EMERGENCY GUIDELINES, POLICIES, PROCEDURES AND PROTOCOLS
2013-2014 EMERGENCY CLINICAL REVIEW TEAM

Meshell McCloud, RN, MS, APRN, WHNP- BC
Deputy Chief Nurse, Office of Nursing Department of Public Health

Patrick O’Neal, MD
Medical Consultant
Office of Emergency Preparedness and Response

Lawton C. Davis, MD
South Central Health District (Dublin)
District 5 Unit 1
District Health Director

Debbie York, RN, MSN, APRN
Clinical Nurse Supervisor
Medical Access Clinic
District 1 -2
Whitefield County Health Department

Gina Richardson, RN
County Nurse Manager
Burke County Health Department

Penny Conner, BSN, RN
Immunization Nurse Consultant

Michelle Fields, RN, MPH
Nursing Supervisor College Park
Fulton County Health Department
District 3-2

Jill Mabley, MD, FAAEM
Deputy State Medical Director
Office of Emergency Preparedness and Response

Donelle Franklin, RPh, MBA
Assistant Pharmacy Director
Georgia Department of Public Health
Division of Health Protection
Office of Pharmacy

C. Paige Lightsey, RN
County Nurse Manager
McIntosh County Health Department

Alan Satterfield, BSN, RN, BS
County Nurse Manager
Hall County Health Department
District
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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 patients and which are not available from other authorized sources in sufficient time to prevent risk or harm to patients. 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:

- the listing of all emergency supplies and equipment,
- the name of the medication(s), its strength, quantity, lot # and expiration date,
- the staff member’s name who performed the inspection and
- 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 (by nasal cannula at 5 L/ min unless patient has history of emphysema or chronic lung disease when it should be administered at 2L/min).

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/Adult )
   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. Pulse-oximeter
- b. Automated external defibrillator (AED)
- c. Epinephrine Auto-injector 0.15 mg (3 doses)
- d. Epinephrine Auto-injector 0.3 mg (3 doses)
GUIDELINES FOR
ALTERED LEVEL OF CONSCIOUSNESS/SYNCOPE (FAINTING)/SEIZURE ACTIVITY

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 patients 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.
8. Seizure Activity.

ASSESSMENT
Loss of postural tone and consciousness, etiology to be determined

PLAN
1. Protect patient from fall injury. Position the patient in the recumbent position with legs elevated. Loosen tight clothing at the neck and waist. If the patient 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 patient and the patient regains consciousness and has no persistent complaints or abnormal signs/symptoms, observe the patient for at least 20 minutes.
3. Do not give anything by mouth or allow the patient to resume an upright position until feeling of weakness has passed.

4. Patient 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 patient 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.
   f. Seizure Activity

PATIENT EDUCATION/COUNSELING

1. Emphasize the importance of staying well hydrated.

2. Advise patient to resume normal activity.

3. Advise patient to call 911 for any chest or abdominal pain, difficulty breathing, dizziness or weakness or any recurrence of “fainting”.
REFERENCES


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 patient 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 patient'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.
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:

<table>
<thead>
<tr>
<th>Weight lbs (kg)</th>
<th>Diphenhydramine Dose (Injection: 50 mg/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-37 (11-17)</td>
<td>15 mg / 0.3 mL</td>
</tr>
<tr>
<td>37-51 (17-23)</td>
<td>20 mg / 0.4 mL</td>
</tr>
<tr>
<td>51-77 (23-35)</td>
<td>30 mg / 0.6 mL</td>
</tr>
<tr>
<td>77-99 (35-45)</td>
<td>40 mg / 0.8 mL</td>
</tr>
<tr>
<td>&gt;99 (&gt;45)</td>
<td>50 mg / 1 mL</td>
</tr>
</tbody>
</table>

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 patient’s symptoms are still limited to the skin and the patient is comfortable, then:

a. Advise adult patient to take diphenhydramine orally every 6 to 8 hours if symptoms persist. Advise that if anytime the patient experiences dizziness, difficulty breathing or chest pain to call 911.

b. Advise parent to give pediatric patient 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 patient 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 patient 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).

