Booster Shots

2017

ACIP Best Practices Guidelines

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Immunization Action Coalition

IDAHO DEPARTMENT OF HEALTH & WELFARE
DIVISION OF PUBLIC HEALTH

IDAHO IMMUNIZATION PROGRAM

Advisory Committee on Immunization Practices (ACIP)

- The recommendations to be discussed are primarily those of the ACIP
  - composed of 15 experts in clinical medicine and public health who are not government employees
  - provides guidance on the use of vaccines and other biologic products to the Department of Health and Human Services, CDC, and the U.S. Public Health Service

www.cdc.gov/vaccines/acip/

General Recommendations on Immunization

- Intended to provide guidance on vaccination issues common to more than one vaccine
- Revised on an ad hoc basis, generally every 3-5 years

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CENTER FOR DISEASE CONTROL

November 12, 1976 / Vol. 25 / No. 44

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Recommendation of the Public Health Service Advisory Committee on Immunization Practices

349 General Recommendations on Immunization

International Notes

355 Smallpox Surveillance – Worldwide

355 Dipththeria Outbreak – Canada

Current Trends

356 Primary and Secondary Syphilis – United States, September 1976

Recommendation of the Public Health Service Advisory Committee on Immunization Practices

General Recommendations on Immunization

INTRODUCTION

Certain basic principles underlie recommended immunization practices for infants, children, and adults. Most of them depend on our scientific knowledge about active and passive immunization. Others represent judgments of clinical and preventive medicine and of public health. Thus, recommendations on immunization practices represent a balancing of scientific evidence of benefits and risks in order to achieve optimal levels of protection against infectious-communicable diseases with safety, effectiveness, and circumstances call for giving several vaccines at the same time – such as imminent exposure to several infectious diseases, foreign travel, or limited-time access to patients.

In general, inactivated vaccines can be administered simultaneously at separate sites. It should be noted, however, that when vaccines commonly associated with local or systemic side effects are given simultaneously – vaccines such as cholera, typhoid, and plague – the side effects could theoretically be accentuated. Persons known to be prone to experience such side effects should generally

General Recommendations 1976

- 2 pages, no references
- Contents
  - Extended intervals
  - Simultaneous administration
  - Allergy
  - Altered immunity
  - Severe febrile illness
  - Live vaccines and pregnancy
  - Recent administration of IG

General Recommendations on Immunization - Revisions

- 1980 – 3 pages
- 1983 – 12 pages, first with schedule
- 1989 – 14 pages, 10 references
- 1994 – 35 pages, 86 references, last with schedule
- 2002 - 35 pages, 177 references
- 2006 – 48 pages, 202 references
- 2011 – 61 pages, 239 references

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Vaccine Recommendations and Guidelines of the ACIP

- ACIP Recs Home
- Vaccine-Specific Recommendations +
- Recs Listed by Date
- Comprehensive Recommendations and Guidelines −
- **General Best Practice Guidelines** −
  - Introduction
  - Methods
  - Timing and Spacing of Immunobiologics
  - Contraindications and Precautions
  - Preventing and Managing Adverse Reactions

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html

General Best Practice Guidelines for Immunization

Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP)

Kroger AT, Duchin J, Vázquez M

Printer friendly version [1.05 MB, 191 pages]

INTRODUCTION

Purpose and topics covered in this report...

METHODS

Method of development of: Timing and Spacing, Contraindications and Precautions, Preventing and Managing Adverse Reactions...

