

# **The Immunization Encounter: Critical Issues**

## **Encounter Activities**

**National Center for Immunization and  
Respiratory Diseases  
Centers for Disease Control and Prevention**

**These graphics are in the public domain  
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# Subcutaneous Vaccines

- **Anthrax**
- **Japanese encephalitis**
- **Measles, mumps and rubella-containing vaccines**
- **Meningococcal polysaccharide**
- **Varicella**
- **Zoster**
- **Yellow fever**

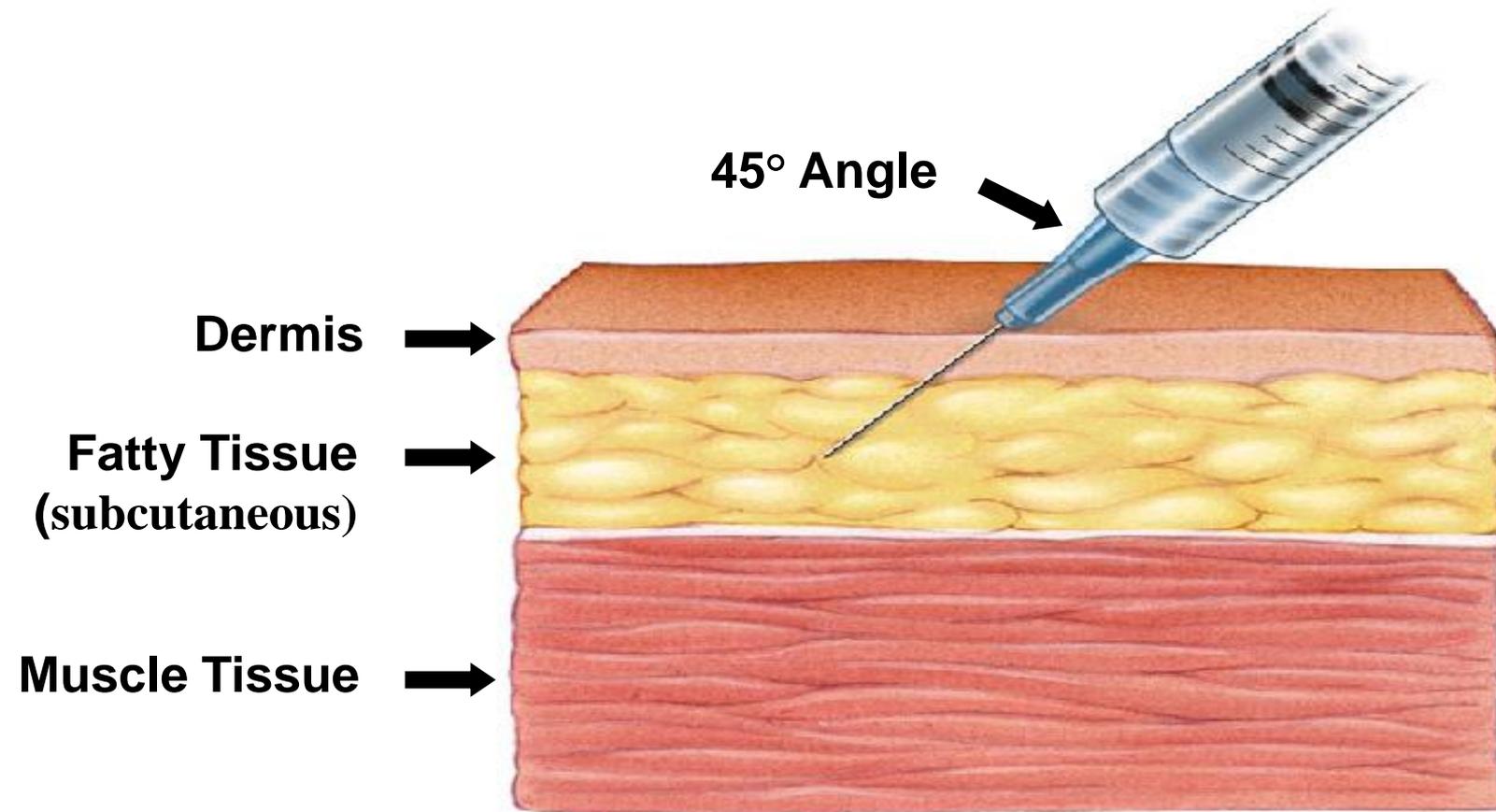
# Intramuscular Vaccines

- Diphtheria, tetanus and pertussis
- *Haemophilus influenzae* type b
- Hepatitis A
- Hepatitis B
- Influenza (inactivated)
- Pneumococcal conjugate
- Meningococcal conjugate
- Rabies
- Typhoid Vi

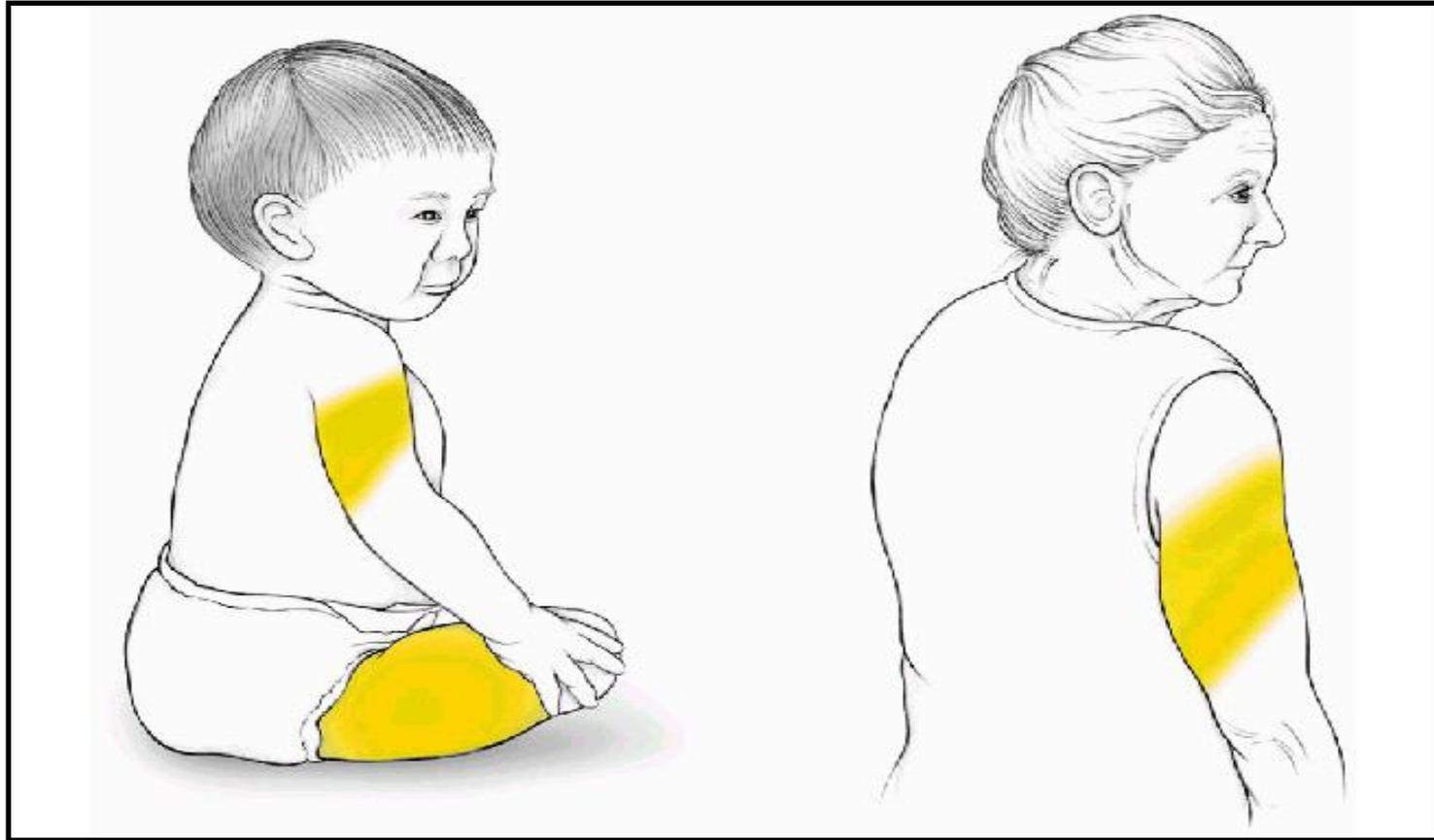
# **Either Subcutaneous or Intramuscular**

