



Documentation: Understanding and Eliminating Vaccine Errors

Registered Nurses

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Understanding Vaccine Documentation History

1970s and 80s – Questions regarding whole-cell pertussis component causing brain injury to vaccine recipients - disproven

↓ Vaccine manufacturers

Congress passed

National Childhood Vaccine Injury Act of 1986



National Childhood Vaccine Injury Act of 1986

Establish National Vaccine Program within the DHHS to:

- 1. direct vaccine research and development**
- 2. Ensure production and procurement of safe and effective vaccines**
- 3. Direct distribution and use of vaccines**
- 4. Coordinate government and non-government activities**

**Establish National Vaccine Injury Compensation Program
alternative to judicial action for specified vaccine-
related injuries**



National Childhood Vaccine Injury Act

Applies to all routinely recommended childhood vaccines regardless of age of recipient

PPSV, Zoster, and ones not often used

(examples: rabies, Japanese encephalitis)



National Childhood Vaccine Injury Act

Federal Law regarding Vaccine Information Statement (VIS)

- ✓ **Must be given to recipient or parent/legal guardian for each vaccine every time prior to vaccination**
- ✓ **Verification through documentation of edition date and date the VIS was given**
- ✓ **Give in the language they can understand (30-41 translations)**
- ✓ **Can not be altered before giving with exception of practice's name, address and contact information**



Ways to Give VISs

- 1. Paper**
- 2. Permanent, laminated office copy**
- 3. Download to phone or electronic device**
- 4. Made available before visit**

VIS must be offered a take-home version



Federal Documentation Requirements

- **Vaccine Name and Manufacturer**
- **Vaccine Lot Number and Expiration Date**
- **Administration Site**
- **Name, Title and Signature of Person Administering the Vaccine**
- **VIS Edition Date**
- **Date Person Receives the VIS**



Finding and Updating Vaccination Records

20% of Children by 2 years of age

Have had multiple providers

Have immunization records in more than one place

Encourage recipient or parent/guardian to keep shot records themselves and bring them to each visit



Finding and Updating Vaccination Records

May find records at

- **Clinic or Doctor's Office**
- **Health Departments**
- **State Immunization Registries**
- **Grade School or High School**
- **College or University**

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger

UNITED STATES
2019

Vaccines in the Child and Adolescent Immunization Schedule*

| Vaccines | Abbreviations | Trade names |
|--|--|--------------------------------|
| Diphtheria, tetanus, and acellular pertussis vaccine | DTaP | Daptacel Infanrix |
| Diphtheria, tetanus vaccine | DT | No Trade Name |
| <i>Haemophilus influenzae</i> type b vaccine | Hib (PRP-T) Hib (PRP-OMP) | ActHIB Hiberix PedvaxHIB |
| Hepatitis A vaccine | HepA | Havrix Vaqta |
| Hepatitis B vaccine | HepB | Engerix-B Recombivax HB |
| Human papillomavirus vaccine | HPV | Gardasil 9 |
| Influenza vaccine (inactivated) | IIV | Multiple |
| Influenza vaccine (live, attenuated) | LAIV | FluMist |
| Measles, mumps, and rubella vaccine | MMR | M-M-R II |
| Meningococcal serogroups A, C, W, Y vaccine | MenACWY-D MenACWY-CRM | Menactra Menveo |
| Meningococcal serogroup B vaccine | MenB-4C MenB-FHbp | Bexsero Trumenba |
| Pneumococcal 13-valent conjugate vaccine | PCV13 | Prevnar 13 |
| Pneumococcal 23-valent polysaccharide vaccine | PPSV23 | Pneumovax |
| Poliovirus vaccine (inactivated) | IPV | IPOL |
| Rotavirus vaccine | RV1 RV5 | Rotarix RotaTeq |
| Tetanus, diphtheria, and acellular pertussis vaccine | Tdap | Adacel Boostrix |
| Tetanus and diphtheria vaccine | Td | Tenivac Td vaccine |
| Varicella vaccine | VAR | Varivax |

Combination Vaccines (Use combination vaccines instead of separate injections when appropriate)

| | | |
|--|----------------------|---------------------|
| DTaP, hepatitis B, and inactivated poliovirus vaccine | DTaP-HepB-IPV | Pediarix |
| DTaP, inactivated poliovirus, and <i>Haemophilus influenzae</i> type b vaccine | DTaP-IPV/Hib | Pentacel |
| DTaP and inactivated poliovirus vaccine | DTaP-IPV | Kinrix Quadracel |
| Measles, mumps, rubella, and varicella vaccines | MMRV | ProQuad |

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

How to use the child/adolescent immunization schedule

- 1** Determine recommended vaccine by age (**Table 1**)
- 2** Determine recommended interval for catch-up vaccination (**Table 2**)
- 3** Assess need for additional recommended vaccines by medical condition and other indications (**Table 3**)
- 4** Review vaccine types, frequencies, intervals, and considerations for special situations (**Notes**)

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Family Physicians (www.aafp.org), and American College of Obstetricians and Gynecologists (www.acog.org).