Continuing Education

Video, Transcript, and CE Details:

General Best Practice Guidelines for Immunization course

8th revision and first title change since first publication in 1976

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General Best Practice Guidelines for Immunization 2017

- **194 pages, 360 references**
- **First title change since 1976**
- **First not published in *MMWR* or *Recommendations & Reports* – online only**

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General Best Practice Guidelines for Immunization 2017

Main Sections

- **Timing and Spacing of Immunobiologics**
- **Contraindications and Precautions**
- **Preventing and Managing Adverse Reactions**
- **Vaccine Administration**
- **Storage and Handling of Immunobiologics**
- **Special Situations**
- **Vaccination Records**
- **Vaccination Programs**

General Best Practice Guidelines for Immunization 2017

- **Special Situations**
  - Concurrent administration of antimicrobial agents and vaccines
  - Live vaccines and tuberculin skin tests
  - Preterm infants
  - Breastfeeding and vaccination
  - Vaccination during pregnancy
  - Persons vaccinated outside the United States
  - Vaccinating persons with increased bleeding risk

General Best Practice Guidelines for Immunization 2017

- Timing and Spacing of Immunobiologics (pp 12-49)
  - General principles for vaccine scheduling
  - Spacing of multiple doses of the same antigen
  - Simultaneous administration
  - Combination vaccines
    - Interchangeability
    - Extra doses
  - Nonsimultaneous administration
  - Spacing of vaccines and antibody-containing products
  - Interchangeability of single-component vaccines from different manufacturers
  - Lapsed vaccination schedule
  - Unknown or uncertain vaccination status

Timing and Spacing of Immunobiologics Key Points

- Vaccine doses should not be administered at intervals less than the minimum interval or at an age that is younger than the minimum age
- Vaccine doses administered up to 4 days before the minimum interval or age are considered valid (aka the “grace period”)

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TABLE 3-1. Recommended and minimum ages and intervals between vaccine doses[a],[b],[c],[d]

Vaccine and dose number	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
DTaP-1[e]	2 months	6 weeks	8 weeks	4 weeks
DTaP-2	4 months	10 weeks	8 weeks	4 weeks
DTaP-3	6 months	14 weeks	6-12 months[f]	6 months[f]
DTaP-4	15-18 months	15 months[f]	3 years	6 months
DTaP-5	4-6 years	4 years	—	—
HepA-1[e]	12-23 months	12 months	6-18 months	6 months
HepA-2	≥18 months	18 months	—	—
HepB-1	Birth	Birth	4 weeks-4 months	4 weeks
HepB-2	1-2 months	4 weeks	8 weeks-17 months	8 weeks
HepB-3[g]	6-18 months	24 weeks	—	—
Hib-1[e],[h]	2 months	6 weeks	8 weeks	4 weeks

Timing and Spacing of Immunobiologics Key Points

- Routine administration of all age-appropriate doses of vaccines simultaneously (i.e. at the same visit) is recommended for children for whom no specific contraindications exist at the time of the visit
- Exceptions
  - In persons with anatomic or functional asplenia, Menactra brand meningococcal conjugate vaccine and pneumococcal conjugate vaccine (PCV13, Prevnar 13) should not be administered simultaneously
    - Complete PCV13 series first, then give MenACWY-D
    - Spacing does not apply to Menveo brand MenACWY
  - In patients recommended to receive both PCV13 and PPSV23, the 2 vaccines should not be administered simultaneously. PCV13 should be administered first.

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Timing and Spacing of Immunobiologics Key Points

- The use of a combination vaccine generally is preferred over separate injections of the equivalent component vaccines
- Only combination vaccines licensed by FDA should be used
- Vaccination providers should not combine separate vaccines into the syringe to administer unless indicated for the patient and explicitly specified on the FDA-approved product label inserts