- **Inactivated polio**
- **Pneumococcal polysaccharide**

# Subcutaneous Needle Insertion



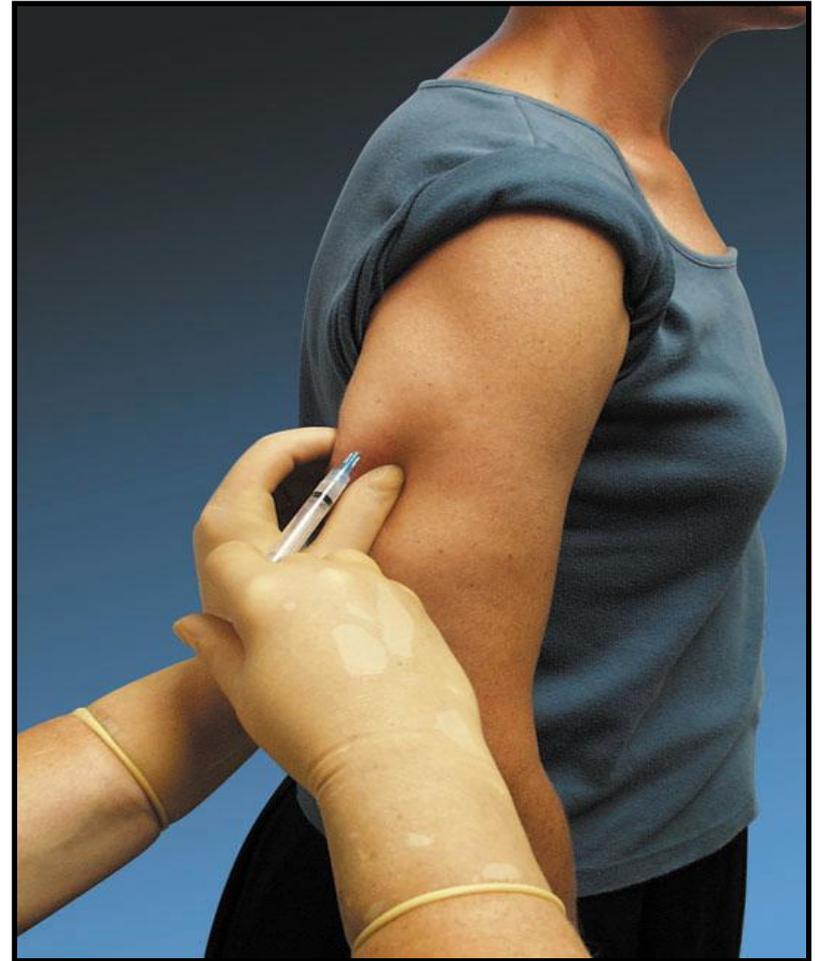
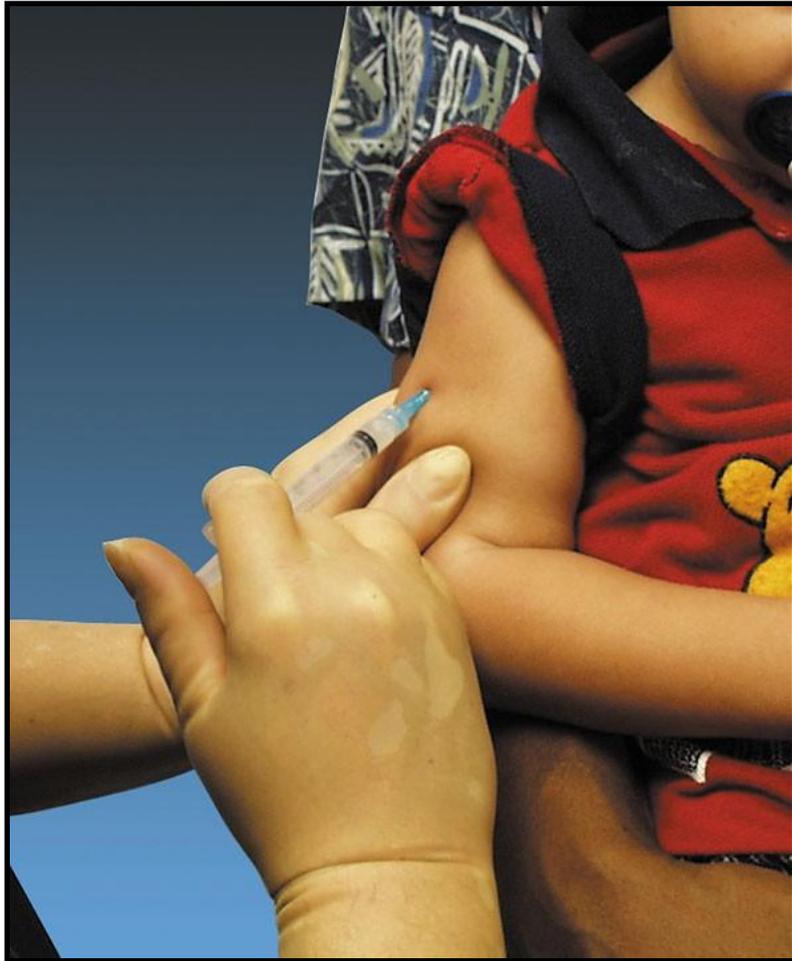
# Subcutaneous Sites



