a treatment kit (Epi-Pen) and may be assisted in its use. (See procedure for auto-injector in procedures section)
- For mosquito, bedbugs and fleas – clean the affected area of the body. These bites generally do not pose a health risk and require no treatment.
- Apply cold pack to reduce swelling, baking soda paste to relieve itching
- Apply topical cream containing Hydrocortisone to skin
- Antihistamines (e.g.: Diphenhydramine) may help to alleviate itching/swelling
- Oral Diphenhydramine may prevent allergic reaction. Follow manufacturer's dosage guidelines.
- Spider bites, although frequently painful, usually do not require treatment.
- Wasps, bees and fire ants may leave a stinger under the skin.
  - Gently remove the stinger without squeezing (this may inject more venom into the tissue).
  - A credit card can be used to scrape along the skin and gently 'flick' the stinger out.
  - Cool packs may be applied to reduce swelling/pain.
  - Corticosteroid and/or antihistamine creams may help to alleviate pain and swelling.
  - Frequent washing of the area with soap and water will help to prevent infection – especially for fire ant stings which can cause blisters that rupture and can become infected.
  - Instruct the client to not break the blisters caused by fire ants as this could cause an infection.
- Tick bites are most easily recognized when the tick is still attached to the skin
  - Remove the tick with tweezers by firmly grabbing the tick's head as close to the surface of the skin as possible and pulling the tick loose in one piece.
  - Flush the tick down the toilet or place in a container of alcohol.
  - Cleanse the area with an antiseptic (such as rubbing alcohol) to

help prevent infection.
  - Refer client to the local health care system for follow-up.
- If insect habitat is known, treat with an insecticide to kill any remaining insects.

Additional Considerations:

- Symptoms of an anaphylactic reaction include lightheadedness, chest/throat tightness, hives, and shortness of breath, difficulty swallowing, nausea and/or vomiting.
- Clients with a known allergy to bites/stings should be encouraged to carry an allergy kit/syringe containing epinephrine.
- Identifying the type of insect that caused the bite or sting is important in recommending treatment.
- Black widow spiders are identified by their irregularly-shaped web and black, shiny black with a red hourglass marking on their underside. The bite is usually a sharp pinprick sensation, followed by dull pain and then redness and swelling, 2 small fang marks may be noticed.
- Brown recluse spiders are mostly active at night and are identified by their dark brown, violin-shaped marking on the top front portion of their body. The bite is usually not noticed but localized pain develops an hour or more later. A blood filled blister will develop with eventual erosion of skin, leaving a black scar.
- Brown recluse spiders hide in dark secluded areas of homes and other structures. May hide in shoes left outside, as well.
- Scorpions are most common in warm southern climates, and hide under rocks, debris or in sandy area

See also: Infection, Shock.

Bites – Snake

Treatment Goal:

- Quick referral to higher level of care (within 30 minutes)
- Prevent venomous poisoning
- Reduce pain associated with bite

Possible Causes:
Venomous snakes (rattlesnakes, copperhead, water moccasins, cottonmouth, coral snake.)
Non-Venomous snakes

History:

- Obtain a description of the snake, if possible. Pit vipers typically have triangular-shaped heads, deep pits between the nostrils and eyes and long fangs. An exception to this is the brightly-colored coral snake with a small head, round eyes and red and black rings separated by a yellow ring. Most non-poisonous snakes have rounded heads and round eyes.
- Date of last tetanus vaccine (effective if received within past 10 years)
- Symptoms of adverse reaction to snake venom – severe pain, rapid swelling, discoloration of skin, weakness, nausea/vomiting, numbness of arms or legs, convulsions, and/or blurred vision (all indicators of a poisonous snake).

Assessment:

- Obtain vital signs
- Identify location of bite and appearance of bite site
- Determine time lapse since bite
- Determine extent of tissue damage and presence of bleeding
- Harmless snakebites are usually characterized by four rows of small scratches, separated from two rows of scratches (from upper and lower jaw teeth)
- Venomous snake bites should have one or two puncture wounds produced by fangs, whether other teeth marks are noted. May or may not bleed
- Coral snake bites leave a semicircular mark from the snake's teeth.-usually little or no pain/swelling after bite, but systemic symptoms may arise 1-5 hours after bite.
- Observe client for signs/symptoms of an adverse reaction (see above). If there are no symptoms within four hours, the snake is probably non-poisonous.

Call Local EMS/911 for:

- All suspected/known cases of poisonous snake bites. Obtain clients' age, weight and condition, type of snake if known, time of bite before calling EMS.

Refer to Local Healthcare System:

- All snake bites for follow-up
- Any client who cannot remember last tetanus vaccine or, if known, to be more than 10 years past

Treatment:

- Use standard precautions:
  - Poisonous and non-poisonous bites: Keep the affected extremity below the level of the heart, remove all watches/jewelry (in case of swelling), clean the area with soap and water, and cover with a clean bandage.
  - Poisonous bites: Contact local EMS immediately, keep the client quiet to slow the circulation of the venom (do not allow the client to move about) Immobilize the affected extremity, remove watches/jewelry (in case of swelling), and cover with a clean bandage.
- Do not apply a tourniquet, cool pack or cut open the wound as these actions could cause more damage. Do not apply suction to the wound as this has not shown clinical benefit.

Additional Considerations:

- Snakebites occur most frequently in the summer months and usually affect the arms and legs.
- Most snake bite deaths are due to allergic reaction, poor health of client or delayed medical intervention
- Do not try to capture the snake. If the snake is thought to be poisonous, contact the local animal control authorities and give the last known location of the snake – most snakes can be found, even hours later, within 20 feet of where the bite occurred.
- Coral snakes are uncommon, but rattlesnakes and other poisonous snakes live throughout the continental US.

See also: Infection, Shock, Bleeding – External.

Bleeding – External

Treatment Goal:

- Control the bleeding.
- Prevent complications from loss of blood.
- Prevent infection.

Possible Causes:

- Injuries such as cuts, scrapes, punctures, etc

History:

- Type and extent of injury
- History of anticoagulant therapy or clotting problems
- Symptoms of hypovolemia/shock (rapid heart rate, low blood pressure, pale skin. (See Shock protocol)
- History of tetanus vaccine (must have new booster if last one was not within last 10 years)

Assessment:

- Obtain vital signs
- Determine the severity and speed of the bleeding, estimate the amount of blood loss (describe it concretely – e.g. blood soaked shirt six inches in diameter).
- Reassess for further bleeding and vital signs periodically
- Look for bruising of the injured area
- Palpate soft tissue for tenderness, swelling or rigidity

Call Local EMS/911 for:

- All clients with symptoms of shock or hypovolemia
- Any bleeding that is difficult to control (e.g. pulsating)
- All bleeding from a suspected artery (spurting, bright red blood), or large vein
- Any suspicion of a significant blood loss

Refer to Local Healthcare System:

- All clients requiring a tetanus immunization
- Any laceration that may require sutures or surgical repair-should see a provider within first few hours of injury
- All bleeding caused by a puncture wound (for follow-up and possible tetanus vaccine (if last one was not within the past 10 years or client cannot remember when last one was given)
- Any diabetic client with puncture wound to the feet, regardless of amount of bleeding

Treatment:

- Using standard precautions, stop bleeding immediately, before any other action. With a clean gauze or dressing, apply direct pressure to the wound for five minutes or until bleeding stops.
- Once bleeding has stopped, apply a clean dressing to the wound.

- Instruct client to watch for signs of break through or re-bleeding of the wound. If bleeding continues, do not remove existing gauze but place more gauze on top and continue to apply pressure.
- If bleeding does not stop, apply continuous and very firm pressure until EMS arrives.

Additional considerations:

- Tourniquets are no longer recommended for control of bleeding as they can cause additional injury, loss of limb and death.
- There is insufficient evidence to recommend for or against the elevation of a bleeding extremity. You should forego attempting to elevate an extremity when the application of direct pressure may be compromised.
- The amount of blood is not a good indicator of the severity of injury. Head wounds tend to bleed heavily, even if the wound is minor. Conversely, deep puncture wounds may not bleed much externally while most of the bleeding occurs internally.
- Long bone fractures can lead to loss of blood, ending in shock, even if the skin has not been broken.

See also: Cuts and Scrapes, Bruising, Nose Bleeds, Miscarriage, Shock.

Bleeding – Internal (symptoms of gastrointestinal, vaginal, urinary tract, organ, vascular damage)

Treatment Goal:

- Prevent complications from loss of blood. Refer all suspected cases of internal bleeding to emergency care/hospital.

Possible Causes:
Stomach ulcer, hemorrhoids, early onset or unexpected menstruation, miscarriage of a pregnancy (vaginal bleeding), urinary tract infection, and internal organ vascular damage

History:

- Source of the suspected blood (vomit, rectum, vagina, urine).
- History of anticoagulant therapy or clotting problems.
- History of bleeding in past (ulcers, varices, etc.).
- Recent change in color of stool (frank blood or black/tarry stools indicate the presence of blood).
- Vomit that is coffee-ground colored or dark or bright red.
- Symptoms of hypovolemia/shock (rapid heart rate, low blood pressure, pale skin, changes in mental status). See Shock protocol.

Assessment:

- Obtain vital signs
- Speed of bleeding (continuous, slow to brisk, seeping vs. spurting)
- Estimate the amount of blood lost (describe it concretely – e.g. blood soaked shirt six inches in diameter)
- Abdominal tenderness can indicate other causes of internal bleeding
- Reassess periodically

Call Local EMS/911 for:

- All suspected cases of internal bleeding
- All clients with symptoms of shock or hypovolemia

Treatment:

- Do not give client anything to eat or drink. Refer client to the local healthcare system.
- Always use standard precautions when there is a chance of contact with blood or body fluids

Additional considerations:

- Suspected internal bleeding is an emergency and requires immediate evaluation.

See also: Cuts and Scrapes, Bruising, Nose Bleeds, Miscarriage, Shock

Blisters

Treatment Goal:

- Prevent additional injury to client
- Reduce discomfort associated with blister

Possible Causes:
Usually from persistent or repeated rubbing against the skin. Some illnesses, such as shingles can cause blister like rashes
Burns, viral infections can also blister the skin

History:

- Exposure to any heat source or chemical which may have caused a burn or blister
- Walking in new or loose fitting shoes
- History of herpes simplex I (oral blisters) or herpes simplex II (genital blisters) or potential exposure to someone who may have these conditions
- Length of time client has had blister

Assessment:

- Obtain vital signs
- Observe size and location of blister(s)
- Herpes blisters may be painful
- Observe for fluid in the blister (absent, clear or bloody)
- Observe for any skin tear in the blister
- Look for signs of infection – redness, pus or red streaks

Refer to Local Healthcare System:

- Any blister that is large and likely to be broken by routine activity
- Any blistering suspected to be caused by either herpes simplex or the client has not received confirmed diagnosis
- Any blister with signs of infection

Treatment:

- Small, unopened blisters do not require intervention. Cover loosely with a gauze pad and let the blister heal naturally.
- For open blisters, wash with soap and water and cover with a gauze dressing using standard precautions. Do not remove the loose skin.
- **Do not puncture or break blisters**

See also: Burns, Rash, Skin Infections, Chickenpox, Shingles, Herpes, and Measles

Breathing Problems: Shortness of Breath/Dyspnea

Treatment Goal:

- Assess for more serious health condition
- Relieve sensation of difficulty of breathing when possible and return breathing to normal

Possible Causes:

Shortness of breath is often a sign of a serious medical condition such as myocardial infarction, cardiac arrhythmia, pulmonary edema, pulmonary embolism, pneumonia or anaphylactic shock. Transient shortness of breath may occur with exercise or overexertion. It can also be caused by a variety of environments (high altitudes), chronic and acute illnesses (high fever, severe anemia, kidney disease, COPD, asthma, heart disease) or injury (broken rib).

History:

- Determine the presence of other concerning symptoms – chest pain/pressure or tightness, sweating, nausea, lightheadedness.
- Ask client for any past medical history of serious illness – especially lung and heart disease and diabetes.
- Some clients have shortness of breath as their baseline breathing status – determine if this is the case and ask client if he or she is concerned about his or her current breathing status.
- Any medication client is currently taking.
- Any allergies to food, medication or environmental factors.
- Any history of chest pain, high blood pressure, irregular heart rhythm or blood clots in legs or lungs.
- Any trauma or blow to the neck or chest that the client may have experienced.

Assessment:

- Obtain vital signs
- Assess heart rate and rhythm.
- Listen to breath sounds for the presence of wheezes, rales or rhonchi.
- Assess character and intensity of chest pain (if any).
- Observe for use of auxiliary muscles during respiration (sternal retractions in infants).
- Observe for central and/or peripheral cyanosis (mottled skin, bluish tint to nail beds/lips, etc.).

Call Local EMS/911 for:

- Any suspicion of a serious cause for the shortness of breath
- Any client with ANY risk factor for a myocardial infarction, including known heart disease or prior heart attack or cardiac surgery, diabetes, high blood pressure, smoking history and obesity
- Acute onset of shortness of breath at rest or not relieved by rest, use of auxiliary

muscles during respiration or shortness of breath associated with chest pain
- Shortness of breath with the inability to lie flat (orthopnea)
- Shortness of breath associated with a resting heart rate greater than 115 beats per minute resting respiratory rate greater than 26 breaths per minute, hypotension and/or central cyanosis

Refer to Local Healthcare System:
- Almost all adults with shortness of breath will require an evaluation by a physician
- Any case in which the client requests more assistance
- Any case associated with trauma or a blow to the chest

Treatment: Dependant on the cause.
- Asthma: see Breathing Problems- Asthma protocol
- Hyperventilation: see Breathing Problems – Hyperventilation protocol
- Chronic shortness of breath: allow the client to do whatever they traditionally do to ease breathing (leaning forward, nebulizer, inhaler, etc.)
- Acute shortness of breath – rest in a semi-Fowlers or upright position, in a well-ventilated environment with warm, humidified air (if available) until symptoms are relieved or client is transported to a local medical facility
- Maintain calm environment and reassure client

Additional Considerations:
- Shortness of breath that is associated with chest pain could indicate a pulmonary embolus (blood clot in the lung) or a myocardial infarction (heart attack) and is a medical emergency.
- Shortness of breath associated with orthopnea or the inability to lie flat may indicate fluid in the lungs (heart failure, pulmonary infiltrates) or surrounding the heart and/or lungs (pericardial effusions).
- Abdominal distention (gas, ascites) or morbid obesity may cause shortness of breath in a supine position. Breathing should improve if the client is placed in a semi-Fowlers (semi-recumbent) position.

See also: Chest Pain/Pressure, Congestion.

Breathing Problems: Asthma/COPD

Treatment Goal:

- Return breathing to normal

Possible Causes:

Asthma and chronic obstructive pulmonary disease (COPD) are grouped together under obstructive breathing problems. A history of asthma may be linked to a genetic pre-disposition or exposure to tobacco smoke. Asthma attacks may be caused by an allergic reaction to something in the air, physical activity, exposure to tobacco smoke or exposure to certain medications (causing an allergic reaction). COPD includes all chronic obstructive airway diseases, including chronic bronchitis and emphysema (of varying causes).

History:

- Determine the presence of other concerning symptoms: chest pain/pressure or tightness, sweating, nausea, lightheadedness
- Ask client for any past medical history of serious illness, especially lung and heart disease and diabetes
- Previous history of asthma, emphysema, chronic bronchitis (COPD). Clients with no prior history, but with wheezing or shortness of breath, should be considered a medical emergency
- Asthma attacks: previous triggers and effectiveness of treatment
- Current medications, any medication recently taken

Assessment:

- Obtain vital signs
- Listen to breath sounds while the client is sitting upright – asthma is characterized by wheezing or whistling sound which can occur with either inspiration or expiration
- Observe for signs of an asthma emergency – difficulty breathing, fright/anxiety, sweating, sitting upright and leaning forward, rapid heart rate and blue-tinged lips (due to inadequate oxygen intake)
- Symptoms of COPD include chronic cough and a client using pursed lips to exhale (pink puffer). Those with emphysema will frequently have a ruddy complexion and a large, barrel chest.

Call Local EMS/911 for:

- Obvious respiratory distress with difficulty breathing
- Accompanying chest pain, sweating, nausea or dizziness
- If medication to treat an asthma attack is not available
- Any attack that the client reports is more severe than normal
- Any attack where the client raises the shoulders and chin to fight for a breath of air – this is indicative of impending respiratory failure
- Any asthma attack that does not improve within 15 minutes of taking medication
- A client that loses the ability to cough or talk during an attack
- Any client with COPD who begins to have difficulty breathing

Refer to local Health care system:

- If coughing up yellow, dark brown or bloody mucus
- Any new case of suspected (undiagnosed) asthma
- Any suspected, previously undiagnosed cases of COPD
- If client has begun to need asthma medication more frequently than usual

Treatment

- Asthma attacks can frequently be successfully treated with a bronchodilator (inhaler). Most asthmatics carry an inhaler with them and should be encouraged to use their medication. Volunteers can assist the victim with using their bronchodilator if a) the client states they are having asthma attack and has medication and b) the client identifies the medication and is unable to administer it without assistance. See protocol for inhaler under procedures.
- Chronic asthma can be managed with daily medication (as prescribed by a physician) that reduces inflammation
- For clients with COPD, neither antibiotic therapy nor treatment of their cough with cough suppressants is recommended
- Maintain calm environment and reassure client

Additional considerations:

- If a client does have a reaction to allergens in the air, try to identify what triggered the attack and attempt to reduce or eliminate the irritant.
- Many asthmatics have sensitivity to aspirin and other NSAIDs, which may cause an attack if taken.
- Half of all asthma attacks occur in children under the age of ten. Pediatric symptoms often include constant coughing, flaring of nostrils or grunting (in infants).
- COPD and emphysema are chronic diseases that are almost always associated with smoking and are seen most widely in older adults.
- Some clients require supplemental oxygen on an ongoing basis and, with access to their usual source of oxygen, can be accommodated in Red Cross facilities.

Breathing Problems – Hyperventilation

Treatment Goal:

- Identify possible serious causes of respiratory distress.
- Return breathing to a normal rate.

Possible Causes:

Breathing faster than normal may be due to emotional upset or tension/anxiety. It is also caused by injuries, such as head injuries, severe bleeding or conditions such as high fever, heart failure, lung disease, or diabetic emergencies. It can be triggered by asthma or exercise.

History:

- Determine the presence of other concerning symptoms – chest pain/pressure or tightness, sweating, nausea, lightheadedness
- Ask client for any past medical history of serious illness – especially lung and heart disease and diabetes
- Ask client or bystander, if possible, to describe the circumstances surrounding the episode of hyperventilation
- Ask client if they have experienced these episodes previously and what triggers the response and alleviates the symptoms
- Client may state they feel like they "can't breathe" or "can't catch their breath."
- Client may feel dizzy or light-headed
- Client may experience numbness and tingling in the hands and/or feet or around the mouth

Assessment:

- Obtain vital signs (especially respiratory rate)
- Note if breathing is rapid and shallow
- Note if there is any substernal retraction (sucking-in beneath the ribs)
- Listen to breath sounds, which may be either clear or diminished. If wheezing is heard, refer to Breathing Problems Asthma/COPD protocol.

Call Local EMS/911 for:

- If unable to help client relieve symptoms
- Any risk factor for heart disease, coronary artery disease or heart attack
- Any concerning symptoms (see above)

Refer to Local Healthcare System:

- All cases of hyperventilation for follow-up.

Treatment:

- Encourage the client to relax and encourage slow, deep breaths through pursed lips or through the nose
- Reassure the client in a calm, soothing voice
- Have the client breathe into a paper bag or into their cupped hands to help alleviate symptoms. Symptoms are caused by an imbalance of oxygen and carbon

dioxide in the blood. (**Do not use this technique if client has heart or lung problems or if the altitude is above 6000 feet)**

- Plastic bags should never be used due to the risk of suffocation
- Referring the client to a Disaster Mental Health volunteer would be appropriate

Additional Considerations

- Rapid breathing creates a situation where there is a low level of carbon dioxide in the blood. This creates the numbness and light-headed sensation associated with hyperventilation.
- Frequently, if the client should faint, breathing immediately returns to normal.
- Normal respiratory rates:
  - Newborn to 1 year: 40-60 breaths/minute
  - 1 through 6 years: 18-26 breaths/minute
  - 7 years through adult: 12-24 breaths/minute

See also: Anxiety.

Bruising

Treatment Goal:

- Reduce discomfort
- Reduce or limit damage to tissue

Possible Causes:

- Bruising may be caused by minor bumps and sprains or traumatic blows and internal bleeding

History:

- Determine cause of bruise, if possible
- If injury, determine if disaster related
- Determine whether client takes aspirin or any blood-thinning medications
- Determine if client has history of chronic illness

Assessment:

- Obtain vital signs
- Observe size and extent of bruising
- Determine the location of the bruise – if on the abdomen or chest there should be concern about internal injury
- Is bruising around the eye, inspect the eye for blood. Ask if there is any loss of vision, change in vision or inability to move eye in all directions
- Assess level of pain
- Bruises are reddish/blue initially and then green/yellow as they fade
- Assess for presence of lump or hematoma
- Assess for possible signs of abuse

Call Local EMS/911 for:

- Any concern about possible internal injuries
- Any traumatic injury to the eyes
- Severe pain
- Rapid or weak pulse
- Rapid breathing
- Pale ashen appearance
- Nausea or vomiting
- For any traumatic bruising of the back, chest or abdomen, or large areas of tenderness, swelling or firmness at site of bruising, suspect possibility of internal bleeding, possibility of shock.

Refer to Local Healthcare System:

- If bruise is severe, if a painful lump develops, or if there is any suspected underlying injury (broken bone, sprain, etc.)
- Any bruising caused by injury to a client who is taking a blood thinner
- If client has an underlying chronic illness
- If pain increases or ability to move affected body part decreases

- Unexplained recurrent or multiple bruises

Call local law enforcement:

- If client reports that bruising was caused by violence from a family member or other shelter resident
- Suspected abuse or maltreatment of a client (physical abuse is a crime)

Treatment:

- Apply cool pack (chemical or ice/water mixture) to the bruised area for fifteen minutes to reduce swelling and to stop any remaining bleeding under the skin. Repeat several times a day for 48 hours.
- After 48 hours, a warm compress can be used instead of ice to help with tissue healing. Heat should not be applied to the area until after 48 hours due to risk of continued bleeding.

Additional considerations:

- People who have been abused frequently present with bruises on the face, back, abdomen, thighs and around the neck or buttocks. Bruises may have a recognizable shape, such as the shape of a clothes hanger or belt buckle. There are frequently multiple bruises and at varying degrees of healing (some new reddish/blue and some yellow/brown and faded).
- Elderly persons may be more prone to bruising because of thinning supportive tissues and increased capillary fragility.
- The extent and severity of bruising will be worsened in clients receiving anticoagulant medications and chronic steroid therapy.
- Blood in the subcutaneous tissues not confined to a space is subject to gravity and may spread. Distinguish enlargement of a bruise due to dependent seepage from enlargement due to continued bleeding.

See also: Cuts and Scrapes, Bleeding, Arm/Hand Injury and Pain, Leg/Foot Injury and Pain, Violence/Domestic Abuse.

Burns – Chemical

Treatment Goal:

- Limit tissue damage
- Reduce pain associated with burn
- Early contact with Poison Control Center (local or 1-800-222-1222)

Possible Causes:

Chemical burns are caused by caustic ingredients commonly found in household products (bleach, toilet bowl cleaner, drain cleaners, lawn and garden chemicals etc.) or industrial chemicals

History:

- Any known exposure to chemicals – either through household cleaning agents or industrial agents

Assessment:

- Obtain vital signs
- Determine location and extent of injury
- Length of exposure to chemical and if still present on skin
- Try to identify the chemical and its source

Call Local EMS/911 for:

- Any burn that has affected more than 10% of the body
- Any client showing signs of shock (rapid pulse/breathing). See Shock protocol.
- Any burn that affects breathing or is close to the mouth
- Any chemical burn to the eyes
- Any concern for a chemical contamination that can affect others

Refer to Local Healthcare System:

- Any burn that penetrates the top layer of skin
- Any burn which occurs in the hands, feet, groin, face, buttocks or over a major joint
- Any burn larger than the palm of your hand

Treatment:

- Follow poison control Instructions
- Remove any contaminated clothing and jewelry using impermeable gloves. Store them in a safe place (plastic bag) so that no one else can be contaminated.
- Brush dry or powdered chemicals off with a gloved hand and a cloth
- Flush the affected area with large quantities of running water for 15-30 minutes per instructions of National Poison Control
- If eye is burned by a chemical, continuously flush the eye (from nose outward and downward) with running water until the arrival of EMS
- Wrap the affected area loosely with a clean dressing
- If substance is known or manufacturer's label is available, refer to the

information on the bottle for treatment advice or call National Poison Control: 1-800-222-1222
- Over-the-counter analgesics can be useful for pain relief
- Contact the local poison control center for further advice

Additional Considerations
- Make sure chemicals are being properly stored – in either a locked cabinet or out of the reach of children.
- It is always useful to determine the telephone number for the local poison control center in the area you will be working.

See also: Infection.

Burns – Electrical

Treatment Goal:

- Prevent additional injury to client
- Reduce pain associated with burn
- Prevent infection

Possible Causes:

Electrical burns are caused by an electrical current (lightning, electrical appliance, etc.) that passes through the body – sometimes not leaving any outward signs of trauma.

History:

- (Client may be unable to give any history at time of treatment)
- Determine the circumstances surrounding the electrical injury
- Amount of electricity (volts/watts) to which the client was exposed
- Amount of time of contact

Assessment:

- Look and care for life-threatening conditions, such as respiratory or cardiac arrest
- Caring for any immediate life-threatening conditions takes priority over caring for burns
- Look for any signs of fractures (including spinal fractures), in those cases, do not move client
- Obtain vital signs (specifically heart rate and respiratory rate as these are frequently affected in an electrical situation) and document
- Look for 2 burn sites

Call Local EMS/911 for:

- Cases of client being struck or nearly struck by lightning
- All shocks from current higher than household plugs (greater than 110 volts).
- Cases that caused loss of consciousness or memory loss
- Cases of electrical burn that leave the client with breathing difficulty
- Muscle pain or contractions
- Seizures
- Numbness/tingling
- Any abnormal vital sign

Refer to Local Healthcare System:

- All electrical burns because the extent of injury may not be readily apparent

Treatment

- *Look at your surroundings* before touching client – he/she may still be in contact with the electrical device that caused the injury. If in doubt, call EMS immediately.

- Turn off the source of energy, if possible. If unable, do not attempt to pull the client away from the energy source until the power can be turned off. A non-conductive tool (wood, plastic, etc.) should not be used to drag the client away from the energy source.
- Check unconscious client for potential need for CPR (feel for pulse first) – electrical injuries frequently cause cardiac arrhythmias or cardiac arrest
- Prevent shock by having client remain lying down with their feet elevated 8-12 inches
- Using standard precautions cover any burn injuries with a dry, clean bandage

Additional considerations

- Electrical injury frequently passes through the body without leaving outward signs of injury, although internal damage could be quite severe

See also: Infection.

