



Georgia Department of Public Health

Vaccine Administration

Presentation to:

Presented by:

Date:



We Protect Lives.

Disclosure Statements

- **Neither the planners of this session nor I have any financial relationship with pharmaceutical companies, biomedical device manufacturers, or corporations whose products and services are related to the vaccines we discuss.**
- **There is no commercial support being received for this event.**
- **The mention of specific brands of vaccines in this presentation is for the purpose of providing education and does not constitute endorsement.**
- **The GA Immunization Office utilizes ACIP recommendations as the basis for this presentation and for our guidelines, policies, and recommendations.**
- **For certain vaccines this may represent a slight departure from or off-label use of the vaccine package insert guidelines.**

Disclosure Statements

- **To obtain nursing contact hours for this session, you must be present for the entire hour and complete an evaluation.**
- **Contact hours are available for this presentation from 02/01/2013 until 02/01/2015.**

Objectives



- Outline Strategies for Communication
- List Positioning, Pain Control and Comforting Techniques
- Review Infection Control
- Discuss Vaccine Preparation
- List Vaccine Administration Routes, Sites, Needle Sizes, and discuss administration of multiple injections and the CDC guidance on non-standard administration
- Review Documentation Requirements
- Discuss Avoiding Vaccine Administration Errors and Managing Adverse Events

Staff Training and Education

All personnel who will administer vaccines should receive competency-based training and education on vaccine administration before providing vaccines to patients. Providers need to orient new staff to vaccines used in their office and validate staff's knowledge and skills about vaccine administration with a skills checklist.

You can obtain templates for "Skills Checklist for Immunization" at

- www.eziz.org/assets/docs/IMM-694.pdf.
- <http://www.immunize.org/handouts/administering-vaccines.asp>

Providers should remember to include temporary personnel who may be filling in on days when the facility is short staffed or helping during peak times such as flu season.

Communication



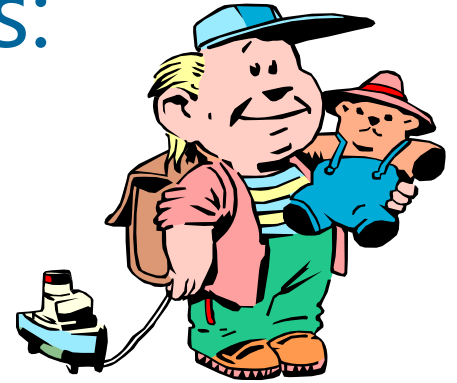
- Discuss vaccines indicated on this visit
- Use of Vaccine Information Statements (VIS)
- Encourage questions
- Address concerns
- Sign consent form
- Inform of next immunization due date

Strategies for Communication

- Displaying a positive attitude through facial expressions, body language, and comment
- Using a soft and calm tone of voice
- Making eye contact, even with small children
- Explaining why vaccines are needed (e.g., “this medicine will protect you from getting sick” or “this shot is a shield to protect your body against infection)
- Being honest and explaining what to expect (e.g., do not say that the injection will not hurt).

Comforting Techniques:

- Stay calm yourself
- Counting game
- Blowing bubbles
- Focus on object in room (Mobile or large poster)
- Bring a familiar, comforting object, such as a toy
- Allow child to cry
- Give honest reassurance
- Apply a Band-Aid

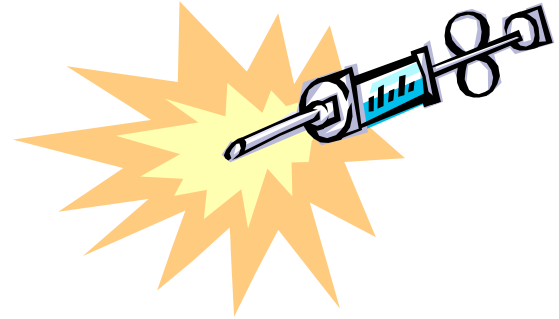


Positioning:



- **IM: Position limb to allow relaxation of muscle injected**
 - Deltoid: flex arm
 - Anterolateral thigh: some degree of internal rotation
- **Infants and Young Children:**
 - Hold securely in parent's lap
- **Older Children:**
 - Sit on parent's lap or edge of exam table and hug parent's chest
- **Adolescents and adults should be seated for immunizations**
- **ACIP recommends observing client for 15 minutes after immunization (s) while seated or lying down.**

Pain Control



- **Physical Techniques**
- **Psychological Techniques**
- **Pharmacologic Techniques**

*Antipyretics - An age-appropriate dose of a non-aspirin-containing pain reliever may be considered to decrease discomfort and fever if it should occur **after** vaccination. ACIP does **not** recommend the prophylactic use of analgesics before or at the time of vaccination.

Infection Control



- **Handwashing**
 - Critical to prevent the spread of illness and disease
- **Gloves**
 - OSHA regulations do not require gloves to be worn when administering vaccines unless the person administering the vaccine is likely to come into contact with potentially infectious body fluids or has open lesions on the hands
- **Equipment Disposal**
 - Used needles should not be recapped, cut or detached from the syringes before disposal
 - Filled sharps containers should be disposed of properly; never dispose of sharps containers or empty vaccine vials at an outreach site.

DHR Rule 290-5-60,"Sharps Injury Prevention"

Vaccine Preparation

- **Syringe/Needle Selection**
- **Inspecting Vaccine**
- **Reconstitution**
- **Filling Syringes**

Pre-filled Syringes



- ◆ The person who prepares the medication should be the same person who administers the medication
- ◆ Pre-filled syringes should be properly stored
- ◆ Use on the same day they are filled
- ◆ Label syringes and keep them cool

****Pre-filling syringes is strongly discouraged to reduce risk of medication errors, vaccine contamination and vaccine wastage**

Importance of Administering Vaccines Correctly

- Ensure Optimal Vaccine Efficacy
- Decreased Localized and Systemic Reactions
- Decreased Pain



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Vaccine Administered by Other Routes:



- ◆ **Intra Nasal (IN)** See Package Insert for directions

Vaccine
LAIV

Age
2-49 Years

- ◆ **Oral** See Package Insert for directions

Vaccine
RV

Age
6 weeks through 32 weeks

- ◆ **Intradermal (ID)**

Material
PPD

Age
All

Needle Size
 $\frac{1}{4}$ - $\frac{3}{4}$ "
25-27 gauge

Site
Volar surface
of forearm

Fluzone (ID) 18-64Yrs

Intranasal (IN) Route

- LAIV, FluMist
- Seated upright position with head tilted back
- Breathe normally
- Tip of sprayer inserted slightly in naris
- Do Not repeat if patient coughs, sneezes, or expels dose



Oral (PO) Route

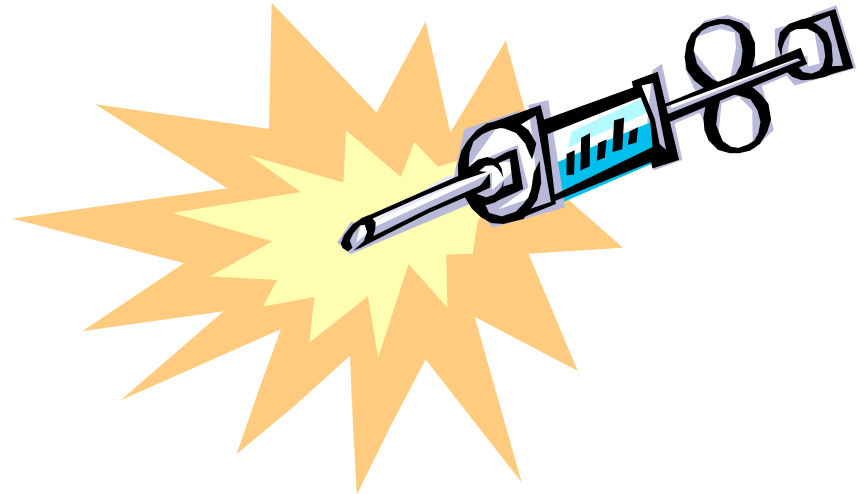
- Administer prior to injections**
- Administer slowly**
- Careful not to initiate gag reflex**
- Never administer or squirt directly into the throat**