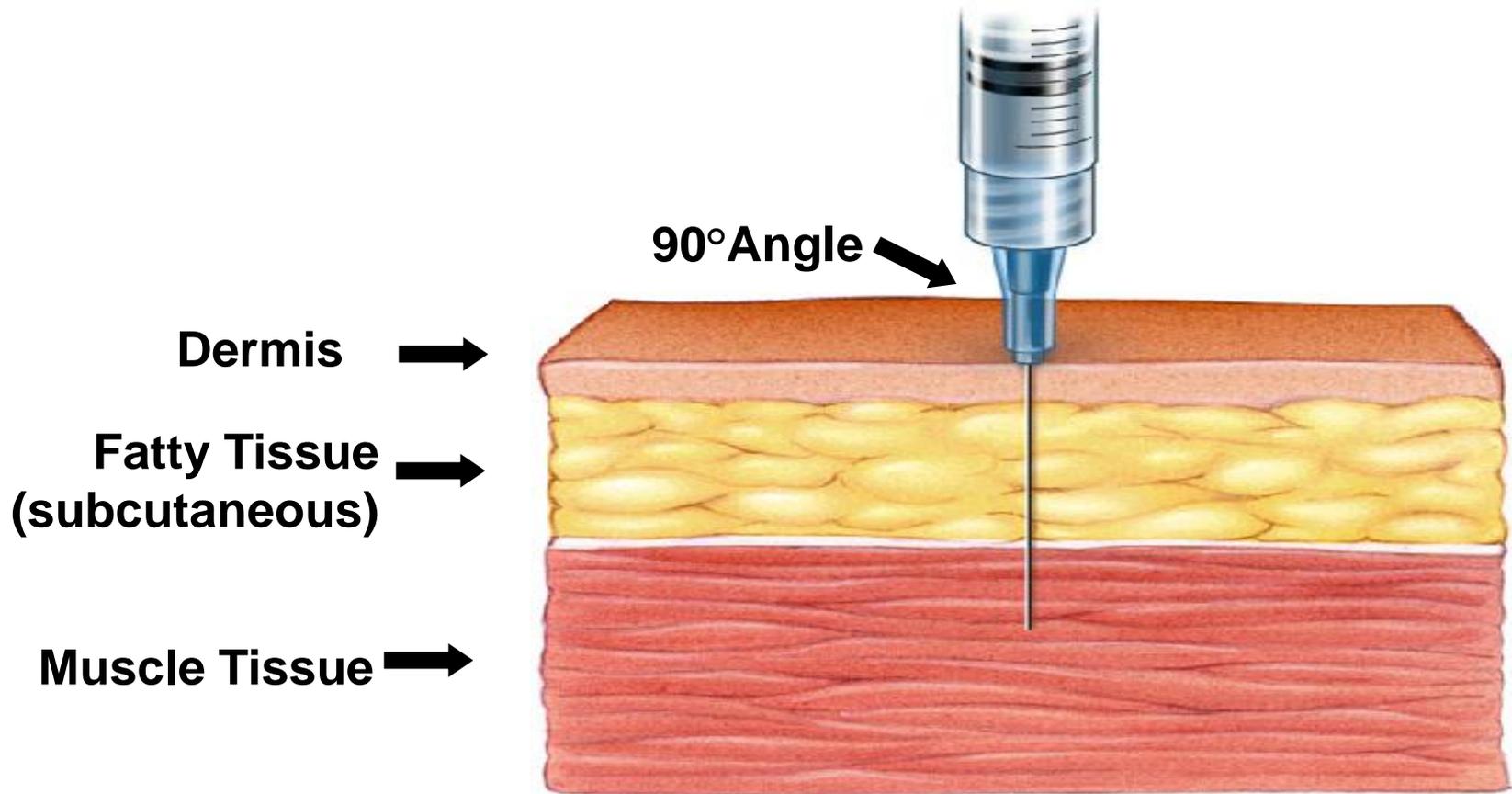
# Subcutaneous Needle

- **Gauge:**
  - 23 to 25
- **Length:**
  - 5/8 inch

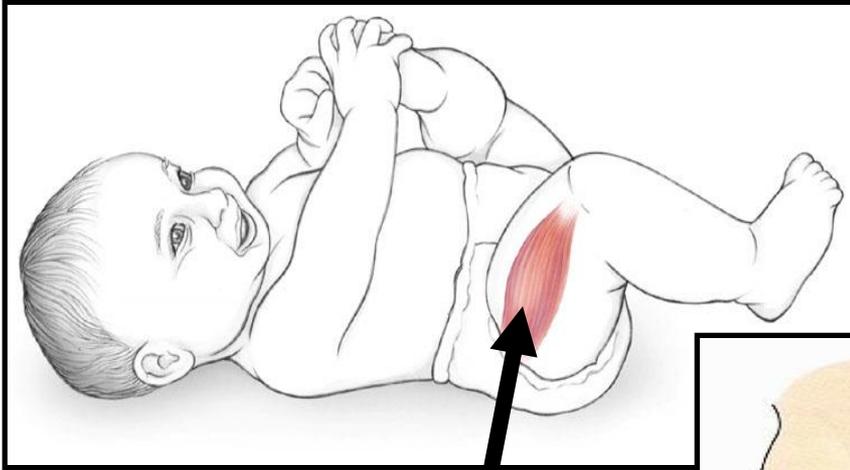
# Subcutaneous Injection Technique



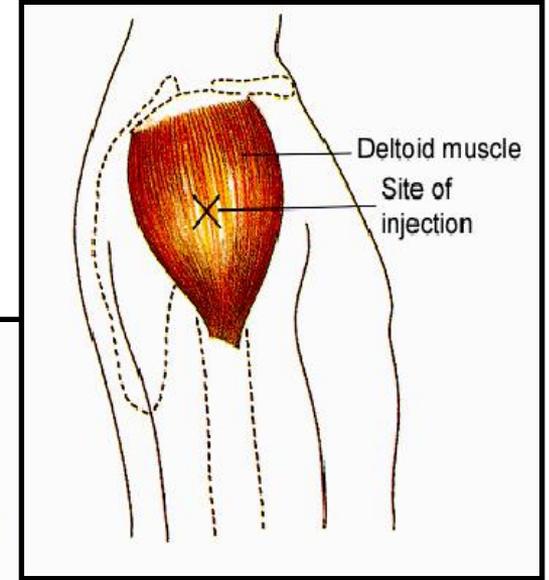
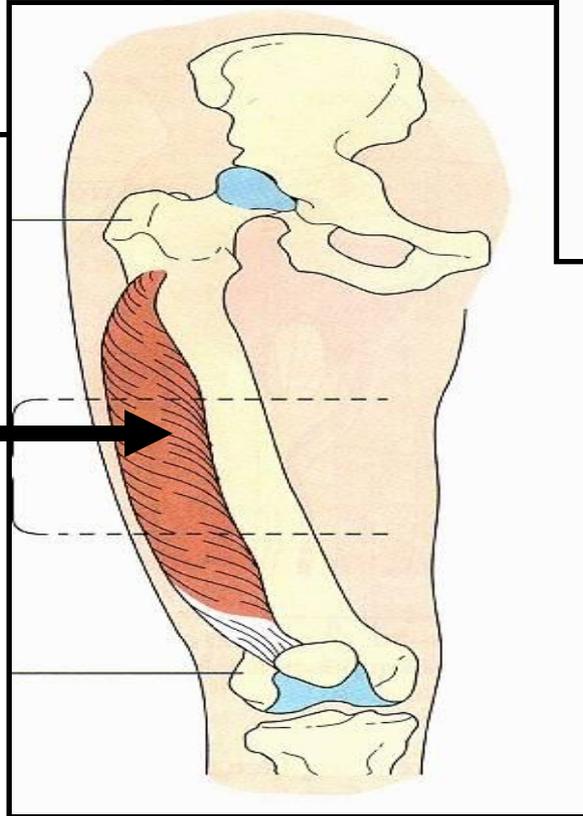
# Intramuscular Needle Insertion



# Intramuscular Sites



**vastus  
lateralis  
muscle**



**Do not use the gluteus for  
vaccine administration.**



# Intramuscular Needle

- **Gauge:**
  - 22 to 25
- **Length:**