Burns – Thermal (heat)

Treatment Goal:

- Cool and cover the burn
- Quick referral for critical burns
- Limit damage to tissue
- Prevent/minimize/treat for shock
- Reduce discomfort to client
- Prevent infection

Possible Causes:

Fire, sunlight or hot substances cause thermal burns of varying severity

History:

- Type of exposure (hot substance, grease, liquids)
- Length of time exposed
- Where the burned areas are and the extent (body percentage) of those burns
  Head-9%
  Front torso-18%
  Back torso-18%
  Arm-9%
  Groin-1%
  Leg-18%

Assessment:

- Obtain vital signs
- Pay close attention to victim's airway-soot or burns around the mouth, nose or face may signal air passages or lungs have been burned
- Assess skin for amount of surface area affected. The size of the palm of the client's hand is equal to approximately one percent of their body surface area.
- First-degree: injury to only the outside layer of skin causing redness, pain, mild swelling and no blister or break in the skin
- Second-degree: injury to the layers of tissue below the surface of the skin causing blisters, pain, swelling and oozing of moisture from the skin
- Third-degree: Destroys all layers of skin and causes white/leathery skin at burn site and little pain (due to nerve damage)

Call Local EMS/911 for:

- Cases of third-degree burns or burns to the face/neck
- Burns that involve hot grease, melted clothing sticking to skin
- Any difficulty breathing- possible cases of airway and lung burns, smoke inhalation, with or without burns to the skin
- Any burns covering more than one part of the body
- Any circumferential burn (going around an entire limb or digit)
- Any burns resulting from explosions

Refer to Local Healthcare System:

- Cases of second degree burn that affect five percent of the body on an adult and three percent of the body of a child
- Any burns on the hands or feet
- Burns that affect the very young or the very old

Treatment:

- Cool all burns as rapidly as possible with cool water (not ice) by flushing gently and continuously. Always use standard precautions.
- Remove client from source of heat if possible
- First-degree: Run the affected extremity under cool water or apply a cold compress until pain decreases. Clean with soap and water and cover with a clean bandage. Antibiotic ointment is appropriate, if available. Analgesics are appropriate for pain relief, if requested and not contraindicated.
- Second-degree: Run the affected extremity under cool water or apply a cold compress to bring the skin temperature down and limit tissue damage. Do not use ice. Clean with soap and water, pat dry and cover with a sterile bandage. Remove jewelry or restrictive clothing and elevate affected extremity. Do not break blisters. Analgesics and/or anti biotic ointment is appropriate, if requested and not contraindicated.
- Third-degree: Maintain airway, if not breathing, as breathing problems are common with third-degree burns. Call EMS. Place a cool cloth on the affected area, cover with a sterile dressing or clean sheet, elevate affected extremity, and watch for signs of shock (rapid pulse/breathing). *Do not* attempt to remove clothing or other fibers in burns, apply ointments to burn or put ice or ice water on the affected area.
- Guard client from hypothermia
- Shock: Keep the client lying flat unless the neck or face has been burned or the client is having trouble breathing – then they should be propped up. Elevate the feet 8-12 inches and cover the client with a blanket to keep them warm but not hot. Give nothing by mouth and wait for EMS to arrive.

Additional Considerations

- Child abuse can present itself through burns as well as bruising. Young children are frequently burned in the bath tub or sink due to inadequate supervision. Burns with distinctive edges (from being immersed), circular cigarette burns and burns at various degrees of healing all suggest child abuse and should be reported.
- Infants and children have a greater surface area relative to their total size which leads to greater loss of fluid and heat. They are at extra risk for shock, airway difficulties and hypothermia.
- The Rule of Nines is commonly used to estimate the percentage of body that has been affected by the burn. In an adult, the head or one arm represents nine percent of the total body surface, and one leg or the front or back of the trunk represents eighteen percent.
- Clients who have singed nasal hairs or burns around the nose/lips may have experienced smoke inhalation and should be referred to the

local health care system
- Skin damaged by burns easily becomes infected due to the body's inability to protect itself from invading organisms
- Older adults are especially vulnerable to burns. Older adults lose their ability to sense heat and will often unintentionally become burned

See also: Infection, Breathing Problems – Shortness of Breath.

Burns-Sunburn/Radiation burns

Treatment Goal:

- Determine source of burn (sun, medical, other)
- Cool burn
- Protect from further damage
- Reduce area of exposure
- Reduce length of exposure
- Prevent or reduce possibility of radiation sickness
- Prevent/reduce long term effects of radiation exposure

Possible causes:
Sun burn, UV light, X-rays, radiotherapy, radiological accident, terrorism (example would be a dirty bomb).
Release of radiation into the environment can create radioactive dust and dirt (fallout).
Damage to skin or other biological tissue

- Long periods in the sun without protection (sunbathing, working outdoors)
- Radiation exposure occurs when a person is near a radiation source
- External contamination occurs when loose particles of radioactive material falls on surfaces of skin or clothing
- Internal contamination occurs when radioactive particles are inhaled, ingested or lodge in an open wound

History:

- Reports being present during a radiation emergency, or fear of being contaminated by fall out
- Cancer patient being treated by radiation therapy
- Works in medical, industrial or research site that handles radioactive materials
- Over exposed to sun without sunscreen or appropriate clothing cover

Assessment:
Symptoms may occur from hours to days following exposure. May come in cycles

- Obtain vital signs.
- Intensely painful burn like skin injuries without a history of exposure to heat or caustic chemicals. Other symptoms maybe reported as itching, tingling, erythema (redness), edema (swelling), blistering, ulceration, bleeding, hair loss, skin pigment changes
- Note area affected, record skin characteristics and size of affected area

Call Local EMS/911 for:

- Cases of 3rd degree burns or burns to face and neck
- Any burn that is greater than 3 percent of body surface
- Any cause to believe that burn has caused internal tissue damage
- Any suspected burn from radiologic accident or terrorism; make sure to notify EMS of suspicion of radiologic accident or terrorism so appropriate PPE precautions can be taken. Also notify HS Supervisor and Public Health Authorities.

Refer to Local Healthcare System:

- Burns in the very young and the elderly
- Any large burn that is blistered or oozing fluid (second degree)
- All burns that are known to be caused by medical radiation

Treatment-same as for thermal burns:

- Symptom based
- Topical creams containing aloe vera
- Infection control, keep burn area covered with clean
- Pain management with anti-inflammatory medications such as Ibuprofen, following manufacturer's directions
- Psychological support
- Refer to DMH if deemed necessary for added support to client

Additional Considerations:

- In cases of Radiation accident or act of terrorism, it is highly possible that clients may have high anxiety or feelings of panic.
- Cases of exposure involving terrorism that were not initially identified immediately after the accident or they develop after client is in the shelter.

Chest Pain/Pressure

Treatment Goal:

- Early recognition and referral of life-threatening cardiac condition
- Relieve discomfort.
- Provide reassurance

Possible Causes:

Chest pain is caused by both cardiac and non-cardiac conditions. Examples of non-cardiac conditions include muscle strain in the ribs, pleuritic pains associated with pneumonia and heartburn. Life-threatening non-cardiac chest pain occurs in a pulmonary embolism or dissecting aortic aneurysm. The two main causes of cardiac-related chest pain are angina (temporary chest pain/pressure due to decreased oxygen to the heart muscle) and myocardial infarction (blockage of an artery in the heart muscle causing a heart attack). Hyperventilation can also cause chest pain.

History:

- Onset of symptoms and circumstances surrounding the onset (client at rest vs. physically active) and if symptoms are relieved by rest
- Quality of pain: sharp, dull, aching, stabbing, burning, etc.
- Location of discomfort: epigastric, between the shoulder blades, radiating down one or both arms or up to the jaw, substernal, etc.
- Severity of pain (0-10 scale)
- Past history of heart attack, family history of heart disease/heart attack
- History of angina and treatment
- Presence of additional symptoms, particularly shortness of breath, sweating, nausea or pain radiating to the arms, back or neck
- Past medical conditions that increase the risk for a serious event include prior heart disease, high cholesterol, smoking, prior coronary artery bypass surgery or stents, diabetes, blood clots in the legs or lungs, prior stroke or transient ischemic attacks (TIAs), angina (chest pain) or high blood pressure
- All current medications

Assessment:

- Obtain vital signs
- Feel skin for cold/clammy feeling or presence of sweat
- Observe for shortness of breath
- Listen to heart rate/rhythm and breath sounds
- If chest pain can be pinpointed, and pain increases upon touch (most likely chest-wall pain)
- Ask client if he/she has pain with coughing or deep breathing

Call Local EMS/911 for:

- All new cases of chest pain and all cases of unstable angina in clients with a history of chest pain

- Any client with history of angina who experiences chest pain that does not resolve with their normal treatment (e.g. nitroglycerin therapy) after five minutes
- Any chest pain associated with fever and shortness of breath

Treatment:

- Have client rest comfortably and loosen tight clothing
- For clients with a known history of coronary artery disease or stable angina (chest pain upon exertion that resolves with rest), encourage client to rest and take their own nitroglycerin tablet, if available
- For clients without a history of coronary artery disease or clients with unstable angina (chest pain occurring at rest or not responding to usual therapy), encourage client to rest and call local EMS immediately
- Make sure that clients who are already taking daily aspirin have taken their aspirin that day. If not, they should chew an aspirin – unless contraindicated (known allergy to aspirin, etc.)
- If heart attack is suspected- if oxygen is available and staff is trained in it's use: administer at 2 liters of nasal oxygen via cannulae and 30% face mask until EMS arrives

Points of Interest:

- Acute cardiac disease can present with vague symptoms, particularly in the elderly, women and those with diabetes. Be very cautious with these groups.
- Sometimes clients with myocardial infarctions may not have any chest pain, but may only experience shortness of breath, sweating or nausea (particularly in the above groups).
- Millions of Americans experience stable angina which does not constitute a medical emergency. However, immediate referral to the local health care system is necessary if their usual symptoms change or they stop responding to treatment.
- Sudden chest pain associated with breathing difficulty and (maybe) coughing up blood can be indicative of a pulmonary embolism while persistent chest pain with shortness of breath and sweating can be indicative of a heart attack.
- Gastro-esophageal reflux disease (GERD) may be a cause of chest pain and "heart burn" but do not assume that this is the cause.

See also: Abdominal Pain, Back Pain, Breathing Problems, Shortness of Breath, Indigestion, Nausea/Vomiting.

Choking/Obstructed Airway

Treatment Goal:

- Prevent loss of consciousness or death
- Return breathing to normal

Possible Causes:

Choking is the most common cause of respiratory emergency. A person whose airway is blocked can quickly stop breathing, lose consciousness, and die.

The most common causes of choking include:

- Trying to swallow large pieces of poorly chewed food
- Wearing dentures. Dentures make it difficult for someone to sense whether food is fully chewed.
- Eating while talking excitedly or laughing or eating too fast
- Walking, playing, or running with food or objects in the mouth
- Recent alcohol consumption

History:

- Onset of choking
- Determine whether this is an airway obstruction emergency
- Determine whether the obstruction is partial or complete

Assessment:

- What is blocking the airway - tongue, swollen tissues of mouth or throat, food, small toy, dentures or fluids such as vomit, blood or mucus?
- Partial obstruction-still able to move air to and from lungs
  - wheezing sounds
  - clutching at throat (universal sign of distress from choking)
  - coughing
  - a partial obstruction can quickly become a complete obstruction
- Complete obstruction-no air movement to and from lungs
  - unable to speak, cry, breathe or cough effectively
  - High pitched sound to no sound at all
  - Dusky appearance

Call Local EMS/911 for:

- All cases of suspected airway obstruction
- Client is unconscious
- If client is an infant, child or elderly
- If ability to cough is not forceful enough to clear the obstruction

Conscious Adult – Cannot Cough, speak or Breathe

- Check Scene. Check Person. First Ask, "Are you choking?".....if client says yes, nods, or clutches throat, obtain consent and start the following procedure
- Have someone call 911
- Lean the person forward and **give** 5 back blows with the heel of your hand. abdominal thrusts to a **conscious** adult, stand behind victim and wrap arms

around his or her waist
- Victim may be seated or standing
- Make a fist with one hand and place the thumb side against the middle of the victim's abdomen just above the navel and well below the lower tip of the breastbone.
- Grab your fist with your other hand and give **5** quick upward abdominal thrusts.
- Continue back blows and abdominal thrusts until- object is forced out, person can breathe or cough forcefully, person becomes unconscious.
- Even if object is removed and client resumes normal breathing, offer to send him/her to the Emergency Room with arriving EMS or recommend follow up with local physician. If client declines, document the refusal for follow-up.

Unconscious choking adult – Breaths Do Not Go In

- If victim becomes **unconscious,** lower victim to the floor
- Open airway by tilting the head back
- Attempt to dislodge and remove the object by sweeping it with your index finger
- Use a hooking action to remove the object, being careful not to push the object deeper into the victim's throat
- Try to open the victim's airway by using the head-tilt/chin lift (as in CPR). Often the throat muscles relax enough after the person becomes unconscious to allow air past the obstruction into the lungs.
- Give 2 rescue breaths-if air does not go in assume the airway is still obstructed
- If the chest does not rise --- Give 30 Chest compressions.
- Tip: Remove breathing barrier when giving chest compressions
- Look for an object – remove if one is seen
- Try 2 rescue breaths. If breaths do not go in, reposition head and repeat
- Repeat sequence until object is expelled, you can breathe air into the victim, or until EMS arrives Give care based on conditions you find.
- Monitor breathing and pulse until EMS arrive
- Even if adult expels object that caused the choking, and seems to be breathing well, adult should be taken by EMS to local Emergency Room, as they may still have unidentified breathing problems

Conscious Choking Child – Age 1 to 12

- Cannot cough, speak or breathe
- Check Scene and then check child
- Have someone call 911.
- Obtain consent form parent or guardian, if present
- Lean the child forward and give 5 back blows with the heel of your hand
- Give 5 quick, upward abdominal thrusts
- Continue back blows and abdominal thrusts until object if forced out, child can breathe or cough forcefully or child becomes unconscious
- Even if the child expels the object and seems to be breathing well, refer for advanced medical follow up at the nearest Emergency Room

Unconscious choking child

- Breaths do not go in
- Retilt child's head and try 2 rescue breaths

- If chest does not rise- give 30 Chest compressions
- Look for an object and remove if one is seen
- Try 2 rescue breaths
- If breaths go in – check for signs of life, including a pulse
- Give care based on conditions you find.

Conscious Choking Infants – (Under age 1)

- Check scene and then check infant
- Have someone call 911
- Obtain consent to give care from parent or guardian present
- Give 5 chest thrusts
- Continue back blows and chest thrusts until object is forced out and infant can breathe or cough forcefully or infant becomes unconscious
- Even if an infant seems to be breathing well, send to closest emergency room as he/she should be examined by more advanced medical personnel as soon as possible

Unconscious Choking Infant

- Assess ill or injured infant
- Re-tilt infant's head and try 2 rescue breaths
- If chest does not rise give 30 chest compressions
- Look for an object. Remove if one is seen
- Try 2 rescue breaths – If breaths do not go in continue rescue breaths and compressions until signs of life return including a pulse or EMS arrives.
- Give care based on conditions you find and send to closest Emergency Room for assessment.

Additional Considerations

Breathing may be partially or completely obstructed by an **anatomical obstruction** or a **mechanical obstruction:**

- An **anatomical obstruction** occurs when the airway is blocked by an anatomical structure like the tongue or swollen tissues of the mouth and throat. This can also be the result of an injury to the neck or a medical emergency such as anaphylactic shock.
- A **mechanical obstruction** occurs when the airway is blocked by a foreign object, such as a piece of food, a small toy, or fluids such as vomit, mucus, or saliva.

Obstructions can be partial or complete. The airway structures of infants and children are smaller and more easily obstructed than an adult airway. An infant's airway and eating skills may not be fully developed.

Note: If a parent or guardian is present, obtain consent before caring for a conscious choking infant. Tell the infant's parent or guardian your level of training and the care you are going to provide. Consent is implied if the parent or guardian is not available.

Cold Related Injury – Frostbite

Treatment Goal:

- Prevent additional injury to client.
- Reverse tissue damage.

Possible Causes:

Exposure to extreme cold, usually affecting the hands, feet, nose and/or ears

History:

- Nature and duration of exposure to cold
- If the client has sensation in the affected area
- Medical history of peripheral vascular disease, diabetes, smoking or alcohol abuse
- Current medications

Assessment:

- Obtain vital signs and document
- Early stages: skin cold, pale or reddened, with either a "pins and needles" burning pain sensation or numbness
- Later stages: skin waxy-looking, red/black/blue discoloration, and swollen usually without pain. Blisters possible.

Call Local EMS/911 for:

- All suspected cases of frostbite; particularly if there is no sensation or reduced sensation present

Treatment:

- It is important that the tissue not re-freeze once re-warming has begun – this will lead to extreme tissue damage. If re-freezing is a possibility, it is better not to attempt to re-warm prior to transferring the client to a medical facility.
- Ensure a warm environment and remove any wet or cold clothing from client
- Do not massage frostbitten extremities
- Re-warm the affected area by placing the extremity in warm water (100-105° F) for approximately 30 minutes. Make sure that it is not too hot by testing it yourself. The water may need to be changed frequently.
- If warm water is not available, place warm blankets around extremity – do not place near direct heat as skin may burn
- Encourage client to move extremities (fingers or toes) but not to walk on affected extremity. Place gauze between fingers and toes.
- Provide client with warm, non-caffeinated, non-alcoholic beverages
- If client is experiencing pain and requests medication, ibuprofen or acetaminophen is appropriate unless contraindicated
- Do not break blisters

Additional considerations:

- People who take beta-blockers are at increased risk of frostbite due to the decreased blood flow to the skin.
- Clients with a history of atherosclerosis (hardening of the arteries) and Raynaud's disease are also at increased risk
- Hypothermia and frostbite may occur together

See also: Cold-Related Injury – Hypothermia

Cold-Related Injury – Hypothermia

Treatment Goal:

- Return body temperature to normal.
- Prevent injury or death of client.

Possible Causes:
Prolonged exposure to icy water or other cold environments which results in a core body temperature less than 95˚ F

History:

- Nature and duration of exposure to cold environment
- Type and extent of injury, if any
- Alcohol use
- Chronic diseases
- Current medications

Assessment:

- Obtain vital signs (especially oral temperature) and document
- Delayed or altered mental state or loss of consciousness is a sign of a serious problem
- The presence of shivering is a good sign – lack of shivering may indicate severe hypothermia (usually associated with mental status changes)
- Pulse rate may be slow and/or irregular
- Check for signs of frostbite. See Cold-Related Injury – Frostbite protocol

Call Local EMS/911 for:

- All cases of near-drowning
- All clients with mental status changes or drowsiness
- Any client with an oral temperature less than 93˚ F

Refer to Local Healthcare System:

- Any client with mild hypothermia (93-95˚ F) who is not able to maintain an oral temperature of greater than 95˚ F after attempts are made at re-warming

Treatment:

- Remove client from cold environment
- If unconscious, handle the client very gently as sudden movements/jolts can cause cardiac arrest
- Remove wet clothing and cover client in warm clothes, towels, blankets. Do not apply direct heat to client or massage limbs
- If conscious, provide client with warm, non-caffeinated, non-alcoholic drinks
- If CPR must be initiated on a client with hypothermia, continue to perform CPR – even if client appears to be deceased – until the body temperature can be raised above 90˚ F

Additional Considerations

- Diabetics and others with poor circulation, those with congestive heart failure or taking beta-blockers, and alcoholics are more susceptible to hypothermia
- Older adults and young children are especially susceptible to hypothermia
- Most thermometers do not accurately measure temperature below 94˚ F
- Environment does not have to be extremely cold – prolonged exposure to cool or damp environments may also cause hypothermia
- Immersion in cold water rapidly leads to hypothermia

See also: Cold-Related Injury – Frostbite

Confusion – Altered Mental Status

Treatment Goal:

- Resolve confusion associated with situational disorientation
- Identify and rectify potential safety concerns for clients with chronic confusion
- Assess for acute and/or serious conditions

Possible Causes:

Confusion may be a symptom associated with an acute medical problem (e.g. infection, hypoxia, hypotension, low blood sugar, stroke, etc.). Other causes include fever, fluid/electrolyte imbalances, poisoning, the use of certain medications (over-the-counter, prescription and illegal drugs), or chronic disease (e.g. Alzheimer's disease), mental, emotional or behavioral disorders.

History:

- Onset of symptoms – sudden confusion (hours to days) vs. progressive confusion (months to years)
- History of confusion in the past
- Concurrent symptoms indicative of infection – headache, fever, frequency and/or burning of urination, recent respiratory infection, etc
- Recent visual and/or auditory hallucinations
- Recent change in sleep pattern or sleep deprivation.
- Past medical problems
- Current medications taken – both prescription and illegal.

Assessment:

- Obtain vital signs: hypotension, tachypnea or tachycardia are serious findings
- Assess for level of consciousness (awake and talking, awake/not talking, can be aroused by voice, aroused by pain, not aroused)
- Assess for level of orientation (person, place, time)
- Evidence of Head Injury
- With the assistance of a mental health worker, interview the client and determine if they are able to:
    1. Answer questions appropriately.
    2. Follow a conversation.
    3. Understand where they are.
    4. Remember important facts.
    5. Make critical judgments that affect safety.

Call Local EMS/911 for:

- Any case of sudden or rapid-onset confusion
- Any case of unexplained confusion
- Any client suspected of being a risk to themselves or others

Refer to Local Healthcare System:

- Any case of slow-onset confusion or change in baseline status
- Any case requiring possible adjustment in prescribed medications

Treatment

- Do not administer anything by mouth to confused clients
- Delirium is an acute condition in which there is almost always an underlying physical condition which requires immediate medical diagnosis and treatment
- Those clients experiencing delirium are also at risk of injuring themselves or others, either intentionally or unintentionally. Implement measures to protect the client and others from injury until EMS arrives.
- Chronic dementia can be managed in the shelter environment as long as the client is not at risk of harming him or herself or others and has a family member or caregiver with him or her. Encourage the caregiver to re-establish a routine as quickly as possible after the disaster and to re-orient the client to person, place, time and new environment (if applicable) frequently. Since symptoms of confusion frequently worsen in the evening, closer supervision by the caregiver should be encouraged for the evening hours.

Additional Considerations

- Disorientation is a state of confusion involving time, place or person in an otherwise alert individual. Transient, situational disorientation to time and/or place is often benign.
- If confusion develops or worsens suddenly, this can be an indication of delirium. This could be due to a serious medical condition or the affects of drugs, and should be referred to local EMS immediately for diagnosis and treatment.
- Dementia is characterized by a slower, more insidious onset of confusion.
- Abruptly stopping the use of alcohol and many medications, both prescription and illicit, may cause delirium.
- In young people, sudden delirium may be due to a serious infection, like sepsis, meningitis or encephalitis.
- In older adults, sudden confusion may be due to an infection somewhere else in the body – dehydration, urinary tract infection, pneumonia or influenza.

See also: Bleeding, Dizziness, Fainting, Headache, Diabetic Emergencies, Poisoning, Shock, Stroke, Substance Abuse/Withdrawal, Fever

Congestion – Lower Respiratory
(Cough, bronchitis, pneumonia, "chest cold" symptoms)

Treatment Goal:

- Alleviate symptoms
- Prevent spread of illness
- Prevent acute respiratory distress

Possible Causes:

Lower respiratory illness may be caused by bronchitis or pneumonia and is characterized by frequent coughing (productive or non-productive) with or without a fever. Pneumonia has many different causes (aspiration into the lungs, decreased breathing volume post-surgery, etc.).

History:

- Any chest or lung pain associated with breathing (pleuritic pain)
- Underlying condition or illness which may predispose a client to bronchitis and/or pneumonia (emphysema/COPD, heart failure, HIV/AIDS, poor general health, etc.)
- Recent upper respiratory infection or exposure to an individual who had a known or suspected respiratory infection
- Exposure to any known respiratory irritant (chemicals, dust, etc.)
- History of smoking tobacco products
- History of alcoholism
- History of chronic sinus problems or environmental allergies
- Recent extended stay in a hospital or nursing home
- Current medications taken
- History of vaccination – pneumococcal (within five years) or influenza (current year)

Assessment:

- Obtain vital signs
- Tachypnea (respiratory rate greater than 24 per minute) can be a sign of serious lung compromise
- Assess for signs/symptoms of an upper respiratory infection (runny nose, sore throat, fatigue, and perhaps a mild fever) which may lead to a lower respiratory infection
- Assess for presence of phlegm associated with cough which may be clear/white (common in viral infections) or green/yellow (common in bacterial infections) or blood-tinged (common in bacterial infections and pulmonary emboli)
- Listen to breath sounds, rales, wheezes or rhonchi may indicate a significant problem
- Observe for signs of shortness of breath

Call Local EMS/911 for:

- Clients with respiratory distress (shortness of breath, resting respiratory rate

greater than 26 per minute)
- Clients with a change in level of consciousness (may indicate hypoxia)
- Clients with acute shortness of breath that may be related to heart disease

Refer to Local Healthcare System:
- Any client with an acute coughing illness that includes a fever of greater than 101° F or discolored (green/yellow) or blood-tinged sputum
- Any case of cough (non-chronic), with or without fever, that lasts more than one week, has blood in the sputum, and/or the client has a history of or possible exposure to tuberculosis
- Any client that is experiencing trouble breathing due to a cough and/or thick mucus
- Any suspected case of pneumonia or client with "wet" breath sounds. A diagnostic x-ray would be needed to confirm/rule-out pneumonia.

Treatment:
- Comply with FDA recommendations and disaster health services guidance that restricts use of cold and cough medications for all children younger than six years old.
- For dry, non-productive coughing, encourage the client to rest and drink plenty of fluids (non-caffeinated and non-alcoholic). If requested, a cough suppressant would be appropriate, unless contraindicated.
- For productive coughing, cough suppressants should not be encouraged as coughing is an effective means for moving phlegm out of the lungs. Clients should rest and drink plenty of fluids. An expectorant would be helpful to loosen phlegm, unless contraindicated.
- If not contraindicated, an NSAID (Ibuprofen) or acetaminophen would help reduce fever, if present.
- Encourage the client to breathe the steam from a bath of hot water (with a towel draped over the head). This may help loosen phlegm and dilate narrowed airways.
- Reinforce infection control measures to limit spread of contagious diseases.

Additional Considerations:
- Pleuritic pain, fever and shortness of breath are commonly seen symptoms in cases of pneumonia
- Wheezing may or may not be present in bronchitis or pneumonia
- "Wet" breath sounds are typically present in pneumonia and do not clear with coughing. Wet breath sounds may also be heard in bronchitis but tend to clear or move with coughing.
- Chronic bronchitis and bronchitis that is suspected to be caused by a viral infection (white or clear mucus) do not respond to antibiotic therapy
- Vaccination may prove effective at preventing some pneumonia and should be recommended for all clients over the age of 65 and high-risk clients – immune-compromised, diabetics and those with cardiac/pulmonary disease

See also: Breathing Problems, Cough, Fever, Influenza, Sore Throat.

