March 2015 (content current as of February 25)

NEEDLE TIPS

from the Immunization Action Coalition - www.immunize.org

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# Multi-State Measles Outbreak Continues to Spread: These Resources Can Help You

The U.S. is experiencing a large multi-state measles outbreak linked to Disneyland (California). Two other unrelated measles outbreaks are also occurring in Illinois and Nevada. From January 1-February 20, the U.S. measles outbreaks have grown to include 154 people in 17 states and Washington, DC, according to the Centers for Disease Control and Prevention (CDC). According to the CDC, the majority of the people who contracted measles were unvaccinated. Please refer to the following information and resources as we all work together to help stop the spread of measles during this multi-state outbreak. In addition, this issue of Needle Tips features several "Ask the Experts" Q&As about measles and MMR vaccine (see pages 1, 26-27), as well as two popular handouts that can help you with vaccine-hesitant parents (see pages 22-23).

#### CDC Guidance for Healthcare Providers (HCP)

- Be vigilant about measles.
- Ensure all patients are up to date on measlesmumps-rubella (MMR) vaccine.
- Suspect measles in patients presenting with febrile rash illness and clinically compatible measles symptoms (cough, coryza, and conjunctivitis).
- · Ask patients about their recent travel history, as

well as a history of exposure to measles in their community.

- Promptly isolate patients with suspected measles to avoid disease transmission and immediately report the suspect measles case to the health department.
- Obtain specimens for testing from patients with suspected measles, including viral specimens for genotyping, which can help determine the source of the virus; contact your local or state health department with questions about submitting specimens for testing.

### **Resources About Measles for HCP**

- Healthcare provider guidance from CDC: www. cdc.gov/measles/hcp/index.html
- Updates on the U.S. measles cases and outbreak: www.cdc.gov/measles/cases-outbreaks.html
- Ask the Experts: Measles, Mumps, and Rubella: www.immunize.org/askexperts/experts\_mmr.asp
- Measles images from IAC's Image Library: www. immunize.org/photos/measles-photos.asp
- Standing Orders for Administering Measles, Mumps & Rubella Vaccine to Children & Teens: www.immunize.org/catg.d/p3079a.pdf

Measles Outbreak...continued on page 5 ►

# Ask the Experts

The Immunization Action Coalition extends thanks to our experts, medical officer Andrew T. Kroger, MD, MPH, and nurse educator Donna L. Weaver, RN, MN, both with the National Center for Immunization and Respiratory Diseases at the Centers for Disease Control and Prevention (CDC).

### Stay current with FREE subscriptions

The Immunization Action Coalition's 2 periodicals, *Needle Tips* and *Vaccinate Adults*, and our email news service, *IAC Express*, are packed with up-to-date information.

Subscribe to all 3 free publications in one place. It's simple! Go to

www.immunize.org/subscribe

### **MMR** vaccine

#### What are the signs and symptoms healthcare providers should look for in diagnosing measles?

Healthcare providers should suspect measles in patients with a febrile rash illness and the clinically compatible symptoms of cough, coryza (runny nose), and/or conjunctivitis (red, watery eyes). A clinical case of measles is defined as an illness characterized by

- a generalized rash lasting 3 or more days, and
- a temperature of 101°F or higher (38.3°C or higher), and
- cough, coryza, and/or conjunctivitis.

Koplik spots, a rash present on mucous membranes, are considered pathognomonic for measles. Koplik spots occur from 1–2 days before the measles rash appears to 1–2 days afterward. They appear as punctate blue-white spots on the bright red background of the buccal mucosa (inside lining of cheek).

Providers should be especially aware of the

possibility of measles in people with fever and rash who have recently traveled abroad, who have had contact with international travelers, or who have visited or had contact with someone who has visited an area affected by the current measles outbreak (such as Disneyland in California).

Providers should immediately isolate and report suspected measles cases to their local health department and obtain specimens for measles testing, including viral specimens for confirmation and genotyping. Providers should also collect blood for serologic testing during the first clinical encounter with a person who has suspected or probable measles.

Ask the Experts...continued on page 26 ►

### **Immunization questions?**

- Email nipinfo@cdc.gov
- Call your state health department (phone numbers at www.immunize.org/coordinators)

# **Needle Tips**

# online at www.immunize.org/nt Immunization Action Coalition

2550 University Ave. W., Suite 415 North Saint Paul, MN 55114 Phone: (651) 647-9009 Email: admin@immunize.org Websites: www.immunize.org www.vaccineinformation.org www.immunizationcoalitions.org

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IAC, a 501(c)(3) charitable organization, publishes practical immunization information for health professionals to help increase immunization rates and prevent disease.

# The Immunization Action Coalition is also supported by

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# Vaccine Information Statements in Up to 40 Languages Are Ready for Your Use at www.immunize.org/vis

If you provide vaccination services for people who don't speak or read English, the Immunization Action Coalition (IAC) is the "go-to" place for translations of Vaccine Information Statements (VISs). For more than 15 years, IAC has made VIS translations available on immunize.org. In 2011, IAC entered into a cooperative agreement with the Centers for Disease Control and Prevention (CDC) to establish IAC's role as the official source of VIS translations.

For the 18 languages listed below, IAC has up-to-date VIS translations for all routinely recommended vaccines. You can download all translations in a particular language from the links listed below:

- Arabic: www.immunize.org/vis/vis\_arabic.asp
- Armenian: www.immunize.org/vis/vis\_armenian.asp
- Burmese: www.immunize.org/vis/vis\_burmese.asp
- Cambodian (Khmer): www.immunize.org/vis/vis\_ cambodian.asp
- Chinese, Simplified: www.immunize.org/vis/vis\_ chinese.asp
- Chinese (Traditional): www.immunize.org/vis/vis\_ chinese.asp
- English: www.immunize.org/vis/vis\_english.asp
- Farsi: www.immunize.org/vis/vis\_farsi.asp
- French (European): www.immunize.org/vis/vis\_ french.asp
- Haitian Creole: www.immunize.org/vis/vis\_haitian\_ creole.asp
- **Hmong:** www.immunize.org/vis/vis\_hmong.asp
- Korean: www.immunize.org/vis/vis\_korean.asp
- Portuguese (Brazil): www.immunize.org/vis/vis\_ portuguese.asp
- Russian: www.immunize.org/vis/vis\_russian.asp
- Somali: www.immunize.org/vis/vis\_somali.asp
- Spanish (Mexican): www.immunize.org/vis/vis\_ spanish.asp
- Spanish RTF (reduced formatting for electronic systems that cannot accept PDFs): www.immunize. org/vis/vis\_spanish.asp
- **Tagalog:** www.immunize.org/vis/vis\_tagalog.asp
- Vietnamese: www.immunize.org/vis/vis\_ vietnamese.asp
- For VISs in other languages, visit www.immunize. org/vis/?f=9.

To find out when new or revised VIS translations are posted on immunize.org, subscribe to IAC's weekly e-newsletter, *IAC Express*, at www.immunize.org/ subscribe.

Հարբուխի դեմՊատվաստանյութ

# Vacuna contra la influenza

인플루엔자 백신

# Vaksen kont Influenza የኢንፍሎዌንዛ ክትባት

#### **Thanks to IAC's Partners Who Provide Translations**

Many of the VISs available on immunize.org are donated to IAC by generous partners who we count on to provide translation services every time new or updated VISs are released by CDC.

We are deeply grateful to the following organizations and individuals for their time and dedication to providing VIS translations:

Arkansas Department of Health; Asian Pacific Health Care Venture, Los Angeles, CA; California Department of Public Health; Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases; DSMA Ethiopian Orthodox Church, Minneapolis, MN; Family Medicine Health Center, Refugee Screening Clinic, Boise, ID; Hawaii Department of Health; Healthy Roads Media, Falcon Heights, MN; Mustafa Kozanolgu, MD, Toronto, Canada; Massachusetts Department of Health and Human Services; Minnesota Department of Health; New York City Department of Health and Mental Hygiene; St. Peter's Health Partners, Albany, NY; Don Shuwarger, MD, FACOP, MBA, Alamogordo, NM; Swedish Medical Center, Seattle, WA; and Wentworth Douglass Hospital, Dover, NH.