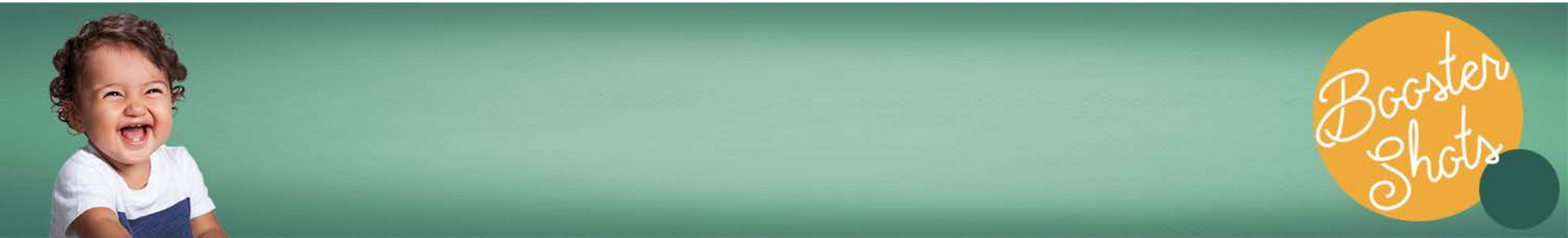
No Home Brews!

Timing and Spacing of Immunobiologics Key Points

- Two or more injectable or nasally administered live vaccines not administered on the same day should be separated by at least 4 weeks
- If 2 such vaccines are separated by less than 4 weeks, the second vaccine administered should not be counted and the dose should be repeated at least 4 weeks later
- The 4-day grace period should not be applied to this 4-week interval between 2 different live vaccines

Timing and Spacing of Immunobiologics Key Points

- Providers should only accept written, dated records as evidence of vaccination
- Self-reported doses of influenza vaccine and PPSV23 are acceptable
- If records cannot be located within a reasonable time, these persons should be considered susceptible and started on the age-appropriate vaccination schedule
- Serologic testing for immunity is an alternative to vaccination for certain antigens (e.g., measles, rubella, hepatitis A, and tetanus)



Extended Intervals

It is not necessary to restart the series of any vaccine* due to extended intervals between doses

***except oral typhoid vaccine, under certain circumstances**

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Contraindications and Precautions Key Points

- Vaccination should be deferred for persons with a moderate or severe acute illness
- Persons with moderate or severe acute illness should be vaccinated as soon as the acute illness has improved
- New - current, recent, or upcoming anesthesia, surgery and/or hospitalization is not a contraindication to vaccination
- Efforts should be made to ensure vaccine administration during the hospitalization or at discharge

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TABLE 4-1. Contraindications and precautions[a] to commonly used vaccines			
Vaccine	**Citation**	**Contraindications**	**Precautions**
DT, Td	(*4*)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	GBS <6 weeks after previous dose of tetanus-toxoid–containing vaccine History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine Moderate or severe acute illness with or without fever
DTaP	(*38*)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of	Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized Temperature of ≥105°F (≥40.5°C) within 48 hours after vaccination with a previous dose of DTP or DTaP Collapse or shock-like state (i.e.,

Adverse Events
Key Points

- Although allergic reactions are a common concern for vaccine providers, these reactions are uncommon and anaphylaxis following vaccines is rare, occurring at a rate of approximately one per million doses for many vaccines
- The best practice to prevent allergic reactions is to identify individuals at increased risk by obtaining a history of allergy to previous vaccinations and vaccine components that might indicate an underlying hypersensitivity

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Screening Checklist for Contraindications to Vaccines for Adults

PATIENT NAME _____

DATE OF BIRTH ____/____/____ (month / day / year)

For patients: The following questions will help us determine which vaccines you may be given today. If you answer "yes" to any question, it does not necessarily mean you should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your health care provider to explain it.

	yes	no	don't know
1. Are you sick today?	☐	☐	☐
2. Do you have allergies to medications, food, a vaccine component, or latex?	☐	☐	☐
3. Have you ever had a serious reaction after receiving a vaccination?	☐	☐	☐
4. Do you have a long-term health problem with heart disease, lung disease, asthma, kidney disease, metabolic disease (e.g., diabetes), anemia, or other blood disorder?	☐	☐	☐
5. Do you have cancer, leukemia, HIV/AIDS, or any other immune system problem?	☐	☐	☐
6. In the past 3 months, have you taken medications that affect your immune system, such as prednisone, other steroids, or anticancer drugs; drugs for the treatment of rheumatoid arthritis, Crohn's disease, or psoriasis; or have you had radiation treatments?	☐	☐	☐
7. Have you had a seizure or a brain or other nervous system problem?	☐	☐	☐
8. During the past year, have you received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug?	☐	☐	☐
9. For women: Are you pregnant or is there a chance you could become pregnant during the next month?	☐	☐	☐
10. Have you received any vaccinations in the past 4 weeks?	☐	☐	☐