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to your state or local health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or (800-822-7967)



Download the CDC Vaccine Schedules App for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.

Helpful information

- Complete ACIP recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Outbreak information (including case identification and outbreak response), see Manual for the Surveillance of Vaccine-Preventable Diseases: www.cdc.gov/vaccines/pubs/surv-manual



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention



Don't make Administration Errors

Administering Vaccines: Dose, Route, Site, and Needle Size

| Vaccine | Dose | Route |
|--|---|------------------|
| Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td) | 0.5 mL | IM |
| <i>Haemophilus influenzae</i> type b (Hib) | 0.5 mL | IM |
| Hepatitis A (HepA) | ≤18 yrs: 0.5 mL ≥19 yrs: 1.0 mL | IM |
| Hepatitis B (HepB) <i>Persons 11–15 yrs may be given Recombivax HB (Merck) 1.0 mL adult formulation on a 2-dose schedule.</i> | Engerix-B; Recombivax HB ≤19 yrs: 0.5 mL ≥20 yrs: 1.0 mL Heplisav-B ≥18 yrs: 0.5 mL | IM |
| Human papillomavirus (HPV) | 0.5 mL | IM |
| Influenza, live attenuated (LAIV) | 0.2 mL (0.1 mL in each nostril) | Intranasal spray |
| Influenza, inactivated (IIV); for ages 6–35 months | Afluria: 0.25 mL Fluzone: 0.25 or 0.5 mL FluLaval; Fluarix: 0.5 mL | IM |
| Influenza, inactivated (IIV), for ages 3 years & older; recombinant (RIV), for ages 18 years and older | 0.5 mL | IM |
| Measles, Mumps, Rubella (MMR) | 0.5 mL | Subcut |
| Meningococcal serogroups A, C, W, Y (MenACWY) | 0.5 mL | IM |
| Meningococcal serogroup B (MenB) | 0.5 mL | IM |
| Pneumococcal conjugate (PCV) | 0.5 mL | IM |
| Pneumococcal polysaccharide (PPSV) | 0.5 mL | IM or Subcut |
| Polio, inactivated (IPV) | 0.5 mL | IM or Subcut |
| Rotavirus (RV) | Rotarix: 1.0 mL Rotateq: 2.0 mL | Oral |
| Varicella (VAR) | 0.5 mL | Subcut |
| Zoster (Zos) | Shingrix: 0.5* mL Zostavax: 0.65 mL | IM Subcut |
| Combination Vaccines | | |
| DTaP-HepB-IPV (Pediarix) DTaP-IPV/Hib (Pentacel) DTaP-IPV (Kinrix; Quadracel) | 0.5 mL | IM |
| MMRV (ProQuad) | ≤12 yrs: 0.5 mL | Subcut |
| HepA-HepB (Twinrix) | ≥18 yrs: 1.0 mL | IM |

| Injection Site and Needle Size | | |
|---|---------------|---|
| Subcutaneous (Subcut) injection Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person's age and body mass. | | |
| AGE | NEEDLE LENGTH | INJECTION SITE |
| Infants (1–12 mos) | 5/8" | Fatty tissue over anterolateral thigh muscle |
| Children 12 mos or older, adolescents, and adults | 5/8" | Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps |
| Intramuscular (IM) injection Use a 22–25 gauge needle. Choose the injection site and needle length that is appropriate to the person's age and body mass. | | |
| AGE | NEEDLE LENGTH | INJECTION SITE |
| Newborns (1st 28 days) | 5/8"* | Anterolateral thigh muscle |
| Infants (1–12 mos) | 1" | Anterolateral thigh muscle |
| Toddlers (1–2 years) | 1–1¼" | Anterolateral thigh muscle** |
| | 5/8–1"* | Deltoid muscle of arm |
| Children (3–10 years) | 5/8–1"* | Deltoid muscle of arm** |
| | 1–1¼" | Anterolateral thigh muscle |
| Adolescents and teens (11–18 years) | 5/8–1"* | Deltoid muscle of arm** |
| | 1–1½" | Anterolateral thigh muscle |
| Adults 19 years or older | | |
| Female or male <130 lbs | 5/8–1"* | Deltoid muscle of arm |
| Female or male 130–152 lbs | 1" | Deltoid muscle of arm |
| Female 153–200 lbs Male 153–260 lbs | 1–1½" | Deltoid muscle of arm |
| Female 200+ lbs Male 260+ lbs | 1½" | Deltoid muscle of arm |

* A 5/8" needle may be used in newborns, preterm infants, and patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle to the skin.