#### Would you like to donate translations for IAC?

If you are interested in becoming a translation partner of IAC, please visit www.immunize.org/translate.asp to find out details about how it works. Contact us at translations@immunize.org, if you would like additional information.

# Subscribe to IAC Express, the Immunization Action Coalition's e-news and information service at www.immunize.org/subscribe

DISCLAIMER: *Needle Tips* is available to all readers free of charge. Some of the information in this issue is supplied to us by the Centers for Disease Control and Prevention in Atlanta, Georgia, and some information is supplied by third-party sources. The Immunization Action Coalition (IAC) has used its best efforts to accurately publish all of this information, but IAC cannot guarantee that the original information as supplied by diters is correct or complete, or that it has been accurately published. Some of the information in this issue is created or compiled by IAC. All of the information in this issue is of a time-critical nature, and we cannot guarantee that some of the information is not now outdated, inaccurate, or incomplete. IAC cannot guarantee that reliance on the information in this issue no injury. Before you rely on the information in this issue, you should first independently verify its current accuracy and completeness. IAC is not licensed to practice medicine or pharmacology, and the providing of the information in this issue does not constitute such practice. Any claim against IAC must be submitted to binding arbitration under the auspices of the American Arbitration Association in Saint Paul, Minnesota.



# Laminated child and adult immunization schedules Order one of each for every exam room

Here are the ACIP/AAP/AAFP-approved immunization schedule for people ages 0 through 18 years (8-sided) and the ACIP/AAFP/ACOG/ACNM-approved schedule for adults (6-sided). Both are laminated and washable for heavy-duty use, complete with essential footnotes, and printed in color for easy reading. The cost is \$7.50 for each schedule and only \$5.50 each for five or more copies.



To order, visit www.immunize.org/shop, or use the order form on page 28. For 20 or more copies, contact us for discount pricing: admininfo@immunize.org

# Wallet-sized immunization record cards for all ages: For children & teens, for adults, and for a lifetime!



Now you can give any patient a permanent vaccination record card designed specifically for their age group: child & teen, adult, or lifetime. These brightly colored cards are printed on durable rip-, smudge-, and water-proof paper. To view the cards or for more details, go to www.immunize.org/shop and click on the images.

Buy I box (250 cards) for \$45 (first order of a 250-card box comes with a 30-day, money-back guarantee). Discounts for larger orders: 2 boxes \$40 each; 3 boxes \$37.50 each; 4 boxes \$34.50 each

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# "Immunization Techniques – Best Practices with Infants, Children, and Adults"



The California Department of Public Health, Immunization Branch, updated its award-winning training video, "Immunization Techniques: Best Practices with Infants, Children, and Adults." The 25-minute DVD can be used to train new employees and to refresh the skills of experienced staff on administering injectable, oral, and nasal-spray vaccines to children, teens, and adults. Make sure your healthcare setting has the 2010 edition!

The cost is \$17 each for 1–9 copies; \$10.25 each for 10–24 copies; \$7 each for 25–49 copies; \$5.75 each for 50–99 copies.

To order, visit www.immunize.org/shop, or use the order form on page 28. For 100 or more copies, contact us for discount pricing: admininfo@immunize.org

For healthcare settings in California, contact your local health department immunization program for a free copy.

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# **Vaccine Highlights** *Recommendations, schedules, and more*

*Editor's note: The information in Vaccine Highlights is current as of February 25, 2015.* 

### **Next ACIP meetings**

The Advisory Committee on Immunization Practices (ACIP) is comprised of 15 national experts who advise CDC on the appropriate use of vaccines. ACIP meets three times a year in Atlanta; meetings are open to the public and available online via live webcast. The next meetings will be held on June 24–25 and October 21–22. For more information, visit www.cdc.gov/vaccines/acip. ACIP periodically issues recommendations on the use of vaccines; they are published and readily available in the *Morbidity and Mortality Weekly Report* (*MMWR*). Clinicians who vaccinate should have a current set for reference. Here are sources:

- Download from IAC's website: www.immunize. org/acip
- Download from CDC's website: www.cdc.gov/ vaccines/hcp/acip-recs

In addition, extensive information on ACIP meetings is available at www.cdc.gov/vaccines/acip/ meetings/meetings-info.html.

### **CDC** immunization schedules

Each year, CDC's Advisory Committee on Immunization Practices (ACIP) publishes U.S. immunization schedules for children/teens and adults to reflect current recommendations for licensed vaccines.

#### FOR CHILDREN AND TEENS

On January 26, CDC released the "Recommended Immunization Schedules for Persons Aged 0 Through 18 Years, U.S., 2015" online at www. cdc.gov/vaccines/schedules/downloads/child/ 0-18yrs-child-combined-schedule.pdf. The February 6 issue of *MMWR* included an article summarizing the changes made in the 2015 recommendations. It is available at www.cdc.gov/mmwr/pdf/wk/mm6404.pdf, pages 93–94. CDC publishes the child/teen immunization schedules in a variety of formats, which are posted at www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html.

#### FOR ADULTS

On February 3, CDC published "Recommended Immunization Schedule for Adults Aged 19 Years or Older–U.S., 2015" online at www.cdc.gov/vaccines/schedules/downloads/adult/adult-combinedschedule.pdf. The February 6 issue of *MMWR* included an article summarizing the changes that appear in the 2015 adult recommendations. The article is available at www.cdc.gov/mmwr/pdf/wk/ mm6404.pdf, pages 91–92. CDC publishes several versions of the adult immunization schedules in a variety of formats. They are available at www.cdc. gov/vaccines/schedules/hcp/adult.html.

### **Measles news**

The U.S. is currently experiencing a large multistate measles outbreak. From January 1–February 20, CDC reported 154 cases of measles in 17 states and Washington, DC. Most of these cases (118 cases [77%]) are part of a large, ongoing multi-state outbreak linked to Disney theme parks (California); two other unrelated measles outbreaks are also occurring in Illinois and Nevada.

On February 13, CDC published "Measles Outbreak—California, December 2014–February 2015" in an *MMWR* Early Release at www.cdc. gov/mmwr/pdf/wk/mm64e0213.pdf.

On January 23, the CDC Health Alert Network (HAN) issued a CDC Health Advisory titled "U.S. Multi-state Measles Outbreak, December 2014–January 2015." Access this health alert at http://emergency.cdc.gov/han/han00376.asp.

### Influenza news

On December 3, 2014, the CDC's HAN issued a CDC Health Advisory titled "CDC Health Advisory Regarding the Potential for Circulation of Drifted Influenza A (H3N2) Viruses." Access this health alert at http://emergency.cdc.gov/han/han00374. asp. CDC issued a related news release, "Protection from Flu Vaccination Reduced this Season," available at www.cdc.gov/media/releases/2014/p1204-flu-season.html.

### **VIS news**

CDC released its updated pediatric multi-vaccine Vaccine Information Statement (VIS) on October 22. This VIS may be used in place of the individual VISs for DTaP, Hib, hepatitis B, polio, and PCV13 when two or more of these vaccines are administered to children 2 months through 6 years of age. Access the multi-vaccine VIS: www.immunize. org/vis/multi\_vaccine\_infants.pdf.

### FDA vaccine approval news

On January 23, the Food and Drug Administration (FDA) announced the approval of Bexsero (Novartis), the second vaccine licensed in the U.S.

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to prevent invasive meningococcal disease caused by *Neisseria meningitidis* serogroup B in people age 10 through 25 years. Access a related news release at www.fda.gov/NewsEvents/Newsroom/ PressAnnouncements/ucm431370.htm.

On December 11, 2014, FDA announced the approval of a quadrivalent formulation of Fluzone Intradermal, the inactivated influenza vaccine (Sanofi Pasteur). More details are available on the FDA's website at www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm356091.htm.