  - newborn 5/8 inch
  - infant 1 inch
  - older children 5/8 to 1¼ inch
  - adolescent/adult 1 to 1½ inch

**TABLE 7. Needle length and injection site of intramuscular injections**

Birth–18 years		
Age	Needle length	Injection site
Newborn*	5/8" (16mm) <sup>†</sup>	Anterolateral thigh
Infant 1–12 months	1" (25mm)	Anterolateral thigh
Toddler 1 – 2 years	1"–1 1/4" (25–32 mm) 5/8" <sup>†</sup> –1" (16–25 mm)	Anterolateral thigh <sup>§</sup> Deltoid muscle of the arm
Child/adolescent 3–18 years	5/8" <sup>†</sup> –1" (16–25 mm) 1"–1 1/4" (25–32 mm)	Deltoid muscle of the arm <sup>§</sup> Anterolateral thigh
Aged ≥19 Years		
Sex/weight	Needle length	Injection site
Male and female <60 kg (130 lbs)	1" (25mm) <sup>¶</sup>	Deltoid muscle of the arm
Female 60–90 kg (130–200 lbs)	1"–1½" (25–38 mm)	
Male 60–118 kg (130–260 lbs)		
Female >90 kg (200 lbs)	1½" (38 mm)	
Male >118 kg (260 lbs)		

\* Newborn = first 28 days of life.

<sup>†</sup> If skin stretched tight, subcutaneous tissues not bunched.