Congestion – Upper Respiratory ("cold" symptoms)

Treatment Goal:

- Alleviate symptoms
- Prevent spread of illness

Possible Causes:
Symptoms may be caused by viral infection or less frequently, bacterial infection. Allergies ("hay fever") may also cause any or all of the following: headache, sore throat, nasal congestion, cough, sneezing, runny nose, fever

History:

- Specific symptoms the client is experiencing and when they began
- Any known environmental allergies
- Known exposure to others with similar symptoms
- Recent travel, especially international

Assessment:

- Obtain vital signs. A fever may indicate a bacterial infection.
- Examine back of throat for redness, enlarged tonsils or exudates (pus)
- Palpate (feel) lymph nodes under jaw line and anterior neck for tenderness and/or enlargement
- Observe respiratory effort – count respirations for one minute
- With a stethoscope (listen to) breath sounds for wheezing, rales, rhonchi or diminished sounds
- Note the color and amount of phlegm

Call Local EMS/911 for:

- Client has chest pain and/or shortness of breath
- Difficulty swallowing, unable to swallow or control saliva, speech is muffled
- Altered mental status

Refer to Local Healthcare System:

- Any client with a fever greater than 101° F or blood-tinged nasal discharge or sputum
- Facial pain, particularly if associated with a fever (may indicate acute sinusitis)
- Any symptom(s) that persist more than 5 days, or that worsen.
- Evidence for Strep Throat or other contagious diseases

Treatment:

- Comply with FDA recommendations and disaster health services guidance that restricts use of cold and cough medications for all children younger than six years old.
- Encourage client to drink plenty of fluids, rest and not come in close contact with others (no sharing of drinks, etc.)
- Encourage client to cover his or her mouth when coughing and to wash his or her hands frequently throughout the day
- If the client is requesting medication, over-the-counter medications geared toward treatment of specific symptoms should be used

- Antihistamines are used for congestion caused by hay fever
- Anti-tussives may be effective cough suppressants
- Decongestants work to clear nasal congestion but should be used with caution in clients with a history of high blood pressure
- Expectorants work to loosen phlegm and mucus
- Analgesics may also be appropriate to help alleviate aches and pains
- Ensure that medications are not contraindicated prior to distributing to client
- Encourage parents to offer frequent fluids to help alleviate congestion
- Saline nose drops and a bulb syringe can be used in infants with nasal congestion
- Reassure clients and parents that most viral infections will resolve with time
- Reinforce infectious control measures to limit spread of contagious diseases

Additional Considerations:

- A "cold" is not the "flu." Influenza is a rapid-onset acutely febrile illness associated with severe myalgia, but rarely a runny nose.
- Many over-the-counter "cold" treatments have many different medications included and are geared toward treating multiple symptoms. Try to treat only those symptoms presented by the client by choosing medications with a single active ingredient. Pay special attention to ingredients that may be contraindicated in clients with high blood pressure.
- Non-seasonal outbreaks of upper-respiratory symptoms may suggest an alternative diagnosis – public health officials should be notified in suspicious cases
- Persons with altered immunity and certain co-morbidities (lung disease, diabetes) are more susceptible to illness and are at higher risk for progression to more serious illnesses like pneumonia and respiratory distress
- Smokers or others with a chronic cough should not be treated with antitussives
- Many over-the-counter medications are not appropriate for pediatric clients younger than 12 years. Medication prepared especially for children ages 6 and over should be used only according to the manufacturer's dosage guidelines.
- Parents should always use a measuring device (dropper, dosing cup or spoon) when administering liquid medications
- Parents may not be aware of the recent FDA recommendations regarding cough and cold medicines in children and should be educated accordingly

See also: Breathing Problems, Cough, Fever, Influenza, Sore Throat

Constipation

Treatment Goal:

- Return bowel habits to normal.
- Reduce discomfort.

Possible Causes:

Constipation is the infrequent or uncomfortable passing of stool. This condition may be chronic or acute. One cause of constipation is slowing of stool transport through the intestines due to inactivity, certain medications or other disorders. Other causes include dehydration, low-fiber diet and obstruction.

History:

- Determine the normal bowel habits
- Date of last bowel movement
- Pain either during a bowel movement or between
- Cramping and/or bloating
- Nausea or loss of appetite
- Recent dietary changes
- Current medications taken
- History of chronic bowel problems or surgery

Assessment:

- Obtain vital signs
- Palpate abdomen for distention or tenderness
- Listen to abdomen for bowel sounds

Refer to Local Healthcare System:

- Any case of constipation that causes the client great concern
- Any marked change from usual bowel habits
- Any case of constipation with abdominal tenderness

Treatment:

- Chronic constipation: Encourage client to incorporate more fruits, vegetables and bran into his or her diet. Drinking plenty of fluids and increasing activity will help, as well. If a laxative is necessary, recommend the client take whatever medication has been effective in the past.
- Acute constipation: Encourage the client to take all of the above actions. When medication is necessary, encourage the client to take a medication suited to their situation, unless contraindicated. Stool softeners work well to increase the water content in the stool and reduce the effort needed to pass stool; making it a good choice for those clients who recently underwent surgery or otherwise should not strain. Stimulant laxatives use irritating ingredients to stimulate the walls of the intestine to contract and move stool. Enemas serve to mechanically flush stool out of the colon.

Additional Considerations:

- Older adults are more prone to constipation due physiologic changes that take place in the colon, increased use of medications and inactivity
- Prolonged use of laxatives can cause a change in the lining of the intestines and create a dependence on the medication

See also: Abdominal Pain, Back Pain, Indigestion

Cough

Treatment Goal:

- Reduce cough symptoms
- Prevent injury to client
- Assess for more serious health condition

Possible Causes:

Coughing occurs when the airway is irritated and can be caused by allergies or respiratory infection. Common causes of cough are allergies, respiratory infections, asthma and congestive heart failure. Common causes of nocturnal cough (cough at night) are congestive heart failure and gastro-esophageal reflux disease (GERD).

History:

- How long the client has had the cough
- What time of day the cough occurs
- What factors affect the cough (cold air, eating, lying down, etc?)
- Any associated shortness of breath, chest pain, hoarseness, dizziness, wheezing, chills/fever or night sweats
- Presence of sputum and amount/color of sputum
- History of smoking tobacco products
- History of asthma, emphysema/COPD, bronchitis, GERD, congestive heart failure
- History of immune suppression

Assessment:

- Obtain vital signs (especially temperature and respiratory rate)
- Observe for shortness of breath
- Listen to breath sounds – may be decreased over a certain area or there may be congestion that does or does not clear with coughing
- Observe the client for effectiveness of cough (is the client able to clear phlegm?)

Call Local EMS/911 for:

- Any client who is short of breath or unable to catch their breath due to coughing

Refer to Local Healthcare System:

- Any client who is experiencing a cough with fever or has blood in their sputum

Treatment:

- Comply with FDA recommendations and disaster health services guidance that restricts use of cold and cough medications for all children younger than six years old.
- Clients with a new cough should be encouraged to cover their nose and mouth when they cough, wash their hands frequently, and avoid direct contact with other clients as their cough could be caused by an infectious agent
- Clients experiencing a new cough or a cough with fever should be encouraged to rest, drink plenty of fluids and take analgesics and/or antipyretics

and cough medications as needed.

- Antitussive therapy: May be effective at suppressing a cough, unless contraindicated. Coughs that are productive (able to move phlegm) should not be suppressed but the underlying cause of the cough should be identified and treated appropriately (i.e., coughing caused by respiratory infection should be treated with antibiotics). These products usually come in the form of a liquid or cough drop.
- Expectorant/Mucolytic therapy: For dry or unproductive coughs, expectorants and mucolytics are effective at loosening and thinning phlegm, unless contraindicated. They do not suppress a cough.
- Non-pharmaceutical therapies include warm, moist vapor (such as a humidifier) to reduce airway irritation
- Health teach regarding all OTC drug therapies and advise client to make good choices to manage symptoms

Additional Considerations:

- Brown, yellow or greenish sputum may, but not always, indicate a bacterial infection
- Blood in the sputum (hemoptysis) may be caused by pneumonia, pulmonary emboli or tuberculosis
- Antihistamines and decongestants are not effective at treating a cough unless the cough is caused by allergic irritants
- Croup is a hacking, bark-like cough sometimes experienced by children – mostly at night and is characterized by a croaking sound upon inhalation and difficulty breathing. Treatment includes a mist vaporizer or sitting with the child in a closed, steam-filled bathroom while working to calm and reassure the child. Call 911 if symptoms become worse or do not respond to treatment within 20 to 30 minutes.
- A cough in a child younger than three years may be caused by an aspirated foreign body
- Whooping cough (Pertussis) is a highly contagious disease that, because of immunization, is uncommon in the United States. Pertussis is characterized by fits of coughing that end in a high-pitched, deeply in-drawn breath and affects mostly children younger than five years. If whooping cough is suspected, refer client to the local healthcare system for diagnosis and treatment.

See also: Breathing problems Asthma/COPD, Congestion, Fever, Influenza, Measles, Tuberculosis

Cramps – Abdominal

Treatment Goal:

- Reduce discomfort
- Assess for more serious health condition

Possible Causes:
Gastrointestinal: non-specific upset (gas, bloating), food allergies/lactose intolerance, food poisoning, infections (viral or bacterial gastroenteritis)
Gynecologic/ obstetric: menstrual cramping, uterine contractions (pregnancy)

History:

- Quality of pain (cramps vs. dull ache)
- Location – menstrual cramping is frequently present in the pelvis/lower abdomen, back and legs, while intestinal cramping may be diffuse over the abdomen and may radiate to the back
- Presence of typical symptoms of the client's pre-menstrual syndrome
- Present, anticipated or missed menstrual cycle
- Known or suspected pregnancy
- Presence of nausea, with or without vomiting, and diarrhea associated with gastrointestinal illness
- Ingestion of unfamiliar food or food not eaten regularly

Assessment:

- Obtain vital signs
- Pain Scale index 0-10
- Assess for tenderness, distention or guarding: these could be signs of a more serious condition. See Abdominal Pain protocol

Call Local EMS/911 for:

- Any possibility of miscarriage or premature labor

Refer to Local Healthcare System:

- Any case of abdominal pain/cramps associated with tenderness to palpation
- All suspected cases of food poisoning or gastrointestinal infections
- Any severe abdominal discomfort of unknown origin
- Diarrhea that continues for more than three days should be reported to a physician

Treatment:

- For suspected GI upset or food poisoning: Encourage the client to rest in a comfortable position. If client has been vomiting, wait until vomiting stops and encourage client to frequently drink small amounts of mild fluids (water, tea, electrolyte fluids such as Gatorade). Do not give food, especially fatty or fried foods.
- For pre-menstrual/menstrual cramping: Non-steroidal anti-inflammatory medications work well to alleviate discomfort, unless contraindicated. Warm

compresses may also help. Encouraging the client to sleep and exercise regularly will also help relieve some of their discomfort.

Additional considerations:

- Menstrual cramps usually begin approximately 24 hours before menstruation and can last up to two days after onset of menstruation.
- Traveler's diarrhea, frequently experienced when traveling outside of the country or to lesser developed countries, can be effectively treated with plenty of water and anti-diarrhea medications.

See also: Abdominal Pain, Constipation, Diarrhea, Indigestion, Nausea/Vomiting, Vaginal Discharge/Itching, Childbirth, Miscarriage.

Cramps – Muscular

Treatment Goal:

- Eliminate cramping/pain
- Reduce discomfort

Possible Causes:

Cramps can occur due to fatigue, over-exercising, tension and infection. Exercise-induced electrolyte imbalance and poor circulation to the leg may also be the cause of muscle cramping. Muscle cramps usually affect the calf muscles and feet.

History:

- Location and severity of the cramp
- The presence of a recent injury
- Recent strenuous or prolonged physical activity
- Amount of water consumption over the past 24 hours – especially in warm climates

Assessment:

- Obtain vital signs
- Assess affected area for injury bruising, lumps, swelling or point tenderness

Refer to Local Healthcare System:

- Any cramp not relieved with rest, massage, analgesics and warm compress

Treatment

- Encourage the client to gently massage and stretch the cramped muscle
- Encourage the client to take a hot bath or place a warm compress on the affected area
- For cramps in the feet and/or toes, gently pull the toes up toward the body on the front of the foot to stretch the muscles
- An over-the-counter analgesic may be helpful at reducing pain, if requested by client and not contraindicated
- For prevention, drink plenty of water and stretch properly before exercise

See also: Arm/Hand Injury and Pain, Back Pain, Dehydration, Heat-Related Illness, Leg/Foot Injury and Pain, Neck Pain/Stiffness.

Cuts and Scrapes/Lacerations and Abrasions

Treatment Goal:

- Stop any bleeding
- No delay referral if wound(s) need closure
- Prevent further injury or infection

Possible Causes:

Open wound in which the skin has been broken due to a cut by a sharp object or scrape

History:

- Activity engaged in when the cut or scrape occurred
- Pain score (0-10 scale)
- Type of object that caused the cut and/or scrape
- Date of last tetanus shot
- Current medications, especially anticoagulants or steroids

Assessment:

- Obtain vital signs.
- Assess for bleeding.
- Determine depth of cut and if any tendons and/or ligaments are exposed.
- Check for function distal to the cut/scrape (have the client move their fingers, toes, etc.).
- Look for objects or dirt embedded in the cut or under the skin, but do not probe

Call Local EMS/911 for:

Severe bleeding or bleeding that does not stop with direct pressure and/or elevation of limb after 10 minutes.

Refer to Local Healthcare System:

- Any wound that is longer than 1/3 inches, is on the face, is deep or has edges that do not meet up
- Any cut caused by an obviously dirty object
- Any potential nerve or tendon involvement
- All puncture wounds
- Any signs of infection (redness, swelling, skin warm to touch)
- Any client wishing to receive a tetanus booster

Treatment:

Cuts:

- Use standard precautions before handling wound
- If bleeding, apply direct pressure over the wound with sterile dressing for 5-10 minutes or until bleeding stops
- Once bleeding has stopped, wash wound with soap and flush copiously with water. Be sure to clean out any obvious objects or dirt in wound
- Pat dry and apply a dry, sterile dressing. The use of a triple antibiotic ointment to

superficial cuts and abrasions may reduce the risk of infection

Scrapes:

- Wash your hands with soap and water and apply gloves before handling wound
- Wash wound with soap and water. Minor scrapes should be left open to air. Large wounds should be covered with an antibiotic ointment and sterile dressing.

Additional Considerations:

- Wounds to the scalp may be very bloody even if the wound is minor
- Puncture wounds typically bleed very little, if at all, but are at increased risk for tetanus

See also: Bleeding, Bruising, Arm/Hand Injury and Pain, Leg/Foot Injury and Pain, Rape/Sexual Assault, Violence/Domestic Abuse, Shock.

Dehydration

Treatment Goal:

- Return fluid balance to normal
- Prevent injury to client
- Treat underlying cause of dehydration
- Assess for more serious health condition

Possible Causes:

Dehydration occurs when the body loses more water than it takes in. Losses could be due to diarrhea, vomiting and heat stress/excessive sweating. Inadequate intake may be due to nausea/vomiting and lack of potable water or other fluids. In addition, certain diseases (Addison's disease, uncontrolled diabetes mellitus, diabetes insipidus) and certain drugs (diuretics, lithium, excessive alcohol) cause an increase in urination which may cause dehydration.

History:

- Mental confusion or lethargy (a sign of severe dehydration)
- Recent increase in thirst or constant "dry mouth" sensation
- Decreased sweat
- Diminished or absent urination
- Color of urine (light/clear vs. dark yellow/amber)
- Less than six wet diapers per day for infants
- Recent episode of diarrhea/vomiting
- Current medications
- Weakness, dizziness, lightheadedness, fatigue

Assessment:

- Obtain vital signs – check specifically for orthostatic hypotension (lightheadedness or low blood pressure when client stands up)
- Look at skin and mucous membranes for dryness – lips may be cracked and/or dry. Client may report "dry mouth"
- Reduced skin elasticity/turgor ('tenting' – loss of ability to "bounce back" when pinched)
- Lack of perspiration if febrile or overheated
- Sunken eyes or, for infants, sunken fontanels (soft spots on head)

Call Local EMS/911 for:

- Signs of moderate dehydration in infants, children or the elderly who can become severely dehydrated more quickly. Sunken eyes, no tears, sunken soft spot on infants head
- All suspected cases of severe dehydration (confusion, lightheadedness, low blood pressure, tachycardia/fast pulse)

Refer to Local Healthcare System:

- Any client whose symptoms of mild dehydration do not improve with fluid

therapy
- Any client that is not able to take liquids him or herself to rehydrate
- No urination in eight hours (for adults) or fewer than six wet diapers per day (for infants)
- Any client taking a medication or with a pre-existing disease for which excess fluid loss/dehydration may occur

Treatment:
- Encourage all clients to drink six glasses of water or fluid daily – increasing their intake during hot days or after physical exertion. Avoid caffeine and alcohol.
- Mild dehydration can be treated by drinking plenty of water and replacing lost electrolytes with a sports drink. Children should receive oral rehydration solutions such as Pedialyte. Drink small amounts frequently, rather than a large glassful. Once the client is re-hydrated, follow-up with him or her to make sure he or she continues to drink plenty of fluids.
- When necessary, oral rehydration solution can be made by mixing ½ teaspoon salt, ½ teaspoon baking soda and three tablespoons sugar in a quart of pure water.
- All fluids should be given slowly and at frequent intervals. A general rule of thumb is to continue giving fluids until urine output increases and the urine color is light yellow.
- Identifying and treating the cause of dehydration will help prevent recurrent episodes (diarrhea, etc.). See Diarrhea protocol.
- Severe dehydration, characterized by low blood pressure, orthostatic hypotension, mental confusion (irritability in infants) and/or reduced consciousness, along with the classic signs of dehydration, should be referred to local EMS immediately.

Additional Considerations:
- Older adults and young children are at increased risk for dehydration
- Globally, dehydration is second to diarrhea as the leading cause of death in children
- Avoid using beverages other than water. Sports drinks and rehydration solutions to treat dehydration can make the condition worse, Coffee and soda are also contra-indicated. Too much fruit juice, especially in children, can also make diarrhea worse.
- Clients with diabetes mellitus, who are not at risk for hypoglycemia, should always be given sugar-free fluids

See also: Bleeding, Cramps – Muscular, Diarrhea, Fever, Heat-Related Illness, Shock

Diarrhea

Treatment Goal:

- Relieve symptoms
- Prevent spreading of bacterial and viral infection to others

Possible Causes:

The causes of diarrhea may not always be easy to pinpoint. Some possible causes may be a viral infection. Medications, antibiotics or inflammation of the intestinal lining from illness or food intolerance can cause diarrhea. Maybe caused by food or water borne pathogens. In some people, emotional stress and anxiety may cause diarrhea.

History:

- Increase in the volume, frequency and wateriness of stool
- Presence of abdominal pain
- Color of stool (red, maroon or black, tarry stools may an indicator of blood)
- Presence of gas, cramping, urgency, nausea/vomiting
- Onset of symptoms (sudden/acute vs. persistent/chronic)
- Recent changes in diet
- Current medications, especially antibiotics
- Exposure to others with similar symptoms
- Signs/symptoms of dehydration. See Dehydration protocol.

Assessment:

- Obtain vital signs, especially temperature
- Assess for dehydration (see Dehydration protocol)
- Palpate abdomen for tenderness, guarding and distention

Refer to Local Healthcare System:

- Diarrhea associated with fever greater than 101˚ F, passing of painful stool, abdominal pain or blood in stool (red, maroon, black or tarry color)
- Diarrhea that persists for more than 72 hours
- Inability to take oral fluids
- Any child with currant-colored, jelly-like stools (a sign of intussusception or telescoping of the intestine)

Treatment: Dependant on cause

- In cases of non-bloody stool; encourage small frequent sips of water, but no food for several hours. Then advance to eating mild foods, such as rice, dry toast, crackers, bananas and applesauce.
- Have client avoid spicy foods, fruits, alcohol and caffeine drinks until 48 hours after diarrhea has stopped
- Avoid use of over the counter anti-diarrhea medications for first 6 hours, and then use only if there are no other signs of illness, such as fever, cramping. Symptoms will usually resolve within 24-48 hours. Advise client to stop taking them as soon as stools thicken.
- Ensure to disinfect surfaces that clients come in contact with-especially

dining tables and chairs

- Infectious diarrhea is easily spread to others – particularly in crowded conditions. Encourage the client to wash their hands frequently (and after every trip to the restroom) and avoid close contact with others. Infectious control measures should be immediately instituted in shelter environments.
- Antibiotic-caused diarrhea: The use of antibiotics may cause diarrhea by killing the good bacteria in the intestines. If symptoms are severe, another antibiotic may need to be prescribed.-refer to local healthcare system, or prescribing physician.
- Inflammation: Encourage the client to remove the irritant from their diet (coffee, fatty/spicy foods, etc.) and the symptoms should resolve.
- Encourage the client to increase the amount of fluid (non-alcoholic/non-caffeinated) they take in to help prevent dehydration.

Additional Considerations:

- Infectious diarrhea is easily spread to others, particularly in crowded conditions. Educate clients about the need for proper sanitation. If there are multiple cases of diarrhea in a single facility or from a common food or water source, consult the local health department to investigate.

See also: Abdominal Pain, Cramps – Abdominal, Dehydration, Indigestion, Influenza, Nausea/Vomiting.

Dizziness (Vertigo)

Treatment Goal:

- Assess for more serious health condition
- Relieve uncomfortable symptoms
- Prevent injury to client

Possible Causes:

- A false sense of self or surroundings
- Feeling of moving or spinning frequently accompanied by nausea and loss of balance
- Possible causes include inner ear problems, brain disorders, motion sickness, transient ischemic attack, increased intracranial pressure and certain medications

History:

- Onset of symptoms
- Presence of any additional symptoms; nausea/vomiting, headache, vision changes
- Blurry vision and/or headache, slurred speech, weakness in arms or legs, uncoordinated movement (may indicate brain involvement)
- Recent upper respiratory infection
- If sensation is present at rest or with abrupt change of position
- Sense of fullness in one and/or both ears or change in hearing
- Ringing in the ear (tinnitus)
- History of brain and/or inner ear disorder
- Current medications

Assessment:

- Obtain vital signs
- Assess for mental status changes/confusion
- Observe client's gait and motor control
- Assess for unintentional eye movement (nystagmus, or jerkily moving eyes)
- Listen for slurred speech when client speaks
- Check for coordinated movement and muscle strength in extremities

Call Local EMS/911 for:

- Any case of vertigo accompanied by slurred speech, severe headache, muscle weakness, or uncoordinated movement

Refer to Local Healthcare System:

- Any case of vertigo that does not resolve itself within two days or prevents client from being able to sit/walk
- Any case of sudden or rapid onset vertigo

Treatment:

- Have the client lay quietly in a position of comfort. Closing eyes may help.
- Encourage the client to rest and keep their head still or change positions slowly – rapid movement or turning the head may exacerbate the condition
- Most vertigo resolves on its own within a day or two
- Vertigo caused by a viral infection of the ear may not subside until the underlying infection is treated

Additional Considerations:

- The majority of cases of vertigo are caused by inner ear disorders but more serious conditions should not be overlooked

See also: Bleeding, Breathing Problems Hyperventilation, Ear Problems, Fainting, Headache, Heat-Related Illness, Neck Pain/Stiffness, Stroke, Substance Abuse/Withdrawal.

Ear Problems – Ear ache

Treatment Goal:
- Relieve discomfort

Possible Causes:
Pain or pressure in or around ear caused by infection, earwax, jaw problems or foreign object lodged in ear

History:
- Onset of symptoms
- Quality of pain – sharp stabbing, dull ache, etc.
- Changes in hearing
- Recent upper respiratory infection
- Recent tooth infection or other jaw injury

Assessment:
- Obtain vital signs (temperature may be slightly elevated with infection)
- Look at affected ear for drainage or obvious signs of a foreign object

Refer to Local Healthcare System:
- Any case where a foreign object lodged in the ear is suspected
- Any case of earache that does not respond to treatment within three days
- Any client who has drainage coming from the affected ear
- Ear pain associated with fevers, especially in children

Treatment:
- If requested by client, treat pain with analgesics as recommended by manufacturer's label, unless contraindicated
- Over-the-counter treatment is usually effective and includes antihistamines, nasal spray and analgesia
- If a foreign object is clearly visible in the ear, you may try to gently remove it with tweezers and then refer client to seek medical attention for follow-up

Additional Considerations:
- Young children frequently suffer from ear problems and will present with crying, irritability and pulling on/rubbing the affected ear
- Aspirin should never be given to children under the age of 18
- Do not place anything inside the ear – cotton swabs, hairpins, etc.

See also: Congestion, Fever, Headache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Sore Throat, Toothache, Infection, Measles, Mumps.

Ear Problems – Hearing changes

Treatment Goal:

- Assess for more serious health condition

Possible Causes:

A decreased ability to hear can be progressive (often seen in older adults) or acute – due to a perforated eardrum or ear infection. Tinnitus (ringing in the ears) can be caused by certain disorders/infections in the ear and by taking certain medications.

History:

- Onset of symptoms (rapidly vs. over a period of time)
- Type of hearing change: hearing loss, ringing in ears, etc.
- Symptoms associated with infection or perforation: pain in ear, discharge, etc.
- Current medications, including recent antibiotics, aspirin or chemotherapy

Assessment:

- Obtain vital signs
- Assess for signs of drainage from ear or foreign object in ear

Refer to Local Healthcare System:

- All cases of sudden or rapid onset of hearing changes
- All cases of hearing changes that do not resolve on their own within two days or with treatment of underlying cause (for example, ear infection)
- Any suspected case of foreign object in ear
- Tinnitus that affects only one ear or pulsates

Treatment:

- Dependant on underlying cause of hearing change
- High doses of aspirin can lead to tinnitus/ringing ears. If hearing loss is thought to be related to aspirin therapy, encourage client to discontinue medication and follow-up with his or her primary care physician.

Additional Considerations:

- Clients transported on military aircraft, (in repatriation events) and who did not properly use hearing protection may have temporary hearing loss
- Hearing loss is common after a blast incident

See also: Congestion, Earache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb.

Edema (swelling)

Treatment Goal:

- Reduce swelling
- Prevent injury to client

Possible Causes:

Dependent edema is usually found in the lower extremities or other dependent position (back and/or buttocks of a bed-ridden client) and could be caused by heart failure, renal failure, liver disease, deep vein thrombosis (unilateral leg swelling) or musculoskeletal injury (see Leg/Foot Injury protocol).

It is normal for pregnant women to have some dependent edema during last months of pregnancy.

Non-dependent edema may be seen in kidney disease, liver disease or left-sided heart failure. Depending on cause, lymphedema (swelling caused by lymphatic fluid) is often unilateral.

History:

- Past medical history
- Onset of symptoms (chronic vs. acute)
- History of cardiac, pulmonary, renal or liver problems
- Obesity
- Pregnancy (note which trimester)
- Previous history of blood clots in legs or lungs
- Current medications, specifically diuretics ("water pills"), cardiac medications and anticoagulants
- Sedentary lifestyle or recent physical inactivity (including prolonged travel)
- Recent injury or surgery
- Presence of associated pain/bruising in swollen extremity

Assessment:

- Obtain vital signs
- Listen to heart rhythm and breath sounds. The presence of rales ("wet" breath sounds) indicates heart failure.
- Document whether edema is pitting or non-pitting. If pitting, document number of seconds before indentation resolves.
- Check for abdominal distention
- Document whether edema is unilateral or bilateral. Measure and record circumference of both legs in cases of unilateral leg swelling.
- Check for discoloration of skin, e.g., redness or bruising

Call EMS:

- Any pregnant client who has significant edema of face and hands, legs
- Any new case of edema that does not resolve with rest and leg elevation or is associated with shortness of breath, abnormal breath sounds and/or tachycardia
- Any chronic case of edema when the client has not been taking their medication or has shortness of breath or abnormal breath sounds

- Any client suspected of having or at risk of deep vein thrombosis (unilateral leg swelling)

Treatment:

- Stable edema/chronic heart failure: Client will most likely be prescribed medications already and should be encouraged to take these medications as prescribed. Also encourage the client to eliminate smoking and alcohol from his or her lifestyle and reduce sodium in his or her diet. For short-term treatment of symptoms, client can rest with legs elevated.
- If feasible and a weight scale is available, monitor daily weights in persons with dependent edema who have heart, kidney or liver disease. Clients with progressive or abrupt weight gain should be referred for evaluation.
- Lymphedema: Compression bandages and pneumatic stockings can be used to help the swelling associated with excessive lymphatic fluid in either the arm or leg.
- Injury: see Leg/Foot Injury and Pain protocol.