<table>
<thead>
<tr>
<th>Weight lbs (kg)</th>
<th>Epinephrine IM Dose (1mg/ml=1:1,000 wt/volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;9 (&lt;4)</td>
<td>Weigh baby and calculate appropriate dose</td>
</tr>
<tr>
<td>9-15 (4-7)</td>
<td>0.06 mg/0.06 mL</td>
</tr>
<tr>
<td>15-24 (7-11)</td>
<td>0.10 mg/0.10 mL</td>
</tr>
<tr>
<td>24-31 (11-14)</td>
<td>0.12 mg/0.12 mL</td>
</tr>
<tr>
<td>31-37 (14-17)</td>
<td>0.16 mg/0.16 mL</td>
</tr>
<tr>
<td>37-42 (17-19)</td>
<td>0.18 mg/0.18 mL</td>
</tr>
<tr>
<td>42-51 (19-23)</td>
<td>0.20 mg/0.20 mL</td>
</tr>
<tr>
<td>51-77 (23-35)</td>
<td>0.30 mg/0.30 mL</td>
</tr>
<tr>
<td>77-99 (35-45)</td>
<td>0.40 mg/0.40 mL</td>
</tr>
<tr>
<td>&gt;99 (&gt;45)</td>
<td>0.50 mg/0.50 mL</td>
</tr>
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</table>

May repeat every 5 to 15 minutes PRN for a total of 3 doses (≤1.5 mL [1.5 mg] total)

OR
If at least 33lbs (15kg)

<table>
<thead>
<tr>
<th>Weight lbs (kg)</th>
<th>Dose</th>
<th>Auto Injection</th>
</tr>
</thead>
<tbody>
<tr>
<td>33-66lbs (15-29kg)</td>
<td>Epinephrine Auto Injector</td>
<td>0.15 mg</td>
</tr>
<tr>
<td>66lbs (30kg) or greater</td>
<td>Epinephrine Auto Injector</td>
<td>0.3 mg</td>
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</table>

Note: There are several brands of Epinephrine Auto Injectors available. Please read the package insert prior to administration.

f. Apply oxygen at 5 L/minute by **nasal cannula** or at 2L/min if patient has history of emphysema or chronic lung disease.

Step 2 Place patient in supine position, legs elevated, if tolerated.

Step 3 Begin monitoring Vital Signs with BP every 5 minutes.

Step 4 Any patient who has received epinephrine must be transported by EMS to closest appropriate hospital emergency department; copy of anaphylaxis record must go with patient to hospital.

**PATIENT EDUCATION/COUNSELING**

1. When a patient 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 patient 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 patient to call 911 if any difficulty breathing, dizziness or chest pain occurs.
4. Advise the adult patient that cutaneous symptoms may be treated with diphenhydramine every 6 - 8 hours. Advise the pediatric patient that cutaneous symptoms may be treated with diphenhydramine every 4 – 6 hours. Persistent or worsening symptoms should be evaluated by the patient’s primary care provider.

**REFERRAL**

1. Immediately refer patients with wheezing, laryngeal edema, hypotension, shock or cardiovascular collapse to ER via EMS.

2. Refer to primary care provider for further evaluation those patients with itching, redness welts/hives.

**FOLLOW-UP**

1. Place an allergy label on the front cover of the patient’s medical record.

2. Educate the patient/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

## Patient

**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
- _____ Choking sensation
- _____ Flushing and/or skin edema
- _____ Coughing/hoarseness/wheezing
- _____ Palpitations
- _____ Difficulty breathing
- _____ Numbness and tingling
- _____ Nausea and vomiting
- _____ Itching
- _____ Severe hypotension
- _____ Localized or generalized urticaria
- _____ Vasomotor collapse
- _____ Rash, welts
- _____ Loss of consciousness
- _____ Seizure Activity

Other (e.g., dizziness): ___________________________________________________________

## OTHER OBSERVATIONS / COMMENTS: _____________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

## SIGNATURE OF RN/APRN:

__________________________________________________________

## DISPOSITION: __________________________________________________________________

## REVIEWER: ____________________________________________________________________

**NOTE:** Send copies of both pages of this record with patient referred to a physician’s office or hospital
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:_________________________  
   **Patient's status when transported to hospital:**________

2. Assure AIRWAY.  
   Check VITAL SIGNS q 5 minutes.  
   CPR if necessary.  
   **Patient Name:**_________________________  
   **Patient Weight:**_________________________  
   **Patient DOB:**__________________________

<table>
<thead>
<tr>
<th>VITAL SIGNS (monitor every 5 minutes)</th>
<th>Time</th>
<th>B/P</th>
<th>Pulse</th>
<th>Resp</th>
</tr>
</thead>
<tbody>
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|                                      | ____ | __/ | ____  | ____ 

**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**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Twinject 0.3 mg/0.3 mL**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Adrenaclick 0.15 mg/0.15 mL**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Adrenaclick 0.3 mg/0.3 mL**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Auvi-Q 0.15 mg/0.15 mL**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Auvi-Q 0.3 mg/0.3 mL**  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM  
TIME Administered:__________AM/PM

**Other, please specify name, dosage and time administered:** ________________.
REFERENCES


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.