Injection Routes, Site and Needle Size

Based upon:

- Age
- Volume of material
- Viscosity of material
- Size of muscle
- Recommended depth



Injection Routes of Administration:

- Intramuscular: IM
- Subcutaneous: SubQ
- Intradermal: ID

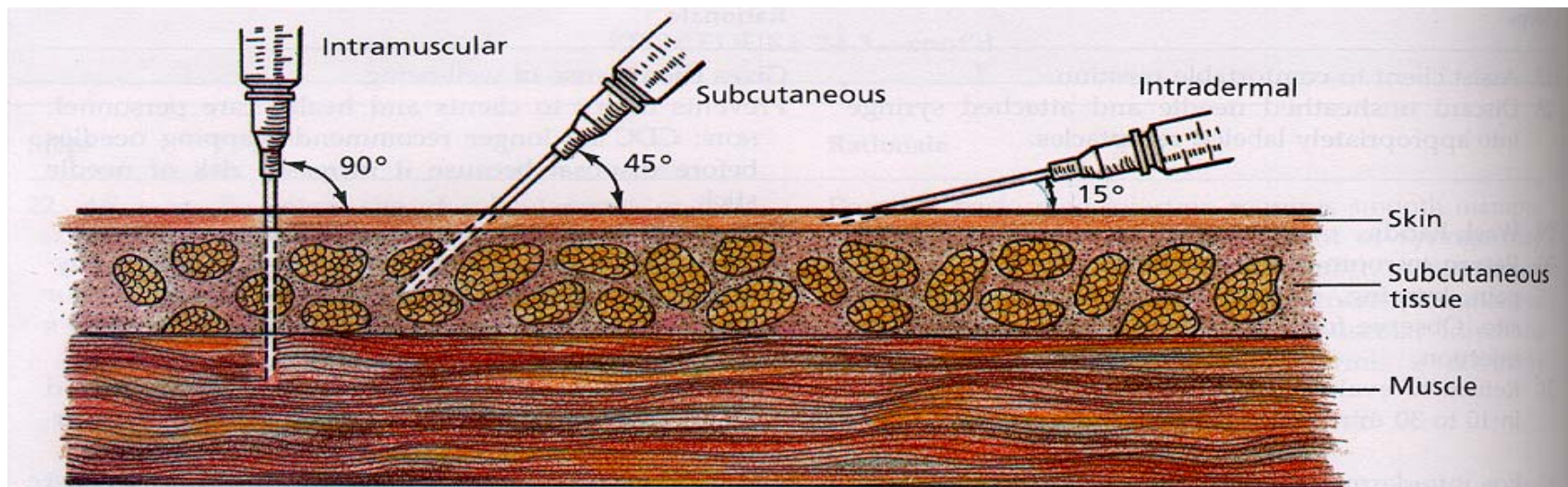
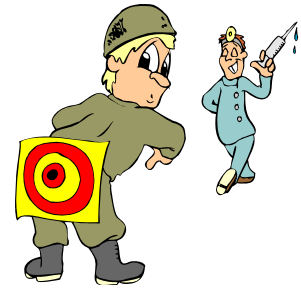


FIG. 24-14 Comparison of angles of insertion for intramuscular (90 degrees), subcutaneous (45 degrees), and intradermal (15 degrees) injections.

Vaccines Administered Intramuscularly (IM)