Additional Considerations:

- The main symptoms of right-sided heart failure is swelling in the legs and feet, while left-sided heart failure is characterized by pulmonary congestion and abdominal swelling (ascites)
- Many people will experience leg swelling unrelated to any medical condition (after standing for long periods of time)

See also: Abdominal Pain, Leg/Foot Injury and Pain, Immune-Compromised Clients, Pregnancy

Eye Problems – Pain/Inflammation

Treatment Goal:

- Assess for more serious health condition
- Reduce inflammation
- Relieve discomfort

Possible Causes:

Redness, irritation and pain in the eye due to infection, environmental allergies, a foreign body or a stye. Infections could be caused by numerous types of bacteria, fungus, virus or parasite.

History:

- Any change in vision in one or both eyes
- Onset of symptoms (rapid vs. gradual)
- Sensitivity to light (photophobia)
- Pain score (0-10 scale)
- Watering of eyes
- Environmental allergies
- Sensation of grittiness or "sand" in the eye
- Recent eye procedure or surgery
- Eye crusted close, especially upon awakening in the morning

Assessment:

- Obtain vital signs
- Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words. The two eyes should be equal.
- Assess for the presence of a sty (localized swelling of one or more of the glands surrounding the eyelid)
- Presence and character of discharge (e.g. watery, mucous, purulent)
- Blisters on the cornea
- Concurrent painful skin lesions over the body which may indicate herpes zoster (shingles)

Call Local EMS/911 for:

- Any abrupt or rapid change in vision

Refer to Local Healthcare System:

- Any sore or blister on the eyeball/eyelid or pus
- Any change in vision/visual acuity
- Any sty which does not resolve within three days
- Any potential or suspected case of infection (e.g. conjunctivitis)
- Any foreign body sensation that does not resolve with flushing the eye

Treatment: - Always use standard precautions

- Sty: Apply warm compress to the affected area for 10 minutes several times per day
- Allergies: Encourage client to avoid the agent that causes them sensitivity Antihistamines may be effective at reducing eye irritation and other allergic symptoms, unless contraindicated. Artificial tears (without preservatives) may be used to flush irritants and/or keep eyes moist.
- Infection: Any suspected case of infection should be referred to the local healthcare system and the client encouraged to wash their hands frequently, not touch their face, and avoid contact with others as eye infections are highly contagious. If contact lenses are worn, the client should remove them and not use a new pair of contacts until the infection is completely resolved.
- Crusting/discharge: Wash eyelids/lashes gently with a warm, wet washcloth
- Suspected foreign body/dust: Attempt to wash any foreign object out of the affected eye by tilting the client's head to the side and flushing with clear water or saline solution for up to fifteen minutes. The eyelid should be held open but the eye itself should not be touched. If the object is not able to be washed out, cover the eye with a light bandage and seek medical attention. No attempt should be made to remove any object that does not flush out of the eye or is embedded in the eye.
- Clients should be instructed not to wear contact lenses until all symptoms have resolved

Additional Considerations

- Infants are particularly prone to eye infections
- Viral eye infections spread rapidly from one eye to the next and usually have watery eye discharge which may be copious. This can lead to an outbreak in crowded conditions.
- Hand washing by both the affected client and staff is critical if an infection is suspected
- Bacterial eye infections usually have a mucous/purulent discharge

See also: Burns – Chemical, Headache, Infection

Eye Problems – Injury

Treatment Goal:

- Prevent further injury to eye
- Reduce discomfort

Possible Causes:
Foreign object in eye, scratch to the cornea, burn or blunt injury to the eye.

History:
Trauma to face or eye, including blow to head

- Change in vision
- Exposure to chemicals or extreme heat
- Increased sensitivity to light (photophobia)
- Current medications taken
- Wearing of contact lenses

Assessment:

- Obtain vital signs
- Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words. The two eyes should be equal.
- Pain score (0-10 scale)
- Bruising or bleeding under the surface of the skin
- Ability of client to open eye
- Pupillary reaction (eyes equal and reactive to light)
- Ability of client to move eye in four directions (up, down, left, right) with or without pain
- Redness/swelling of affected eye
- Bleeding to eye/face region

Call Local EMS/911 for:

- Any injury associated with vision loss or change
- Any bleeding noted in the eyeball or under the conjunctiva
- Presence of blood between iris and cornea (interior chamber)
- Any difference in size of pupils
- Any client with a puncture wound by a foreign object
- Any possible burn to the eyes
- Any acute onset of severe eye pain with or without known injury

Refer to Local Healthcare System:

- All blunt injuries to the head or face
- Bruising around the eye (black eye) to follow-up for potentially broken facial bones
- Any client with a foreign object that is not able to be successfully washed out

Treatment: standard precautions

- If a penetrating injury to the globe (eyeball) is suspected, do not put ANY pressure on the eye with a dressing or by touching. Call EMS.
- Attempt to wash any foreign object out of the affected eye by tilting the client's head to the side and flushing with clear water or saline solution for up to fifteen minutes, from inner corner to outer corner (nose to ear direction). The eyelid should be held open but the eye itself should not be touched. If the object is not able to be washed out, cover the eye with a light bandage and seek medical attention. No attempts should be made to remove any object that does not flush out of the eye or is embedded in the eye.
- Cool packs (chemical or ice/water mixed) should be applied to the eye area intermittently for the first 24-48 hours to decrease swelling and pain
- Avoid aspirin therapy or other non-steroidal anti-inflammatory medication which may cause bleeding in the eye

Additional Considerations:

- Corneal abrasions (scratches) are often associated with the sensation of having a foreign body in the eye

See also: Bleeding, Bruising, Cuts and Scrapes, Violence/Domestic Abuse

Eye Problems – Vision Changes

Treatment Goal:

- Assess for more serious health condition

Possible Causes:
Vision changes that occur over time may be due to macular degeneration, cataracts, retinopathy, or open-angle glaucoma. Acute vision changes/distortions could be due to injury (to the head or eye), blood clot to the optic nerve, detached retina or closed-angle glaucoma.

History:

- Onset of symptoms (gradual or rapid)
- Type of vision change (loss of vision, diminished acuity, halos, floaters, decreased peripheral vision, etc.)
- Injury or blunt trauma to head/face
- History of eye surgery, vision problems, or disease involving cranial nerves (e.g. Bells' Palsy)
- Presence of other symptoms (eye pain, redness, photophobia, headache, nausea)
- Current medications taken
- Use of and reason for glasses/contact lenses

Assessment:

- Obtain vital signs
- Visually inspect eyes for obvious signs of injury
- Pupil size, shape, reaction to light and uniformity
- Assess visual acuity in each eye (covering one at a time). Document whether the client is blind (can see black only), can see light only (not shapes), can count fingers only or can read words. The two eyes should be equal.
- Hazy appearance or clouding of the cornea
- Symmetry of eye movements
- Drooping (ptosis) of eyelid

Call Local EMS/911 for:

- Any injury to the head and/or face that results in changes to vision
- Any acute or rapid-onset distortion/loss of vision

Refer to Local Healthcare System:

- Any client experiencing double vision
- Any client with changes to the structure of the eye (pupil shape differs from the other pupil, etc.)

Treatment:
For injury or blunt trauma: Using standard precautions encourage client to keep eyes closed and apply a cold compress to affected area. Call local EMS.

Additional Considerations:

- Damage to the optic nerve may cause loss of vision. Damage to the cranial nerves that control papillary changes and eye movement may lead to changes in vision.

See also: Headache, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Stroke.

Fainting (syncope)

Treatment Goal:

- Prevent injury to client.
- Regain consciousness
- Assess for more serious health condition

Possible Causes:

Syncope: A brief loss of consciousness due to a reduction in the amount of oxygen reaching the brain. Possible causes include abnormal heart rhythm, not witnessed seizure, pulmonary embolism, emotional/physical stress, hyperventilation/shortness of breath, exposure to hot temperatures, hypoglycemia, orthostatic hypotension and certain medications (anti-hypertensives and sedatives).

History:

- Conditions surrounding the fainting episode (fear, stress, pain)
- History of an abnormal heart rhythm or palpitations
- Chest pain, shortness of breath or problems breathing
- Previous history of fainting or light-headedness
- Recent exposure to hot climate

Assessment:

- Obtain vital signs, especially blood pressure and respiratory rate as both may be low. Heart rate may be faster than normal, slower than normal or irregular. Consider checking orthostatic blood pressure.
- Assess for mental status changes, level of consciousness or confusion
- Listen to heart rate and rhythm for possible arrhythmias
- Quality of skin (pale, damp, cool)

Call Local EMS/911 for:

- Any client that stops breathing while unconscious
- Any client with unstable vital signs after fainting
- Any client with confusion or altered mental status after fainting
- Any child or elderly client who faints
- Any client who does not fully recover from fainting after five minutes
- Recurrent episodes of fainting

Refer to Local Healthcare System:

- All cases of fainting

Treatment:

- In all unconscious clients, first assess the "ABCs" (airway, breathing and circulation) by checking their breathing and looking for a pulse. If any of the ABCs are absent, start CPR and call EMS immediately.
- Client has fainted: Keep the client lying down and assist with cooling if fainting due to hot weather. Elevate legs and loosen tight clothing around the

neck. If client vomits, help them turn to his or her side. Check for injuries that may have occurred due to falling. Remain with client until fully recovered.

- If symptoms are due to breathing problems, refer to Shortness of Breath and/or Hyperventilation protocols for further guidance.
- Client feels faint: Encourage client to lie down with legs elevated 8 to 12 inches. If the condition may be due to hot weather, assist the client with cooling off – fan, cool cloth to face, etc. Encourage client to drink plenty of fluids to prevent dehydration.
- If symptoms are due to emotional/physical stress, calm and reassure the client and remove the source of stress. Ask if client would like to speak with a Disaster Mental Health worker.

Additional Considerations:

- Syncope may be associated with serious medical conditions (cardiovascular disease, cerebrovascular disease, neurologic disorders) and many medications
- People taking diuretics are at increased risk of fainting
- Abrupt exposure to hot temperatures frequently leads to increased risk of fainting until the body adapts to the increased temperature

See also: Bleeding, Breathing Problems, Seizures/Convulsions, Dehydration, Dizziness, Ear Problems, Heat-related Illness, Influenza, Diabetic Emergencies, Pregnancy, Shock, Stroke

Fever

Treatment Goal:

- Assess for more serious health condition
- Prevent the transmission of infectious diseases
- Return temperature to within normal limits

Possible Causes:

Elevated body temperature, usually due to illness or infection but may occur with immunizations or environmental exposures

History:

- Onset of symptoms
- Recent illness, injury or surgery
- Other concerning symptoms of an infection (headache, photophobia, confusion, low blood pressure, shortness of breath, productive cough, flank pain, dysuria, high fever, myalgias, etc.)
- Recent exposure (within two weeks) to others with illness
- Location and/or quality of any pain with pain score (0-10 scale)
- Presence of chills, sweating or flushing
- Recent travel, especially overseas
- Medications taken, especially antipyretics (name, dose and time of last dose)

Assessment:

- Obtain vital signs
- A fever is defined as a temperature greater than 99.0˚ F
- Assess the level of consciousness or for signs of confusion
- If fever is thought to be due to injury, assess affected area for signs of infection (reddened skin that is warm to touch, pus, pain, etc.)
- Listen to breath sounds for signs
- Check eyes with flashlight for signs of photophobia (sensitivity to light)

Call Local EMS/911 for:

- Any fever associated with severe headache, stiff neck, swelling in the throat, rash, shortness of breath or mental confusion
- Any infant younger than six months with a temperature greater than 101˚ F or any adult/child older than six months with a temperature greater than 105˚ F

Refer to Local Healthcare System:

- Any infant younger than six months with a temperature greater than 100.5˚ F or any adult/child older than six months with a temperature greater than 103˚ F
- All suspected cases of influenza in a shelter should be referred to the isolation care area for assessment
- Any client with a fever and signs of a specific infection
- Any temperature greater than 101˚ F that persists for more than three days

- Any fever without obvious reason or fever that is accompanied by a rash
- Any fever that occurs within two weeks after surgery

Treatment:

- If fever is thought to be related to an infection, the source of the infection should be identified and treated by the local health care system.
- Clients with fevers may be infectious and should be referred to the isolation care Area of the shelter.
- Encourage the client to rest and drink plenty of fluids.
- Over-the-counter medications such as aspirin, ibuprofen and acetaminophen are usually effective at reducing fever. Encourage the client to take antipyretics on a regular schedule to help keep the fever away, unless contraindicated. **Never give aspirin to anyone under the age of eighteen. due to the risk of Reye's syndrome.**
- Follow manufacturer guidelines in dosages for antipyretic medications
- Cool compresses and sponging with lukewarm water can also help reduce body temperature. Avoid rapid cooling.

Additional Considerations:

- Oral temperatures may be obtained for adults by placing the thermometer under the tongue for three minutes. In infants and young children, the temperature may be obtained by placing the thermometer under the arm for three minutes, although this will register a temperature approximately one degree lower than an oral temperature.
- Influenza causes high fevers and myalgias and is very contagious. If influenza is suspected, the client or worker needs to be referred to the isolation care area for assessment and possible referral to local health care system.
- Febrile seizures occur in children younger than five years that have a high fever

See Seizures/convulsions protocol for more information

See also: Congestion, Seizures/Convulsions, Dehydration, Diarrhea, Ear Problems, Eye Problems, Headache, Heat-Related Illness, Influenza, Infection, Nausea/Vomiting, Neck Pain/Stiffness, Rash, Sore Throat, Tooth Problems, Difficulty with Urination, Vaginal Discharge/Itching/Immune-compromised Clients, Communicable Diseases/Headache

Headache

Treatment Goal:

- Assess for more serious health condition
- Reduce discomfort

Possible Causes:

Most headaches are benign and are related to tension, eyestrain, hunger, or caffeine withdrawal. Frequent use of pain relievers can cause rebound headaches that return as the effect of the last dose wears off.

Other causes can include sinus infection, fever, high blood pressure, brain tumor, head injury and meningitis, cerebral hemorrhage.

Headaches in children can be related to stress about school, relationships or peer pressures.

History:

- Onset of symptoms: abrupt, rapid or gradual
- Location and quality of pain (sharp, pulsating, dull, etc.)
- Pain score (0-10 scale)
- Recent injury or trauma involving the head or neck
- History of sinus problems or sinus surgery
- History of migraine headaches
- History of high blood pressure
- Current medications
- Sensitivity to light, noise, smells or activity
- Report of visual changes or photophobia
- Recent withdrawal from medication or caffeine
- Nausea or vomiting

Assessment:

- Obtain vital signs, paying particular attention to temperature and blood pressure If blood pressure is abnormal, recheck in both arms to verify reading
- Assess for level of consciousness and confusion
- Observe for slurred speech, unilateral limb weakness, lack of muscle coordination or facial droop. See Stroke protocol
- Check pupil size and reaction to light and photophobia
- Assess pain on a scale of 0-10

Call Local EMS/911 for:

- Any injury or trauma to head or neck
- Any headache with severe eye pain
- Any client who presents with weakness, paralysis, slurred speech, facial droop, visual changes, photophobia or changes in level of consciousness
- Any client who has a severe headache associated with a systolic blood pressure greater than or equal to 150mmHg and/or a diastolic blood pressure greater than or equal to 110mmHg

- Any sudden onset “thunderclap” or “worst ever” headache

Refer to Local Healthcare System:

- Any severe or persistent headache
- Any headache associated with a fever and/or stiff neck
- Any headache associated with vomiting
- New or frequent headaches in a client who rarely gets headaches
- Mild headaches that become severe
- Any headache that wakes a client from sleep
- Any child who is having headaches more than once a week
- Headaches that awaken the child at night
- A headache occurring with other symptoms

Treatment:

- Mild headaches are managed well by resting quietly in a darkened room with a cool compress to the forehead.
- If client requests, an over the counter pain reliever such as Acetaminophen or Ibuprofen may be dispensed. Instruct client to follow manufacturer dosage instructions. **Aspirin should never be given to anyone younger than 18 years.**
- Most tension headaches respond well to rest, a warm compress applied to the back of the neck and/or acetaminophen or non-steroidal anti-inflammatory medications, unless contraindicated.
- Clients with migraine headaches should take medications as prescribed by their physician.
- Headaches associated with a fever and/or stiff neck may be due to meningitis or other infection and should be referred to the emergency department of the local hospital immediately.

Additional Considerations:

- Tension headaches tend to be mild to moderate and cause a generalized aching in the head.
- Headaches due to high blood pressure are frequently referred to as “throbbing” or “pulsating.”

See also: Dehydration, Dizziness, Heat-Related Illness, Influenza, Nausea/Vomiting, Neck Pain/Stiffness, Paralysis/Weakness – Facial or Limb, Tooth Problems, Stroke, Meningitis.

Heat-Related Illness – Heat Exhaustion

Treatment Goal:

- Prevent injury to client
- Return physical status to within normal limits

Possible Causes:

Heat illness is a continuum from mild heat intolerance, to moderate heat exhaustion, to severe heat stroke. Heat exhaustion is caused by an imbalance of nutrients/electrolytes in the body as a result of exposure to heat over a period of time. It is often associated with dehydration.

History:

- Onset of symptoms
- Length of time spent in high temperatures
- Presence of fatigue, weakness, nausea, dizziness, headache, confusion and/or fainting
- Presence of skeletal muscle spasms
- Medication History

Assessment:

- Obtain vital signs, paying particular attention to temperature
- Assess for level of consciousness or confusion
- Assess skin – will be hot to touch, flushed and moist
- Heart rate may be rapid and weak
- Breathing may be fast and shallow

Call Local EMS/911 for:

- All suspected cases of heat stroke (confusion, hypotension, any temperature greater than 105˚ F).

Refer to Local Healthcare System:

- Any suspected case of significant dehydration
- Any client with a temperature of greater than 103˚ F
- Any client whose symptoms do not resolve after treatment

Treatment:

- Cool the client by moving them to shade, into an air conditioned environment or wiping them with a cool wet cloth
- Replace lost fluids by encouraging the client to drink water

Additional Considerations:

- Certain populations are more vulnerable to heat exhaustion: older adults, chronic alcoholics, the obese and those taking medications such as antipsychotics and

antihistamines
- Recovery is usually rapid once actions have been taken to treat the heat exhaustion

See also: Fever, Dehydration.

Heat-Related Illness – Heat Stroke

Treatment Goal:

- Rapidly reduce client's temperature to within normal limits
- Prevent injury to client

Possible Causes:
Body fails to regulate it's own temperature, and it continues to rise. Body systems become overwhelmed by heat and stop functioning

History:

- Exposure to hot temperatures
- Vomiting
- Confusion
- Delirium.
- Headache
- Vertigo
- Fatigue
- Seizures/convulsions
- Unconsciousness

Assessment:

- Obtain vital signs
- Any temperature greater than 103˚ F (or high body temperature) is an emergency
- Assess for level of consciousness and signs of confusion
- Assess skin – it will be red, hot and dry, even in the arm pits
- Absence of sweating
- Listen to heart rate/breath sounds. Heart rate may be weak and rapid while breathing may be shallow and fast.
- Assess pupils – they may be dilated

Call Local EMS/911 for:

- If client's temperature exceeds 102.3
- All suspected cases of heat stroke (confusion, hypotension, any temperature greater than 105˚ F (Life threatening)

Refer to Local Healthcare System:

- Any client who may have symptoms of heat exhaustion

Treatment:

- Call the local EMS immediately
- Remove client from the hot environment to a cool area
- Elevate legs slightly
- Remove unnecessary clothing
- Reduce body temperature however possible – wrap client in cool, wet sheets or

apply cold packs to the groin, neck and armpits
- Fan the client to help increase evaporation
- Frequently monitor body temperature to make sure temperature is not lowered too far
- If EMS is delayed call the hospital emergency room for instructions

Additional Considerations:
- Infants and clients with diabetes, alcoholism, diarrhea and/or vomiting are at increased risk of heat stroke during hot weather.
- Risk of heat stroke is increased for all populations during very humid weather as the body is unable to sweat enough to reduce body temperature.
- Most people can eventually acclimate to a hot environment, but it may take several weeks to do so.

See also: Fever, Dehydration.

Indigestion – "Heart Burn"

Treatment Goal:

- Assess for more serious health condition
- Relieve discomfort

Possible Causes:

Generally due to eating unfamiliar or spicy food, eating too fast or too much or drinking alcohol. More serious or chronic causes of indigestion may be due to gastro-esophageal reflux disease, gallbladder disorders, ulcer or stomach cancer.
Acute myocardial infarction may be described by client as heart burn or indigestion

History:

- Onset of symptoms
- Location of indigestion (epigastric, behind breast bone, etc.)
- Any worrisome symptoms for a myocardial infarction (heart attack) such as shortness of breath, sweating, nausea, chest pain or radiating pain
- Any risk factors for a myocardial infarction such as prior heart disease, diabetes, family history, hypertension, smoking or obesity
- Recent change in diet
- Type/amount of food eaten
- Alcohol consumption (quantity and frequency)
- Recent changes in bowel habits
- Color of recent stools
- Presence of blood in vomit or stool
- Current medications, especially pain relievers (aspirin, ibuprofen)
- History of stomach ulcers or gastric bleeding

Assessment:

- Obtain vital signs
- Palpate abdomen for tenderness or rigidity
- Assess pain (Scale of 1-10)

Call Local EMS/911 for:

- Indigestion associated with sweating, shortness of breath, or pain radiating to the neck, jaw or arm
- Indigestion associated with abnormal vital signs
- Sudden and/or severe indigestion

Refer to Local Healthcare System:

- Clients with indigestion who also have risk factors for a myocardial infarction
- Frequent indigestion paired with weight loss or vomiting
- Black, tarry stools or "coffee grounds" in vomit (may need ER)
- Symptoms recur several times per week or wake the client from sleep

Treatment:

- Encourage client to eat smaller meals, reduce stress and maintain a healthy weight
- Encourage clients to avoid fatty foods
- Encourage clients not to lay down directly after eating
- Antacids may be effective at reducing symptoms
- Over the counter antacids, unless contraindicated is highly effective in relieving most cases of indigestion/mild reflux symptoms

Additional Considerations:

- Symptoms may increase during pregnancy or if the client is obese.
- Ulcers are characterized by epigastric abdominal pain that is made worse by either eating or by having an empty stomach. Eating small, frequent meals may provide temporary relief of discomfort but symptoms may flare at night.

See also: Abdominal Pain, Chest Pain/Pressure, Cramps – Abdominal, Diarrhea, Nausea/Vomiting.

Itching – Head

Treatment Goal:
- Prevent potential spread to others
- Relieve symptoms

Possible Causes:
Itching of the scalp could be due to dry skin (dandruff) or an infestation of lice

History:
- Intense itching of the head
- Recent close contact with someone known to have lice
- History of dry skin in the past

Assessment:
- Obtain vital signs
- Wearing gloves and using a tongue-depressor, inspect the client's scalp and hair roots for signs of flaking skin or presence of lice

Refer to Local Healthcare System:
- Suspected lice infestations should be referred to the local healthcare system for diagnosis and to direct treatment
- The overwhelming majority of cases of both dandruff and lice can be effectively managed with over-the-counter treatments

Treatment: Always use standard precautions.
- Lice: Instruct the client to avoid contact with others until the lice infestation is treated with medicated shampoo (RID, for example) and any remaining nits are removed with a fine-toothed comb. Dispose of the comb after use. All furniture, bedding, clothing and cloth items (e.g. stuffed animals) should be sprayed with a product containing the active ingredient permethrin or washed in the hottest water temperature possible. Other items may also be placed in plastic bags for two weeks to allow the lice to die. Check for the presence of lice on all family members, playmates and any potential close contacts.
- Monitor and direct cleaning of bedding, clothing and furniture if lice is discovered on one or more clients
- Dandruff: Encourage the client to use a shampoo that is geared specifically toward those with dry scalp (e.g. Head & Shoulders) and avoid over-drying the scalp with harsh styling products or hairdryer.

Additional Considerations:
- A lice infestation can be determined by inspecting the scalp and hair root for small white nits (eggs) that are attached to the hair or the insect itself which is small and dark.
- Lice can infest any part of the body with hair

See also: Lice.

Itching – Skin

Treatment Goal:

- Assess for more serious health condition
- Identify cause of symptoms
- Relieve symptoms

Possible Causes:
Contact dermatitis (skin allergy), plants (poison ivy/oak), skin products, detergents, metals, materials (e.g. wool). Hypersensitivity reactions, (insect bites, scabies, drug reactions). Scabies, skin infections, cold weather, prolonged exposure to water.

History:

- Known exposure to someone with itching of the skin
- Exposure to poison ivy, poison oak
- Recent use of an unfamiliar product (bath soap, detergent, perfume, etc.) which may have caused an allergic reaction
- Possible exposure to plants or insects
- Change in medications or new prescription
- History of atopic dermatitis or chronic skin condition

Assessment:

- Obtain vital signs
- Assess for presence of insect bites
- Assess for rash, hives, areas of redness or evidence of scratching
- Assess for raised area on skin or appearance of tunneling under the skin
- Look for evidence of vesicles (blisters) and/or pustules
- Observe the location and pattern (if any) of rash, bites or other skin changes
- If hives are present, assess for breathing difficulties or shortness of breath

Call Local EMS/911 for:

- Any expanding redness of the skin that covers a large area of the body, looks/acts like a burn and/or may be associated with a drug reaction
- Any itching lesions/hives that are associated with lightheadedness, low blood pressure, trouble breathing or other symptoms of anaphylaxis

Refer to Local Healthcare System:

- Any suspected case of fungal/bacterial infection or parasite infestation
- Itching that lasts for more than a few days or that comes and goes frequently should be evaluated for allergic reaction
- Any case of drug reaction
- Anyone with contact dermatitis of the face (especially near the eyes)

Treatment: Always use standard precautions

- For dry skin, encourage client to keep baths brief and to use

cool/lukewarm water. Pat dry. Body lotion should be applied while still damp.

- For contact dermatitis or poison ivy: Soothing lotions containing menthol, camphor, chamomile, eucalyptus or calamine may be effective at reducing symptoms.
- Corticosteroid creams and/or oral antihistamines may help reduce symptoms due to allergic reaction or poison ivy/oak, unless contraindicated.
- Parasites, fungal and/or bacterial skin infections will require treatment with prescription medications.
- Check to see if local area as any areas of poison oak/ivy and then alert others to avoid contact

Additional Considerations:

- Itching hands, especially with red streaks and spots, may be a sign of scabies. The presence of scabies does not become apparent until approximately three weeks after exposure.
- The presence of hives and/or extensive skin redness suggests a more serious hypersensitivity reaction.
- Plant contact dermatitis usually appears within 24 hours of exposure and new lesions may continue to appear for up to 14 days. Although the blisters themselves are not infectious, the plant oil can remain on objects (clothing, tools, pet fur, etc.) for a long period of time.

See also: Rash, Poisoning, Impetigo, Ringworm, Scabies, Pinworms, Chickenpox, Shingles.