FORM COMPLETED BY _____ DATE _____

FORM REVIEWED BY _____ DATE _____

Did you bring your immunization record card with you? yes ☐ no ☐

It is important for you to have a personal record of your vaccinations. If you don't have a personal record, ask your health care provider to give you one. Keep this record in a safe place and bring it with you every time you seek medical care. Make sure your health care provider records all your vaccinations on it.

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IAC
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Information for Health Care Professionals about the Screening Checklist for Contraindications to Vaccines for Adults

Are you interested in knowing why we included a certain question on the screening checklist? If so, read the information below. If you want to find out even more, consult the references listed at the end.

1. Are you sick today? *[all vaccines]*

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events (1). However, as a precaution with moderate or severe acute illness, all vaccines should be delayed until the illness has improved. Mild illnesses (such as upper respiratory infections or diarrhea) are NOT contraindications to vaccination. Do not withhold vaccination if a person is taking antibiotics.

2. Do you have allergies to medications, food, a vaccine component, or latex? *[all vaccines]*

If a person has anaphylaxis after eating gelatin, do not administer MMR, varicella, standard trivalent Fluzone, Flumist, rabies (Rabavert), oral typhoid, or yellow fever vaccine. A local reaction to a prior vaccine dose or vaccine components (e.g., latex) is not a contraindication to a subsequent dose or vaccine containing that component. For a table of vaccines supplied in vials or syringes that contain latex, go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf. For an extensive list of vaccine components, see reference 2.

An egg-free recombinant influenza vaccine (RIV3) may be used in people age 18 years and older with egg allergy of any severity who have no other contraindications. People younger than age 18 years who have experienced a serious systemic or anaphylactic reaction (e.g., hives, swelling of the lips or tongue, acute respiratory distress, or collapse) after eating eggs can usually be vaccinated with inactivated influenza vaccine (IIV); consult ACIP recommendations (see reference 3).

3. Have you ever had a serious reaction after receiving a vaccination? *[all vaccines]*

History of anaphylactic reaction (see question 2) to a previous dose of vaccine or vaccine component is a contraindication for subsequent doses (1). Under normal circumstances, vaccines are deferred when a precaution is present. However, situations may arise when the benefit outweighs the risk (e.g., during a community pertussis outbreak).

4. Do you have a long-term health problem with heart disease, lung disease, asthma, kidney disease, metabolic disease (e.g., diabetes), anemia, or other blood disorder? *[LAIV]*

The safety of intranasal live attenuated influenza vaccine (LAIV) in people with these conditions has not been established. These conditions, including asthma in adults, should be considered precautions for the use of LAIV.

5. Do you have cancer, leukemia, HIV/AIDS, or any other immune system problem? *[LAIV, MMR, VAR, ZOS]*

Live virus vaccines (e.g., LAIV, measles-mumps-rubella [MMR], varicella [VAR], zoster [ZOS]) are usually contraindicated in immunocompromised people. However, there are exceptions. For example, MMR vaccine is recommended and varicella vaccine should be considered for adults with CD4+ T-lymphocyte counts of greater than or equal to 200 cells/µL. Immunosuppressed people should not receive LAIV. For details, consult the ACIP recommendations (3, 4, 5).