On December 10, 2014, FDA announced the approval of Gardasil 9 (Merck), a human papillomavirus (HPV) 9-valent vaccine. Access a related news release at www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm426485.htm.

On October 29, 2014, FDA announced the approval of Trumenba (Pfizer), the first vaccine licensed in the U.S. to prevent invasive meningococcal disease caused by *N. meningitidis* serogroup B in people age 10 through 25 years. Additionally, FDA issued a related press release at www.fda.gov/ NewsEvents/Newsroom/PressAnnouncements/ ucm420998.htm and "Trumenba (Serogroup B Meningococcal Vaccine) Questions and Answers" at www.fda.gov/biologicsbloodvaccines/vaccines/ questionsaboutvaccines/ucm421128.htm.

On October 29, 2014, FDA approved an expanded age indication for Flublok (Protein Sciences) influenza vaccine, to include adults age 50 years and older. The vaccine is now licensed for all adults age 18 years and older. Flublok is the only licensed **Vaccine Highlights...continued on page 5** ►

#### Vaccine Highlights...continued from page 4

influenza vaccine made using recombinant technology. More details are available on FDA's website at www.fda.gov/biologicsbloodvaccines/vaccines/ approvedproducts/ucm335836.htm.

### Pneumococcal news

In January 2015, the Centers for Medicare and Medicaid Services (CMS) issued updated information on Medicare payment coverage for both pneumococcal vaccines, Prevnar 13 (Pfizer) and Pneumovax 23 (Merck), for adults age 65 years and older to align with new ACIP recommendations. The CMS newsletter *MLN Matters* article titled "Modifications to Medicare Part B Coverage of Pneumococcal Vaccinations" is available online at www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/ Downloads/MM9051.pdf.

### Vaccine errors news

On December 4, 2014, the Institute for Safe Medication Practices (ISMP) published an article titled "Confusion Abounds! 2-year Summary of the ISMP National Vaccine Errors Reporting Program (Part 1)." Access the report at www.ismp. org/newsletters/acutecare/showarticle.aspx?id=95.

### **Current VIS dates**

Check the dates on your supply of Vaccine Information Statements (VISs). If any are outdated, get current versions and VISs in more than 30 languages at www.immunize.org/vis.

| Adenovirus6/11/14      | Meningococcal10/14/11  |
|------------------------|------------------------|
| Anthrax3/10/10         | Multi-vaccine 10/22/14 |
| Chickenpox3/13/08      | PCV13 2/27/13          |
| DTaP5/17/07            | PPSV 10/6/09           |
| Hib2/4/14              | Polio 11/8/11          |
| Hepatitis A10/25/11    | Rabies 10/6/09         |
| Hepatitis B2/2/12      | Rotavirus 8/26/13      |
| HPV-Cervarix5/3/11     | Shingles 10/6/09       |
| HPV-Gardasil5/17/13    | Td2/4/14               |
| Influenza8/19/14       | Tdap5/9/13             |
| Japanese enceph1/24/14 | Typhoid5/29/12         |
| MMR4/20/12             | Yellow fever 3/30/11   |
| MMRV5/21/10            | 0                      |
|                        |                        |

For a ready-to-print version of this table for posting in your practice, go to www.immunize. org/catg.d/p2029.pdf.

#### Measles Outbreak...continued from page 1

- Standing Orders for Administering Measles, Mumps & Rubella Vaccine to Adults: www.immunize.org/ catg.d/p3079.pdf
- MMR Vaccine Information Statements (in English and 22 languages): www.immunize.org/vis/vis\_ mmr.asp
- Measles Unprotected People Reports: www.immunize.org/reports/measles.asp
- "Suspect Measles and Act Fast," video from the CDC Expert Commentary series on Medscape: medscape.com/viewarticle/828508
- CDC Resources: www.cdc.gov/measles/resources/ index.html

### **CDC Guidance for Vaccination of Travelers**

People 6 months of age and older who will be travel-

ing internationally should be protected against measles. Before any international travel:

- Infants 6 through 11 months of age should receive one dose of MMR vaccine. Infants who get one dose of MMR vaccine before their first birthday should get two more doses (one dose at 12 through 15 months of age and another dose at least 28 days later).
- Children 12 months of age and older should receive two doses of MMR vaccine, separated by at least 28 days.
- Teenagers and adults who do not have evidence of immunity against measles should get two doses of MMR vaccine separated by at least 28 days. (For more information, see www.cdc.gov/measles/hcp/ index.html#immunity.)

# Apply for IAC's Influenza Vaccination Honor Roll

Join more than 500 healthcare settings already honored! This honor roll recognizes healthcare settings that have implemented mandatory vaccination polices for healthcare personnel (HCP).

To find the healthcare settings listed by state, visit www.immunize.org/honor-roll/influenza-mandates/ honorees.asp

To read position statements supporting mandatory HCP vaccination from leading healthcare organizations and professional medical societies or to apply, visit www.immunize.org/honor-roll/influenzamandates

# Apply for IAC's Hepatitis B Birth Dose Honor Roll

# Join nearly 200 hospitals already honored!

This honor roll recognizes hospitals and birthing centers that have attained high coverage rates for administering hepatitis B vaccine at birth.

To find hospitals listed by state, visit www.immunize.org/honor-roll/birthdose/ honorees.asp

To find out more about the birth dose honor roll, visit www.immunize.org/honor-roll/birthdose