Leg/Foot Injury and Pain

Treatment Goal:

- Prevent further injury from occurring
- Determine extent of injury
- Reduce discomfort

Possible Causes:
Muscle strain, dislocation, sprain, fracture, tendonitis, deep vein thrombosis, vascular insufficiency

History:

- Type of activity client was engaged in when the pain or injury occurred
- If the client felt and/or heard a bone snap
- Past medical history related to musculoskeletal injury and/or surgery
- If the pain is not related to an injury, assess for symptoms of a pulmonary embolism (chest pain, shortness of breath, hemoptysis, tachycardia)

Assessment:

- Obtain vital signs
- Assess pain scale of 0-10
- Assess all injuries for presence of a pulse distal to the injury, skin color and temperature, and range of motion. Do not force movement.
- Point tenderness over a specific area is often the sign of a fracture
- Strain: dull pain in the affected muscle that worsens with movement, swelling
- Tendonitis: pain at the joint not associated with any injury but may be due to repetitive use or infection
- Dislocation: swelling, deformity, severe pain, discoloration, tenderness and/or numbness of an affected joint
- Sprain/strain: pain and/or swelling at joint that worsens with movement, possible bruising around area of injury
- Fracture: pain and/or tenderness at site (usually with significant point tenderness) when touched or moved, client has difficulty moving the injured part, client may feel grating sensation, the injured part may move unnaturally, bruising may be present
- If the pain is non-traumatic, check to see if one calf is more swollen than the other, for calf tenderness or for a palpable clotted vein ("cord")
- If tendonitis is suspected, assess for an infection; check for warmth, redness and swelling, and check for pain with passive movement

Call Local EMS/911 for:

- Any extremity that is cool, pale or blue, or if a pulse cannot be detected distal to the injury
- All cases of severe pain, regardless of suspected cause
- Any leg pain with shortness of breath, chest pain or hemoptysis (coughing up blood). Or suspected deep vein thrombosis

Refer to Local Healthcare System:

- All suspected dislocations and fractures
- All suspected cases of tendonitis or infection
- All cases of moderate to severe pain, regardless of suspected cause.

Treatment:

- Sprain/strain: Rest and elevate the affected area, apply cool packs intermittently for the first 24-48 hours then switch to warm compresses. Apply supportive bandage (ACE wrap) to the affected joint. Loosen bandage if swelling increases or extremity becomes cold or mottled. Muscle sprains/strains respond well to NSAIDs (Ibuprofen, Naprosyn, etc.) if client requests pain relief and does not have any contraindications. Advise client to follow the manufacturer's recommended dosages.
- Tendonitis: Rest the affected area and apply ice packs intermittently for the first 24-48 hours. If client requests pain relief medication, non-steroidal anti-inflammatory medications work best at relieving pain and reducing inflammation, unless contraindicated. Assess for allergy to aspirin or NSAIDs.
- Dislocation: Do not move or try to put a dislocated bone back into place. Immobilize the joint and limb as much as possible. Client should not put weight on the affected extremity. Have client transported to a medical facility rapidly, via EMS if necessary.
- Fracture: Closed (no break in the skin): Immobilize the affected extremity and have client transported to a medical facility.
- Fracture: Open (skin is broken): Call local EMS. Using standard precautions, cut clothing away from the wound, being careful not to touch the exposed bone. Cover area with sterile dressing. If bleeding, apply direct pressure to wound. If EMS is not immediately available, splint the fractured area as it is and gently help the client into a comfortable position until EMS arrives. Client should not put weight on affected extremity.

Additional Considerations:

- When unsure of a diagnosis, treat the injury as a fracture. Definitive diagnosis requires professional assessment and radiologic testing at a medical facility.
- Geriatric clients are more prone to musculoskeletal injury and bone fracture.
- If client is to be transported to a medical facility for further treatment, do not give anything to eat or drink as surgical repair may be required.

See also: Bites, Blisters, Bruising, Frostbite, Cramps – Muscular, Cuts and Scrapes, Edema.

Nausea/Vomiting

Treatment Goal:

- Assess for more serious health condition
- Prevent dehydration

Possible Causes:

Nausea with or without vomiting can be precipitated by a wide range of conditions – many of which are associated with gastrointestinal disorders (e.g. cholecystitis, gastritis, hepatitis, viral infections of the intestines, food poisoning, intestinal obstruction and excessive drinking or eating). It could also be triggered by emotional upset, stress, migraine headaches or pregnancy. It can also be caused by more serious conditions (non GI) such as allergic reactions to bites/stings, gastrointestinal bleeding, heart attack, heat exhaustion, shock, sepsis and head injury.

History:

- Onset and duration of symptoms
- Differentiate between nausea, vomiting without emesis ("dry heaves") and vomiting with emesis
- Number of times vomiting has occurred within a defined period of time
- Color/amount of emesis (e.g. coffee ground-colored emesis three times a day for two days). Be particularly concerned about bloody, maroon or coffee-ground emesis.
- Recent eating pattern, including foods and medications
- Excessive drinking, including recent use/abuse of alcohol
- An allergic reaction to food, medicines or a bite or sting by an insect. See Bites protocols.
- Possibility of poison ingestion
- Prolonged exposure to high temperatures. See Heat Exhaustion protocol.
- Trauma or serious injury, especially to neck/head
- Recent diarrhea. See Diarrhea protocol
- Chest pain/pressure, sweating, and/or pain radiating to the neck, jaw or left arm See Chest Pain/Pressure protocol
- Known/suspected pregnancy
- Emotional upset
- Current medications

Assessment:

- Obtain vital signs, paying special attention to an elevated temperature, tachycardia, or low blood pressure
- Assess skin for presence/absence of sweat and presence or absence of bites and/or stings
- Assess mucous membranes (inside of mouth) for signs of dehydration
- Listen to abdomen for presence or absence of bowel sounds
- Palpate abdomen for tenderness, guarding and/or rigidity

Call Local EMS/911 for:

- All cases of possible head injury, heart attack, sepsis, allergic reaction/ anaphylaxis or shock
- Any client who is unconscious and vomiting
- Any client who is confused or has an altered mental status
- Any client with emesis that contains blood or is coffee ground-colored

Refer to Local Healthcare System:

- All cases of frequent vomiting that lasts longer than four to six hours, of the client not able to keep liquid down, or of vomiting that continues for more than one or two days
- Any suspected case of pregnancy that has not been previously diagnosed
- In children younger than two, any projectile vomiting (forceful vomiting that is expelled one to two feet)

Treatment:

- Encourage the client to rest and take frequent sips of fluids (diluted non-carbonated beverages, apple or grape juice (avoid citrus) or bouillon, weak tea, gelatin desserts) to prevent dehydration. Avoid solid food and fluids that are highly acidic (e.g. orange juice). Once vomiting has stopped, slowly work back to a regular diet.
- Encourage client who has vomited to attend to oral hygiene (gargle with mouthwash or brush teeth)
- Infants and children who are vomiting should be turned on their side to prevent emesis from entering their lungs. Children should be encouraged to take frequent sips of water or pediatric rehydration solution (e.g. Pedialyte) every 10-20 minutes to prevent dehydration. No Pepto-Bismol for children
- Always use standard precautions when contact with blood or body fluids is a possibility
- Encourage client to avoid taking in large amounts of food or liquids, even and especially as they begin to feel better
- Refer to Diarrhea protocol, if applicable

Additional Considerations:

- Infants, older adults and those with chronic illnesses are at higher risk for developing dehydration due to vomiting, especially if associated with diarrhea.
- Vomiting in infants and children is common and usually due to a viral infection, food poisoning, car sickness, colic and/or food allergies. Infants frequently spit up food after eating and this should not be confused with vomiting.

See also: Abdominal Pain, Cramps – Abdominal, Diarrhea, Fever, Heat-Related Illness, Indigestion, Influenza, Pregnancy, Substance Abuse/Withdrawal, Poisoning, Chest Pain/Pressure.

Neck Pain/Stiffness

Treatment Goal:

- Assess for more serious health condition
- Reduce discomfort

Possible Causes:
A stiff or painful neck can be due to muscle strain, spinal cord compression, or injury. It may also be a symptom of meningitis or encephalitis

History:

- Onset of symptoms
- Activity surrounding onset of symptoms, including trauma
- History of neck pain/stiffness in past, especially disc or vertebrae disorders
- Presence or absence of shooting pain or tingling sensation down one or both arms
- Recent fever

Assessment:

- Obtain vital signs, paying special attention to an elevated temperature. Document on *Health Assessment Record*
- If injury or trauma can be ruled out, assess neck for range of motion
- Assess hand strength by having client grip your hands simultaneously
- Assess area of discomfort for outward signs of injury
- Observe for *reflex* flexion of the hips and knees with *passive* flexion of the neck while client is in a supine position

Call Local EMS/911 for:

- In all cases of neck or head injury, do not move client or neck while waiting for EMS to arrive
- Any client with neck pain not associated with trauma-with headache, fever and pain on passive flexion of neck, nausea, and vomiting
- Any client with a past medical history of cervical/spinal surgery or disorder who has had a recent worsening of symptoms

Refer to Local Healthcare System:

- Any client with a suspected muscle strain that does not resolve within two days
- Any client who has a positive reaction to the passive flexion of the neck while in the supine position

Treatment:

- If a muscle strain is suspected, encourage the client to avoid engaging in strenuous activities and place a warm compress on the affected area for 24-48 hours
- If requested, non-steroidal anti-inflammatory medications may also be helpful in

reducing discomfort, unless contraindicated

Additional Considerations:

- An involuntary flexion of the hips and knees when you *passively* flex the neck of the supine client is known as a positive Brudzinski sign and may indicate meningitis or subarachnoid hemorrhage.

See also: Back pain, Cramps – Muscular, Earache, Headache, Influenza, Nausea/Vomiting, Sore throat, Meningitis, Fever.

Nose Bleed

Treatment Goal:

- Stop bleeding
- Assess for more serious health condition

Possible Causes:
Nose bleeds can be caused by dry air, infection, repeated blowing of the nose, scratching the nose or a blow/injury to the nose.

History:

- Onset of symptoms
- Activity engaged in when nose bleed began
- Any injury/trauma to nose or face
- History of coagulation problems
- Current medications, especially blood thinners

Assessment:

- Obtain vital signs, paying special attention to an elevated temperature
- Estimate amount of blood loss using an objective measure (e.g., bloody cloth 6cm x 8cm)

Call Local EMS/911 for:

- All cases of severe nose bleeds that cannot be stopped, particularly in clients taking blood thinners
- Clients who are hypotensive or tachycardic

Refer to Local Healthcare System:

- Any recurrent nosebleed
- Any elderly client with a nosebleed that does not immediately respond to treatment

Treatment: Always use standard precautions

- Have client sit with his or her head upright and lean slightly forward, keeping mouth open for breathing
- Have the client squeeze the nose on the soft cartilage portion – not the bone – continuously for at least 5-10 minutes
- Be sure to release the nose slowly and do not allow client to touch or blow the nose as this may cause a re-bleed.
- If bleeding continues, squeeze the nose for another five minutes and place an ice pack or cold cloth on the bridge of the nose to help constrict blood vessels
- If bleeding does not stop after the second episode of pinching, have client transported to the hospital (continue to pinch during transport)

Additional Considerations: Children frequently get nose bleeds that are not serious and stop in a few minutes nose bleeds in the elderly should be taken seriously
See also: Bleeding.

Paralysis/Weakness – Facial or Limb

Treatment Goal:

- Assess for more serious health condition
- Timely transfer to higher level of car

Possible Causes:

Paralysis that affects the face could be caused by Bell's Palsy, a transient ischemic attack (TIA) or a stroke (cerebrovascular accident – CVA)

History:

- Onset of symptoms: are symptoms still present or have they subsided?
- Presence of headache before or in conjunction with the paralysis/weakness
- Sudden paralysis or weakness on one side of the body with facial drooping
- Loss and/or slurring of speech
- Mental confusion
- Lack of muscular coordination
- Loss of bladder/bowel control
- History of blood clots or previous TIA/CVA
- Current medications, especially aspirin or other blood-thinner

Assessment:

- Call EMS-timely transfer of stroke victims to a hospital can mean better outcomes
- Obtain vital signs, paying special attention to an elevated blood pressure
- Assess hand strength by asking client to grip hands simultaneously
- Assess client's ability to speak clearly and to choose appropriate words
- Assess client's coordination of movements and ability to move upper and lower extremities
- Assess the client's ability to walk, observing gait and balance
- Check pupil size and reaction to light
- Assess facial symmetry. Look for differences between features of the right and left side of the face (e.g. smile/frown, raise eyebrows) and presence or absence of eyelid drooping.

Call Local EMS/911 for:

- Sudden signals of stroke think F.A.S.T.: Face, Arm, Speech, Time
- All cases of facial drooping or paralysis
- All cases of altered speech or limb weakness or paralysis
- All suspected cases of TIA or stroke

Treatment:

- Get the client to an acute care facility as quickly as possible. Do not give client anything to eat or drink. Do not give client any medications.

- If the client is having trouble with saliva, place client on their weakened side so secretions can drain from the mouth.
- Have the client to rest quietly until local EMS arrives. Comfort the client and family as much as possible.

Additional Considerations:

- A client's prognosis improves when they can be transferred to an acute care facility for diagnosis and treatment quickly
- A stroke is due to a lack of adequate oxygen getting to the brain either because of a blood clot or a brain hemorrhage.
- Bell's Palsy is a sudden weakening or paralysis of one side of the face due to malfunction of one of the cranial nerves. Symptoms mimic that of a stroke minus the weakening of the arm/leg of the affected side as in a stroke. Bell's palsy has been associated with herpes zoster.

See also: Stroke.

Rash

Treatment Goal:

- Assess for more serious health condition
- Relieve minor symptoms

Possible Causes:
Allergic reactions, fever, heat, (prickly heat) contact dermatitis (e.g. plants, metals) or infectious diseases

History:

- Recent change/addition in medications taken, Current medications taken
- Sensitivity/allergy to substances
- Pruritic (itchy) or not
- Recent exposure to others with rash
- Immunization history if infectious rash is suspected (e.g. measles, chickenpox)
- Past medical history
- Infant who has been dressed too warmly or exposed to hot weather

Assessment:

- Obtain vital signs, paying particular attention to any fever, tachycardia and hypotension. Document on *Health Record*
- Assess affected area for quality of rash: size, shape, pattern (linear, scattered, etc.), presence of hives, itching/burning, redness, etc.
- Assess rash for secondary changes (development of blisters, etc.)
- Prickly Heat will look like tiny pimples and usually appear on the head, neck and shoulders

Call Local EMS/911 for:

- Any reaction to food, medication or environmental allergen that causes lightheadedness, difficulty breathing or swallowing
- Any rash with fever or severe illness
- If prickly heat is accompanied by a fever of 100.4 degrees or higher in an infant younger than 3 months and if fever doesn't come down within 20 minutes of removing some of the infant's clothing

Refer to Local Healthcare System:

- Any rash that becomes blue or purple or if blood-red spots appear
- Any rash with large (greater than one inch in diameter) blisters
- Any rash that becomes worse or shows signs of infection
- Any painful rash
- Any rash that results from a bite or sting
- Any rash associated with medications
- Any rash on the face or near the eyes
- Itching is severe

- Rash is present concurrently with other symptoms

Treatment: Always use standard precautions

- For rashes of all origins, it is recommended that the area be kept clean and dry
- Dust powders and soothing lotions on the affected area and encourage client to wear loose-fitting clothing that will not rub the affected area
- Hydrocortisone cream may relieve minor allergic or inflammatory irritations. Do not use if infection is suspected.
- For contact dermatitis (such as poison ivy), soothing lotions containing menthol, camphor, chamomile, eucalyptus or calamine may be effective at reducing symptoms
- Corticosteroid creams and/or oral antihistamines may help reduce symptoms due to allergic reaction or poison ivy/oak, unless contraindicated.
- Topical anesthetic creams (over-the-counter benzocaine or lidocaine) may relieve the symptoms of minor burning and itching. Do not use on open wounds
- For possible food and environmental allergies, encourage the client to take an antihistamine (Benadryl), if not contraindicated, and avoid further contact with the allergen
- Diaper rash can be treated with a variety of barrier creams such as A&D ointment, Desitin, etc
- If infectious rash is suspected, contact the local public health department
- Do not overdress children and infants
- Keep children and infants sleeping areas as cool as possible
- Keep children and infant's skin cool and dry

Additional Considerations:

- Rashes are common in infants. Diaper rash being uncomfortable but not dangerous.
- Contact dermatitis caused by plants (poison ivy, oak, etc.) is not infectious. However, the plant oils may last on clothing, objects and/or pets for a long period of time.
- A painful rash that is located primarily on one side of the body or runs along a nerve path is suggestive of a herpes zoster (shingles) infection. See Shingles protocol

See also: Bites, Blisters, Burns, Fever, Heat-Related Illness, Influenza, Neck Pain/Stiffness, Impetigo, Ringworm, Scabies, Chickenpox, Herpes, Shingles, Mumps, Measles

Seizure/Convulsion

Treatment Goal:

- Protect client from injury during the seizure
- Ensure an open airway after the seizure

Possible Causes:

A seizure is caused by abnormal electrical discharges from the brain. Seizures can be caused by a primary disorder (e.g., epilepsy), head injury, stroke, brain damage at birth, brain tumor, infection (febrile seizures) or alcohol withdrawal.

History:

- History of previous seizures
- Current medications taken
- Any trauma or injury to the client
- Loss of memory immediately preceding event

Assessment:

- Obtain vital signs (watch for an elevated temperature, which may cause febrile seizures or temporary loss of breathing)
- Observe for twitching of the face or limbs
- Muscle spasms or tremors
- Loss of consciousness – partial or complete
- Loss of bladder or bowel control

Call Local EMS/911 for:

- All cases of seizure/convulsions especially the person has never had a seizure before and the seizure lasts longer than 5 minutes or seizure is repeated
- Does not regain consciousness
- Is pregnant
- Is a known diabetic
- Has sustained injury
- Shows life threatening conditions

Treatment:

- If the client starts to fall, try to gently guide their fall to prevent head injury
- Move any dangerous objects away from client
- DO NOT place anything in client's mouth
- Do not hold or restrain client
- Protect the person's head. Place a thin folded towel or clothing beneath it.
- After the seizure has stopped, turn the client on their side to prevent choking on vomit or secretions. Make sure the airway is clear.
- Check for other injuries post-seizure (i.e. broken bones, chipped teeth, bleeding)
- Febrile seizure: Help to prevent febrile seizures in children by controlling elevated temperatures with acetaminophen or ibuprofen – do not give aspirin to any client under the age of 18. If a febrile seizure does occur call local EMS and,

while waiting for their arrival, place cool washcloths on the client.

- Note: Check scene and if injuries are apparent following seizure complete an incident report.

See also: Fainting, Fever, Headache, Stroke, Diabetic Emergencies, Poisoning, Shock, and, Substance Abuse/Withdrawal.

Sore Throat

Treatment Goal:

- Assess for more serious health condition
- Reduce discomfort

Possible Causes:

Sore throats (also known as pharyngitis) are frequently caused by the same viruses that cause the common cold. Streptococcus (strep throat) is a less common but more serious cause of a sore throat.

History:

- Onset of pain
- History of recent fever
- Amount of pain (0-10 pain score)
- Pain on swallowing, difficulty swallowing or inability to swallow
- Presence of ear pain
- Recent symptoms of an upper respiratory infection

Assessment:

- Obtain vital signs
- Using flashlight, assess back of throat and tonsils for redness, pus, swelling

Call Local EMS/911 for:

- Clients that cannot swallow their own saliva or are having difficulty breathing

Refer to Local Healthcare System:

- Any sore throat associated with a fever
- Any sore throat with enlargement of the tonsils with or without pus

Treatment:

- Advise client that sore throats associated with the common cold typically resolve on their own within a day or two
- Sore throat lozenges and/or analgesics may help with discomfort.
- Encourage the client to drink adequate fluids
- Acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs) are frequently effective at reducing the pain, if not contraindicated
- Over-the-counter throat lozenges, sprays and gargles may provide temporary relief from pain

Additional Considerations:

- Some throat lozenges contain dextromethorphan which may not be good for elderly clients who are taking multiple medications
- Although children frequently have viral sore throats, strep throat is unusual in children younger than two years
- "Strep" throat is almost always associated with a fever. Viral sore

throat may or may not have a fever. Clients without a fever usually do not need to be seen by a physician.

See also: Congestion, Cough, Dehydration, Earache, Fever, Influenza, Neck Pain/Stiffness, Toothache, Mumps, Measles, Meningitis.

Splinter

Treatment Goal:

- Prevent injury to client
- Remove foreign object from under skin

Possible Causes:

Splinters can be caused by a sliver of any foreign material (wood, glass, etc.) that becomes lodged under the surface of the skin.

History:

- Type of material believed to have caused the splinter
- Date of last tetanus shot, if known

Assessment:

- Obtain vital signs
- Assess area surrounding splinter for bleeding or other injury

Refer to Local Healthcare System:

- Any splinter that cannot be removed with tweezers
- Any client with signs of infection around the affected area

Treatment:

- Wash hands with soap and water and put on clean exam gloves. Clean the area surrounding the splinter with soap and water, as well
- Place tweezers in boiling water for approximately five minutes to sterilize. If boiling water is not an option, hold instrument over a flame for 30 seconds to sterilize. Let cool before use.
- If splinter is sticking out of the skin, gently pull the splinter out with the tweezers at the same angle at which it entered. Once removed, wash the area with soap and water and apply a clean band aid. Watch for signs of infection such as redness, pus or red streaks leading up the body from the wound.
- Be sure to clean tweezers after use
- If the splinter breaks off under the skin or is deeply lodged, refer client to a medical facility for removal of the splinter and a possible tetanus shot
- Small splinters can be left untreated. After a few days, a small pocket forms around the splinter and they may come out spontaneously or become more easy to remove with tweezers.

See also: Infection.

Tooth Problems – Lost/Broken Teeth

Treatment Goal:

- Prevent injury to client
- Relieve discomfort

Possible Causes:
Cavities and infections can often cause teeth to become loose in the gum, thus leading to tooth loss. Teeth could also be knocked out by sports activities, fighting or facial trauma in an accident.

History:

- When and where the loss of or injury to the tooth occurred
- Circumstances surrounding loss
- History of dental problems
- Presence or absence of pain
- Pain score (0-10 scale)

Assessment:

- Obtain vital signs and document on *Health Record*
- Examine mouth for signs of the tooth injury

Refer to Local Healthcare System:

- Any client with a permanent tooth that has been broken, is loose, or was knocked out.

Treatment: Always use standard precautions

- If the tooth can be found, it should be handled very gently and only by the crown (avoid touching the root). Rinse the tooth off in cool water (no soap) and place it gently into the socket. Have client bite down on a piece of gauze or clean cloth to hold it in place. If unable to hold the tooth in place, gently wrap the tooth in gauze soaked in saline or water. Do not put the tooth in tap water or milk. Refer client to a dentist immediately – permanent teeth that have been knocked out may be able to be re-implanted if care is sought within 60 minutes.
- If bleeding is present, fold or knot a piece of gauze and place over the bleeding area in the mouth. Have client bite down on the gauze to apply pressure to the bleeding site for 20-30 minutes.
- A non-steroidal anti-inflammatory medication (ibuprofen, naprosyn, etc.) or acetaminophen may be helpful if the client is experiencing discomfort and requests a medication, unless contraindicated. Aspirin should not be taken because it may increase bleeding.

See also: Infection, Fever, Sore Throat.

Tooth Problem – Toothache

Treatment Goal:
- Prevent injury to client

Possible Causes:
Cavities and infection

History:
- Onset of symptoms
- Pain score (0-10 scale)
- Location and quality of pain (dull, sharp, stabbing, etc.)
- The presence of fever
- History of dental problems
- Sensitivity to hot or cold

Assessment:
- Obtain vital signs, paying special attention to the presence of fever
- Examine the face for swelling, redness or asymmetry

Refer to Local Healthcare System:
- Recurrent toothache or toothache that does not resolve within 1-2 days
- Any toothache associated with a fever, except in infants who may have a low-grade fever with teething
- Any toothache associated with facial swelling or asymmetry

Treatment:
- If client requests medication, aspirin, acetaminophen, naproxen or ibuprofen may be helpful at reducing discomfort, unless contraindicated. Avoid aspirin if the client may require a dental extraction. Do not given aspirin to children younger than 18 years.
- Place a cool compress on the face over the affected area.
- Over-the-counter medications for toothache (like Ambesol) may provide some relief from discomfort

See also: Infection, Fever, Sore Throat

Urination, Difficulty with

Treatment Goal:

- Assess for more serious health condition
- Reduce discomfort

Possible causes:
Kidney stones, urinary retention, urinary incontinence, infection of the urinary tract, enlarged prostate, sexually transmitted disease

History:

- Onset of symptoms
- Presence/absence of pain
- Pain score (0-10 scale)
- Presence of fever
- Frequency and/or urgency of urination
- Color of urine
- Recent increase or decrease in volume of urine produced
- Presence or absence of burning or irritation before, during or after urination
- History of urinary problems in the past
- Presence of penile or vaginal discharge
- Current medications

Assessment:

- Obtain vital signs
- Gently palpate abdomen to assess for bladder distention and/or tenderness
- Inquire as to start of symptoms-time since last urination

Refer to Local Healthcare System:

- Any client with a distended bladder who is unable to pass urine. Acute urinary retention and bladder distension lasting several hours can become an acute (EMS)medical emergency-the client is not likely to report this until uncomfortable
- Any client with urinary difficulties that do not resolve within one to two days or is associated with a fever
- Any client with urinary difficulties associated with pain and/or burning during urination, with or without a fever
- Any sexually active client with penile or vaginal discharge

Treatment:
If client is able to pass urine and the bladder does not feel distended upon palpation, encourage the client to drink more fluids than usual (unless contraindicated) but avoid caffeine and alcohol.

Additional Considerations:

- Nausea and/or vomiting and chills and/or fever may be indicators of urosepsis.

The presence of flank pain may be indicative of kidney infection.

- Incontinence, especially in dependent or debilitated people, may lead to urinary tract infections.

See also: Back Pain, Seizures/Convulsions, Dehydration, Fever, Heat-Related Illness, Confusion/Disorientation, Pregnancy, Rape/Sexual Assault.

Vaginal Discharge/Itching

Treatment Goal:

- Assess for more serious health condition
- Relieve discomfort

Possible Causes:

Frequently due to inflammation of the vagina caused by infection (bacterial or fungal) or chemical irritants (bubble bath, synthetic underwear, latex condoms/spermicide, etc.)

History:

- Onset of symptoms
- Color, consistency and amount of discharge
- Presence of foul odor
- Presence of itching, burning or pain
- Previous vaginal infections
- Possibility of sexually transmitted disease
- Recent antibiotic use
- Frequent douching
- Standing waist deep in high flood water for any period of time

Assessment:

- Obtain vital signs and document on *Health Record*
- Record symptoms as reported by client

Refer to Local Healthcare System:

- Any client with vaginal discharge with the exception of known yeast infections which have responded in the past to OTC medications
- Any child experiencing vaginal discharge

Treatment:

- Treatment will be based on the cause of the discharge. Refer client to the local health care system for diagnosis and treatment recommendation.
- If client has previously been diagnosed with a yeast infection and is familiar with the symptoms, over-the-counter treatment may prove effective.
- To help prevent future irritation, encourage client to bathe regularly, keep the groin area dry, wipe from front to back after urination/defecation and wear natural-fibered underclothing.

Additional Considerations:

- Newborns frequently will have vaginal discharge tinged with blood due to estrogen absorption from the mother. This should stop within two weeks after delivery.
- Vaginal discharge (aside from menses) in older children is abnormal and should be referred to a medical professional.