<table>
<thead>
<tr>
<th>#</th>
<th>EMERGENCY ITEM</th>
<th>Complete/ Adequate</th>
<th>Incomplete/ Inadequate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Emergency numbers posted on each phone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Exits clear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Hallways clear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Staff able to describe action to take in case of emergency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Staff demonstrates use of anaphylaxis equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Emergency kit/cart stored in secured area except during clinic hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Emergency kit/cart stocked according to district protocol for anaphylaxis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>All staff trained in emergency procedures and certified in CPR (every 2 years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Practice emergency drill(s) conducted and documented at least annually.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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

## A. Response Team

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Team effort utilized and well-coordinated.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Response team timely.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Code Blue* called.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Emergency Medical Services/Physician notified.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Emotional support provided to significant others, if applicable.</td>
<td></td>
</tr>
</tbody>
</table>

## B. Patient Outcome

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Level of consciousness assessed.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Vital signs monitored.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Appropriate drugs given.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>CPR instituted, if applicable.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>EMS/physician responded.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Documentation complete.</td>
<td></td>
</tr>
</tbody>
</table>

## 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.*
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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 patient 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. If only nasal cannula is available, administer oxygen at 5 L/minute unless patient has history of emphysema or chronic lung disease when the administration rate should be limited to 2L/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 patient can tolerate this position (some patients with respiratory distress cannot tolerate supine position)
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. **Patient** should be transported by EMS to closest appropriate hospital emergency department.

REFERENCES

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.

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 anaphylaxis¹

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 **patient** (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 **patient** (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.

---

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 student 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 patient with no clinical improvement or deterioration of status, especially respiratory symptoms.
7) Place student in supine position with legs elevated, if tolerated (precluded for student with emesis and some students 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 student treated with epinephrine must be transported by EMS to the closest appropriate hospital emergency department. Copy of Anaphylaxis Record is sent with student to hospital.

CORRECT METHOD OF ADMINISTERING AUTO-INJECTABLE EPINEPHRINE

Directions for use: Different brands of this medication have different directions for preparing the injector. (Several 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.

Student 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 patients with underlying cardiovascular disease. In patients 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.)
### ANAPHYLAXIS RECORD – page 1

<table>
<thead>
<tr>
<th>School/Site</th>
<th>Date</th>
</tr>
</thead>
</table>

**Patient** 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
- Choking sensation
- Flushing and/or skin edema
- Coughing/hoarseness/wheezing
- Palpitations
- Difficulty breathing
- Numbness and/or tingling
- Nausea and/or vomiting
- Itching
- Severe hypotension
- Localized or generalized urticaria (rash, welts)
- 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 patient referred to hospital
1. **Call for HELP.**
   Assign timekeeper/recorder.
   TIME EMS CALLED: ________________ AM/PM
   TIME EMS ARRIVED: ________________ AM/PM
   TIME EMS DEPARTED TO HOSPITAL: ________________ AM/PM
   Patient’s Name: ____________________
   Patient status when transported to hospital: ________

2. **Assure AIRWAY.**
   Check VITAL SIGNS q 5 minutes.
   CPR if necessary.

   **Patient** Name: ____________________
   **Patient** Weight: ____________________
   **Patient** DOB: ____________________

   **VITAL SIGNS (monitor every 5 minutes)**
<table>
<thead>
<tr>
<th>Time</th>
<th>B/P</th>
<th>Pulse</th>
<th>Resp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
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<tr>
<td></td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

   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**
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM

   **Adrenaclick 0.15 mg/0.15 mL**
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM

   **Auvi-Q 0.15 mg/0.15 mL**
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM
   TIME Administered: ________________ AM/PM

   **Other, please specify name, dosage and time administered:** ____________________

---

Emergency Guidelines, Policies, Procedures and Protocols 12.30
PATIENT EDUCATION/COUNSELING

3. Advise students and parents of students to contact their primary care physician for follow-up after discharge from the hospital/emergency room.