To apply, visit www.immunize.org/honor-roll/ birthdose/apply.aspx



# Summary of Recommendations for Child/Teen Immunization (Age birth through 18 years) (Page 1 of 5)

| Vaccine name<br>and route  | Schedule for routine vaccination and other guidelines<br>(any vaccine can be given with another)   | Schedule for catch-up vaccination<br>and related issues  | <b>Contraindications and precautions</b><br>(mild illness is not a contraindication)   |
|--|--|--|--|
| Hepatitis B<br>(HepB)<br><i>Give IM</i>  | <ul> <li>Vaccinate all children age 0 through 18yrs.</li> <li>Vaccinate all newborns with monovalent vaccine prior to hospital discharge. Give dose #2 at age 1–2m and the final dose at age 6–18m (the last dose in the infant series should not be given earlier than age 24wks). After the birth dose, the series may be completed using 2 doses of single-antigen vaccine (ages 1–2m, 6–18m) or up to 3 doses of Comvax (ages 2m, 4m, 12–15m) or with 3 doses of Pediarix (ages 2m, 4m, 6m), which may result in giving a total of 4 doses of hepatitis B vaccine.</li> <li>If mother is HBsAg-positive: Give the newborn HBIG and dose #1 within 12hrs of birth; complete series by age 6m.</li> <li>If mother's HBsAg status is unknown: Give the newborn dose #1 within 12hrs of birth. If low birth weight (less than 2000 grams), also give HBIG within 12hrs.</li> </ul> | <ul> <li>Do not restart series, no matter how long since previous dose.</li> <li>3-dose series can be started at any age.</li> <li>Minimum intervals between doses:<br/>4wks between #1 and #2, 8wks between #2 and #3, and at least 16wks between #1 and #3.</li> <li>Special Notes on Hepatitis B Vaccine</li> </ul> Dosing of HepB: Mono through 19yrs, give (Alternative dosing scher Give 2 doses Recom (Engerix-B is not lice) | <ul> <li>Contraindication Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components. </li> <li>Precautions <ul> <li>Moderate or severe acute illness.</li> <li>For infants who weigh less than 2000 grams, see ACIP recommendations.*</li> </ul> </li> <li>valent vaccine brands are interchangeable. For people age 0 </li> <li>5 mL of either Engerix-B or Recombivax HB. </li> <li>edule for unvaccinated adolescents age 11 through 15yrs: </li> <li>bivax HB 1.0 mL (adult formulation) spaced 4–6m apart. </li> </ul>  |
|  | whose mother is subsequently found to be HBsAg positive, give the infant HBIG ASAP (no later than age 7d) and follow HepB immuni-<br>zation schedule for infants born to HBsAg-positive mothers.   | (HepB) For preterm infants: S<br>PDF/rr/rr5416.pdf.  | ee ACIP hepatitis B recommendations www.cdc.gov/mmwr/  |
| DTaP, DT<br>(Diphtheria,<br>tetanus,<br>acellular<br>pertussis)<br><i>Give IM</i>        | <ul> <li>Give to children at ages 2m, 4m, 6m, 15–18m, and 4–6yrs.</li> <li>May give dose #1 as early as age 6wks.</li> <li>May give #4 as early as age 12m if 6m have elapsed since #3.</li> <li>Do not give DTaP/DT to children age 7yrs and older.</li> <li>If possible, use the same DTaP product for all doses.</li> </ul>   | <ul> <li>#2 and #3 may be given 4wks after previous dose.</li> <li>#4 may be given 6m after #3.</li> <li>If #4 is given before 4th birthday, wait at least 6m for #5 (age 4–6yrs).</li> <li>If #4 is given after 4th birthday, #5 is not needed.</li> </ul>  | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>For all pertussis-containing vaccines: Encephalopathy not attributable to an identifiable cause, within 7d after DTP/DTaP/Tdap.</li> <li>Precautions</li> </ul>  |
| <b>Td, Tdap</b><br>(Tetanus,<br>diphtheria,<br>acellular<br>pertussis)<br><i>Give IM</i> | <ul> <li>For children and teens lacking previous Tdap: Give Tdap routinely at age 11–12yrs and vaccinate older teens on a catch-up basis; then boost every 10yrs with Td.</li> <li>Make special efforts to give Tdap to children and teens who are (1) in contact with infants younger than age 12m and, (2) healthcare workers with direct patient contact.</li> <li>Give Tdap to pregnant adolescents during each pregnancy (preferred during 27–36 weeks' gestation), regardless of interval since prior Td or Tdap.</li> </ul>   | <ul> <li>Children as young as age 7yrs and teens who are unvaccinated or behind schedule should complete a primary Td series (spaced at 0, 1–2m, and 6–12m intervals); substitute Tdap for any dose in the series, preferably as dose #1.</li> <li>Tdap should be given regardless of interval since previous Td.</li> </ul>   | <ul> <li>Moderate or severe acute illness.</li> <li>History of arthus reaction following a prior dose of tetanus<br/>or diphtheria toxoid-containing vaccine; defer vaccination<br/>until at least 10yrs have elapsed since the last tetanus<br/>toxoid-containing vaccine.</li> <li>Guillain-Barré syndrome (GBS) within 6wks after previous<br/>dose of tetanus-toxoid-containing vaccine.</li> <li>For DTaP only: Any of these events following a previous<br/>dose of DTP/DTaP: 1) temperature of 105°F (40.5°C) or<br/>higher within 48hrs; 2) continuous crying for 3hrs or more<br/>within 48hrs; 3) collapse or shock-like state within 48hrs;<br/>4) seizure within 3d.</li> <li>For all pertussis-containing vaccines: Progressive or<br/>unstable neurologic disorder, uncontrolled seizures, or<br/>progressive encephalopathy until a treatment regimen has<br/>been established and the condition has stabilized.</li> </ul> |

\* This document was adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP). To obtain copies of these recommendations, visit CDC's website at www.cdc.gov/vaccines/hcp/ACIP-recs/index.html or visit the Immunization Action Coalition (IAC) website at www.immunize.org/acip. This table is revised periodically.

Visit IAC's website at www.immunize.org/childrules to make sure you have the most current version.

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**IMMUNIZATION ACTION COALITION** Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

# Summary of Recommendations for Child/Teen Immunization (Age birth through 18 years) (Page 2 of 5)

| Vaccine name<br>and route                                | Schedule for routine vaccination and<br>other guidelines<br>(any vaccine can be given with another)  | Schedule for catch-up<br>vaccination and related<br>issues  | Contraindications and precautions<br>(mild illness is not a contraindication)   |
|--|--|---|---|
| Rotavirus<br>(RV)<br><i>Give</i><br><i>orally</i>        | <ul> <li>Rotarix (RV1): give at ages 2m, 4m.</li> <li>RotaTeq (RV5): give at ages 2m, 4m, 6m.</li> <li>May give dose #1 as early as age 6wks.</li> <li>Give final dose no later than age 8m-0d.</li> </ul>   | <ul> <li>Do not begin series in<br/>infants older than age 14wks<br/>6 days.</li> <li>Intervals between doses may<br/>be as short as 4wks.</li> <li>If prior vaccination included<br/>use of different or unknown<br/>brand(s), a total of 3 doses<br/>should be given.</li> </ul>  | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.<br/>If allergy to latex, use RV5.</li> <li>History of intussusception.</li> <li>Diagnosis of severe combined immunodeficiency (SCID).</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Altered immunocompetence other than SCID.</li> <li>Chronic gastrointestinal disease.</li> <li>For RV1 only, spina bifida or bladder exstrophy.</li> </ul>   |
| Varicella<br>(Var)<br>(Chickenpox)<br><i>Give SC</i>     | <ul> <li>Give dose #1 at age 12–15m.</li> <li>Give dose #2 at age 4–6yrs. Dose #2 of Var or MMRV may be given earlier if at least 3m since dose #1. If the 2nd dose was given at least 4wks after 1st dose, it can be accepted as valid.</li> <li>Give a 2nd dose to all older children/ teens with history of only 1 dose.</li> <li>MMRV may be used in children age 12m through 12yrs (see note below).</li> </ul>   | <ul> <li>If younger than age 13yrs, space dose #1 and #2 at least 3m apart. If age 13yrs or older, space at least 4wks apart.</li> <li>May use as postexposure prophylaxis if given within 5d.</li> <li>If Var and either MMR, LAIV, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart.</li> </ul>   | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Pregnancy or possibility of pregnancy within 4wks.</li> <li>Children on high-dose immunosuppressive therapy or who are immunocompromised because of malignancy and primary or acquired immunodeficiency, including HIV/AIDS (although vaccination may be considered if CD4+ T-lymphocyte percentages are 15% or greater in children age 1 through 8yrs or 200 cells/µL in children age 9yrs and older)</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP's <i>General Recommendations on Immunization</i>* regarding time to wait before vaccinating.</li> <li>Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24hrs before vaccination, if possible; delay resumption of these antiviral drugs for 14d after vaccination.</li> <li>For MMRV only, personal or family (i.e., sibling or parent) history of seizures.</li> </ul>  |
| MMR<br>(Measles,<br>mumps,<br>rubella)<br><i>Give SC</i> | <ul> <li>Note: For the first dose of MMR and v either MMR and Var or MMRV may be caregiver expresses a preference for MM MMR and Var be used for the first dose.</li> <li>Give dose #1 at age 12–15m.</li> <li>Give MMR at age 6–11m if traveling internationally; revaccinate with 2 doses of MMR at age 12–15m and at least 4wks later. The dose given at younger than 12m does not count toward the 2-dose series.</li> <li>Give dose #2 at age 4–6yrs. Dose #2 may be given earlier if at least 4wks since dose #1. For MMRV: dose #2 may be given earlier if at least 3m since dose #1.</li> <li>Give a 2nd dose to all older children and teens with history of only 1 dose.</li> <li>MMRV may be used in children age 12m through 12 years (see note above).</li> </ul> | <ul> <li>aricella given at age 12–47m,<br/>e used. Unless the parent or<br/>MRV, CDC recommends that<br/>es in this age group.</li> <li>If MMR and either Var,<br/>LAIV, and/or yellow fever<br/>vaccine are not given on<br/>the same day, space them at<br/>least 28d apart.</li> <li>When using MMR for both<br/>doses, minimum interval is<br/>4wks.</li> <li>When using MMRV for<br/>both doses, minimum inter-<br/>val is 3m.</li> <li>May use as postexposure<br/>prophylaxis if given within<br/>3d.</li> </ul> | <ul> <li>For MMRV only, personal or family (i.e., sibling or parent) history of seizures.</li> <li>Note: For patients with humoral immunodeficiency or leukemia, see ACIP recommendations at www.cdc.gov/mmwr/pdf/tr/rr5604.pdf.*</li> <li>Contraindications <ul> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Pregnancy or possibility of pregnancy within 4wks.</li> <li>Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy, or severely symptomatic HIV). Note: HIV infection is NOT a contraindication to MMR for children who are not severely immunocompromised (consult ACIP MMR recommendations [<i>MMWR</i> 2013;62 [RR-4] for details).* Vaccination is recommended if indicated for 1) children age 12m through 5yrs whose CD4+ T-lymphocyte percentage has been greater than 15% for at least 6m or 2) for children age 6yrs and older whose CD4+ T-lymphocyte counts have been 200 cells/µL or greater for at least 6m.</li> </ul> </li> <li>Precautions <ul> <li>Moderate or severe acute illness.</li> <li>If blood, plasma, or immune globulin given in past 11m, see ACIP's <i>General Recommendations on Immunization</i>* regarding time to wait before vaccinating.</li> <li>History of thrombocytopenia or thrombocytopenic purpura.</li> <li>For MMRV only, personal or family (i.e., sibling or parent) history of seizures.</li> <li>Need for tuberculin skin testing (TST). If TST needed, give TST before or on same day as MMR, or give TST 4wks following MMR.</li> </ul> </li> </ul> |