See also: Abdominal Pain, Back Pain, Bleeding – Internal, Cramps – Abdominal, Fever, Difficulty with Urination, Childbirth, Pregnancy, Miscarriage, Rape/Sexual Assault, Infection.

III. Special Considerations

Altitude Sickness – Acute Mountain Sickness (AMS)

Altitude sickness is divided into three syndromes:

- Acute Mountain Sickness (AMS)
- High Altitude Cerebral Edema (HACE), and
- High Altitude Pulmonary Edema (HAPE)

AMS is the most common form of altitude sickness and will be discussed in this protocol. HACE and HAPE are serious forms and would need immediate urgent care.

Treatment Goal:

- Assess for pre-existing health conditions and need for urgent treatment
- Relieve sensation of difficulty breathing when possible – assess if there is position of comfort or relief

Possible Cause:

- Transient shortness of breath or difficulty in breathing may be caused by high altitudes of 8,000-10,000 feet. Preexisting conditions may be exacerbated.

History

- Determine the presence of other acute symptoms
- Headache is the cardinal symptom sometimes accompanied by poor appetite, nausea, fatigue, dizziness, difficulty sleeping
- Headache onset is usually is usually 2-12 hours after arrival at a higher altitude often after the first night.
- AMS usually resolves with 24-72 hours of acclimatization.

Assessment

- Obtain Vital signs and document
- Listen to breath sounds for the presence of wheezes, rales or ronchi

Call local EMS/011 for:

- Symptoms increase and vital signs become unstable
- Symptoms are not relieved by descent to a lower altitude
- Any suspicion of a serious cause for shortness of breath
- Suspicion of stroke, heart attack or pulmonary embolus

Treatment:

- Observe and refer for urgent care if symptoms
- Stop the ascent or move to lower altitudes
- Supplemental oxygen may be needed and EMS should be called

Additional Considerations

- Volunteers and staff traveling to high altitude areas should be aware of signs and

symptoms of AMS and how it could affect pre-existing conditions.

- Katrina evacuees to Denver Colorado experiencing acute symptoms were found to be related to altitude sickness

Blood Pressure, Elevated/High

Treatment Goal:

- Assess for serious health condition
- Identify risk factors and co-morbidity
- Determine need of referral for additional work-up/ treatment for hypertension (HTN)
- Prevent serious complications from undiagnosed/untreated high blood pressure such as cardiovascular disease, kidney disease, eye damage or stroke.

Possible Causes:

An elevated blood pressure can be due to an established diagnosis of hypertension, or as a response to stress and anxiety. Elevated blood pressure is often a result of unhealthy life-style habits. The client may have a previously undiagnosed history of elevated blood pressure and would need follow up and monitoring for the condition.
An elevated blood pressure can be the result of certain medications or other diseases.
It can be hereditary or related to ethnicity.

History:

- Ask the client's age, the incidence of HTN rises in men after age 35, and in women after age 45, and certainly more likely in the elderly
- Determine presence of other concerning symptoms, such as headaches, chest pain, palpitations, shortness of breath, sweating, dizziness, nausea, or changes in vision
- Ask client for any past history of serious illness, especially previously noted situations of elevated blood pressure, a diagnosed history of hypertension, heart disease, diabetes, or kidney disease.
- Ask about risk factors such as:
    a. African-American descent
    b. Family history of HTN
    c. Family history of diabetes
    d. Smoking
    e. Being overweight
    f. Sedentary lifestyle, lack of exercise
    g. High stress levels
    h. Alcohol consumption
    i. Medication use, including steroids, decongestants, and anti-inflammatory drugs on a regular basis
    j. Low dietary intake of potassium, calcium or magnesium
    k. Excessive use of salt
    l. A diet that is high in fat, fast food or processed foods
    m. Client is pregnant

Assessment:

- Obtain vital signs and document on the *Health Record*
- Have client refrain from smoking or ingesting products that contain caffeine for

30 minutes before measurement. (can cause a transient raise in blood pressure)

- Have client sit in a chair with feet flat on the floor or lay supine, arms bared and supported at heart level
- Rest for at least five minutes before beginning blood pressure measurement. This helps eliminate activity-related factors that can cause elevation in blood pressure.
- Make sure to use the appropriate size cuff for the size of the arm (using the wrong size cuff results in inaccurate readings)
- Wrap cuff smoothly and snuggly around the upper arm, with the center of the bladder placed directly over the bend in the elbow and the cuff's lower edge placed about 2 fingers width above the bend. (incorrect placement will yield inaccurate readings)
- Take 2 or more readings, separated by 2 minutes and record. (averaging two or more readings from the same arm improves the reliability of the data)

Classification of Blood Pressure for Adults

Systolic		Diastolic	
Normal	<120	and	<80
Elevated	120-139	or	80-90
Stage 1 HTN	140-159	or	90-99
Stage 2 HTN	≥160	or	≥100

- **130/80** is considered the **upper limit** of normal;
  * In a **pregnant** woman, (at **any time** during the pregnancy)
  * If a client has **chronic kidney disease** or **diabetes**

Call Local EMS/911 for:

- Chest pain or discomfort or sudden signals of stroke think F.A.S.T.
- Blood pressure is 180/110 or higher
- Swelling of hands, feet and/or face
- Sudden, severe headache
- Sudden, **rapid** rise in BP
- A pregnant client with a BP >145/85
- If a pregnant client has a history of preeclampsia
- A client with a history of diabetes or kidney disease and a BP >160/95 (or health care system depending on co-morbidity).

Refer to Local Health Care System:

- If client has any of the risk factors stated above
- If client has been monitored daily for 5 days, and the average BP is in the elevated stage
- If client has never been diagnosed or treated for HTN
- If client has been treated, and following prescribed treatment and BP is still elevated

- If the client is pregnant
- If the client has multiple health problems (co-morbidity)

Treatment:

- Confirm elevated blood pressure
- Set up the client with a daily visit to HS and record the BP on the Health Record on health services record for 5 days in a row. Average the blood pressure readings.
- Complete initial assessment, evaluate, accurately stage and complete risk assessment
- Is secondary cause suspected?
- Engage client in Lifestyle modification education
- Consider referral

Additional Considerations:
Despite what many people think, high blood pressure usually does not cause any symptoms. It is often called the "silent killer" for this very reason. By the time a person has symptoms such as severe headaches, dizziness or lightheadedness; they may have had untreated hypertension for an extended period of time, and have already developed complications.

Childbirth, Emergency

Treatment Goal:
- Prevent injury to client or child
- Transfer client to medical facility as soon as possible

Possible Causes:
Full-term or pre-term delivery: If early in pregnancy and client is experiencing contractions/abdominal cramps and/or vaginal bleeding, see Miscarriage protocol.

History:
- Onset of contractions and how frequently (in minutes) client is having contractions
- Number of pregnancies carried to term in past
- Any medical problems during pregnancy
- Past medical history
- Current medications

Assessment:
Obtain vital signs and document

Call Local EMS/911 for:
- Contractions that are more frequent than every five minutes
- If the client feels the need to "push"
- A pregnant client who is in labor and has history of short labors

Refer to Local Healthcare System:
- Any client who has reported bloody show or leaking of fluid (water breaking)
- Any client who reports having "regular" contractions

Treatment: Always use standard precautions
- If at all possible, transfer client to a medical facility for delivery. If transfer is not possible, attempt to receive guidance from a physician or EMS dispatcher over the telephone.
- Place clean sheets or newspaper over a mattress or, if necessary, on the floor and have the mother lie on her back with her knees bent, feet flat and knees/thighs wide apart. Head and shoulders should be raised. Ensure privacy.
- Sterilize a knife or scissors by either boiling in water for at least five minutes or holding over a flame for 30 seconds. If boiling, leave the utensil in the water until ready to use. This will be used to cut the umbilical cord.
- Before delivery, gather together a blanket or towel to wrap the baby, strong string or shoelaces to tie off the umbilical cord, a pail (in case the mother vomits), a large plastic bag or container for the afterbirth (placenta), sanitary napkins and diapers.
- For delivery, wash your hands with soap and water and put on clean exam gloves. Do not place your hands or other objects inside the vagina. Once the baby's head is out, guide and support it to keep it free from blood and other secretions. Check to make sure the umbilical cord is not wrapped around the baby's neck. If the

cord is wrapped around the baby's neck, gently and quickly slip the cord over the baby's head. If too tight to slip over the head, the cord must be cut now to prevent the baby from strangling.

- Continue to support the head as the baby is being born. The baby will be very slippery so be very careful. Once the head and neck are out, the baby will turn on its side to allow passage of the shoulder. The upper shoulder usually emerges first. Carefully guide the baby's head slightly downward. Once the upper shoulder is out, gently lift the baby's head upward to allow the lower shoulder to emerge. *Do not* pull the baby out by the armpits. Carefully hold the baby as the rest of the body slides out. Note the time of delivery.
- To help the baby start breathing, hold the baby with his or her head lower than the feet so that secretions can drain from the lungs, mouth and nose. Support the head and body with one hand while grasping the baby's legs at the ankles with the other hand. Gently wipe out the nose and mouth with sterile gauze or a clean cloth. If the baby has not yet cried, slap your fingers against the bottom of the baby's feet or gently rub the baby's back. If unsuccessful, give artificial respiration through both the baby's mouth and nose, keeping the head extended. Once breathing, wrap the baby (including the top and back of the head) in a blanket or sheet to prevent heat loss. Place the baby on his or her side on the mother's stomach with the baby's head slightly lower than the rest of the body and facing the mother's feet. The umbilical cord should be kept loose. It is very important to keep the baby warm and breathing well.
- It is not necessary or desirable to cut the umbilical cord right away. If possible, wait about a minute until the cord stops pulsating. If the mother can be taken to the hospital immediately after the delivery of the afterbirth (which occurs 5 to 20 minutes after delivery of the baby) then the baby can be left attached to the umbilical cord and afterbirth. If you must cut the cord, tie a clean string around the cord at least four inches from the baby's body. Tie the string tight enough to cut off circulation in the cord. Using a second piece of string, tie another tight knot two to four inches past the first knot (approximately six to eight inches from the baby). With the sterilized utensil, cut the cord between the two ties.
- For delivery of the afterbirth, be patient. *Do not* pull on the umbilical cord to speed the delivery of the afterbirth. The mother's contractions will eventually push out the afterbirth. Place all afterbirth in a container and take it with the mother and baby to the hospital so that it may be examined.
- After delivery, place sanitary napkins against the mother's vagina to absorb blood. To help control bleeding, place your hands on the mother's abdomen and gently massage the uterus, which can be felt just below the mother's navel and feels like a large smooth ball. Do this every five minutes for an hour, unless medical assistance has arrived. If the bleeding is very heavy and/or prolonged, seek medical attention immediately. Keep the mother warm and comfortable.
- Encourage the mother to drink fluids.

See also: Abdominal Pain, Cramps – Abdominal.

Death/Serious Injury in Red Cross Facility

Treatment Goal:

- Provide privacy and support to family/other clients
- Contact appropriate authorities
- Document correctly
- Initiate condolence team

Possible Causes:

Death or serious injury could be due to natural causes ("old age"), exacerbation of a pre-existing condition, acute medical event (myocardial infarction), accident or criminal activity.

Call Local EMS/911 for:

- All situations requiring emergency medical care beyond the scope of HS protocols

Management:

- Use other Red Cross personnel to provide for privacy and to support family members or other concerned shelter residents or clients
- Contact local EMS to provide emergency medical care. EMS will determine the severity of the situation and do further notification if a death is involved. Follow the directions of the local EMS and avoid disturbing the scene of the incident.
- Contact local law enforcement if a criminal act is suspected. Follow the directions given by local law enforcement authorities. Also contact the Life, Safety and Asset Protection manager on the disaster relief operation or, if not available, contact the Life Safety and Asset Protection lead in the Disaster Operations Center at national headquarters.
- Complete a *Client Incident Report* and *Health Record* – documenting all known information about the client and the incident.
- Notify the HS manager at the disaster relief operation headquarters. The HS manager will contact the HS lead at national headquarters. Fax copies of the *Health Record* and the *Client Incident Report* to the Disaster Operations Center at National Headquarters, Attention: Health Services.
- The HS manager on the relief operation will notify Mass Care and Operations Management on the relief operation. Operations Management will ensure that the service area and the Disaster Operations Center at national headquarters are notified.
- The HS lead at national headquarters will contact our Claim Administrator.

Additional Considerations:

- Any death or serious injury in a Red Cross facility should be handled with the utmost consideration and respect for the client and his or her loved one. Ensure privacy for both the body and the remaining family and friends. Disaster Mental Health workers should be consulted to provide additional support.
- Document all events on the *Health Record* and *Client Incident Report* very carefully and provide whatever support is required by local EMS and law

enforcement.

Diabetic Emergencies

Treatment Goal:

- Prevent injury to client
- Assess for more serious health condition
- Replace medications if lost/damaged due to disaster

Possible Causes:

There are two types of diabetic emergencies: hyper- and hypoglycemia. Hyperglycemia (high blood sugar) can be caused by stress, illness, diet or lack of adequate control with diabetic medications. Diabetic ketoacidosis (DKA) is a particularly severe form. Hypoglycemia (low blood sugar) can be caused by over-treatment with diabetic medications and/or lack of adequate food intake.

History:

- Major signs and symptoms of diabetic emergencies are similar
- Type of diabetes: Type I (insulin-dependant) or Type II (non-insulin dependant)
- Normal daily blood sugar, if known (self-monitored)
- Type and dosage of diabetes medication taken and date/time of last dose
- Date/time and content of the last meal consumed and if there has been a recent change in diet
- Recent injury, infection, surgery or emotional stress
- Excessive thirst and/or drinking more water than usual
- Increased frequency and amount of urination
- Nausea and/or vomiting
- Confusion or loss of consciousness
- Abdominal pain
- Increased nervousness/anxiety
- Feeling or looking ill
- Shakiness/tremors
- Hunger
- Sweating (diaphoresis) and/or paleness

Assessment:

- Obtain vital signs and document
- Tachycardia and tachypnea can be a sign of DKA
- Abnormal pulse (rapid or weak)
- Assess mental status for signs of confusion
- Assist client, if necessary, in checking capillary blood sugar
- Assess level of consciousness
- Assess hydration status (skin turgor, mucous membranes, etc.)

Call Local EMS/911 for:

- Any client with confusions or a change in level of consciousness
- Any client with a blood sugar level greater than 300 for insulin-dependant diabetics or greater than 600 for non-insulin dependant diabetics

- Any client with a blood sugar level less than 50 for adults or less than 40 for infants and children that does not respond to oral glucose
- Any client with a symptomatic low blood sugar that does not feel better within five minutes of taking in sugar or carbohydrates

Refer to Local Healthcare System:

- Any client with a blood sugar greater than 300

Treatment:

If blood sugar is unknown, it may not be necessary to differentiate between insulin reaction and diabetic coma because the basic care for both conditions is the same and will not hurt the client until advanced medical care arrives. If client is conscious, give him or her sugar. Most candy, fruit juices and non-diet soft drinks have enough sugar to be effective. If the person's problem is hypoglycemia, the sugar will help quickly. If the person has hyperglycemia, the excess sugar will do no further harm.

- Hyperglycemia (blood sugar greater than 200): Encourage client to treat their blood sugar with their normal amount of insulin (sliding scale) or medication, if available. If insulin is unavailable, refer client to local healthcare system for treatment. Encourage client to drink water or other sugar-free non-carbonated fluids. Have client recheck their blood sugar one hour after treatment.

- Hypoglycemia (blood sugar less than 50 for adults and less than 40 for infants/children): Have client recheck their blood sugar as abnormal values are frequently inaccurate. If value is still low or client is experiencing symptoms of hypoglycemia, encourage client to eat or drink a snack containing sugar or carbohydrates (fruit juice, candy, crackers, etc.) – but only if fully conscious. If client is confused but conscious, apply a glucose substance under the tongue (honey or cake frosting work well). Check vital signs frequently and if possible have the client check blood sugar level every 15 minutes until stable and greater than 70.

Additional Considerations:

- Signs of hyperglycemia include excessive thirst and/or drinking more water than usual, increased frequency and amount of urination, nausea and vomiting, and abdominal pain. Hyperglycemia may lead to diabetic ketoacidosis (DKA) or hyperglycemic hyperosmolar state (HHS). Both are medical emergencies.

- Signs of hypoglycemia include increased nervousness and/or anxiety, shakiness, shivering, hunger, sweating, paleness, hypotension and/or tachycardia. Hypoglycemia is sometimes referred to as "insulin shock" and is a medical emergency.

- Experienced clients often recognize the difference between hyper- and hypoglycemia by how they feel.

- Blood sugar levels that fall outside of the normal ranges preset in a glucometer are frequently unreliable and should be rechecked. When in doubt, treat for hypoglycemia.

- In severe cases of both hyper and hypoglycemia, clients can become confused or even unconscious.

See also: Seizures/Convulsions, Dizziness, Fainting, Confusion, Anxiety.

Immune-Compromised Clients

Treatment Goal:

- Prevent injury to client
- Reduce risk of infection

Possible Causes:

Immune deficiencies could be caused by congenital disorders or through acquired means such as cancer, kidney failure, liver/spleen disease, HIV/AIDS or malnutrition. Deficiencies in the immune system can also be caused by certain medications, specifically cancer therapies, organ transplant medications and corticosteroids.

History:

- Type of immune-deficiency (congenital vs. acquired infectious vs. noninfectious)
- Presence of any current infections
- Past medical history
- Current medications taken

Assessment:

- Obtain vital signs, paying special attention to temperature
- Assess for signs and/or symptoms of infection

Refer to Local Healthcare System:

- Any illness or infection that may affect the wellbeing of the client

Treatment:

- Use universal precautions for all possible exposures to blood or body fluids
- Provide all clients with a clean and sanitary environment. Encourage hand washing by verbally reminding clients as well as posting appropriate signage.
- When possible in a shelter, offer the immune-compromised client a separate living space or arrange for alternate housing (hotel, trailer, etc.)
- Identify shelter residents who may potentially be infectious (with influenza, etc.) and move them to the Isolation Care Area of the shelter
- When there has been a spill or accident involving the body fluids of someone infected with the HIV virus, use standard precautions (appropriate for the situation) and an alcohol-based cleaning product to thoroughly clean the soiled equipment and environment. Be sure to dispose of soiled materials in a biohazard container. To prevent exposure, ideally clients could clean up their own spill.

Additional Considerations:

- HIV/AIDS is the most common acquired immune-deficiency
- Individuals who are immune-compromised may be more susceptible to severe infections. Frequently, minor illnesses and infections progress to more serious illnesses in those who are immune-compromised
- Aside from HIV/AIDS, most other causes of immune-deficiency are not infectious and there is no need to treat the client as such

- HIV/AIDS cannot be spread by touching intact skin, so there is no need to wear gloves unless there is a possibility of blood or body fluid exposure

See also: Infection, Fever

Infection

Treatment Goal:

- Identification of infectious process
- Proper treatment or referral
- Reduce complications
- Assess for more serious health condition

Possible Causes:

Infection can be caused by any number of microorganisms: bacterial, viral or fungal. Signs and symptoms of infection will depend on the location and source of the infection.

History:

- Onset of symptoms
- Location of wound, if present
- Pain score (0-10 scale)
- Nausea and vomiting, generalized malaise, chills
- History of immune-deficiency
- Past medical history
- Current medications taken

Assessment:

- Obtain vital signs, pay particular attention to an elevated temperature and document
- Assess wound (if present) for redness, swelling, pus, hardening of the tissue or red streaks that originate at the wound

Refer to Local Healthcare System:

- All clients with signs and symptoms suggestive of an infection

Treatment

- For wounds, see Cuts and Scrapes protocol
- For potential respiratory infection, see Congestions – Lower Respiratory protocol and Cough protocol
- For potential urinary tract infection, see Urination, Difficulty With protocol
- For potential vaginal infection, see Vaginal Discharge/Itching protocol
- For potential eye infection, see Eye Inflammation/Pain protocol
- For potential ear infection, see Earache protocol
- For potential influenza, see Influenza-Like Illness protocol
- See Fever protocol

See also: Fever.

Miscarriage/Missed Abortion/Spontaneous Abortion

Treatment Goal:

- Early recognition and identification of possible miscarriage
- Timely referral for OB/GYN evaluation

Possible Causes:

Threatened fetal loss or Fetal loss before week 20 of pregnancy: May be complete or incomplete loss of fetal tissue

Miscarriages are common and can occur naturally or due to trauma and/or injury to mother. May be due to uterine anomaly, incompetent cervix, fetal genetic factors

History:

- Onset and type of symptoms (abdominal cramping, abdominal pain, vaginal bleeding, etc.)
- Weeks gestation
- Number of previous pregnancies
- History of miscarriage in the past
- Past medical history; with attention to autoimmune disease, diabetes, infections
- Current medications

Assessment:

- Obtain vital signs and document on *Health Record*

Call Local EMS/911 for:

- Any pregnant client who experiences heavy or continuous bleeding
- Any pregnant client who has abdominal pain
- Any client that is tachycardic or hyper/hypotensive.
- Any client that has both cramping and bleeding that occurs together

Refer to Local Healthcare System:

- All pregnant clients who experience abdominal cramping or vaginal spotting

Treatment:

- Encourage the client to rest in most comfortable position possible until advanced medical assistance arrives
- Protect woman from getting chilled or overheated
- Take steps to minimize shock if profuse vaginal bleeding
- Provide for privacy
- If any tissue or unusual-looking clots pass, save in a container to bring to the doctor's office for inspection

Additional Considerations:

- Miscarriages occur in approximately ten percent of pregnancies, usually within the first twelve weeks of pregnancy

See also: Abdominal Pain, Bleeding, Cramps – Abdominal.

Poisoning: National Poison Control Center 1-800-222-1222

Treatment Goal:

- Prevent injury, illness or death from poisonous substance
- Appropriate decisions about care and referral-Poison Control Center will direct these decisions
- Determination of life-threatening vs nonlife-threatening exposure to poison

Possible Causes:

Poisoning can be either intentional or unintentional. Poisons can enter the body through ingestion, injection, inhalation, absorption. Prescription and non-prescription medications, household products, toxic gases and certain foods are the most common causes of poisoning but any substance, taken in sufficient quantity, can be harmful.

History:

- Name and amount and location of substance, if known
- Time frame since poisoning
- How it entered the body
- Intentional (suicidal gesture) or unintentional
- Past medication history
- Current medications taken

Assessment:

- Obtain vital signs and document on *Health Record*
- Assess for level of consciousness and respiratory and circulatory status
- Question if client is pregnant or possibly pregnant-important for poison control reporting
- Assess pupil size and reaction to light
- Record symptoms-look for nausea, vomiting, diarrhea, chest or abdominal pain, breathing difficulties, sweating, loss of consciousness, seizures, burn injuries around/in mouth or skin, headache, dizziness, weakness, irregular pupil size, burning or tearing eyes, abnormal skin color

Call Local EMS/911 for:

- Any client who has been exposed to a toxic substance and is confused or has abnormal vital signs
- Any client who intentionally exposes himself/herself or another person to a harmful substance

Refer to Local Healthcare System:

All other cases of exposure or suspected exposure to a harmful substance

Treatment: Call local poison control number, then follow-up with either local EMS (for unstable clients) or the national phone number for the poison control center (1-800-222-

12220

Follow the directions of the poison control center:

- If ingested, do not give anything to eat and drink unless specifically directed to do so by poison control
- Remove client from source of poison if necessary and possible
- For ingested poisons- If directed by poison control center- give client syrup of ipecac or activated charcoal. Follow dosage instructions per client age/weight
- Apply clean exam gloves in situations where contact with the hazardous substance is possible. Remove client from exposure, if possible (chemical spill, toxic gas, etc.)
- If dry substance, use gloved hand or cloth to brush off chemical. Even though dry chemicals can be activated by water, continuous running water in most cases will flush the chemical from the skin before the water can activate it
- If substance is present on the skin or in the eyes, and if directed so by poison control, flush the area with copious amounts of water. (shower with cool water), and continue to do so until advanced medical care arrives. If treatment is required, transfer client to a local medical facility.
- If client vomits, use a clean container to save some of the vomit to send with client to hospital
- If it is safe and possible, send the substance or container to the hospital with the client to assist with diagnosis and treatment
- Food poisoning symptoms can start between 1-48 hours after eating contaminated food. If suspected food poisoning in a shelter environment, the shelter manager must be notified immediately
- Victims of inhaled poisons need oxygen as soon as possible. If available and trained to do so, administer oxygen at 2 liters/min until advanced help arrives

Additional Considerations:

- Children and older adults are at highest risk for unintentional poisoning; children from getting into household products and older adults from confusion over medications.
- There is a National Association of Poison Control Centers for more information.

See also: Abdominal Pain, Breathing Problems, Seizures/Convulsions, Diarrhea, Dizziness, Fainting, Indigestion, Confusion/Disorientation, Nausea/Vomiting, Rash.

Pregnancy

Treatment Goal:

- Maintain a healthy pregnancy

History:

- Weeks of pregnancy and anticipated due date
- Number of previous pregnancies and deliveries
- Past medical history
- Current medications taken

Assessment:

- Obtain vital signs and document.

Refer to Local Healthcare System:

- Any pregnant client with no prenatal care
- Any vaginal bleeding
- Stomach pain or cramps
- Persistent vomiting
- Severe, persistent headaches
- Swelling of the face or fingers
- Blurring or dimness of vision
- Chills and fever
- Sudden leaking of water from the vagina
- Seizures
- Difficulty breathing
- High blood pressure

Management and Health Teaching:

- Encourage the client to eat well, including fruits, vegetables and fiber in her diet. A prenatal vitamin containing iron and folic acid may be recommended by the client's physician.
- The client should consult with her physician before taking any medication, even over-the-counter medications, as they may be contraindicated in pregnancy.
- Ensure all pregnant clients continue with regular prenatal visits, even if she has no complaints. Assist with appointments in local area if client is displaced for any length of time.