# Intramuscular Injection Technique



# **Infection Control**

- **Hand hygiene**
  - recommended between each patient
  - alcohol-based waterless antiseptic can be used
- **Gloves**
  - not required by Occupational Safety and Health Administration (OSHA) unless potential for exposure to blood or body fluids, open lesions on the hands, or agency policy

# **Infection Control**

- **Equipment disposal**
  - **NEVER** detach, recap or cut a used needle
  - **place in puncture-proof container**
  - **dispose as infectious medical waste**

# **Other Vaccine Administration Issues**

- **Not necessary to change needles between drawing or reconstituting vaccine and administration**

# **Other Vaccine Administration Issues**

- **NEVER mix vaccines in the same syringe unless approved for mixing by the Food and Drug Administration (FDA)**
- **No attempt should ever be made to transfer vaccine from one syringe to another**

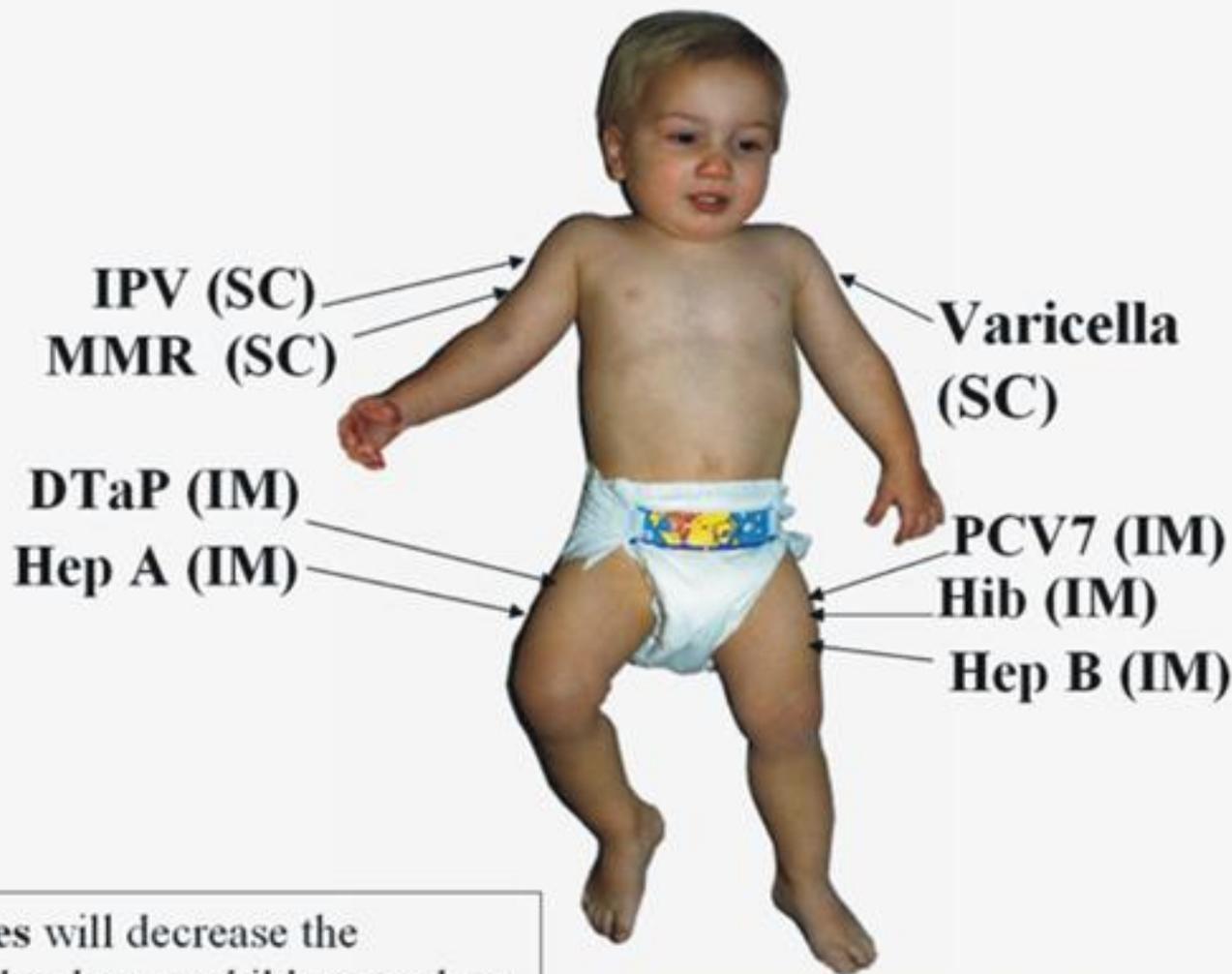
# **Other Vaccine Administration Issues**

