

The Six Rights of Vaccine Administration

1. The Right Drug
2. The Right Dose
3. The Right Route
4. The Right Time
5. The Right Patient
6. The Right Documentation

The Right Drug

Varicella	Zoster			
MMR	LAIV	MMRV		
MMR IPV	Hep A	TIV	MPSV4	PCV7
			DTaP/ RV	DT
				Hep B
				Hib
			DTaP/ Hep B/ IPV	
				Hep A/ Hep B
				Td
				PPV23
				Hib
				Hep B/ Tdap
				Hib
				MCV4
				DTaP
				HPV
				Water Bottles

Freezer

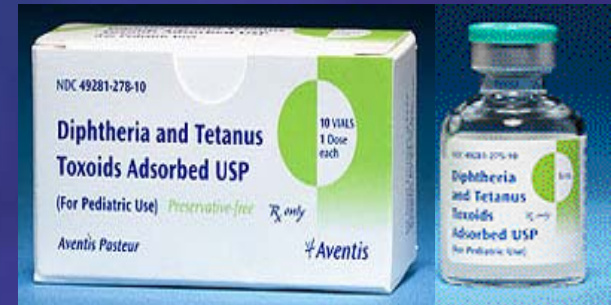
Refrigerator

The Right Drug Check Your Vial

- PPD
(tuberculin skin test)



- DT



- Td (dT)



Check Your Vials:

is it
DTaP
or Td?

Tdap: Tetanus, Diphtheria, Pertussis

new Preteens - Adults

ADACEL™ (sanofi pasteur, formerly Aventis Pasteur)
Ages 11-64 years



Boostrix® (GlaxoSmithKline)
Ages 10-18 years



DTaP: Diphtheria, Tetanus, Pertussis

Infants - Young Children

DAPTACEL® (sanofi pasteur, formerly Aventis Pasteur)
Ages 6 weeks up to 7 years



Infanrix® (GlaxoSmithKline)
Ages 6 weeks up to 7 years



TRIPEDIA® (sanofi pasteur, formerly Aventis Pasteur)
Ages 6 weeks up to 7 years



Pediarix® (GlaxoSmithKline)
Ages 6 weeks up to 7 years



Td: Tetanus, Diphtheria

Td (sanofi pasteur, formerly Aventis Pasteur)
Ages 7 years and older



With the new Tdap vaccine, pertussis protection is available for teens and adults up to age 64. Carefully check your vaccine vials to ensure that you give the right vaccine to the appropriate age group.

Produced by
California
Immunization
Branch

Available at <http://www.dhs.ca.gov/ps/dcdc/izgroup/pdf/IMM-508.pdf>

The Right Drug + The Right Diluent

Vaccine + Diluent	Vaccine + Diluent
ActHIB [®] + 0.4% Sodium chloride (sanofi pasteur)	TriHIBit [®] (ActHIB reconstituted w/ Tripedia) (sanofi pasteur)
M-M-R [®] II + Sterile water (Merck)	ProQuad [®] (MMRV) + Sterile water (Merck)
Varivax [®] + Sterile water (Merck)	Zostavax [®] + Sterile water (Merck)
Menomune [®] + Sterile water (sanofi pasteur)	

The Right Drug

Check the Expiration Date

Vaccine Expiration Date:

8/15/06

Note Use **through August 15, 2006**. Do **NOT** use on or after August 16, 2006



Vaccine Expiration Date:

8/06

Note Use **through August 31, 2006**. Do **NOT** use on or after September 1, 2006



The Right Dose for The Right Age

Inactivated Vaccines Age-appropriate Formulation	Inactivated Vaccines Age-appropriate Formulation
DTaP/DT - 6 wks thru 6 yrs Tdap Boostrix® - 10 yrs thru 18 yrs Adacel® - 11 yrs thru 64 yrs Td - ≥7 yrs	Influenza (TIV) Fluzone® - 6 mos thru 35 mos Fluzone® - ≥36 mos Fluzone® - ≥6 mos Fluvirin® - ≥4 yrs Fluarix® - ≥18 yrs
Hepatitis A Pediatric - 12 mos thru 18 yrs Adult - ≥19 yrs	Hepatitis B Pediatric - ≤19 yrs Adult - ≥20 yrs
PCV7 - 6 wks thru 59 mos PPV23 - ≥ 2 yrs	MCV4 - 11 yrs - 55 yrs MPSV4 - ≥ 2 yrs
Hib - 6 wks thru 59 mos	IPV - ≥6 weeks
HPV - 9 yrs thru 26 yrs	