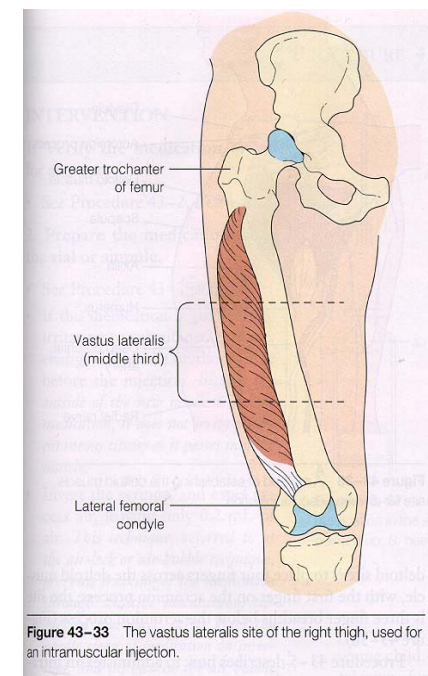
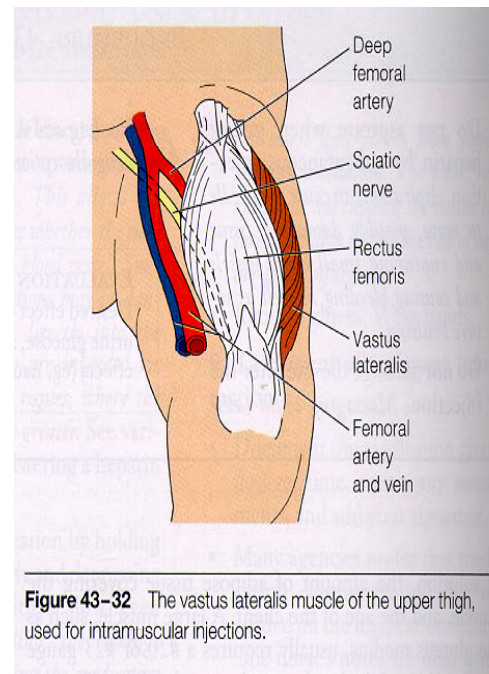


- DTaP, DT, Tdap, and Td
- Hepatitis A and B
- Hib
- Influenza
- IPV
- Pneumococcal (polysaccharide)
- Pneumococcal (conjugate)
- Meningococcal (conjugate)
- Human Papillomavirus (HPV)

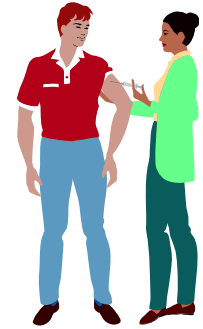
IM Injections: Infants



- Age:
 - Newborn -28 days
 - Infant 1-12 Months
- Site:
 - Anterolateral thigh muscle
- Needle Size:
 - 5/8" (newborn-28 days)
 - 1" (>1 mo.)
 - 22-25 Gauge



IM Injections: Other Ages



Sites:

Deltoid:

Toddler (1-2 years)

Child/adolescents (3-18 years)

Adults (19 years and older)

Anterolateral thigh:

Toddlers

Children/adolescents

Adults

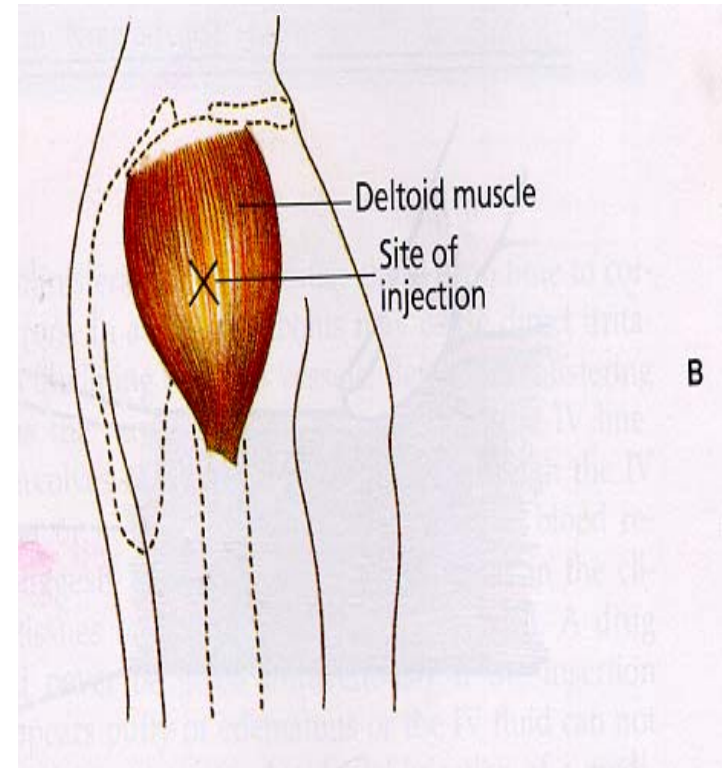
Needle Size:

Toddlers 5/8"-1" deltoid *

Children /Adolescents 1 "-1 ¼" thigh
22-25 gauge

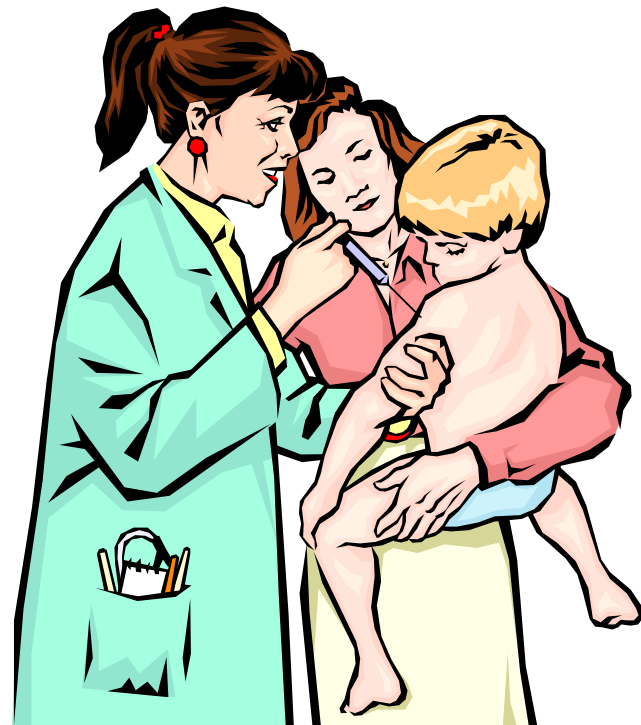
Adults 1"-1 ½" deltoid/thigh*
22-25gauge

*Indicates alternate locations if deemed necessary after assessment



Vaccines Administered Subcutaneously (SubQ)

- MMR
- MMRV
- IPV (inactivated polio)
- Pneumococcal (polysaccharide)
- Varicella
- Meningococcal (polysaccharide)
- Herpes zoster



Sub Q Injections



Age

- ◆ **Infants
(birth-12 mos.)**

Site

**Fatty tissue over the
Anterolateral thigh
muscle**

Needle Size

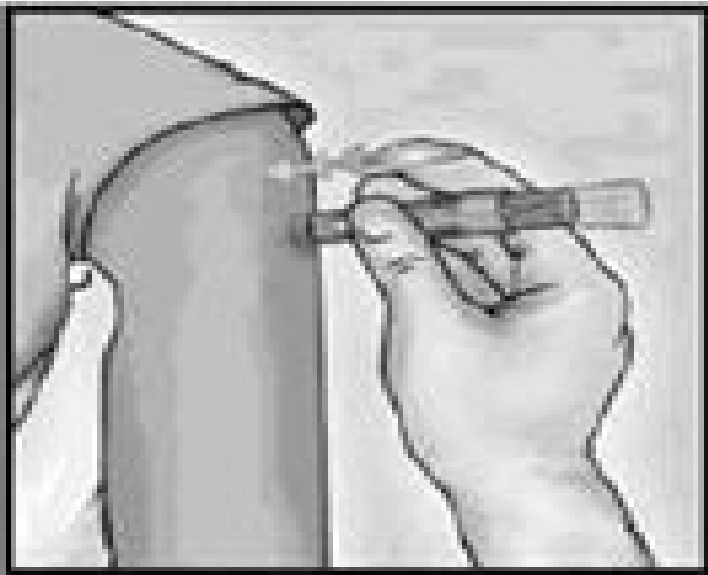
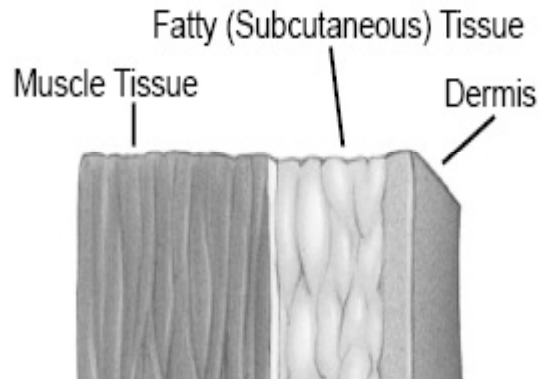
**5/8"
23-25 gauge**