# Summary of Recommendations for Child/Teen Immunization (Age birth through 18 years) (Page 3 of 5)

| Vaccine name<br>and route  | Schedule for routine vaccination and other guidelines<br>(any vaccine can be given with another)  | Schedule for catch-up vaccination<br>and related issues  | <b>Contraindications and precautions</b><br>(mild illness is not a contraindication)   |
|--|---|--|--|
| Pneumococcal<br>conjugate<br>(PCV13)<br><i>Give IM</i>                                     | <ul> <li>Give at ages 2m, 4m, 6m, 12–15m (booster dose).</li> <li>Dose #1 may be given as early as age 6wks.</li> <li>When children are behind on PCV13 schedule, minimum interval for doses given to children younger than age 12m is 4wks; for doses given at 12m and older, it is 8wks.</li> <li>For age 24 through 59m and healthy: If unvaccinated or any incomplete schedule or if 4 doses of PCV7 or any other age-appropriate complete PCV7 schedule, give 1 supplemental dose of PCV13 at least 8wks after the most recent dose.</li> <li>For high-risk** children ages 2 through 5 yrs: Give 2 doses at least 8wks apart if they previously received fewer than 3 doses; given 1 dose at least 8wks after the most recent dose if they previously received 3 doses.</li> <li>For high-risk** children: All recommended PCV13 doses should be given prior to PPSV vaccination.</li> <li>PCV13 is not routinely given to healthy children age 5yrs and older.</li> <li><b>** High-risk:</b> For both PCV13 and PPSV, those with sickle cell disease; anatomic or functional asplenia; chronic cardiac, pulmonary, or renal disease; diabetes; cerebrospinal fluid leaks; HIV infection; immunosuppressior; diseases associated with immunosuppressive and/or radiation therapy; solid organ transplantation; or who have or will</li> </ul> | <ul> <li>For minimum intervals, see 3rd bullet at left.</li> <li>For age 7 through 11m: If history of 0 doses, give 2 doses of PCV13, 4wks apart, with a 3rd dose at age 12–15m; if history of 1 or 2 doses, give 1 dose of PCV13 with a 2nd dose at age 12–15m at least 8wks later.</li> <li>For age 12 through 23m: If unvaccinated or history of 1 dose before age 12m, give 2 doses of PCV13 8wks apart; if history of 1 dose of PCV13 at least 8wks after most recent dose; if history of 4 doses of PCV13 at least 8wks after most recent dose; if history of 4 doses of PCV7 or other age-appropriate complete PCV7 schedule, give 1 supplemental dose of PCV13 at least 8wks after the most recent dose.</li> <li>For age 2 through 5yrs and at high risk**: If unvaccinated or any incomplete schedule of 1 or 2 doses, or if 4 doses of PCV7 or any other age-appropriate complete PCV7 or any other age-appropriate complete PCV7 dose.</li> <li>For children ages 6 through 18yrs with functional or anatomic asplenia (including sickle cell disease), HIV infection or other immunocompromising condition, cochlear implant, or CSF leak, give 1 dose of PCV13 if no previous history of PCV13.</li> </ul> | Contraindication<br>Previous severe allergic reaction (e.g.,<br>anaphylaxis) to a PCV vaccine, to any of<br>its components, or to any<br>diphtheria toxoid-containing vaccine.<br>Precaution<br>Moderate or severe acute illness.    |
| Pneumococcal<br>polysaccharide<br>(PPSV)<br><i>Give IM</i><br><i>or SC</i>                 | <ul> <li>have a cochlear implant and, <i>for PPSV only</i>, alcoholism and/or chronic liver disease.</li> <li>Give 1 dose at least 8wks after final dose of PCV13 to high-risk** children age 2yrs and older.</li> <li>For children who have sickle cell disease, functional or anatomic asplenia, HIV infection, or other immunocompromising condition, give a 2nd dose of PPSV 5yrs after previous PPSV. (See ACIP pneumococcal recommendations at www.cdc.gov/mmwr/pdf/rr/rr5911.pdf.)</li> </ul>  |  | Contraindication<br>Previous severe allergic reaction (e.g.,<br>anaphylaxis) to this vaccine or to any of<br>its components.<br>Precaution<br>Moderate or severe acute illness.  |
| Human<br>papillomavirus<br>(HPV)<br>(HPV2, Cervarix)<br>(HPV4, Gardasil)<br><i>Give IM</i> | <ul> <li>Give 3-dose series of either HPV2 or HPV4 to girls at age 11–12yrs on a 0, 1–2, 6m schedule. (May give as early as age 9yrs.)</li> <li>Give 3-dose series of HPV4 to boys age 11–12yrs on a 0, 1–2, 6m schedule. (May give as early as age 9yrs.)</li> <li>Give a 3-dose series of either HPV2 or HPV4 to all older girls/women (through age 26yrs) and 3-dose series of HPV4 to all older boys/men (through age 21yrs) who were not previously vaccinated.</li> </ul>   | Minimum intervals between doses: 4wks between #1 and #2; 12wks between #2 and #3. Overall, there must be at least 24wks between doses #1 and #3. If possible, use the same vaccine product for all doses.  | <ul> <li>Contraindication</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Pregnancy.</li> </ul> |