The Right Dose for The Right Age

Live Vaccines Age-appropriate Formulation	Combination Vaccines Age-appropriate Formulation
LAIV - 5 yrs thru 49 yrs (healthy & nonpregnant only)	DTaP/Hib - 12 mos thru 59 mos
MMR - \geq12 mos	DTaP/Hep B/IPV - 6 wks thru 6 yrs
RV - 12 wks thru 32 wks	Hep A/Hep B - \geq18 yrs
Varicella - \geq12 mos	Hep B/Hib - 6 wks thru 59 mos
Zoster - \geq60 yrs	MMRV - 12 mos thru 12 yrs (Also a live vaccine)

The Right Dose

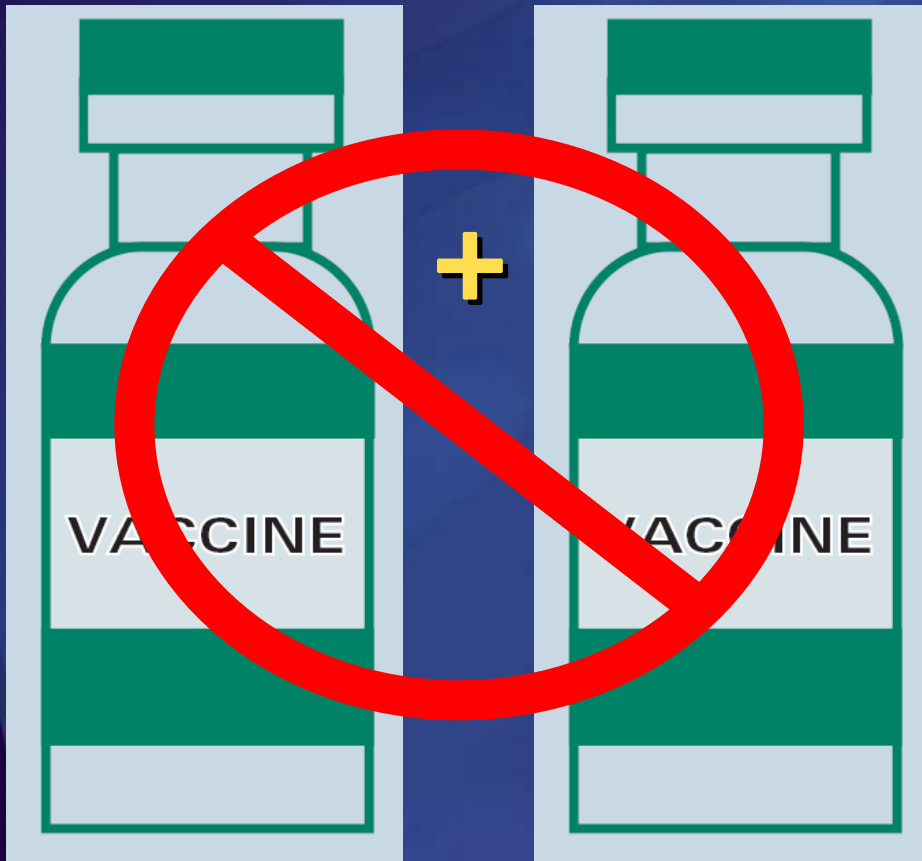
Split or Partial Doses



- Split or partial (incomplete) doses are **NOT** valid doses
- Exceptions to partial doses
 - LAIV if person sneezes
 - RV if infant regurgitates, spits out, or vomits

The Right Dose

Combining Vaccines



- Vaccines should **NEVER** be combined in the same syringe unless FDA approved for this purpose