** Preferred site

NOTE: Always refer to the package insert included with each biologic for complete vaccine administration information. CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well. Access the ACIP recommendations at www.immunize.org/acip.

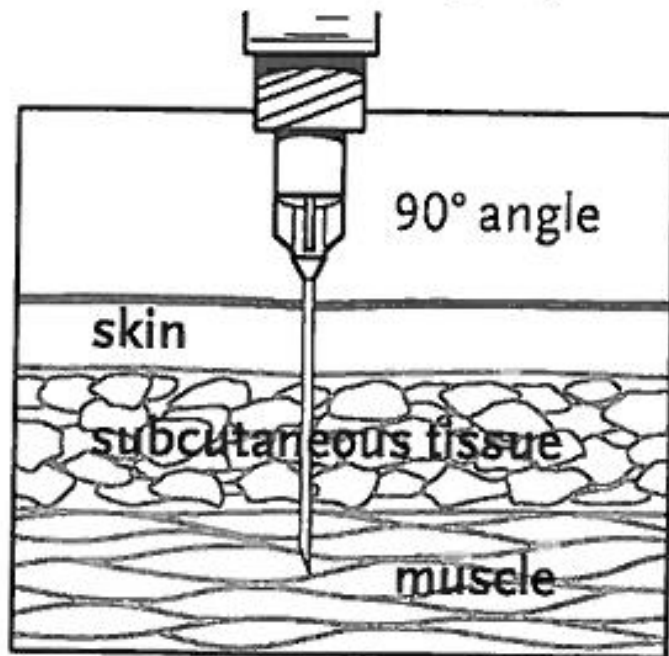
* The vial might contain more than 0.5 mL. Do not administer more than 0.5 mL.

* A 5/8" needle may be used in newborns, preterm infants, and patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle to the skin.
** Preferred site

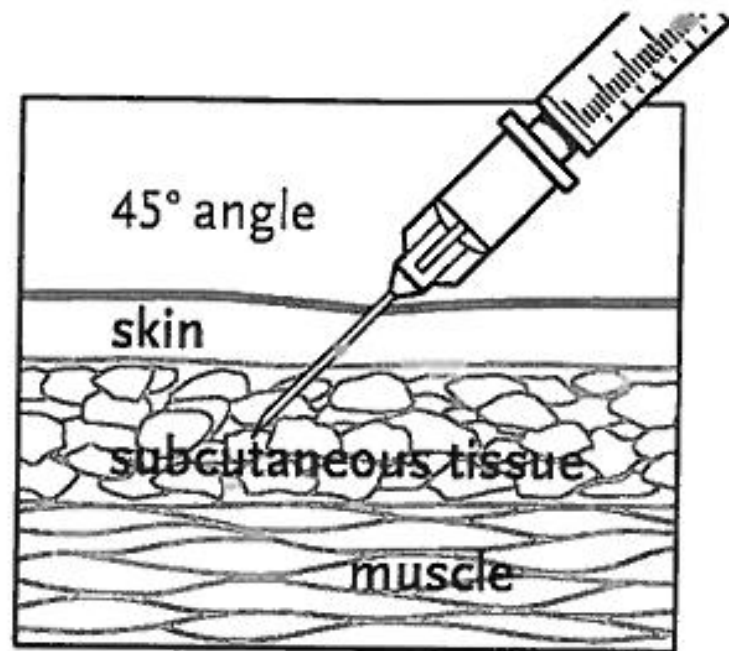
NOTE: Always refer to the package insert included with each biologic for complete vaccine administration information. CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well. Access the ACIP recommendations at www.immunize.org/acip.