#### Vaccine name Schedule for routine vaccination and other guidelines Schedule for catch-up vaccination **Contraindications and precautions** and route (any vaccine can be given with another) and related issues (mild illness is not a contraindication) Hepatitis A • Give 2 doses spaced 6-18m apart to all children at age • Minimum interval between doses is Contraindication 1yr (12–23m). (HepA) 6m. Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to · Vaccinate all previously unvaccinated children and Give IM • Children who are not fully vaccinated any of its components. adolescents age 2yrs and older who by age 2yrs can be vaccinated at a Precautions subsequent visit. - Want to be protected from HAV infection and lack a • Moderate or severe acute illness. • Administer 2 doses at least 6 months specific risk factor. apart to previously unvaccinated per-- Live in areas where vaccination programs target older sons who live in areas where vaccinachildren. tion programs target older children, or - Travel anywhere except U.S., W. Europe, N. Zealand, who are at increased risk for infection. Australia, Canada, or Japan. • Give 1 dose as postexposure prophy-- Have chronic liver disease, clotting factor disorder, or laxis to incompletely vaccinated chilare adolescent males who have sex with other males. dren and teens age 12m and older who - Use illicit drugs (injectable or non-injectable). have recently (during the past 2wks) - Anticipate close personal contact with an international been exposed to hepatitis A virus. adoptee from a country of high or intermediate endemicity during the first 60 days following the adoptee's arrival in the U.S. Inactivated • Give to children at ages 2m, 4m, 6–18m, 4–6yrs. • The final dose should be given on or Contraindication after the 4th birthday and at least 6m Polio Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to • May give dose #1 as early as age 6wks. from the previous dose. any of its components. (IPV) • Not routinely recommended for U.S. residents age18yrs • If dose #3 is given after 4th birthday, Precautions and older (except certain travelers). For information on Give dose #4 is not needed if dose #3 is • Moderate or severe acute illness. polio vaccination for international travelers, see SC or IM given at least 6m after dose #2. wwwnc.cdc.gov/travel/diseases/poliomyelitis. • Pregnancy. Influenza Contraindications • Vaccinate all children and teens age 6m and older. • LAIV is preferred for healthy children ages 2 through 8yrs if immediately available; it may be • Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine, to any of its components, including egg protein. Note: People age 18yrs and Inactivated given to non-pregnant people through age 49yrs who lack a contraindication or precaution. older with egg allergy of any severity can receive the recombinant influ-• Give 2 doses, spaced 4wks apart, to children age 6m through 8yrs who 1) are first-time vaccinees, influenza enza vaccine (RIV) (Flublok). RIV does not contain any egg protein. or 2) who meet any of the additional guidance in the current year's ACIP influenza vaccine recvaccine ommendations\*. • For LAIV only: Age younger than 2yrs; pregnancy; immunosuppression (IIV) (including that caused by medications or HIV); for children and teens • For IIV, give 0.25 mL dose to children age 6–35m and 0.5 mL dose if age 3yrs and older. Give IM ages 6m through 18yrs, current long-term aspirin therapy; for children • If LAIV and either MMR, Var, and/or yellow fever vaccine are not given on the same day, space age 2 through 4yrs, wheezing or asthma within the past 12m, per healththem at least 28d apart. Live care provider statement. Receipt of specific antivirals (i.e., amantadine, attenuated rimantadine, zanamivir, or oseltamivir) 48hrs before vaccination. Avoid influenza use of these antiviral drugs for 14d after vaccination. For children/ vaccine teens who experience only hives with exposure to eggs, give IIV with (LAIV) additional safety precautions (i.e., observe patients for 30 minutes after Give receipt of vaccine for signs of a reaction). intranasally Precautions • Moderate or severe acute illness. • History of Guillain-Barré syndrome (GBS) within 6wks of a previous influenza vaccination. • For LAIV only: Chronic pulmonary (including asthma in children age 5yrs and older), cardiovascular (except hypertension), renal, hepatic, neurological/neuromuscular, hematologic or metabolic (including diabetes) disorders.

# Summary of Recommendations for Child/Teen Immunization (Age birth through 18 years) (Page 4 of 5)

# Summary of Recommendations for Child/Teen Immunization (Age birth through 18 years) (Page 5 of 5)

| Vaccine name and route  | Schedule for routine vaccination and other guidelines<br>(any vaccine can be given with another)  | Schedule for catch-up vaccination<br>and related issues   | <b>Contraindications and precautions</b> (mild illness is not a contraindication)  |
|---|---|---|--|
| Hib<br>(Haemophilus<br>influenzae<br>type b)<br>Give IM   | <ul> <li>ActHib (PRP-T): give at age 2m, 4m, 6m, 12–15m (booster dose).</li> <li>PedvaxHIB or Comvax (containing PRP-OMP): give at age 2m, 4m, 12–15m (booster dose).</li> <li>Dose #1 of Hib vaccine should not be given earlier than age 6wks.</li> <li>Give final dose (booster dose) no earlier than age 12m and a minimum of 8wks after the previous dose.</li> <li>Hib vaccines are interchangeable; however, if different brands of Hib vaccines are administered for dose #1 and dose #2, a total of 3 doses is necessary to complete the primary series in infants.</li> <li>For vaccination of children 12 months and older who are immunocompromised or asplenic: if previously received no doses or only 1 dose before age 12m, give 2 additional doses at least 8wks apart; if previously received 2 or more doses before age 12m, give 1 additional dose.</li> <li>Hib is not routinely given to healthy children age 5yrs and older.</li> <li>I dose of Hib vaccine should be administered to children age 5 years and older who have anatomic or functional asplenia (including sickle cell disease) and who have not received a primary series and booster dose or at least 1 dose of Hib vaccine should be administered to unvaccinated persons 5 through 18 years of age with HIV infection.</li> <li>Hiberix is approved ONLY for the booster dose at age 12m through 4yrs.</li> </ul>  | <ul> <li>All Hib vaccines:</li> <li>If #1 was given at 12–14m, give booster in 8wks.</li> <li>Give only 1 dose to unvaccinated children ages 15–59m.</li> <li>ActHib:</li> <li>#2 and #3 may be given 4wks after previous dose.</li> <li>If #1 was given at age 7–11m, only 3 doses are needed; #2 is given at least 4wks after #1, then final dose at age 12–15m (wait at least 8wks after dose #2).</li> <li>PedvaxHIB and Comvax:</li> <li>#2 may be given 4wks after dose #1.</li> <li>Recipients of hematopoietic stem cell transplant should receive 3 doses of Hib vaccine at least 4wks apart beginning 6–12m after transplant, regardless of Hib vaccination history.</li> </ul>                 | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction<br/>(e.g., anaphylaxis) to this vaccine or<br/>to any of its components.</li> <li>Age younger than 6wks.</li> <li>Precaution</li> <li>Moderate or severe acute illness.</li> </ul> |
| Meningococcal<br>conjugate,<br>quadrivalent<br>(MenACWY)<br><i>Give IM</i><br>Menactra<br>(MenACWY-D)<br>Menveo<br>(MenACWY-CRM)<br><i>Give IM</i><br>Hib-MenCY<br><i>Give IM</i><br>Meningococcal<br>polysaccharide<br>(MPSV4)<br><i>Give SC</i> | <ul> <li>Give a 2-dose series of quadrivalent MCV (Menactra [MenACWY-D] or Menveo [MenACWY-CRM]) with dose #1 routinely at age 11–12yrs and dose #2 at age 16yrs.</li> <li>Give MenACWY to all unvaccinated teens age 13 through 18yrs. If vaccinated at age 13–15yrs, give dose #2 at age 16 through 18yrs with a minimum interval of at least 8wks between doses.</li> <li>For college students, give 1 initial dose to unvaccinated first-year students age 19 through 21yrs who live in residence halls; give dose #2 if most recent dose given when younger than age 16yrs.</li> <li>Give Hib-MenCY (MenHibrix) or MenACWY-CRM (Menveo) to children age 2–18m with persistent complement component deficiency or anatomic/functional asplenia; give at ages 2, 4, 6, 12–15m.</li> <li>For unvaccinated or partially vaccinated children age 7–23m with persistent complement component deficiency: 1) if age 7–23m and using MenACWY-CRM (Menveo), give a 2-dose series at least 3m apart with dose #2 given after age 12m or, 2) if age 9–23m and using MenACWY-D (Menactra), give a 2-dose series at least 3m apart.</li> <li>Give either brand of MenACWY to unvaccinated children age 24m and older with persistent complement deficiency or anatomic or functional asplenia; give 2 doses, 2m apart. If MenACWY-D is given, it must be separated by 4wks from the final dose of PCV13.</li> <li>Give age-appropriate series of meningococcal conjugate vaccine (brand must be licensed for age of child) to 1) children age 2m and older at risk during a community outbreak attributable to a vaccine serogroup and 2) children age 9m and older travelling to or living in countries with hyperendemic or epidemic meningococcal disease. Prior receipt of Hib-MenCY is not sufficient for children travelling to the meningitis belt or the Hajj.</li> </ul> | <ul> <li>If previously vaccinated and risk<br/>of meningococcal disease persists,<br/>revaccinate with MenACWY in 3yrs<br/>(if previous dose given when younger<br/>than age 7yrs) or in 5yrs (if previous<br/>dose given at age 7yrs or older). Then,<br/>give additional booster doses every<br/>5yrs if risk continues.</li> <li>When administering MenACWY to<br/>children and teens with HIV infec-<br/>tion, give 2 initial doses, separated by<br/>8wks.</li> <li>Minimum ages for MCV: 6wks (Hib-<br/>MenCY), 2m (MenACWY-CRM), 9m<br/>(MenACWY-D). See ACIP schedule<br/>footnotes for additional information<br/>on catch-up vaccination of high-risk<br/>persons and for Hib-MenCY.</li> </ul> | Contraindication<br>Previous severe allergic reaction<br>(e.g., anaphylaxis) to this vaccine or<br>to any of its components.<br>Precautions<br>Moderate or severe acute illness.   |