REFERRAL

2. Immediately refer individuals with suspected acute anaphylaxis to ER via EMS.

FOLLOW-UP

2. Document and prominently display known allergies in student’s record.

2. Educate the individual/caretaker about medical alert bracelets for anaphylactic reactions as appropriate.

4. Develop a written individualized health care plan as per organizational policy.
REFERENCES


# Pediatric Vital Signs - Resource

## Normal Pediatric Vital Signs by Age and Weight:

<table>
<thead>
<tr>
<th>Age</th>
<th>Weight (kilograms)</th>
<th>Pulse</th>
<th>Respiration</th>
<th>Systolic BP</th>
<th>Diastolic BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature</td>
<td>1</td>
<td>145</td>
<td>&lt;60</td>
<td>42 +/- 10</td>
<td>21 +/- 8</td>
</tr>
<tr>
<td>Premature</td>
<td>1-2</td>
<td>135</td>
<td>&lt;60</td>
<td>50 +/- 10</td>
<td>28 +/- 8</td>
</tr>
<tr>
<td>Newborn</td>
<td>2-3</td>
<td>125</td>
<td>&lt;60</td>
<td>60 +/- 10</td>
<td>37 +/- 8</td>
</tr>
<tr>
<td>1 month</td>
<td>4</td>
<td>120</td>
<td>24:35</td>
<td>80 +/- 16</td>
<td>46 +/- 16</td>
</tr>
<tr>
<td>6 month</td>
<td>7</td>
<td>120</td>
<td>24:35</td>
<td>89 +/- 29</td>
<td>60 +/- 10</td>
</tr>
<tr>
<td>1 year</td>
<td>10</td>
<td>120</td>
<td>20:30</td>
<td>96 +/- 30</td>
<td>66 +/- 25</td>
</tr>
<tr>
<td>2-3 years</td>
<td>12-14</td>
<td>115</td>
<td>20:30</td>
<td>99 +/- 25</td>
<td>64 +/- 25</td>
</tr>
<tr>
<td>4-5 years</td>
<td>16-18</td>
<td>100</td>
<td>20:30</td>
<td>99 +/- 20</td>
<td>65 +/- 20</td>
</tr>
<tr>
<td>6-9 years</td>
<td>20-26</td>
<td>100</td>
<td>12:25</td>
<td>100 +/- 20</td>
<td>65 +/- 15</td>
</tr>
<tr>
<td>10-12 years</td>
<td>32-42</td>
<td>75</td>
<td>12:25</td>
<td>112 +/- 20</td>
<td>68 +/- 15</td>
</tr>
<tr>
<td>Over 14 years</td>
<td>&gt; 50</td>
<td>70</td>
<td>&lt;60</td>
<td>120 +/- 20</td>
<td>75 +/- 15</td>
</tr>
</tbody>
</table>

## Abnormal Vital Signs by Age:

<table>
<thead>
<tr>
<th>Age</th>
<th>Pulse</th>
<th>Respiration</th>
<th>Systolic BP</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days - &lt;1 mo</td>
<td>&lt;80 &gt; 205</td>
<td>&lt;30 &gt; 60</td>
<td>&lt;60</td>
<td>&lt;36 &gt;38</td>
</tr>
<tr>
<td>≥ 1 mo - &lt; 3 mos</td>
<td>&lt;80 &gt; 205</td>
<td>&lt;30 &gt; 60</td>
<td>&lt;70</td>
<td>&lt;36 &gt;38</td>
</tr>
<tr>
<td>≥ 3 mos – &lt; 1 yr</td>
<td>&lt;75 &gt; 190</td>
<td>&lt;30 &gt; 60</td>
<td>&lt;70</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 1 yr – &lt; 2 yrs</td>
<td>&lt;75 &gt; 190</td>
<td>&lt;24 &gt;40</td>
<td>&lt;70 + (age x 2)</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 2 yrs – &lt; 4 yrs</td>
<td>&lt;60 &gt; 140</td>
<td>&lt;24 &gt;40</td>
<td>&lt;70 + (age x 2)</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 4 yrs – &lt; 6 yrs</td>
<td>&lt;60 &gt; 140</td>
<td>&lt;22 &gt;34</td>
<td>&lt;70 + (age x 2)</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 6 yrs – &lt; 10 yrs</td>
<td>&lt;60 &gt; 140</td>
<td>&lt;18 &gt;30</td>
<td>&lt;70 + (age x 2)</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 10 yrs – &lt; 13 yrs</td>
<td>&lt;60 &gt;100</td>
<td>&lt;18 &gt;30</td>
<td>&lt;90</td>
<td>&lt;36 &gt;38.5</td>
</tr>
<tr>
<td>≥ 13 yrs – &lt; 18 yrs</td>
<td>&lt;60 &gt;100</td>
<td>&lt;12 &gt;18</td>
<td>&lt;90</td>
<td>&lt;36 &gt;38.5</td>
</tr>
</tbody>
</table>