Intramuscular (IM) injection



Subcutaneous (Subcut) injection



Technical content reviewed by the Centers for Disease Control and Prevention



Shoulder Injury Related to Vaccine Administration (SIRVA)

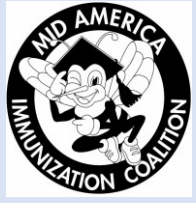
Shoulder pain from incorrect placement of vaccine into shoulder joint or shoulder bursa instead of deltoid muscle

- **This can cause severe inflammation**
 - **Symptoms of SIRVA include:**
 - **Significant chronic shoulder pain after a vaccination**
 - **No prior shoulder problems**
 - **Limited mobility of the shoulder joint**



Preventing (SIRVA)

- **Ensure anyone giving injection is properly trained**
 - **Approximately 70% of cases caused by seasonal flu shots**
- **Don't only expose the top part of the shoulder – take your top off or arm out of sleeve**
- **Tell your doctor if you have shoulder pain for longer than a few days**
- **Discuss any concern about the vaccine administration with your healthcare provider**



Treatment of SIRVA

- **Effective treatment of SIRVA may take months for resolution**
- **Relief may include treatments targeted at controlling inflammation**
 - **Oral medications**
 - **Cortisone injections**
- **Surgical procedures, as treatment, are rare for this condition**



Documentation and Errors

**About 25% of all Immunization
documentation contains an error**



Common Errors

Giving the dose too early

- **3rd Hepatitis B before 24 weeks of age**
- **Any vaccine except Hepatitis B before 6 weeks**
- **4th dose of DTaP before 12 months or less than 6 months after 3rd dose**
- **1st dose of MMR or Varicella before 12 months**
- **Live virus vaccines not given on same day less than 4 weeks apart**



Common Errors

Rotavirus vaccine after 8 months 0 days

PPSV and PCV at the same time

**Using Kinrix for doses other than 5th DTaP and 4th IPV
in children 4-6 years**

Minimum spacing errors

**CDC's 4 day "grace period" may not count in all
states - if 5 days or greater repeat dose**



Common Errors

- Changing the letters in DTaP, Tdap, Td, DT
- PCV 13 documented on a patient prior to 2010
 - PCV-7 licensed in 2000
 - PCV – 13 licensed in 2010
- Poliovirus 2000 IPV only in US
- Confusing Pediarix and Pentacel
- Documenting multi-dose antigen as single antigen vaccines



Documentation and Errors

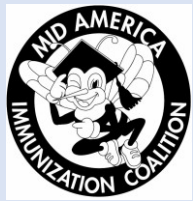
Auto-pull

HPV ordered at HD but not given, system pulled over as given – unable to correct

CMH experience duplicating immunizations in ShowMeVax

Influenza Vaccine Dates in Patient's EMR Patient is 12 years 8mo

- NOV 30, 2018 (12yrs 8m) Documented: RN Source: Family Member Product: Flu w/o record
- NOV 13, 2017 (11yrs 7m) Administered by RN
- OCT 10, 2016 (10yrs 6m) Administered by RN
- OCT 01, 2015 (9yrs 6m) Documented by RN - Source: Mother Product: flu w/o record
- FEB 11, 2014 (7yrs 10m) Administered by RN
- NOV 26, 2012 (6yrs 8m) Administered by RN
- OCT 19, 2011 (5yrs 6m) Administered by RN
- DEC 06, 2010 (4yrs 8m) Administered by RN
- DEC 01, 2010 (4yrs 8m) Documented by RN Source: Mother Product: flu w/o record
- JAN 11, 2010 (3yrs 9m) Administered by RN
- NOV 24, 2008 (2yrs 8m) Administered by RN
- FEB 01, 2008 (22m 1w) Administered Product
- FEB 21, 2007 (10m 4w) Administered Product
- DEC 18, 2006 (8m 3w) Administered Product
- NOV 09, 2006 (7m 2w) Administered Product



Hepatitis A

Overdue

02

Today

Administered - Did Not Count

OCT 20, 2011 (18m)

Hepatitis A

Overdue - Today

Ø OCT 20, 2011 (18m) - Administered - Did Not Count

Documented By

Crump, Lisa

Source

Primary Care Provider

Product

Hep A pediatric

► Details

APR 28, 2011 (12m 2w) - Administered

Documented By

Crump, Lisa

Source

Primary Care Provider

Product

Hep A pediatric

► Details



Polio IPV

08/20/2003

0.5

Polio IPV

09/24/2003

0.5

Polio IPV

11/24/2003

0.5

Polio IPV

12/06/2004

0.5

Polio IPV

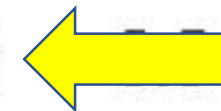
06/01/2009

0.5



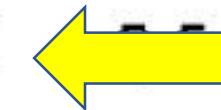
Prevnar 13

03/19/2004



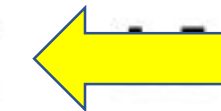
Prevnar 13

05/25/2004



Prevnar 13

08/11/2004





Influenza

OCT 01, 2018 (5m 2w) - Administered - Did Not Count

Documented By: RN

Source: Mother

Product

Details