6. In the past 3 months, have you taken medications that affect your immune system, such as cortisone, prednisone, other steroids, or anticancer drugs; drugs for the treatment of rheumatoid arthritis, Crohn's disease, or psoriasis; or have you had radiation treatments? *[LAIV, MMR, VAR, ZOS]*

Live virus vaccines (e.g., LAIV, MMR, VAR, ZOS) should be postponed until after chemotherapy or long-term high-dose steroid therapy has ended. For details and length of time to postpone, consult the ACIP statement (1, 3). Some immune mediator and immune modulator drugs

infliximab,
accines
1;60
transplant
be given

7. Have you had a seizure or a brain or other nervous system problem? *[influenza, Td/Tdap]*

Tdap is contraindicated in people who have a history of encephalopathy within 7 days following DTP/DTaP given before age 7 years. An unstable progressive neurologic problem is a precaution to the use of Tdap. For people with stable neurologic disorders (including seizures) unrelated to vaccination, or for people with a family history of seizure, vaccinate as usual. A history of Guillain-Barré syndrome (GBS) is a consideration with the following: 1) Td/Tdap: if GBS has occurred within 6 weeks of a tetanus-containing vaccine and decision is made to continue vaccination, give Tdap instead of Td if no history of prior Tdap; 2) Influenza vaccine (IIV/LAIV): if GBS has occurred within 6 weeks of a prior influenza vaccine, vaccinate with IIV if at high risk for severe influenza complications.

8. During the past year, have you received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug? *[LAIV, MMR, VAR, ZOS]*

Certain live virus vaccines (e.g., LAIV, MMR, VAR, ZOS) may need to be deferred, depending on several variables. Consult the most current ACIP recommendations for current information on intervals between antiviral drugs, immune globulin or blood product administration and live virus vaccines. (1)

9. For women: Are you pregnant or is there a chance you could become pregnant during the next month? *[MMR, LAIV, VAR, ZOS]*

Live virus vaccines (e.g., MMR, VAR, ZOS, LAIV) are contraindicated one month before and during pregnancy because of the theoretical risk of virus transmission to the fetus. Sexually active women in their childbearing years who receive live virus vaccines should be instructed to practice careful contraception for one month following receipt of the vaccine. On theoretical grounds, inactivated poliovirus vaccine should not be given during pregnancy; however, it may be given if risk of exposure is imminent and immediate protection is needed (e.g., travel to endemic areas). Inactivated influenza vaccine and Tdap are both recommended during pregnancy. Both vaccines may be given at any time during pregnancy but the preferred time for Tdap administration is at 27–36 weeks' gestation.

10. Have you received any vaccinations in the past 4 weeks? *[LAIV, MMR, VAR, yellow fever]*

People who were given either LAIV or an injectable live virus vaccine (e.g., MMR, VAR, ZOS, yellow fever) should wait 28 days before receiving another vaccination of this type. Inactivated vaccines may be given at any spacing interval if they are not administered simultaneously.

REFERENCES

1. CDC. General recommendations on immunization, at www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
2. Table of Vaccine Components: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.
3. CDC. Prevention and control of influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), United States, 2015–16 Influenza Season at www.cdc.gov/mmwr/pdf/wk/mm6430.pdf, pages 818–825.
4. CDC. Measles, mumps, and rubella – vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps. *MMWR* 1998; 47 (RR-8).
5. CDC. Prevention of varicella: Recommendations of the Advisory Committee on Immunization Practices. *MMWR* 2007; 56 (RR-4).
6. Tomblyn M, Einsele H, et al. Guidelines for preventing infectious complications among hematopoietic stem cell transplant recipients: a global perspective. *Biol Blood Marrow Transplant* 15:1143–1238; 2009 at www.cdc.gov/vaccines/pubs/hemato-cell-transplts.htm.
7. CDC. Notice to readers: Revised ACIP recommendation for avoiding pregnancy after receiving a rubella-containing vaccine. *MMWR* 2001; 50 (49).
8. CDC. Prevention of pertussis, tetanus, and diphtheria among pregnant and postpartum women and their infants: Recommendations of the ACIP. *MMWR* 2008; 57 (RR-4).