The Right Route

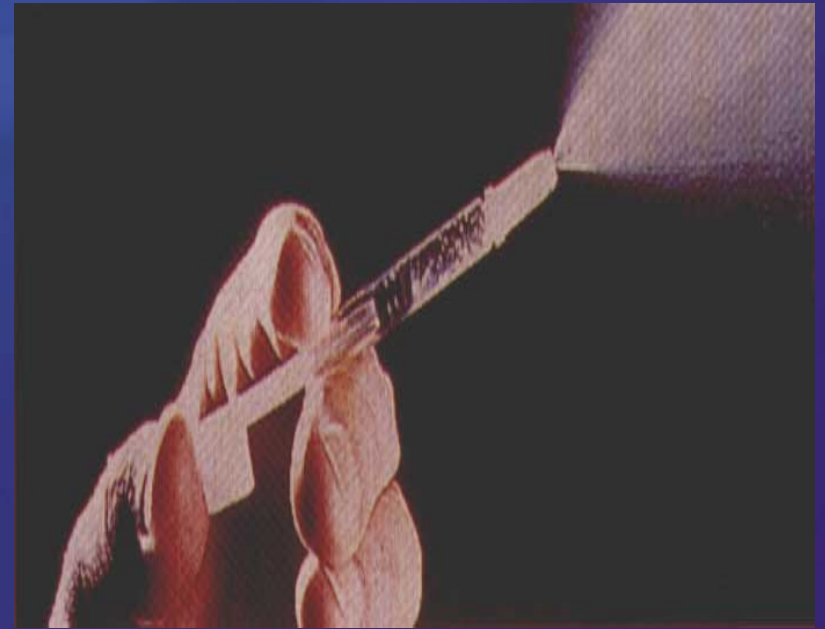
- Deviation from the manufacturer recommended route can
 - Reduce vaccine efficacy or
 - Increase local adverse reactions

The Right Route

Rotavirus Vaccine
Oral Route

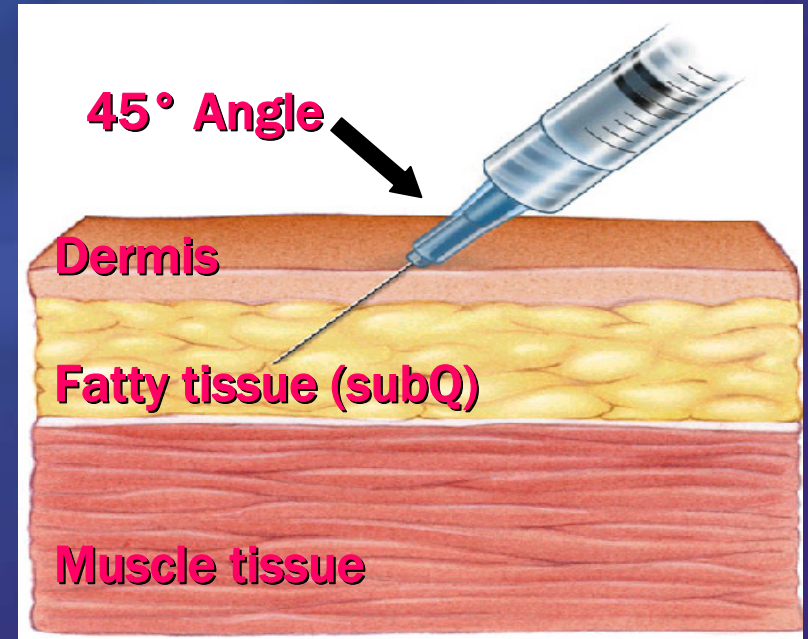
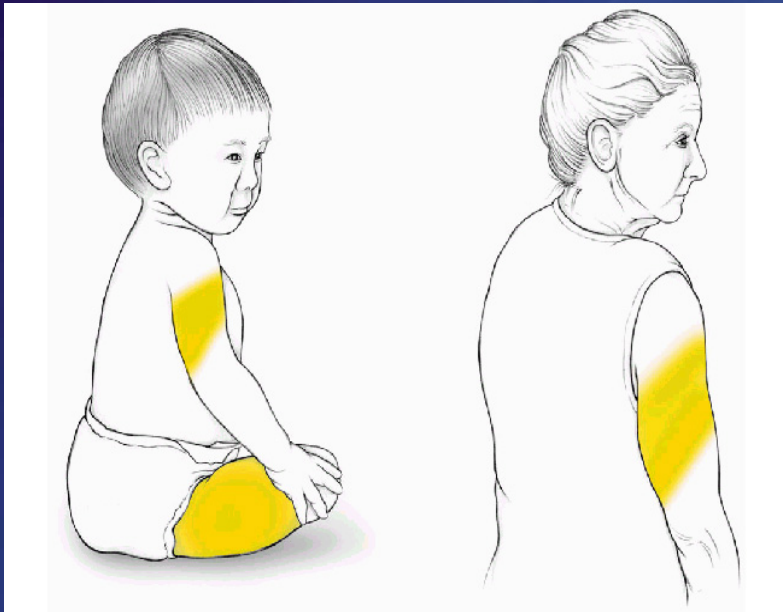