- ◆ **12mos. -older**

**Fatty tissue over the
anterolateral thigh
or
fatty tissue over
triceps(upper arm)**

**5/8"
23-25 gauge**

Intradermal (ID) Route



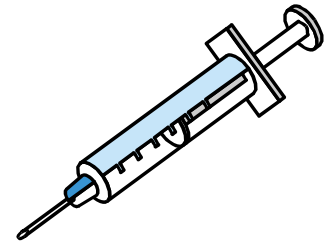
-Fluzone licensed for use in persons 18 through 64 years

-Deltoid region of upper arm used

-Patient seated with arm bent at elbow and hand on hip to ensure proper administration

-Not administered into the volar aspect of the forearm or by the intradermal technique used to administer a tuberculin skin test

Multiple Injections



- When multiple vaccines are administered, separate sites should ordinarily be used if possible.
- When necessary, two vaccines may be given in the same limb at a single visit.
- The thigh is the preferred site for infants and smaller children for two simultaneous IM injections because of its greater muscle mass.
- The distance for separating the two injections is arbitrary but should be sufficient (e.g., 1 to 2 in. apart) so that local reactions are unlikely to develop.
- Multiple vaccines should not be mixed in a single syringe unless specifically licensed and labeled for administering in one syringe.

Non-Standard Administration

- CDC discourages deviating from the recommended route, site, dosage, or number of doses for any vaccine. Deviation can result in reduced protection and increase the risk of an exaggerated local reaction. For certain vaccines, the ACIP recommends revaccination if a nonstandard route or site is used.
- Larger than recommended dosages can be hazardous because of excessive local or systemic concentrations of antigens or other vaccine constituents deposited into the tissue.

Special Considerations

- Mastectomy
- Hemophilia
- Lost Immunization Records



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Case Study

- ◆ A 12 month old, who is walking, needs the following immunizations on today's visit :
 - Hepatitis B
 - Hib
 - IPV
 - MMR
 - Varicella
 - DTaP
 - PCV13
 - Hepatitis A
 - Possibly influenza
- ◆ What route and site should be used to administer each vaccine?

Case Study

Vaccine

Hib

PCV13

DTaP/IPV/HepB

Hep A

MMR

Varicella

Route

IM

IM

IM

IM

SubQ

SubQ

Site Options

AL aspect R thigh

AL aspect R thigh

AL aspect L thigh

AL aspect L thigh

UO aspect R arm

UO aspect L arm

Other options:

**MMRV (for MMR
and Varicella)**

SubQ

UO aspect of arm

Case Study: Meg

- ◆ **Age: 4 years**
- ◆ **Immunization History:**
 - ◆ **Hepatitis B Vaccine at birth, 2 and 4 months**
 - ◆ **DTaP at 2, 4, and 6 months**
 - ◆ **Hib at 2, 4, and 6 months**
 - ◆ **IPV at 2, 4, and 6 months**
 - ◆ **MMR at 12 months**
- ◆ **Medical and Family History:**
 - ◆ **NKA**
 - ◆ **Grandmother on Chemotherapy (lives with family)**
 - ◆ **Mother pregnant**
 - ◆ **No hx of chickenpox disease**

What vaccines are due at this visit?