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p4065

Adverse Events
Key Points

- Influenza vaccination of people with egg allergy
- Yellow fever vaccination and egg allergy
- MMR and varicella vaccination and egg allergy
- Vaccines and people with a history of allergy to substances other than eggs
- Thimerosal
- Latex

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New! New! New!

TABLE 5-1: Rapid overview: Emergent management of anaphylaxis in infants and children[a]	
Diagnosis is made clinically:	The most common signs and symptoms are cutaneous (eg, sudden onset of generalized urticaria, angioedema, flushing, pruritus). However, 10 to 20% of patients have no skin findings.
	Danger signs: Rapid progression of symptoms, evidence of respiratory distress (e.g., stridor, wheezing, dyspnea, increased work of breathing, retractions, persistent cough, cyanosis), signs of poor perfusion, abdominal pain, vomiting, dysrhythmia, hypotension, collapse.
Acute management:	The first and most important therapy in anaphylaxis is epinephrine. There are NO absolute contraindications to epinephrine in the setting of anaphylaxis.
	Airway: Immediate intubation if evidence of impending airway obstruction from angioedema. Delay may lead to complete obstruction. Intubation can be difficult and should be performed by the most experienced clinician available. Cricothyrotomy may be necessary.
	IM epinephrine (1 mg/mL preparation): Epinephrine 0.01 mg/kg should be injected intramuscularly in the midouter thigh. For large children (>50 kg), the maximum is 0.5 mg per dose. If there is no response or the response is inadequate, the injection can be repeated in 5 to 15 minutes (or more frequently). If epinephrine is injected promptly IM, patients respond to one, two, or at most, three injections. If signs of poor perfusion are present or symptoms are not responding to epinephrine injections, prepare IV epinephrine for infusion (see below). Place patient in recumbent position, if tolerated, and elevate lower extremities.
	Oxygen: Give 8 to 10 L/minute via facemask or up to 100% oxygen, as needed.
	Normal saline rapid bolus: Treat poor perfusion with rapid infusion of 20 mL/kg. Reevaluate and repeat fluid boluses (20 mL/kg), as needed. Massive fluid shifts with severe loss of intravascular volume can occur. Monitor urine output.
	Albuterol: For bronchospasm resistant to IM epinephrine, give albuterol 0.15 mg/kg (minimum dose: 2.5 mg) in 3 mL saline inhaled via nebulizer. Repeat, as needed.
	H1 antihistamine: Consider giving diphenhydramine 1 mg/kg (max 40 mg) IV.
	H2 antihistamine: Consider giving ranitidine 1 mg/kg (max 50 mg) IV.
	Glucocorticoid: Consider giving methylprednisolone 1 mg/kg (max 125 mg) IV.
	Monitoring: Continuous noninvasive hemodynamic monitoring and pulse oximetry monitoring should be performed. Urine output should be monitored in patients receiving IV fluid resuscitation for severe hypotension or shock.
Treatment of refractory symptoms:	Epinephrine infusion:[b] In patients with inadequate response to IM epinephrine and IV saline, give epinephrine continuous infusion at 0.1 to 1 mcg/kg/minute, titrated to effect.
	Vasopressors:[b] Patients may require large amounts of IV crystalloid to maintain blood pressure. Some patients may require a second vasopressor (in addition to epinephrine). All

Medical Management of Vaccine Reactions in Children and Teens

All vaccines have the potential to cause an adverse reaction. In order to minimize adverse reactions, patients should be carefully screened for precautions and contraindications before vaccine is administered (see www.immunize.org/catg.d/p3072.pdf). Even with careful screening, reactions may occur. These reactions can vary from trivial and inconvenient (e.g., soreness, itching) to severe and life threatening (e.g., anaphylaxis). Vaccine providers should be familiar with identifying immediate-type allergic reactions, including anaphylaxis, and be competent in treating these events at the time of vaccine administration. Providers should also have a plan in place to contact emergency medical services immediately in the event of a severe acute vaccine reaction. Maintenance of the airway, oxygen administration, and intravenous normal saline might be necessary. The table below describes procedures to follow if various reactions occur.