See also: Dizziness, Fainting, Nausea/Vomiting, Abdominal Pain, Emergency Childbirth

Rape/Sexual Assault

Treatment Goal:

- Prevent further injury to client
- Preserve potential evidence

Possible Causes:
Unwanted fondling or (forceful) intercourse

History:

- Avoid questioning client about details surrounding the incident as this information may become part of a criminal investigation

Assessment:

- Obtain vital signs
- Assess for cuts, bruises or burns that require immediate attention

Refer to Local Healthcare System:

- All suspected cases of rape and sexual assault

Management and Health Teaching:

- Call the police immediately to report the crime
- Comfort the client and provide emotional support. Consult with Disaster Mental Health and the Life Safety and Asset Protection activity. Do not leave the client alone.
- Treat noticeable injuries like cuts, bruises or burns that require immediate care
- Encourage the client to NOT change clothes, shower or bathe, brush his or her teeth, or eat and/or drink anything as this may hinder the ability to collect evidence
- Refer client to a trusted physician or to the local emergency department for medical treatment
- Preserve any evidence
- Maintain safety for yourself as well as client
- Be aware that in a confused disaster environment, sexual predators may seek out victims that may include children as well

Additional information:

- Rape is a crime in every state
- Sexual assault includes forced vaginal or anal intercourse, oral sex, penetration with an object, and/or forced touching or fondling

Shock

Treatment Goal:

- Prevent injury to client
- Assess for more serious health condition

Possible Causes:

There are several types of shock which are caused by various conditions. Anaphylactic shock is caused by an allergic reaction to a medication, food or insect sting. Cardiogenic shock can result from myocardial infarction or other cardiac disease. Shock can also be caused by a severe injury that results in heavy blood loss or lack of oxygen. Insulin shock is due to hypoglycemia and septic shock is caused by a severe infection

History:

- Known allergies to foods, insect stings or medications
- Past reactions to allergens
- Cardiac disease, past history of MI
- Recent trauma or injury
- Recent fever, infection or illness
- For diabetics, time and amount of last dose of insulin and time and quantity of last meal

Assessment:

- Obtain vital signs and document.
- Pulse may be rapid and weak and breathing may be rapid and shallow
- Drop in blood pressure
- Look for other signs of shock which include: restlessness, irritability, excessive thirst, N&V
- Look for signs of bleeding and, if possible, stop it immediately
- Assess respiratory and circulatory status ; rapid and weak pulse
- Level of consciousness; drowsiness, loss of consciousness
- For diabetics, capillary blood glucose level
- Assess skin for sweating, paleness, ashen, bluish cool, moist skin
- Check pupils for size and reaction to light

Call Local EMS/911 for:

- All cases of suspected shock, regardless of cause

Treatment:

- All types of shock, regardless of cause, are medical emergencies and local EMS should be contacted immediately
- If client is not breathing effectively or has no pulse, initiate CPR
- Keep the client lying down with feet elevated 8-12 inches (if the client is conscious and does not have injuries to the back, neck or head)
- Further treatment will depend on the cause of shock

- If available, anaphylactic shock can be treated with an anaphylaxis emergency kit (Epi-pen) while waiting for EMS to arrive, if client has his or her own kit
- For shock due to volume loss (e.g., bleeding), attempt to prevent further loss of fluid
- Insulin shock can be treated with food containing sugar (fruit juice, honey, sugar water), if client is conscious
- For suspected septic shock, keep the client lying down and cover with a light blanket until EMS arrives

Additional Considerations:

- Call 911 immediately for any client that is confused, hypotensive or severely tachycardic

See also: Bleeding, Seizures/Convulsions, Dehydration, Diarrhea, Fever, Confusion/Disorientation, Infection, Chest Pain/Pressure, Stroke

Stroke

Treatment Goal:

- Prevent injury to client
- Decrease chances of permanent damage by rapid assessment and transport to higher level of care

Possible Causes:

Strokes are caused by a lack of oxygen to the brain caused by either a bleed in an artery (hemorrhage) or by a blood clot

History:

- Onset of symptoms – are symptoms still present or have they subsided?
- Presence of headache before or in conjunction with facial paralysis
- Sudden paralysis or weakness on one side of the body with facial drooping
- Loss and/or slurring of speech
- Loss of vision in one eye or visual field in both eyes
- Mental confusion
- Lack of muscular coordination
- Loss of bladder and/or bowel control
- History of blood clots or previous TIA/CVA
- Current medications, especially aspirin or other blood-thinner
- Pain behind one ear or piercing pain of the face, scalp or ear

Assessment:

- Check scene, then check person
- Obtain Consent
- Sudden signals of stroke, THINK F.A.S.T.
  - Face- weakness on one side of the face and ask the person to smile
  - Arm- Weakness or numbness in one arm ask the person to raise both arms
  - Speech – slurred speech or trouble getting words out Ask the person to speak a simple sentence
  - Time- Note time when signals were first observed
- Obtain vital signs, paying special attention to an elevated blood pressure
- Assess client's coordination of movements and ability to move upper and lower extremities
- Assess the client's ability to walk, observing gait and balance
- Check pupil size and reaction to light
- Assess facial symmetry. Look for differences between features of the right and left side of the face (e.g. smile/frown, raise eyebrows) and presence/absence of eyelid drooping.

Call Local EMS/911 for:

- All cases of facial drooping or paralysis, and/or can't speak
- All suspected cases of TIA or stroke

Treatment:

- If unconscious, maintain open airway
- Monitor ABCs
- Get the client to an acute care facility as quickly as possible
- Do not give client anything to eat or drink
- Do not give client any medications
- Place client on their weakened side so secretions can drain from the mouth
- Have the client to rest quietly until local EMS arrives
- Provide privacy
- Comfort the client and family as much as possible

Additional Considerations:

- A client's prognosis improves when they can be transferred to an acute care facility for diagnosis and treatment within 30 minutes of onset of symptoms.

See also: Paralysis/Weakness – Facial or Limb, Seizures/Convulsions, Headache.

Substance Abuse/Withdrawal

Treatment Goal:

- Early recognition of withdrawal symptoms
- Care appropriate and timely referral to appropriate setting

Possible Causes:

Substance abuse can be caused by taking in excessive and persistent amounts of alcohol, illicit drugs and/or prescription medications taken outside the usual standards of medical practice or medical need. Steroids, growth hormone, diuretics and laxatives are also commonly abused substances. Withdrawal symptoms are caused when the client stops using the addictive substance.

History of substance abuse:

- Recent change in mood or behavior
- Slurred or incoherent speech
- Sudden loss of weight or inattention to personal hygiene
- Past drug use/abuse (type of drug, amount taken, last time drug was used)
- Past medical history
- Current medications taken

History of withdrawal:

- Nervousness, sleeplessness
- Nausea, vomiting, diarrhea (heroin)
- Muscle pain
- Agitation, hallucinations (alcohol)
- Last use of substance
- Length and frequency of prior use
- Past medical history
- Current medications taken

Assessment:

- Obtain vital signs, if client is cooperative and document
- Assess level of consciousness, orientation to person, place and time
- Observe movements for coordination
- Listen for slurring of speech or nonsensical conversation
- Check arms and legs for signs of injection marks
- Smell for the scent of alcohol
- Check pupils for size and reaction to light

Call Local EMS/911 for:

- Any client who appears to be intoxicated or under the influence of a harmful substance and has an altered level of consciousness (difficult to arouse) as they may experience a drug-related emergency (overdose) or may attempt to harm themselves or others
- Any client with an altered level of consciousness or confusion

- Call local law enforcement if client becomes aggressive or uncooperative with efforts to help

Refer to Local Healthcare System:

- Any known or suspected alcoholic that has not had access to alcohol recently and is experiencing symptoms of alcohol withdrawal
- Any known or suspected drug abuser that has not had access to their substance recently and is experiencing symptoms of withdrawal

Treatment:

- First, assess whether the situation is one that can be handled safely or if outside help is needed. If client is sleeping with normal breathing, and can be easily aroused, no immediate treatment is required.
- If unconscious, make sure the client is breathing. Initiate CPR, if necessary, and contact local EMS.
- If conscious and under the influence of a harmful substance, ask the client what drug he or she took, the amount and when it was taken. Contact local EMS and convey this information to them. Keep client awake and talking until EMS arrives. If client becomes aggressive, keep yourself and others away from client until help arrives – DO NOT attempt to restrain client. Consult with Life Safety and Asset Protection, if necessary.
- If vomiting, place client on his or her side to help prevent emesis from entering the lungs.
- Alcoholics who are experiencing symptoms of withdrawal typically self-medicate themselves by drinking.
- Refer client to Disaster Mental Health worker and the local health care system if client would like information regarding rehabilitation.

Additional Considerations:

- Signs of drug usage and treatment will depend on the particular substance being abused.
- Nearly eight percent of the US population has a problem with alcohol use, with men being four times more likely than women to become alcoholics.
- Alcohol withdrawal symptoms usually occur 12-48 hours after the individual stops drinking and are characterized by sweating, weakness, tremors and perhaps seizures and hallucinations.

See also: Nausea/Vomiting, Anxiety, Diarrhea, Seizures/Convulsions.

Violence/Domestic Abuse

Treatment Goal:

- Identify potential cases of abuse and/or neglect
- Report such cases to the appropriate authorities
- Maintain safe environment

Possible Causes:

Abuse can be seen in various forms – emotion, physical or sexual – and usually involves a family member, neighbor or some other adult

History:

- Frequent complaints of pain or illness
- Injury that does not fit the description of what caused it
- Pain during urination
- Frequent broken bones
- Excessive aggression
- Social withdrawal or depression
- Child who has an unusual fear of adults

Assessment:

- Obtain vital signs and document
- Observe for signs of malnutrition or unkempt appearance (possible neglect)
- Check skin for unexplained bruises, burns or cuts that may be at various stages of healing (physical abuse)

Call Local EMS/911 for:

- Any serious injury to a client
- Notify local law enforcement of any violent or threatening behavior in a client in shelter

Refer to Local Healthcare System:

- Any client suspected of being physically or sexually abused

Treatment:

- Provide comfort to the client and treat noticeable injuries such as cuts, bruises or burns
- Consult with a Disaster Mental Health worker and Life Safety and Asset Protection regarding the most appropriate referral
- If child abuse or elder abuse is suspected, local authorities should be contacted
- Suspected cases of sexual abuse or rape should be reported to local law enforcement. See Rape protocol.
- Be aware that in the shelter environment that tensions will be heightened and there may be increased risk for violence among shelter residents
- Stay aware of environment
- Consult with Disaster Mental Health to strategize regarding stress reduction in at

risk families and clients

Additional Considerations:

- Many states have laws that require health professionals to report suspected cases of violence, abuse or neglect. If you are unsure of the law in the state where you are working, refer *all suspected cases* to the local healthcare system so they may take appropriate actions.
- Children and older adults are at higher risk of being abused than the general population

See also: Arm/Hand Injury and Pain, Bleeding, Bruising, Burns, Cuts and Scrapes, Leg/Foot Injury and Pain, Rape/Sexual Assault.

IV. Communicable Diseases

Fifth Disease

Treatment Goal:

- Relieve discomfort
- Prevent spread to pregnant women
- Differentiate from other viral illnesses causing rashes

Possible Causes:

Viral disease affecting primarily school aged children, with peak in late winter and early spring generally harmless in children but poses a slight risk to developing fetuses.

History:

- Typical bright red non-tender facial rash producing "slapped cheek" appearance
- Lacy pink rash on the backs of arms, legs, torso, and buttocks
- Rash comes and goes for several weeks in response to changes in temperature and sunlight
- Polyarthritis and arthralgias-usually involving small joints of extremities in symmetric fashion
- Mild fever

Assessment:

- Obtain vital signs and document on *Health Record*
- Note presence and characteristic of rash
- Note if rash worsened by heat or sunlight
- Note if rash itches or not. (Fifth disease rash is nonpruritic or not itchy)
- Inquire as to initial start of rash (most contagious the week before rash starts)
- Inquire as to who the child was near in week prior to development of rash

Refer to Local Healthcare System:

- Any pregnant woman who reports being exposed to someone with Fifth disease or who exhibits this characteristic rash
- Any child who exhibits high fever (over 102)
- Joint pain worsens or does not improve

Treatment:

- Treatment is supportive only
- Non-steroidal ant inflammatory drugs for arthralgias/arthritis
- Follow manufacturer's dosage instructions for age
- Reassurance to parents that illness is self-limiting and may last 1-2 weeks

Additional Considerations:

- The rash will spare the area around the nose and mouth, so is classic and characteristic of Fifth Disease

- Peak age 5-18 years
- Infection is early pregnancy may result in fetal death (10%) or severe anemia but is usually asymptomatic and is NOT associated with congenital malformations

Hepatitis

Treatment Goal:

- Assist in adequate medical evaluation and referral to public health/health care system
- Prevent transmission of virus to others
- Prevent complications

Possible Causes:

Inflammation of the liver due to any cause Viral hepatitis (A, B, C, D, E) can be either short lived (acute) or last for at least six months (chronic). Non-viral hepatitis is usually caused by excessive alcohol intake or use of certain medications or drugs. Hepatitis A and E are caused by infected stool which can be transmitted by improper food handling or eating shellfish taken from a high sewage waterway. Hepatitis B, C and D are transmitted through infected blood and body fluids passed to others through sharing of needles (IV drug use or tattoos), contaminated blood, sexual intercourse or from an infected mother to her baby.

History:

- Onset of symptoms
- Poor appetite
- Flu-like symptoms (nausea/vomiting, fever, joint pain)
- Recent darkening of the urine
- Travel overseas or to an underdeveloped country
- Recent bout with food sickness
- IV drug use
- Tattoos
- Unprotected sexual intercourse
- Past medical history
- History of vaccination against Hepatitis A or B
- Current medications

Assessment:

- Obtain vital signs
- Assess skin for presence of red, itchy hives
- Assess skin and the whites of the eyes for a yellow discoloration (jaundice)

Refer to Local Healthcare System:

- All suspected cases of undiagnosed hepatitis
- Any client with a rash associated with fever
- Any client who shows signs of jaundice

Treatment

- Prevention: Encourage clients to reduce or eliminate high-risk behaviors – IV

drug use, unprotected sexual intercourse, etc

- Once infected, client symptoms are managed but there is no treatment for the virus. Alcohol should be avoided.

Additional Considerations:

- Acute viral hepatitis occurs suddenly and usually lasts just a few weeks – producing symptoms that range from a mild flu-like illness to liver failure
- Cases of Hepatitis A and E are typically mild (except in pregnancy) and usually resolve without treatment. There are no chronic effects nor does the person become a chronic carrier of the virus. Nonetheless, these cases of hepatitis can lead to outbreaks in unsanitary conditions.
- Vaccination currently exists for only Hepatitis A and B. Those at high-risk of exposure are encouraged to get vaccinated (health care workers, IV drug users, etc.).

See also: Fever, Nausea/Vomiting, Abdominal Pain.

Herpes Simplex Viruses (HSV-1 and HSV-2)

Treatment Goal:

- Reduce discomfort
- Prevent transmission to others

Possible Causes:

HSV-1 and HSV-2 are caused by infection with the herpes simplex virus producing small, painful, fluid-filled blisters on the skin or mucous membranes, is highly contagious and transmitted by direct contact. Herpes simplex-1 is generally located on the lips or inside the mouth while Herpes simplex-2 is found on or near the genitalia.

History:

- Onset of symptoms
- Recent occurrence of HSV-1 trigger (fever, menstruation, emotional stress, upper respiratory infection)
- Presence of sores around lips or in the mouth
- Presence of sores in the genital area
- Fever
- Pain score (0-10 scale)
- Headache or body aches

Assessment:

- Obtain vital signs
- Assess inside mouth for swelling of the gums or red, fluid-filled sores on the mucous membranes

Refer to Local Healthcare System:

- Any previously undiagnosed case of potential herpes virus for definitive diagnosis
- If sores have lasted more than 2 weeks
- Any client with a potential herpes sore in/near the eye

Treatment:

- There is currently no treatment to eradicate the virus. Medication (anti-virals) can help to alleviate some of the symptoms and reduce the time of active infection by a day or two
- Clients experiencing sores should keep the area clean and dry. Placing a cold compress on cold sores may help to alleviate some of the discomfort.
- To help prevent the spread of the virus to others, clients should be encouraged to not kiss, share objects (utensils, cup, toothbrush, etc.), or have unprotected sexual intercourse until the sores have healed completely.

Additional Considerations:

- Although the possibility of spreading herpes virus is higher when sores are present, the virus can be spread to others even when there are no sores present.
- Anyone with eczema (a skin disorder) should avoid a client with active herpes infection as it may cause a serious skin infection.

See also: Fever; Headaches; Urination, Difficulty With; Vaginal Discharge

Herpes Virus: Chickenpox (varicella zoster)

Treatment Goal:

- Prevent spread of communicable disease
- Reduce discomfort
- Prevent complications

Possible Causes:
Exposure to the varicella-zoster virus

History:

- Prior immunization for chicken pox
- Medications-especially corticosteroids or cancer chemotherapies
- History of immune disorders
- Onset of symptoms (usually 10-21 days after infection)
- Mild headache
- Fever
- Recent loss of appetite
- Generalized malaise
- Exposure to someone with symptoms of chickenpox

Assessment:

- Obtain vital signs and document on *Health Record* . Client may have a slight fever.
- Assess skin for rash. The rash will begin as red flat sores.
- Over 5 days, the rash may spread to cover the trunk of the body extremities, and may cover the face, throat, mouth, ears, groin and scalp as well
- Develops as raised, itchy, fluid-filled blisters
- Gently palpate neck for enlarged lymph nodes
- Be aware of signs of encephalitis: severe headache, stiff neck, unusual sleepiness or lethargy, persistent vomiting

Call Local EMS/911 for:

- Any signs or symptoms of encephalitis
- If there is a fever of 103 or higher

Refer to Local Healthcare System:

- All suspected cases of chickenpox for a definitive diagnosis, and so the client can be appropriately isolated
- Pregnant or immune-compromised clients who have been exposed to someone with chickenpox
- If sores are in client's eyes
- Those cases of chickenpox at higher risk of developing complications (elderly adults, infants younger than 12 months, immune-compromised clients, etc.)
- Any rash associated with a fever should be referred for a definitive diagnosis

Treatment:

- Isolate immediately any client suspected of having chicken pox
- Chickenpox is a highly infectious virus and can be transmitted to others (by airborne droplets) from 2-3 days before onset of symptoms until the last sore has crusted over – usually about a week after onset of symptoms
- Any client with chickenpox should be kept isolated from those who do not have immunity (either natural immunity or through vaccination)
- Cool compresses with baking soda added to the water may ease itching
- If asked for medication, oral antihistamines given according to manufacturer direction by age of client may reduce the itch
- Acetaminophen to relieve the fever, dosage as recommended by manufacturer
- DO NOT give Aspirin to anyone younger than 18 years due to risk of Reye's syndrome
- Keep the skin clean and dry to help alleviate itching and prevent a bacterial infection from developing in the open sores
- It may be helpful to recommend that parents apply mitts or socks over the hands of small children, and to keep their nails trimmed, to help prevent scratching

Additional Considerations:

- Prior to the development of a vaccine in the 1990s, nearly 90 percent of children acquired chickenpox by the age of 15. The vaccine has decreased the number of cases of chickenpox by 70 percent.
- Once an individual recovers from chickenpox, they cannot contract the virus again. However, the virus remains dormant in the body and can reactivate later in life, causing shingles. See Shingles protocol.
- The disease is generally more severe in adulthood
- Encephalitis is a rare but dangerous complication of chicken pox

See also: Rash, Itching – Skin, Headache, Fever

Herpes Virus: Shingles (varicella zoster)

Treatment Goal:
- Reduce discomfort
- Prevent complications

Possible Causes:
Shingles: Re-emergence of the varicella zoster virus that has lain dormant since the initial infection with chickenpox. Generally affects one or two of the large nerves that spread outward from the spine. Exact cause of reactivation is unknown but may be linked to a weakened immune system.

History:
- Onset of symptoms
- Presence of chickenpox infection in the past
- Level of pain (0-10 score)
- Generalized malaise
- Presence of fever and/or chills
- Nausea and/or diarrhea
- History of weakened immune system
- History of vaccine

Assessment:
- Obtain vital signs and document on *Health Record*
- Assess skin for the nerve path along which the sores travel. Sores will be small clusters of fluid-filled blisters.

Refer to Local Healthcare System:
- Early referral may mean effective start of medications that can reduce pain and rash
- Any client who is showing signs of shingles along a cranial nerve (nerve of the face)
- Any client who is experiencing a rash with fever to rule-out a more serious condition
- Clients with severe pain not controlled by over-the-counter pain medications

Treatment:
- Until the blisters scab (approximately five days after symptoms start), the affected individual is infectious and should be isolated from those who do not have immunity from varicella zoster.
- The pain of shingles can be severe and may even occur before the development of rash.
- For pain management, either a non-steroidal anti-inflammatory drug (ibuprofen or aspirin) or acetaminophen may be effective at reducing discomfort, unless contraindicated. Follow manufacturer's directions for contraindications and dosage.

Additional Considerations:

- During the initial infection with chickenpox, the varicella virus infects nerve cells (usually the spine or cranial nerves). In a re-emergence, the shingle sores will travel down the nerve path, usually on one side of the body.
- Shingles may affect anyone who has previously had chickenpox but generally affects adults over the age of 50.
- In 25-50 percent of shingles cases in adults over the age of 50, chronic nerve pain (post herpetic neuralgia) occurs. The pain usually subsides within 1-3 months but, in a few cases, may last for more than a year.

See also: Rash, Itching – Skin, Headache, Fever.

Influenza (seasonal)

Treatment Goal:

- Assess for more serious health condition
- Prevent spread of infection to others
- Relieve symptoms/discomfort

Possible Causes:
Various strains of influenza virus

History:

- Rapid or abrupt onset of fever and muscle aches, occasionally associated with a dry cough, headache or sore throat
- Recent contact with a person suspected of having influenza
- History of influenza vaccination (current year only)
- Presence of nausea and/or vomiting may occur in children

Assessment:

- Obtain vital signs
- Temperature will be elevated
- Listen to breath sounds

Call Local EMS/911 for:

- Any client experiencing problems breathing
- Any client with confusion or other changes in mental status

Refer to Local Healthcare System:

- Any suspected case of influenza
- Any suspected case of pneumonia
- Any temperature greater than 103˚ F that does not respond to antipyretic therapy

Treatment:

- All suspected cases of influenza in a shelter environment should be isolated and referred to the local health care system for diagnosis before allowing them back in the shelter.
- Confirmed cases of influenza should be isolated in the isolation care area.
- Encourage client to rest, drink plenty of fluids and avoid exertion until symptoms have resolved.
- Due to the infectious nature of influenza, encourage the client to minimize contact. Keep in isolation area and assess recovery.
- Fever and muscle aches can usually be managed with acetaminophen and/or non-steroidal anti-inflammatory medications (aspirin, ibuprofen), unless contraindicated.
- Children under the age of 18 should never be given aspirin.

Additional Considerations:

- The influenza virus causes an acute febrile illness usually between the months of December and April in the United States. The classic symptom pattern in adults is rapid onset of fever and myalgias (muscle aches) occasionally associated with a dry cough, headache or sore throat. Children may present with other symptoms such as rhinitis (runny nose) or vomiting.
- Many people think that a "cold" is the same as the "flu." Influenza is an infection that causes high fever, chills and severe muscle aches but rarely a runny nose.
- Influenza kills 30,000-40,000 Americans each year, mostly elderly.
- Vaccination against influenza should be encouraged for all at-risk populations on a yearly basis. Vaccinations are generally offered in the fall.
- Children, older adults and those with chronic illnesses are at higher risk for acquiring influenza.

See also: Back Pain, Congestion, Fever, Headache, Nausea/Vomiting, Neck Pain/Stiffness, Rash, Infection

Measles (Rubeola)

Treatment Goal:

- Prevent spread to others
- Prevent or lessen possibility of complications
- Relieve discomfort

Possible Causes:
Caused by the Rubeola virus

History:

- Onset of symptoms- 2-4 days (runny nose, sore throat, hacking cough and/or red eyes, high fever), 7-10 days, development of rash
- Recent contact with someone presenting with a rash or suspected of having measles
- History of immunization (MMR typically given at age 12-15 months and again at 4-6 years for lifelong immunity)

Assessment:

- Obtain vital signs and document on *Health Record*. Temperature may get as high as 104˚ F
- Assess skin for red, itchy rash appearing in front of and below the ears and on the neck. After one to two days the rash will spread to the trunk, arms and legs as it fades on the face.
- Assess the mucous membranes inside the mouth for tiny white spots

Refer to Local Healthcare System:

- All suspected cases of measles
- Any case of rash associated with fever

Treatment:

- Measles are highly infectious. Any client suspected of having measles should be isolated from others who do not have immunity.
- There is no particular treatment for measles. Keep the client warm and comfortable and give an antipyretic (ibuprofen or acetaminophen) to help reduce fever, unless contraindicated.
- Watch and health teach regarding complications, which can include otitis media, laryngitis, tracheitis, pneumonia, encephalitis

Additional Considerations

- Measles rare today due to the MMR (Measles, Mumps, Rubella) vaccine
- Complications more common in immuno-compromised clients
- The measles are spread by either breathing in infected droplets or by touching items contaminated with infected droplets. Measles is infectious from 2-4 days before a rash presents itself until the rash disappears.
- Immunization is recommended for children between 12 and 15 months of age. Immunization is contraindicated for pregnant women or children younger than 12 months.

- A woman who has either had the measles or received vaccination against measles will pass the immunity on to her newborn. The baby will be immune for about the first year of life.

See also: Congestion, Cough, Fever, Rash.

Meningitis

Treatment Goal:

- Early recognition of illness
- Early treatment
- Early isolation to prevent spread to others
- Prevent or reduce complications

Possible Causes:

Virus or bacteria that cause inflammation of the meninges in the brain, with increased intracranial pressure. Less frequently, meningitis may be caused by a fungal infection. Transmission is through mucous secretions of mouth and nose (cough, sneeze).

History:

- Onset and severity of symptoms (fever, headaches, stiff neck, sore throat, rash, nausea and/or vomiting)
- Weakened immune system, autoimmune disease
- Recent head injury
- Seizure activity
- History of splenectomy or kidney failure
- Current medications taken – especially immunosuppressants and/or corticosteroids
- Frequent infections of the nose, middle ear, or sinuses
- Recent bout with pneumonia
- Recent hospitalization
- History of sickle cell disease

Assessment:

- Obtain vital signs
- Temperature may be elevated and/or blood pressure may be low
- Check for photophobia (sensitivity to light)
- Assess for altered mental state, lethargy
- Ask client to try and lower chin to the chest. In people with meningitis this is very painful and may be impossible to perform. Knees may also bend involuntarily.
- Assess skin for presence of red and/or purple splotchy rash

Call Local EMS/911 for:

- Any client experiencing a headache or fever associated with photophobia or a stiff neck

Refer to Local Healthcare System:

- Any case of rash associated with fever

Treatment:

- All cases of suspected meningitis require diagnosis and treatment at a local health care facility
- If bacterial meningitis has been identified in a shelter resident, the local health department should be notified
- All other residents of the shelter should be watched closely for symptoms of meningitis and/or referred to a local health care facility for possible vaccination or prophylaxis

Additional Considerations:

- Bacterial meningitis occurs most often between the ages of one month and two years of age. Among adults, meningitis is most frequently seen in group settings, i.e.: military barracks or college dormitories
- Children are routinely given vaccination for *Haemophilus influenza*, the most common cause of childhood meningitis. Vaccination is also recommended against *Neisseria meningitis* when an outbreak occurs within a group.
- Viral and bacterial meningitis cause similar symptoms, although the viral form of the disease is generally more mild.
- There is no way to differentiate between viral and bacterial illness from physical symptoms alone
- Bacteria infected person can become seriously ill, very rapidly
- Untreated, can be fatal

See also: Headache, Neck Pain/Stiffness, Fever.

Mumps

Treatment Goal:

- Early recognition of illness
- Early isolation to prevent spread to others
- Assess for more serious health condition
- Prevent or reduce complications

Possible Causes:
Viral infection

History:

- Onset and severity of symptoms (low grade fever, chills, headache, poor appetite, generalized malaise)
- Swelling and tenderness of one or both parotid glands
- Considerable pain, that makes it difficult to chew, speak
- Increased pain with eating and drinking acidic foods
- Recent contact with someone known or suspected of having mumps

Assessment:

- Obtain vital signs. Temperature may get as high as 103-104˚ F
- Assess for swelling of the salivary glands which can be noted on one or both sides of the face

Refer to Local Healthcare System:

- All suspected cases of mumps for definitive diagnosis.

Management and Health Teaching:

- Most cases of mumps resolve without treatment within two weeks
- Isolate the client to prevent the spread of disease to those without immunity

Additional Considerations:

- In children, mumps generally presents itself as swelling of the salivary glands. In some cases, especially in adulthood, mumps is characterized by swelling of the testes, brain and pancreas.
- Although mumps can occur year-round, it is most often seen in late winter or early spring and mostly affects children between the ages of 5 and 15 years.
- Vaccination against mumps is routine in the United States between the ages of 12 and 15 months. Those who have received vaccination or have previously had the mumps have immunity for life.