Answer to Case Study: Meg

- ◆ **3rd dose of Hep B needs to be repeated; given too early**
- ◆ **4th dose of DTaP**
- ◆ **4th dose of Hib**
- ◆ **(if available, could give HepB/Hib combination-COMVAX[®])**
- ◆ **4th dose of polio**
- ◆ **MMR (2nd dose)**
- ◆ **Varicella (1st dose)**
- ◆ **1 dose of PCV13**
- ◆ **1st dose of Hep A possibly**

Answer to Case Study: Meg

- ◆ **What sites should be used for these vaccines?**
 - ◆ **MMR, IPV and Varicella subQ in upper outer aspect of right and left arms**
 - ◆ **Hepatitis B/Hib, DTaP and PCV13 IM in anterior lateral aspect of mid or upper thigh in right and left legs**
 - ◆ **Give injections in same limb at least 1-2" apart**
- ◆ **When should Meg return for her next immunization visit and what immunizations would be due?**
 - ◆ **In 3 months for 2nd varicella vaccine**

Documentation



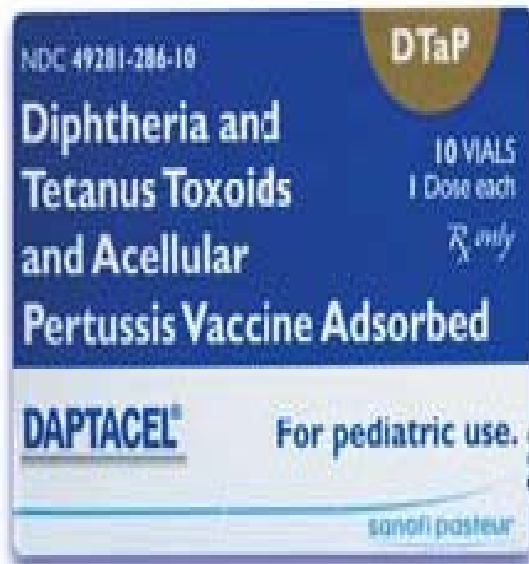
- ◆ **National Childhood Vaccine Injury Act requires documentation of :**
 - ▬ **Date of administration**
 - ▬ **Manufacturer**
 - ▬ **Lot Number**
 - ▬ **Name, address, and title of person administering vaccine**
 - ▬ **Adverse effects (if any)**
 - ▬ **Publication Date of VIS**
- ◆ **Client's Personal Immunization record**
- ◆ **GRITS**

Avoiding Vaccine Errors

- When possible, involve staff in selection of vaccine products
- Keep current reference materials on each vaccine
- Rotate vaccines
- Consider the potential for product mix-up
- Triple Check Your work

Avoiding Vaccine Errors

DTaP



Tdap



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Check Expiration Dates



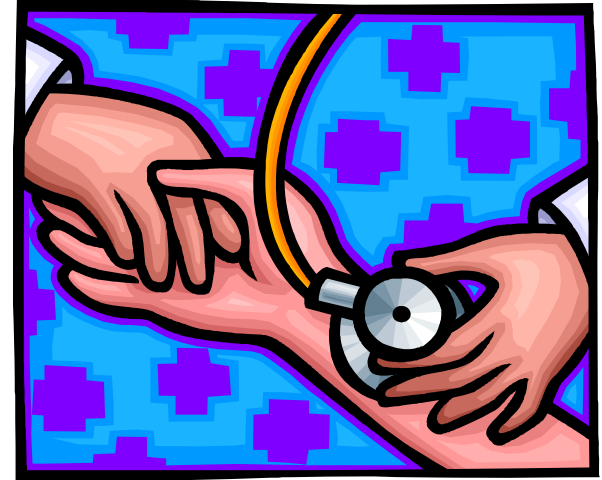
Vaccine Expiration Date:
1/15/08
Note: Use through January 15, 2008. Do NOT use on or after January 16, 2008.



Vaccine Expiration Date:
1/08
Note: Use through January 31, 2008. Do NOT use on or after February 1, 2008.

Adverse Events Management

- ◆ **Maintain an accessible Emergency Kit**
- ◆ **Staff certified in CPR**
- ◆ **Conduct mock emergency drills**
- ◆ **Vaccine Adverse Events Reporting System(VAERS)**



Vaccine Adverse Event Reporting System

The **Vaccine Adverse Event Reporting System (VAERS)** is a national vaccine safety surveillance program co-sponsored by the Centers for Disease Control and Prevention and the Food and Drug Administration.