REACTION	SYMPTOMS	MANAGEMENT
Localized	Soreness, redness, itching, or swelling at the injection site	Apply a cold compress to the injection site. Consider giving an analgesic (pain reliever) or antipruritic (anti-itch) medication.
	Slight bleeding	Apply an adhesive compress over the injection site.
	Continuous bleeding	Place thick layer of gauze pads over site and maintain direct and firm pressure; raise the bleeding injection site (e.g., arm) above the level of the patient's heart.
Psychological fright and syncope (fainting)	Fright before injection is given	Have patient sit or lie down for the vaccination.
	Extreme paleness, sweating, coldness of the hands and feet, nausea, light-headedness, dizziness, weakness, or	Have patient lie flat or sit with head between knees for several minutes. Loosen any tight clothing and maintain an open airway. Apply cool, damp cloths to patient's face and neck.
	ciousness	Examine the patient to determine if injury is present before attempting to move the patient. Place patient flat on back with feet elevated.
		Check the patient to determine if injury is present before attempting to move the patient. Place patient flat on back with feet elevated. Call 911 if patient does not recover immediately.
Anaphylaxis	Sudden or gradual onset of generalized itching, erythema (redness), or urticaria (hives); angioedema (swelling of the lips, face, or throat); severe bronchospasm (wheezing); shortness of breath; shock; abdominal cramping; or cardiovascular collapse	See "Emergency Medical Protocol for Management of Anaphylactic Reactions in Children and Teens" on the next page for detailed steps to follow in treating anaphylaxis.

CONTINUED ON NEXT PAGE ▶

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Technical content reviewed by the Centers for Disease Control and Prevention

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www.immunize.org/catg.d/p3082a.pdf • Item #P3082a (7/16)

Vaccine Administration Key Points

- Aspiration before injection of vaccines or toxoids (i.e., pulling back on the syringe plunger after needle insertion but before injection) is not necessary
  - no large blood vessels are present at the recommended injection sites
  - a process that includes aspiration might be more painful for infants

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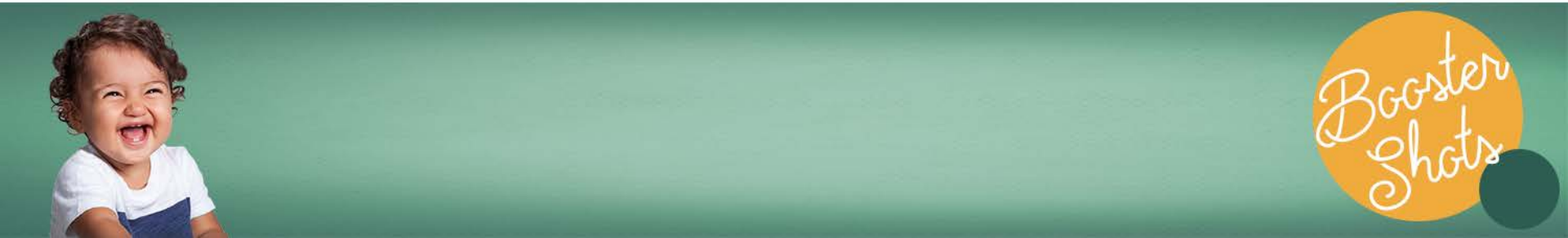
Vaccine Administration Key Points

- Hepatitis B administered by any route other than intramuscular, or at any site other than the deltoid or anterolateral thigh, should not be counted as valid and should be repeated
- Doses of rabies vaccine administered in the gluteal site should not be counted as valid doses and should be repeated
- New - Hepatitis A vaccine and meningococcal conjugate vaccine do not need to be repeated if administered by the subcutaneous route