LAIV Vaccine
Intranasal Route



The Right Route

Subcutaneous (subQ) Injections



Needle size
23 - 25 gauge
5/8" length

The Right Route

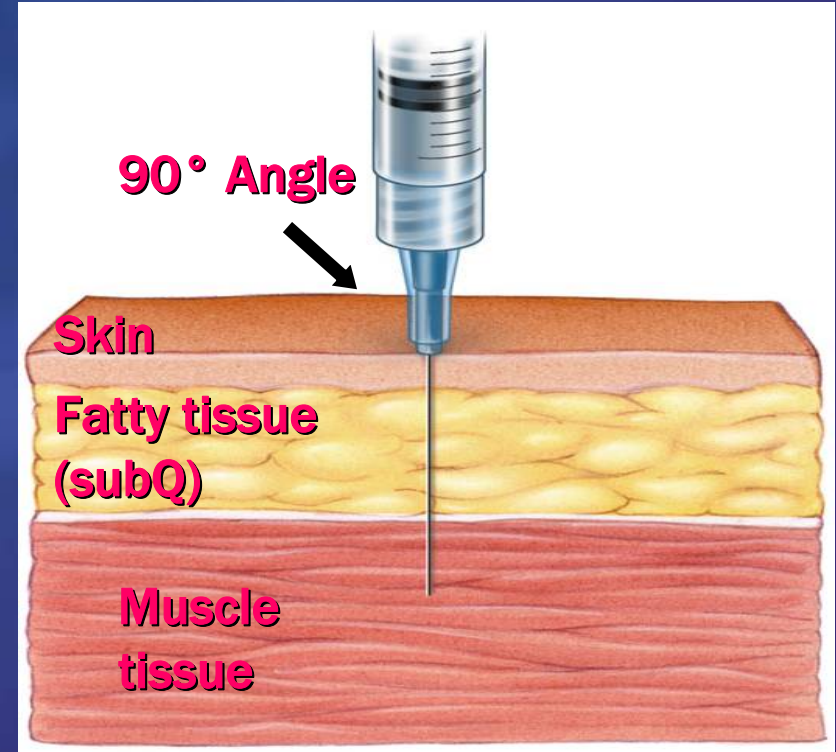
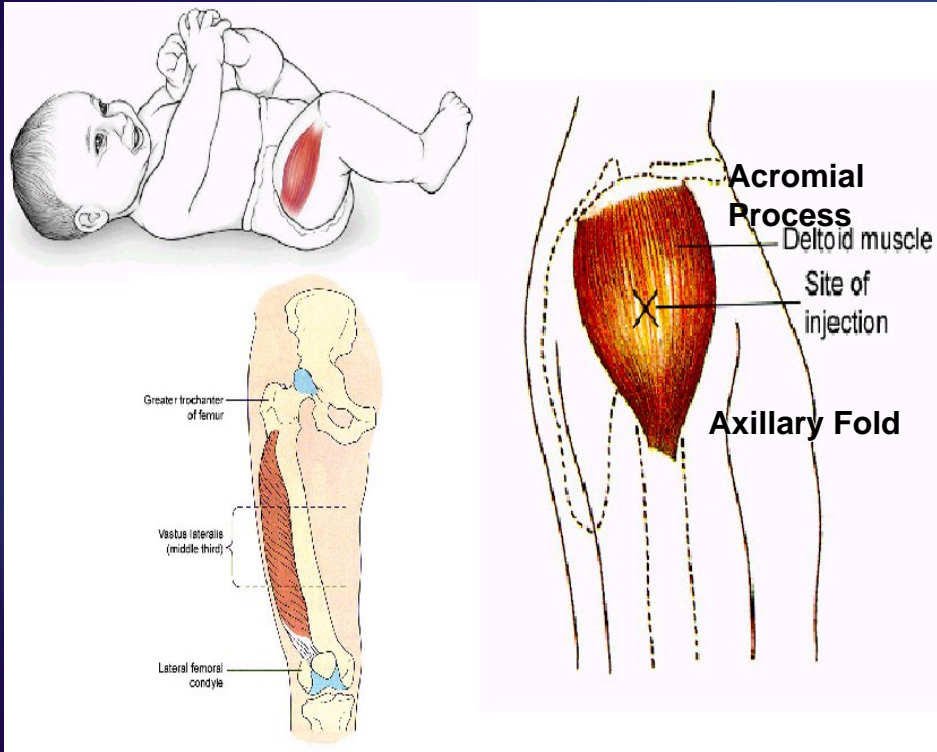
Subcutaneous (subQ) Injections