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| Vaccine name<br>and route   | People for whom vaccination is recommended  | Schedule for vaccination administration<br>(any vaccine can be given with another)   | <b>Contraindications and precautions</b><br>(mild illness is not a contraindication)  |
|---|---|--|---|
| Influenza<br>Inactivated<br>Influenza<br>vaccine<br>(IIV*)<br><i>Give IM or ID</i><br>(intradermally)<br>*includes<br>recombinant in-<br>fluenza vaccine<br>(RIV)<br>Live attenuated<br>influenza<br>vaccine<br>(LAIV)<br><i>Give</i><br>intranasally | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize. org/catg.d/ p2010.pdf.</li> <li>Vaccination is recommended for all adults.</li> <li>LAIV (Flumist) is approved only for healthy nonpregnant people age 2–49yrs.</li> <li>Adults age 18 through 64yrs may be given any intramuscular IIV product (Fluzone, Fluvirin, Afluria, Flucelvax), or the intradermal IIV product (Fluzone Intradermal), or RIV (FluBlok).</li> <li>Adults age 18 through 64 yrs may be given intramuscular IIV (Afluria) via jet injector (Stratis)</li> <li>Adults age 65yrs and older may be given standard-dose IIV, or high-dose IIV (Fluzone High-Dose), or RIV.</li> </ul> Note: Healthcare personnel who care for severely immuno-compromised persons (i.e., those who require care in a protective environment) should receive IIV rather than LAIV. For information on other contraindications and precautions to LAIV, see far right column. | <ul> <li>Give 1 dose every year in the fall or winter.</li> <li>Begin vaccination services as soon as vaccine is available and continue until the supply is depleted.</li> <li>Continue to give vaccine to unvaccinated adults throughout the influenza season (including when influenza activity is present in the community) and at other times when the risk of influenza exists.</li> <li>If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, HZV, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.</li> </ul> | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine, to any of its components, including egg protein. Adults with egg allergy of any severity may receive RIV or, adults who experience only hives with exposure to eggs may receive other IIV with additional safety precautions (i.e., observe patient for 30 minutes after receipt of vaccine for signs of a reaction).</li> <li>For LAIV only: pregnancy; immunosuppression; receipt of specific antivirals (i.e., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48hrs. Avoid use of these antiviral drugs for 14d after vaccination.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>History of Guillain-Barré syndrome (GBS) within 6wks following previous influenza vaccination.</li> <li>For LAIV only: Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, neurologic, hematologic, or metabolic (including diabetes) disorders; immunosuppression (including that caused by medications or HIV).</li> </ul> |
| Td, Tdap<br>(Tetanus,<br>diphtheria,<br>pertussis)<br><i>Give IM</i><br>Do not use<br>tetanus toxoid<br>(TT) in place<br>of Tdap or Td.   | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize. org/catg.d/ p2010.pdf.</li> <li>All people who lack written documentation of a primary series consisting of at least 3 doses of tetanus- and diphtheriatoxoid-containing vaccine.</li> <li>A booster dose of Td or Tdap may be needed for wound management, so consult ACIP recommendations.*</li> <li>For Tdap only:</li> <li>Adults who have not already received Tdap or whose Tdap history is not known.</li> <li>Healthcare personnel of all ages.</li> <li>Give Tdap to pregnant women during each pregnancy (preferred during 27—36 weeks' gestation), regardless of the interval since prior Td or Tdap.</li> </ul>   | <ul> <li>For people who are unvaccinated or<br/>behind, complete the primary Td series<br/>(spaced at 0, 1 to 2m, 6 to 12m inter-<br/>vals); substitute a one-time dose of Tdap<br/>for one of the doses in the series, prefer-<br/>ably the first.</li> <li>Give Td booster every 10yrs after the<br/>primary series has been completed.</li> <li>Tdap should be given regardless of inter-<br/>val since previous Td.</li> </ul>   | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>For Tdap only, history of encephalopathy not attributable to an identifiable cause, within 7d following DTP/DTaP, or Tdap.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Guillain-Barré syndrome within 6wks following previous dose of tetanus-toxoid-containing vaccine.</li> <li>History of arthus reaction following a prior dose of tetanus- or diphtheria toxoid-containing vaccine (including MCV4); defer vaccination until at least 10yrs have elapsed since the last tetanus toxoid-containing vaccines only, progressive or unstable neurologic disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.</li> </ul>  |

\* This document was adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP). To obtain copies of these recommendations, visit CDC's website at www.cdc.gov/vaccines/hcp/ACIP-recs/index.html or visit the Immunization Action Coalition (IAC) website at www.immunize.org/acip. This table is revised periodically. Visit IAC's website at www.immunize.org/adultrules to make sure you have the most current version.

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

| Vaccine name<br>and route                                | People for whom vaccination is recommended   | Schedule for vaccination administration (any vaccine can be given with another)   | <b>Contraindications and precautions</b><br>(mild illness is not a contraindication)  |
|--|--|---|---|
| MMR<br>(Measles,<br>mumps,<br>rubella)<br><i>Give SC</i> | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>People born in 1957 or later (especially those born outside the U.S.) should receive at least 1 dose of MMR if they have no laboratory evidence of immunity to each of the 3 diseases or documentation of a dose given on or after the first birthday.</li> <li>People in high-risk groups, such as healthcare personnel (paid, unpaid, or volunteer), students entering college and other posthigh school educational institutions, and international travelers, should receive a total of 2 doses.</li> <li>People born before 1957 are usually considered immune, but evidence of immunity (serology or documented history of 2 doses of MMR) should be considered for healthcare personnel.</li> <li>Women of childbearing age who do not have acceptable evidence of rubella immunity or vaccination.</li> </ul>   | <ul> <li>Give 1 or 2 doses (see criteria in 1st and 2nd bullets in box to left).</li> <li>If dose #2 is recommended, give it no sooner than 4wks after dose #1.</li> <li>If woman of childbearing-age is found to be rubella susceptible and is not pregnant, give 1 dose of MMR; if she is pregnant, the dose should be given postpartum. This includes women who have already received 1 or 2 doses of rubella-containing vaccine.</li> <li>If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, HZV, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d. May use as post-exposure prophylaxis if given within 3d of exposure.</li> </ul> | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Pregnancy or possibility of pregnancy within 4wks.</li> <li>Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy; or severely symptomatic HIV).</li> <li>Note: HIV infection is NOT a contraindication to MMR for those who are not severely immunocompromised (i.e., CD4+ T-lymphocyte counts are greater than or equal to 200 cells/μL) for 6 months.*</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>If blood, plasma, and/or immune globulin were given in past 11m, see ACIP's <i>General Recommendations on Immunization</i>* regarding time to wait before vaccinating.</li> <li>History of thrombocytopenia or thrombocytopenic purpura.</li> <li>Note: If TST (tuberculosis skin test) and MMR are both needed but not given on same day, delay TST for at least 4wks after MMR.</li> </ul> |
| Varicella<br>(chickenpox)<br>(Var)<br><i>Give SC</i>     | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>All adults without evidence of immunity.</li> <li>Note: Evidence of immunity is defined as written documentation of 2 doses of varicella vaccine; a history of varicella disease or herpes zoster (shingles) based on healthcare-provider diagnosis; laboratory evidence of immunity or confirmation of disease; and/or birth in the U.S. before 1980, with the exceptions that follow.</li> <li>Healthcare personnel (HCP) born in the U.S. before 1980 who do not meet any of the criteria above should be tested or given the 2-dose vaccine series. If testing indicates they are not immune, give the 1st dose of varicella vaccine immediately. Give the 2nd dose 4–8wks later.</li> <li>Pregnant women born in the U.S. before 1980 who do not meet any of the criteria above should either 1) be tested for susceptibility during pregnancy and if found susceptible, given the 1st dose of varicella vaccine postpartum before hospital discharge, or 2) not be tested for susceptibility and given the 1st dose of varicella vaccine postpartum before hospital discharge. Give the 2nd dose 4–8wks later.</li> </ul> | <ul> <li>Give 2 doses.</li> <li>Dose #2 is given 4—8wks after dose #1.</li> <li>If dose #2 is delayed, do not repeat dose #1.<br/>Just give dose #2.</li> <li>If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, HZV, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.</li> <li>May use as postexposure prophylaxis if given within 5d of exposure.</li> </ul>   | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) anaphylactic reaction to this vaccine or to any of its components.</li> <li>Pregnancy or possibility of pregnancy within 4wks.</li> <li>People on long-term immunosuppressive therapy or who are immunocompromised because of malignancy and primary or acquired immunodeficiency, including HIV/AIDS (although vaccination may be considered if CD4+T-lymphocyte counts are greater than or equal to 200 cells/µL. See <i>MMWR</i> 2007;56,RR-4).</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP's <i>General Recommendations on Immunization*</i> regarding time to wait before vaccinating.</li> <li>Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24hrs before vaccination, if possible; delay resumption of these antiviral drugs for 14d after vaccination.</li> </ul>  |