Vaccine Storage and Handling Key Points

- **Section significantly shortened because of the availability of the CDC online Storage and Handling Toolkit**

www.cdc.gov/vaccines/recs/storage/toolkit/default.htm

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Healthcare Providers / Professionals

Healthcare Professionals / Providers Home

Clinical Resources +

Administration Tools −

Storage & Handling −

You Call The Shots

Storage and Handling Toolkit

Checklists, tools, and tips

Storage & Handling Recommendations and Guidelines

Vaccine Admin Protocols +

Vaccines for Children (VFC) +

VIS

Reminder Systems and Strategies

Patient Education +

Immunization Training

Vaccine-Preventable

Vaccine Storage and Handling Toolkit

Get Email Updates

At a Glance

The Vaccine Storage and Handling Toolkit is a comprehensive guide for health care providers on recommendations and best practices for:

- Managing vaccine inventory and transport
- Storing and preparing vaccine
- Monitoring vaccine temperature
- Using and maintaining storage unit and temperature monitoring equipment
- Preparing for emergency storage, handling, and transport situations
- Developing standard operating procedures for routine and emergency vaccine management and training staff

View or Print Toolkit

Use this link to view or print the Vaccine Storage and Handling Toolkit [2MB, 82 pages] June 2016

Description

The 2016 Vaccine Storage and Handling Toolkit reflects an adjustment in CDC's

www.cdc.gov/vaccines/recs/storage/toolkit/default.htm

TABLE 7-1. Vaccine storage temperature recommendations		
Nonlyophilized, aluminum-adjuvanted vaccines		
Vaccines	**Vaccine storage temperature**	**Diluent storage temperature**
Diphtheria-tetanus-containing vaccines (DT, Td) or pertussis-containing vaccines (DTaP, Tdap)	36°F-46°F (2°C-8°C) Do not freeze	No diluent[a]
HepA and HepB	36°F-46°F (2°C-8°C) Do not freeze	No diluent
PCV	36°F-46°F (2°C-8°C) Do not freeze	No diluent
HPV[b]	36°F-46°F (2°C-8°C) Do not freeze	No diluent
Nonlyophilized, nonaluminum-adjuvanted vaccines		
Vaccines	**Vaccine storage temperature**	**Diluent storage temperature**
PRP-OMP Hib	36°F-46°F (2°C-8°C)	No diluent
IPV	36°F-46°F (2°C-8°C)	No diluent
MenACWY[b],[c]	36°F-46°F (2°C-8°C)	No diluent
PPSV	36°F-46°F (2°C-8°C)	No diluent
IIV[b]	36°F-46°F (2°C-8°C)	No diluent

Altered Immunocompetence

- Much new and revised content
- Altered Immunocompetence as an indication to receive a vaccine outside of routinely recommended age groups
  - Pneumococcal, meningococcal, Hib
- Vaccination of contacts of persons with altered immunocompetence
  - Household contacts and other close contacts of persons with altered immunocompetence should receive all age- and exposure-appropriate vaccines, with the exception of smallpox vaccine
- Recipients of hematopoietic cell transplants
- Conditions or drugs that might cause immunodeficiency

Special Situations
Key Points

- New - Ty21a typhoid vaccine should not be administered to persons receiving antimicrobial agents until 72 hours after the last dose of antimicrobial (previously 24 hours)
- In spite of the lack of evidence of risk, HPV vaccine, an inactivated vaccine, is not recommended during pregnancy
- Tdap during each pregnancy
- Vaccines administered outside the United States generally can be accepted as valid if the schedule (i.e., minimum ages and intervals) is similar to that recommended in the United States

Booster Shots

General Best Guidelines for Immunization 2017

General Best Practice Guidelines for Immunization

Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP)

Kroger AT, Duchin J, Vázquez M

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html

Booster Shots