- MMR
- MMRV
- Varicella
- Zoster
- MPSV4
- IPV (subQ or IM)
- PPV23 (subQ or IM)

The Right Route

Intramuscular (IM) Injections



Needle length, gauge & Site depend on:
Muscle size, Fatty tissue thickness,
Vaccine volume, Injection technique
Aspiration is NOT required

The Right Route

Intramuscular (IM) Injections

Inactivated Vaccines	Combination Vaccines
DTaP, DT	DTaP/Hib (TriHIBit)
Hepatitis A	
Hepatitis B	DTaP/Hep B/IPV (Pediatrix)
Hib	
HPV	Hep A/Hep B (Twinrix)
Influenza (TIV)	
IPV (IM or SubQ)	Hep B/Hib (Comvax)
MCV4	
PCV7	
PPV23 (IM or SubQ)	
Tdap, Td	

The Right Route

Intramuscular (IM) Injections



Sex/ Weight	Needle Length	Injection Site
M & F <130 lbs	1"*	Deltoid Muscle
F 130 lbs - 200 lbs	1" - 1½"	
M 130 lbs - 260 lbs		
F >200 lbs	1½"	
M >260 lbs		

*Some experts allow for use of a 5/8" needle

Other Administration Issues

Multiple Vaccinations

- The deltoid muscle can be used for older children and adults
- Separate each injection by at least 1”
- Administer vaccine and immune globulin at separate sites
- Combination vaccines can reduce the number of injections needed

Other Administration Issues

Medication Volume/Site

Muscle	Volume Injected	
	Average	Range
Deltoid	0.5 mL	0.5 - 2 mL
Vastus lateralis (anterolateral thigh)	1 - 4 mL	1 - 5 mL

The Right Route

Nonstandard Vaccination Practices

- Hepatitis B vaccine – repeat dose if not given IM or given in site other than deltoid or anterolateral thigh muscle of adult
- Rabies vaccine – repeat dose if given in the gluteus
- MCV4 vaccine – should be given IM, but not necessary to repeat if given subQ
- Other vaccines administered IM rather than subQ or vice versa do not need to be repeated

The Right Route and Patient

Persons with Bleeding Disorders & Persons Receiving Anticoagulant Therapy

- Can administer IM injections if approved by patient's physician
- Instruct patient/family about the risk of hematoma
- Administer shortly after patient receives antihemophilia or similar pro-coagulation therapy
- Use a fine gauge needle (23 gauge or smaller)
- After injection, apply pressure to site for at least 2 minutes without rubbing

The Right Time

- Know the recommended and minimum intervals between vaccine doses so that you forecast correctly
- Review your adult patient's screening form to rule out contraindications and precautions for each vaccine you plan to administer

The Right Documentation

Post vaccination records procedures

1. Fully document each immunization in patient's chart: date of immunization, lot number, manufacturer, injection site, VIS date and date given, name/initials.
2. Ask for and update patient's record of immunizations and remind patient to bring it to each visit.

Other Administration Issues

Infection Control & Sterile Technique

- Wash hands between each patient contact
- Wear gloves if likely to have contact w/ infectious body fluids or have open lesions on hands or agency policy
- Use separate needle and syringe for each injection
- Changing needles between drawing vaccine from vial and injection is unnecessary unless needle is bent or contaminated
- Discard needles and syringes in labeled, puncture-proof containers
- Do NOT recap used needles
- Follow OSHA standards for use of safety needles or needle-free injection devices to reduce the risk for injury

Other Administration Issues

Preventing Adverse Reactions

- Screening for contraindications & precautions can prevent some serious adverse reactions
- Severe allergic reactions are rare
 - Have emergency procedures in place
 - Each staff member should know their role in the event of an emergency
 - Vaccine providers should be CPR certified
 - Latex allergies
 - Do not administer vaccines in vials or syringes that contain dry natural rubber to anyone with an anaphylactic allergy unless the benefit of vaccine outweighs risk of an allergic reaction

Other Administration Issues

Preventing Adverse Reactions

- Syncope (vasovagal response or fainting)
 - Can result in injury
 - More common in adolescents and adults
 - Have older children, adolescents, and adults seated during vaccination
 - Consider 15 min. observation after vaccination

Acknowledgements:

**Donna L. Weaver R.N. M.N.
National Center for Immunization
Respiratory Diseases, CDC (7/20/06
Current Issues in Immunizations Net
Conference)**