See also: Headache, Fever.

Noroviruses – "Norwalk-like viruses"

Treatment Goals:

- Reduce symptoms
- Prevent dehydration
- Prevent transmission of virus

Possible Causes:

- Direct contamination of food by a food handler
- Contaminated food liquid items such as salad dressing or cake icing
- Contaminated water – oysters from contaminated water
- Contaminated wells and recreational water

History:

- Noroviruses are highly contagious
- As few as 10 viral particles may be sufficient to infect and individual
- Viral shedding occurs with onset of symptoms and may continue for 2 weeks
- 50% of all food borne outbreaks of gastroenteritis can be attributed to noroviruses

Assessment:

- Obtain vital signs especially fever
- Observe for dehydration, excessive vomiting, watery non-bloody diarrhea

Refer to local Health Care:

- Anyone with pre-existing conditions that are exacerbated by the virus such as diabetics should be referred
- Children that dehydrate and fluid intake can't be stabilized may need to be re-hydrated

Skin Infections, Bacterial – Impetigo

Treatment Goal:
- Reduce symptoms
- Prevent spread of infection to others

Possible Causes:
Skin infection caused by *Staphylococcus aureus* or *Streptococcus pyogenes* bacteria. Bacterial infection that is much more common in children than in adults.

History:
- Usually begins with a break in the skin (cut, scratch, blister, burn)
- Recent cold
- Pain or itching at affected area
- Recent sunburn or insect bite

Assessment:
- Obtain vital signs
- Assess skin for scabby, yellow-crusted sores or small blisters filled with yellow pus usually located around the mouth or under the nose

Refer to Local Healthcare System:
- If impetigo covers area larger than 2 inches in diameter
- Any client with a rash associated with fever
- Any client with suspected impetigo that does not begin to resolve after two to three days
- Facial swelling or tenderness

Treatment: Always use standard precautions
- Wash with soap and water several times a day to remove crust. Apply an antibiotic cream to the affected area.
- Cover area with gauze, taped well away from sores
- Try to prevent client from scratching or touching the area as it may spread to other parts of the body
- Client should be kept away from others and instructed to wash hands frequently as impetigo is highly contagious
- Health teaching points:
  - Keep child's fingernails short and clean.
  - No sharing of towels, washcloths or bath water
  - Adult males should not shave over sores

Additional Considerations:
- Impetigo is common in children and appears mostly on the face, arms and legs
- Bacteria frequently live on the skin without causing infection. Infection may occur when there is a break in the skin (allowing entry of bacteria) or in someone with a weakened immune system.

See also: Rash, Itching – Skin, Burn – Thermal, Bites.

Skin Infections, Fungal – Ringworm, Athlete's Foot, Jock Itch

Treatment Goal:
- Prevent spread to others
- Relieve discomfort

Possible Causes:
Fungal skin infection caused by several different fungi and classified by its location on the body

History:
- Warm, moist climate
- Communal living and/or showering
- Contact with someone known or suspected of having a ringworm infection

Assessment:
- Obtain vital signs and document on *Health Record*
- Ring-shaped, red/pink scaly rash with a clear center, usually with itching
- Athlete's foot-itching, cracking, blistering, peeling of skin between toes and on soles feet
- Jock itch-severe itching, redness, scaly raised areas on skin of groin and upper thighs. May weep, ooze pus or clear fluid

Refer to Local Healthcare System:
- Any suspected fungal skin infection that does not resolve after 10 days of treatment
- Any skin infection or rash associated with fever

Treatment: Always use standard precautions.
- Over-the-counter antifungal creams work well to resolve the infection. Cream should be applied to the affected area twice a day for 10 to 20 days.
- Nail lacquer with an antifungal agent is available for nail fungus – although treatment may take up to a year
- Since the fungus is infectious, close contact with others should be avoided until the infection is gone
- For prevention, keep the skin clean and dry and encourage clients to wash their hands frequently and to wear shower shoes in communal showers or locker rooms

Additional Considerations:
- Ringworm is a fungal infection and does not involve worms but got its name from the ring-shaped patches that develop on the skin.
- Fungal infections of the fingernails and toenails cause discoloration, thickening, cracking and often softening of nails. Difficult to treat

See also: Rash, Itching – Skin.

Skin Infections, Parasitic - Lice

Treatment Goal:
• Prevent potential spread to others
• Relieve symptoms

Possible Causes:
Infestation of lice causing itching of the scalp

History:
- Recent close contact with someone known to have lice
- Intense itching of the head and/or pubic area

Assessment:
- Obtain vital signs and document on *Health Record*
- Wearing gloves and using a tongue-depressor, inspect the client's scalp and hair roots for signs of nits (eggs) or the presence of lice

Refer to Local Healthcare System:
- Suspected lice infestation should be referred to confirm diagnosis and to direct treatment

Management:
- The overwhelming majority of cases can be effectively managed with over-the-counter treatments.
- Instruct the client to avoid contact with others until the lice infestation is treated with medicated shampoo (RID, for example) and any remaining nits are removed with a fine-toothed comb. Dispose of the comb after use.
- All furniture, bedding, clothing and cloth items (e.g. stuffed animals) should be sprayed with a product containing the active ingredient permethrin or washed in the hottest water temperature possible.
- Items may also be placed in plastic bags for two weeks to allow the lice to die.
- Check for the presence of lice on all family members, playmates and any potential close contacts.

Points of Interest:
- A lice infestation can be determined by inspecting the scalp and hair root for small white nits (eggs) that are attached to the hair or the insect itself which is small and dark.
- Lice can infest any part of the body with hair

See also: Itching – Skin, Bites.

Skin Infections, Parasitic – Pinworms

Treatment Goal:
- Prevent spread to others
- Relieve discomfort

Possible Causes:
Intestinal roundworms that are spread from person to person by ingestion of roundworm eggs

History:
- Itching of the skin around the anus, more severe at night
- Recent close contact with someone known to have a pinworm infection

Assessment:
- Obtain vital signs
- To be done by parent or guardian:
    - Looking for the presence of white, hair-thin worms on the skin surrounding the anus (one to two hours after the child has gone to sleep) or pick up eggs around the anus with transparent tape (before the child wakes in the morning). The tape should be taken to the doctor's office to assist with diagnosis.

Refer to Local Healthcare System:
- Any suspected case of pinworms for definitive diagnosis and treatment
- Any child who is under 2 with symptoms of pinworms
- If any client develops fever, abdominal pain, redness, swelling of genital area, or if they report pain when urinating
- If person under treatment for pinworms develops vomiting or pain

Treatment: Always use standard precautions
- Prescription medications are available from a local health professional. This should be repeated two weeks after initial treatment.
- Wash all bedding and plush toys, underwear, nightclothes, towels in hot water and detergent. Vacuum the area to help eliminate eggs
- Sanitize toilet and sleeping areas with strong disinfectant
- All members of the family or those who have been in close contact with the infected client should consider treatment as well
- Health teaching point-teach importance of frequent and thorough hand washing, especially after using toilet and before meals. Keep children's fingernails short and clean.
- Morning showers and daily changes of pajamas and underwear to help prevent re-infection

Additional Considerations:
- Pinworms are the most common childhood parasitic infection in the United

States

- Pinworms live in the lower region of the intestine and leave the body to lay their eggs around the anus at night
- The eggs are very sticky and can be transferred to bed sheets, toys, etc., that can then infect another child (or re-infect the original carrier) by oral ingestion
- Eggs can survive on clothing and bedding for days
- Children who suck their thumb are at higher risk of acquiring pinworms
- Generally, if one child in the family is infected, any other child between 2 and 10 should be treated as well

See also: Itching – Skin.

Skin Infections, Parasitic – Scabies

Treatment Goal:

- Prevent spread to others
- Relieve symptoms

Possible Causes:
Scabies is caused by the itch mite *Sarcoptes scabiei* that burrows under the skin. This causes an allergic reaction, itches intensely and is easily spread from person to person through physical contact.

History:

- Intense itching of the skin this is usually worse at night
- Recent exposure to someone with known or suspected infection with scabies

Assessment:

- Obtain vital signs
- Assess the skin for tiny bumps which may or may not have a thin red line (burrow) associated with the bump. These can be located anywhere on the body except the face.
- Check folds of skin on fingers, toes, wrists, underarms and groin

Refer to Local Healthcare System:

- Any client who does not respond to over-the-counter treatment or has a weakened immune system
- For Prescription medication if OTC not readily available

Treatment: Always use standard precautions

- The client should be instructed to apply a topical cream containing five percent permethrin to the skin at night and wash it off in the morning. A second treatment should be performed one week later. Anyone who has been in close physical contact with the infected individual should be treated as well.
- Mites do not live for long on inanimate objects – laundering of clothing and bed sheets in hot water will effectively at destroy mites

Additional Considerations:

- Itching may last for up to two weeks after successful treatment due to an allergic reaction to the mite bodies, which remain in the skin for awhile
- Children may not attend school until treatment is completed

See also: Itching – Skin, Rash.

Tuberculosis

Treatment Goal:

- Prevent spread to others
- Prevent injury to client

Possible Causes:

Tuberculosis is caused by a highly infectious airborne bacterium known as *Mycobacterium tuberculosis*.

History:

- Onset of symptoms (night sweats, cough for more than two weeks, blood-tinged sputum, fever)
- Generalized malaise
- Decreased appetite and resultant weight loss
- Diagnosed and treated tuberculosis
- Medications currently taking to treat the illness
- Available medications with client

Assessment:

- Obtain vital signs
- Client may complain of a longstanding intermittent fever
- Contact Public Health for guidance

Refer to Local Healthcare System:

- All suspected cases of tuberculosis for definitive diagnosis and treatment
- Any client currently in treatment for TB but who does not know what their medication is, or have it with them

Treatment:

- Tuberculosis is treated with multiple antibiotics taken over a long period of time, usually six months or longer
- Frequently, those with tuberculosis are required to participate in Directly Observed Therapy (DOT) in which a health care worker observes the individual as they take their medicine. This result in improved drug compliance and fewer cases of recurrence.
- Since active tuberculosis is highly infectious, those clients who are exhibiting symptoms of tuberculosis should be isolated until diagnosis by a local healthcare provider can be made and follow local public health guidance for respiratory isolation.
- Only clients with active disease are considered infectious

Additional Considerations:

- Individuals with a positive PPD test but showing no sign of active disease (common among health care workers) are welcome in Red Cross facilities
- Individuals who are currently on antibiotic therapy for tuberculosis are also welcome as long as they are no longer showing signs of active disease (cough, fever, night sweats, weight loss)
- Most people are no longer infectious after two weeks of treatment, although antibiotics should continue to be taken until told otherwise by their health care professional
- A chest X-ray may be needed to identify some suspected cases, or for those who have only recently had a positive PPD
- Illness due to tuberculosis usually occurs long after initial exposure to the bacterium. Symptoms present themselves over time instead of as part of an acute episode.
- Worldwide, there are approximately eight million new cases and three million deaths due to tuberculosis each year.
- Nearly one-third of the world's population is believed to be carriers of the disease in a dormant state, with 90-95 percent of these individuals never experiencing active disease.
- Tuberculosis is spread from one person to another by bacteria in the air. Breathing, coughing or sneezing causes bacteria to hang in the air for hours. Anyone breathing in this air is at risk of developing tuberculosis.

See also: Cough, Fever.

V. Procedures

Use of an Automated External Defibrillator (AED)
(Notify National Headquarters when AEDs are used)

ADULT:

- When a cardiac arrest occurs, an AED should be used as soon as it is available and ready to use. Most public buildings are equipped with AED'S
- If the AED advises that a shock is needed, the responder should follow protocols to provide one shock followed by 5 cycles(about 2 minutes) of CPR
- Analyze the heart rhythm
- If at any time, you notice an obvious sign of life, stop CPR and monitor airway, breathing, and circulation (ABCs). Administer emergency oxygen if available and you are trained to do so.

CHILD:

- While the incidence of cardiac arrest in children is relatively low compared with adults, cardiac arrest resulting from V-fib does happen to young children. Most cardiac arrests in children are not sudden.
- Possible causes of cardiac arrest in children are – airway and breathing problems, traumatic injuries or accidents, a hard blow to the chest, congenital heart disease.
- AEDs equipped with pediatric AED pads are cable of delivering levels of energy to children between 1 and 8 years old or weighing less than 55 pounds. Use pediatric AED pads and/or equipment when available. If pediatric equipment is not available, an AED designed for adults may be used on a child. ALWAYS FOLLOW LOCAL PROTOCOLS AND MANUFACTURER'S INSTRUCTIONS.
- After a shock is delivered or if no shock is indicated give 5 cycles (about 2 minutes) of CPR before analyzing the heart rhythm again. IF, at any time you notice obvious signs of life, stop CPR and monitor the airway, breathing and circulation (ABCs). Administer emergency oxygen if available and you are trained to do so.

AED Precautions:

- Do not touch the victim while defibrillating. You or someone else could be shocked.
- Before shocking a victim with an AED, make sure that no one is touching or is in contact with the victim or the resuscitation equipment
- Do not touch the victim while the AED is analyzing. Touching or moving the victim may affect the analysis.
- Do not use alcohol to wipe the victim's chest dry. Alcohol

is flammable.

- Do not defibrillate someone when around flammable or combustible materials such as gasoline or free-flowing oxygen
- Do not use an AED in a moving vehicle. Movement may affect the analysis.
- Do not use and AED on a victim who is in contact with water. Move the victim away from the water, swimming pools, puddles, or out of the rain before defibrillating.
- Do not use an AED and/or pads designed for adults on a child under age 8 or less than 55 pounds, unless pediatric pads specific to the device are not available. Local protocols may differ on this and should be followed.
- Do not use pediatric pads on an adult, as they may not deliver enough energy for defibrillation.
- Do not use an AED on a victim wearing a nitroglycerin, nicotine or other patch on the chest. With a gloved hand, remove any patches from the chest before defibrillating.
- Do not use a mobile phone or radio within 6 feet of the AED-this may interrupt analysis.

AEDs Special Situations

AEDs Around Water

- If the victim was removed from the water, be sure there are no puddles of water around you, the victim or the AED.
- Remove wet clothing for proper pad placement if necessary. Dry the victim's chest and attach the AED.
- If it is raining, ensure that the victim is as dry as possible and sheltered from the rain
- Wipe the victim's chest dry but minimize delays to defibrillation
- AEDs are very safe, even in rain and snow, when all precautions and manufacturer's operating instructions are followed

AEDs and Implantable Devices

Sometimes people may have a pacemaker implanted for a weak heart or irregular rhythm. These small implantable devices are sometimes located in the area below the right collarbone and a small lump might be felt under the skin. Sometimes the pacemaker is placed somewhere else. Others may have an implantable cardioverter-defibrillator (ICD), a miniature version of an AED, which acts to automatically recognize and restore abnormal heart rhythms. When locating this do not place the defibrillator pad directly over the device. This may interfere with the delivery of the shock. Adjust pad placement and continue to follow the established protocol. If you are not sure, use the AED if needed. It will not harm the victim or the rescuer.

AED Use for Hypothermia

Some people who have experienced hypothermia have been resuscitated successfully, even after prolonged exposure. It will take longer for you to do your check or assessment of a victim suffering from hypothermia because you may have to look for movement and check breathing and a pulse for up to 30-45 seconds. Do not delay CPR or defibrillation to rewarm the victim

- Check for signs of life and initiate CPR
- Protect the victim from further heat loss
- Remove wet garments
- Do not defibrillate in water
- Do not shake a hypothermia victim unnecessarily, as this could result in ventricular fibrillation

AED Use for Trauma

If a victim is in cardiac arrest caused by traumatic injuries, an AED may still be used. Defibrillation should be administered according to local protocols.

AED Use with Chest Hair

Lots of hair on the chest can prevent good pad-to-skin contact. Since the time to first shock is critical, attach the pads and analyze as soon as possible. Press firmly on the pads to attach them to the victim's chest. If you get a "check pads" message from the AED, remove the pads and replace with new ones. The pad adhesive will pull out some of the chest hair, which may solve the problem. If you continue to get "check pads" message, remove the pads, shave the victim's chest and add new pads to the chest. A safety surgical razor should be included in the AED kit. Be careful not to cut the victim while shaving.

AED Maintenance:

Follow the manufacturer's specific recommendations for maintenance, checking that:

- batteries are charged with fully charged backup packs
- expiration dates are current on defibrillator pads
- correct replacement pads are available
- AED is in proper working order

Epinephrine Auto Injector EPIPEN:

After determining a person is having a severe allergic reaction, assist with prescribed medication (epinephrine auto-injector), and use disposable gloves and other personal protective equipment. Follow these steps:

- Verify person's name
- Review directions and expiration date
- Grasp the auto-injector firmly and remove safety cap
- At a 90 degree angle, inject medication and hold firmly for 10 seconds
- Continue to monitor airway, breathing and circulation
- Give used auto-injector to EMS personnel
- Notify national headquarters of event

Inhaler

After determining a person is having an asthma attack, obtain consent, and assist with prescribed medication (inhaler). Follow these steps:

- Verify person's name
- Review directions and expiration date
- Shake inhaler and remove cap (if extension or spacer tube is available, attach and use appropriately)
- Have person breathe out and place lips around mouthpiece
- Quickly press down on inhaler canister while person inhales deeply. NOTE: if possible have person self administer the medication
- Have person hold breath for count of 10
- Exhale and rinse out mouth with water
- Note time administered and monitor airway, breathing and circulation
- Document the incident on the Health Status Record and the Incident Report Form
- Notify national headquarters of event

VI. Appendices

Appendix

Over-the-Counter (OTC) Medications – Uses and Contraindications:

For all medications, check for client allergies, contraindications and manufacturer's recommended dosage.

Acetaminophen (Tylenol)

Therapeutic Class	Indications	Dosages	Contraindications
Analgesic, antipyretic	Mild to moderate pain caused by headache, backache, minor arthritic, muscle pain, toothache, common cold, menstrual cramps; fever.	Adults: 325-650mg PO every four to six hours, PRN Children: see manufacturer's recommendations or check with physician.	Hypersensitivity to other drugs. Use cautiously in clients with anemia, liver/kidney disease, the elderly. Pregnant or breastfeeding clients, and children younger than 2 years can safely take Tylenol

Aspirin

Therapeutic Class	Indications	Dosages	Contraindications
Analgesic, antipyretic, anticoagulant	Mild to moderate pain caused by headache, toothache, arthritis, common cold, flu, muscle aches, menstrual cramps; fever; reduce the risk of heart attack and/or mini stroke (TIA).	Adult: (325mg tablets) one to two tablets PO every four hours, PRN. Children: Check manufacturers labeling. Children under 18 should not be given aspirin due to the risk of developing Reyes syndrome.	Hypersensitivity to other drugs or to NSAIDs. Asthma, ulcers, kidney/liver disease, bleeding problems or stomach complaints. Pregnancy, children under the age of 18.

Appendix: Over-the-Counter (OTC) Medications (continued)

Ibuprofen (Motrin, Advil, Nuprin)

Therapeutic Class	Indications	Dosages	Contraindications
Analgesic, antipyretic, anti-inflammatory	Arthritis; mild to moderate pain; menstrual cramps; fever reduction; migraine/tension headaches.	Adult: 400mg PO every four hours, PRN. Children: see manufacturer's label.	Hypersensitivity to other drugs and NSAIDs. Pregnancy. Use cautiously in elderly clients; breastfeeding clients; and those with cardiovascular, kidney/liver, GI disease, asthma or chronic alcohol use.

Diphenhydramine (Benadryl)

Therapeutic Class	Indications	Dosages	Contraindications
Antihistamine	Relieves symptoms of seasonal allergies (hay fever) and the common cold: runny nose, sneezing, watery eyes, scratchy throat, etc.	Adults: one to two pills PO every four to six hours, PRN. Children six to twelve years: one pill PO every four to six hours, PO. Not to be used in children under 6 years, unless prescribed by a physician	Glaucoma enlarged prostate, breathing problems such as emphysema or chronic bronchitis.

Appendix: Over-the-Counter (OTC) Medications (continued)

Loperamide Hydrochloride (Imodium)

Therapeutic Class	Indications	Dosages	Contraindications
Antidiarrheal	Controls the symptoms of diarrhea, including Traveler's diarrhea.	Adults: two caplets PO after first loose stool, one caplet PO after each subsequent loose stool – not to exceed four caplets per 24 hour period. Children nine to eleven years: one caplet PO after first loose stool, one-half caplet PO after each subsequent loose stool, not to exceed three caplets per 24 hour period.	Black or bloody stool, fever, mucous in stool, pregnancy, liver disease, antibiotic use.

Pseudoephedrine (Sudafed)

Therapeutic Class	Indications	Dosages	Contraindications
Decongestant	Temporary relief of stuffy head/sinuses associated with cold, hay fever or sinus inflammation.	Adult: two tablets PO every four to six hours, PO. Not to exceed eight tablets in a 24 hour period. Children six to eleven years: one tablet PO every four to six hours, PO. Not to exceed four tablets in a 24 hour period. Not for use in children under 6 years	Use of MAO-inhibitors, high blood pressure, heart disease, diabetes, thyroid disease, enlarged prostate.

*Nursing Spectrum Drug Handbook. May 30, 2006. www.nursesdrughandbook.com
*Physician's Desk Reference. 2006.
http://www.pdrhealth.com/drug_info/otcdrugprofiles/drugs/fgotc036.shtml

Appendix

Vital Signs – Normal Values

	Blood Pressure (mmHg)	Heart Rate (beats per min.)	Respiratory Rate (breaths per min.)	Temperature
Adults and Children >10years	Systolic: <120 Diastolic: <80	60-80 (at rest)	12-18	97.8-99.1° F
Children 3-10 years	Systolic: 80-110	70-110	18-24	97.8-99.1° F
Children 1-3 years	Systolic: 80-100	80-120	20-30	97.8-99.1° F
6 months to 1 year	Systolic: 80-100	90-120	25-40	97.8-99.1° F
Newborn	Systolic: 60-80	100-160	30-60	97.8-99.1° F

Appendix

Household Equivalents

Household = Metric
1 teaspoon (tsp) = 5 ml
1 tablespoon (Tbs) = 15 ml
1 ounce (oz) = 30 ml
2 Tbs = 30 ml
1 ounce = 30 g
1 pound (lb) = 454 g
2.2 lb = 1 kg
1 inch = 2.54 centimeters (cm)

Taken from: Nursing Spectrum Drug Handbook, May 30, 2006
www.nursesdrugbook.com

Appendix

Metric Conversions of Weight, Volume, Length

Non-metric to Metric	Metric to Non-metric
Weight	
1 pound (lb) = 16 ounces (oz) = 0.454 kilogram (kg)	1 kilogram = 2.2 pounds
1 ounce = 28.35 grams (g)	1 gram = 0.035 ounce
Volume	
1 gallon (gal) = 4 quarts (qt) = 3.785 liters (L)	1 liter = 1.057 quarts
1 quart = 2 pints (pt) = 0.946 liter	
1 pint = 16 fluid ounces (fl oz) = 0.473 liter	
1 cup = 8 fluid ounces = 16 tablespoons (tbsp)	
1 fluid ounce = 29.573 milliliters (mL)	
1 tablespoon = $^1/_2$ fluid ounce = 3 teaspoons (tsp)	
Length	
1 mile (mi) = 1,760 yards (yd) = 1.609 kilometers (km)	1 kilometer = 0.62 mile
1 yard = 3 feet (ft) = 0.914 meter (m)	1 meter = 39.37 inches (in)
1 foot = 12 inches = 30.48 centimeters (cm)	1 centimeter = 0.39 inch
1 inch = 2.54 centimeters	1 millimeter (mm) = 0.039 inch

Excerpt taken from the online Merck Manual

Appendix

Spanish Medical Terminology

Parts of the Body

Cabeza	Head
Cuello	Neck
Braso	Arm
Mano	Hand
Pecho	Chest
Espalda	Back
Estomago	Stomach
Pierna	Leg
Pie	Foot

Common Phrases

Tienes dolor?	Do you have pain?
Es un dolor sordo o punzante?	Is the pain dull or stabbing?
Cuando comenzo?	When did it start?
Yo quiero medir sus muestras vitales.	I want to measure your vital signs.
Ha tinedo este problema antes?	Have you had this problem before?
Que hizo al respecto?	What have you done for it?
Quales medecinas estas tomando?	What medications do you take?
Tu tienes allergias?	Do you have any allergies?
Hay alguna otra persona en su trabajo o en su casa que tenga los mismos sintomas?	Does anyone else at work or in your home have the same symptoms?
Tienes seguro de salud?	Do you have health insurance?
Tienes un doctor?	Do you have a doctor?

Vital Signs Terminology

Temperatura	Temperature
Pulso	Pulse
Respiraciones	Respirations
Presion de la sangre	Blood pressure

TRANSLATIONS OF WONG-BAKER FACES PAIN RATING SCALE©

0–5 coding	0	1	2	3	4	5
0-10 coding	0	2	4	6	8	10
ENGLISH	No hurt	Hurts little bit	Hurts little more	Hurts even more	Hurts whole lot	Hurts worst
SPANISH	No duele	Duele un poco	Duele un poco más	Duele mucho	Duele mucho más	Duele el máximo
FRENCH	Pas mal	Un petit peu mal	Un peu plus mal	Encore plus mal	Très mal	Très très mal
ITALIAN	Non fa male	Fa male un poco	Fa male un po di piu	Fa male ancora di piu	Fa molto male	Fa maggior-mente male
PORTUGUESE	Não doi	Doi um pouco	Doi um pouco mais	Doi muito	Doi muito mais	Doi o máximo
BOSNIAN	Ne boli	Boli samo malo	Boli malo više	Boli još više	Boli puno	Boli najviše
VIETNAMESE	Không dau	Hôi dau	Dau hôn chút	Dau nhiêu hôn	Dau thât nhiêu	Dau qúa dô
CHINESE†	無痛	微痛	較痛	更痛	很痛	劇痛
GREEK	Δεν Πονάϊ	Πονaï Λιγο	Πονaï Λιγο Πιο Πολν	Πονaï Πολν	Πονaï Πιο Πολν	Πονaï Παρα Πολν
ROMANIAN	No doare	Doare puţin	Doare un pic mai mult	Doare şi mai mult	Doare foarte tare	Doare cel mai mult

Explain to the person that each face is for a person who has no pain (hurt) or some, or a lot of pain. Face 0 doesn't hurt at all. Face 2 hurts just a little bit. Face 4 hurts a little more. Face 6 hurts even more. Face 8 hurts a whole lot. Face 10 hurts as much as you can imagine, although you don't have to be crying to have this worst pain. Ask the person to choose the face that best describes how much pain he has.

This form is available for download at http://www.wongbakerfaces.org/

VII. Annual Review of Disaster Health Services Protocols

The foregoing protocols are for treatment and care of clients in a disaster setting.

_____
_____

(Name of American Red Cross Unit)

located at:

_____
_____

(Address, City and State)

And have been reviewed by our chapter's designated Disaster Health Services employee or volunteer. They are to be used by Disaster Health Services employees and volunteers subject to the policies, regulations and procedures contained in the *Disaster Response Handbook* and the *Disaster Health Services Handbook*.

_____
_____

(Disaster Health Services Representative) (Title) (Date)

_____
_____

(Address) (Phone)

_____
_____

(Signature)