- What Can Be Reported to VAERS?
- Who Reports to VAERS?
- Does VAERS Provide General Vaccine Information?

<http://vaers.hhs.gov/> or 1-800-822-7967

National Vaccine Injury Compensation Program (VICP)

- National Vaccine Injury Compensation Program provides compensation to individuals found to be injured by or have died from certain childhood vaccines.
 - Established in 1988 by NCVIA
 - Federal “no fault” system to compensate those injured
 - Claim must be filed by individual, parent or guardian
 - Must show that injury is on “Vaccine Injury Table”

Are YOU up to date?

Healthcare Personnel Vaccination Recommendations¹

Vaccine	Recommendations in brief
Hepatitis B	Give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give IM. Obtain anti-HBs serologic testing 1–2 months after dose #3.
Influenza	Give 1 dose of influenza vaccine annually. Give inactivated injectable influenza vaccine intramuscularly or live attenuated influenza vaccine (LAIV) intranasally.
MMR	For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give SC.
Varicella (chickenpox)	For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease, give 2 doses of varicella vaccine, 4 weeks apart. Give SC.
Tetanus, diphtheria, pertussis	Give a one-time dose of Tdap as soon as feasible to all HCP who have not received Tdap previously. Give Td boosters every 10 years thereafter. Give IM.
Meningococcal	Give 1 dose to microbiologists who are routinely exposed to isolates of <i>N. meningitidis</i> . Give IM or SC.

Hepatitis A, typhoid, and polio vaccines are not routinely recommended for HCP who may have on-the-job exposure to fecal material.

Other Considerations for HCW Immunization Plan/Policy

- Immunization/immunity record maintained by the facility on each HCW
- Catch-up programs for current employees and policies for newly-hired workers
- Work restriction policies for susceptible workers after exposure
- Management and control of outbreaks
- Options for refusal of vaccination by employees

<http://health.state.ga.us/programs/immunization>

georgia.gov

DPH
Georgia Department of Public Health

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Services & Resources for:

Immunization Section

- Immunize Georgia Conference
- Major Focus Areas
- Adult Immunization
- Adolescent Immunization
- Education
- Other Languages
- Parental Resources
- Provider Resources
- Publications
- Related Links
- School Resources
- Travel Immunizations
- Vaccine Safety
- Vaccines for Children
- GRITS
- Influenza Vaccine Administration Toolkit for Authorized Health Care Professionals, 2009-2010

Immunization Section

Contact Information

2 Peachtree St NW
Atlanta, GA 30303
404-857-3158
(Fax) 404-857-1463
immunization@dhr.state.ga.us

Mission & Vision

Through collaboration with public and private providers, advocacy groups, and other stakeholders, work to increase immunization rates for all Georgians and decrease the incidence of vaccine-preventable diseases.

Vaccine-preventable disease levels are at or near record lows. Even though most infants and toddlers have received all recommended vaccines by age 2, many under-immunized children remain, leaving the potential for outbreaks of disease. Many adolescents and adults are under-immunized as well, missing opportunities to protect themselves against diseases such as Hepatitis B, influenza, and pneumococcal disease.

For more information regarding immunization, visit the links provided.

Immunization News

- [Flu Season 2011-2012](#)

Quick Links

FAQ

How do I...

- get a copy of my immunization record?
- find the forms and shots needed for school and daycare?
- find out what vaccines college students need?

[more >>](#)

Information:
immunization@dhr.state.ga.us

Comments to Webmaster:
phwebmaster@dhr.state.ga.us

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Resources

- District Immunization Coordinator
- GA Immunization Program Office
 - On call Help line: **404-657-3158**
 - GRITS Help Line: **1-866-483-2958**
 - VFC Help Line: **1-800-848-3868**
 - Website
www.health.state.ga.us/programs/immunization
 - Your local Immunization Program Consultant (IPC)
- GA Chapter of the AAP
- GA Academy of Family Physicians