- Injection sites in same limb should be separated by at least 1 inch if possible**

# Giving All the Doses $\geq$ 12 months

One way to give 8 doses at one visit

- Needle Lengths  
IM=1 inch to 1.5 inches  
SC=5/8 inch
- Separate injection sites by 1-2 inches
- Anterolateral thigh is the **preferred** site for multiple IM injections
- Deltoid (upper arm) is an option for IM in children  $\geq$ 18 mo with adequate muscle mass



Using **combination vaccines** will decrease the number of injections needed to keep a child up-to-date

# **Other Vaccine Administration Issues**

- **Aspiration**
  - not required
  - no reports of injury because of failure to aspirate

# Latex Allergy

- **Most often a contact-type allergy**
- **Person with anaphylactic allergy to latex generally should not receive vaccines supplied in vials or syringes that contain natural rubber**
- **Persons with latex allergies that are not anaphylactic can be vaccinated**

# **Vaccine Administration Errors**

- **Administration of the wrong vaccine formulation**
- **Wrong diluent**
- **Wrong route of administration**



*Vaccinations may hurt a little . . .  
but disease can hurt a lot!*

**Call your clinic right away if you answer "yes" to any of the following questions:**

- Does your child have a temperature about which your health care provider has told you to be concerned?
- Is your child pale or limp?

# After the Shots . . .

## *What to do if your child has discomfort*

*Your child may need extra love and care after getting vaccinated. Some vaccinations that protect children from serious diseases also can cause discomfort for a while. Here are answers to questions many parents have after their children have been vaccinated. If this sheet doesn't answer your questions, call your clinic or health care provider.*

*Clinic or health care provider phone number: \_\_\_\_\_*

### **I think my child has a fever. What should I do?**

Check your child's temperature to find out if there is a fever. Do not use a mercury thermometer. If your child is younger than 3 years of age, taking a temperature with a rectal digital thermometer provides the best reading.

Once your child is 4 or 5 years of age, you may prefer taking a temperature by mouth with an oral digital thermometer. Tympanic thermometers, which measure temperature inside the ear, are another option for older babies and children. If your child is older than 3 months of age, you can also take an underarm (axillary) temperature, although it is not as accurate.

#### **Here are some things you can do to help reduce fever:**

- Give your child plenty to drink.
- Clothe your child lightly. Do not cover or wrap your child tightly.
- Give your child a fever-reducing medication such as acetaminophen

# **Fever and Pain Following Vaccination**

- **Acetaminophen or ibuprofen can be given if necessary**
- **Aspirin should NEVER be given to a child**

# **Fever and Pain Following Vaccination**

- **Plenty of fluids**
- **Dress the child in light clothing**
- **Sponge the child in a few inches of lukewarm water**
- **Wet a clean washcloth with cool water and place it on the tender area**

# **When to Contact the Provider**

- **Fussy for more than 24 hours**
- **Rectal temperature of 105° F or higher**
- **Child is pale or limp**

# **When to Contact the Provider**

- **Crying continuously for more than 3 hours**
- **High-pitched cry**
- **Shaking, twitching or jerking**
- **The parent has any other concerns about the way the child looks or acts**