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| Vaccine name<br>and route  | People for whom vaccination is recommended  | Schedule for vaccination administration<br>(any vaccine can be given with another)  | <b>Contraindications and precautions</b> (mild illness is not a contraindication)   |
|--|---|---|---|
| Hepatitis A<br>(HepA)<br><i>Give IM</i><br>Brands may be<br>used interchange-<br>ably. | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/<br/>Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>All adults who want to be protected from hepatitis A virus (HAV) infection and<br/>lack a specific risk factor.</li> <li>People who travel or work anywhere EXCEPT the U.S., Western Europe, New<br/>Zealand, Australia, Canada, and Japan.</li> <li>People with chronic liver disease; injecting and non-injecting drug users; men who<br/>have sex with men; people who receive clotting-factor concentrates; people who<br/>work with HAV in lab settings; food handlers when health authorities or private<br/>employers determine vaccination to be appropriate.</li> <li>People who anticipate close personal contact with an international adoptee from a<br/>country of high or intermediate endemicity during the first 60 days following the<br/>adoptee's arrival in the U.S.</li> <li>Postexposure: adults age 40yrs or younger with recent (within 2 wks) exposure<br/>to HAV, give HepA. For people older than age 40yrs with recent (within 2 wks)<br/>exposure to HAV, immune globulin is preferred over HepA vaccine.</li> </ul>   | <ul> <li>Give 2 doses, spaced 6–18m apart (depending on brand).</li> <li>If dose #2 is delayed, do not repeat dose #1. Just give dose #2.</li> <li>For Twinrix (hepatitis A and B combination vaccine [GSK]) for patients age 18yrs and older only: give 3 doses on a 0, 1, 6m schedule. There must be at least 4wks between doses #1 and #2, and at least 5m between doses #2 and #3</li> </ul>  | <b>Contraindication</b><br>Previous severe allergic reaction (e.g. anaphylaxis) to this vaccine or to any of its components.<br><b>Precautions</b><br>Moderate or severe acute illness. |
| Hepatitis B<br>(HepB)<br>Give IM<br>Brands may be<br>used interchange-<br>ably.        | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/<br/>Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>All adults who want to be protected from hepatitis B virus infection and lack a<br/>specific risk factor.</li> <li>Household contacts and sex partners of HBsAg-positive people; injecting drug<br/>users; sexually active people not in a long-term, mutually monogamous relationship;<br/>men who have sex with men; people with HIV; people seeking STD evaluation<br/>or treatment; hemodialysis patients and those with renal disease that may result in<br/>dialysis; diabetics younger than age 60yrs (diabetics age 60yrs and older may be<br/>vaccinated at the clinician's discretion [see ACIP recommendations*]]; healthcare<br/>personnel and public safety workers who are exposed to blood; clients and staff<br/>of institutions for the developmentally disabled; inmates of long-term correctional<br/>facilities; certain international travelers; and people with chronic liver disease.</li> <li>Note: Provide serologic screening for immigrants from endemic areas. If patient<br/>is chronically infected, assure appropriate disease management. For sex partners<br/>and household contacts of HBsAg-positive people, provide serologic screening and<br/>administer initial dose of HepB vaccine at same visit.</li> </ul> | <ul> <li>An alternative schedule can also be used at 0, 7d, 21–30d, and a booster at 12m.</li> <li>Give 3 doses on a 0, 1, 6m schedule.</li> <li>Alternative timing options for vaccination include 0, 2, 4m; 0, 1, 4m; and 0, 1, 2, 12m (Engerix brand only).</li> <li>There must be at least 4wks between doses #1 and #2, and at least 8wks between doses #2 and #3. Overall, there must be at least 16wks between doses #1 and #3.</li> <li>Give adults on hemodialysis or with other immunocompromising conditions 1 dose of 40 µg/mL (Recombivax HB) at 0, 1, 6m or 2 doses of 20 µg/mL (Engerix-B) given simultaneously at 0, 1, 2, 6m.</li> <li>Schedule for those who have fallen behind: If the series is delayed between doses, DO NOT start the series over. Continue from where the schedule was interrupted.</li> </ul> | Contraindication<br>Previous severe allergic reaction (e.g.<br>anaphylaxis) to this vaccine or to any of<br>its components.<br>Precaution<br>Moderate or severe acute illness.          |

| Vaccine name<br>and route  | People for whom vaccination is recommended   | Schedule for vaccination administration (any vaccine can be given with another)  | <b>Contraindications and precautions</b><br>(mild illness is not a contraindication)   |
|--|--|--|--|
| Zoster<br>(shingles)<br>(HZV)<br>Give SC   | • People age 60yrs and older.<br><b>Note:</b> Do not test people age 60yrs or older for varicella immu-<br>nity prior to zoster vaccination. Persons born in the U.S. prior to<br>1980 can be presumed to be immune to varicella for the purpose<br>of zoster vaccination, regardless of their recollection of having<br>had chickenpox.   | <ul> <li>Give 1-time dose if unvaccinated, regardless of previous history of herpes zoster (shingles) or chickenpox.</li> <li>If 2 or more of the following live virus vaccines are to be given—MMR, Var, HZV, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.</li> </ul>   | <ul> <li>Contraindications</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to any component of zoster vaccine.</li> <li>Primary cellular or acquired immunodeficiency.</li> <li>Pregnancy.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24hrs before vaccination, if possible; delay resumption of these antiviral drugs for 14d after vaccination.</li> </ul> |
| Hib<br>(Haemophilus<br>influenzae<br>type b)<br>Give IM  | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>Not routinely recommended for healthy adults.</li> <li>Those adults at highest risk of serious Hib disease include people who 1) have anatomic or functional asplenia, 2) are undergoing an elective splenectomy, or 3) are recipients of hematopoietic stem cell transplant (HSCT).</li> </ul>   | <ul> <li>Give 1 dose of any Hib conjugate vaccine to adults in categories 1 or 2 (see 2nd bullet in column to left) if no history of previous Hib vaccine.</li> <li>For HSCT patients, regardless of Hib vaccination history, give 3 doses, at least 4wks apart, beginning 6–12m after transplant.</li> </ul>  | Contraindication<br>Previous severe allergic reaction (e.g., anaphylaxis) to this<br>vaccine or to any of its components.<br>Precautions<br>Moderate or severe acute illness.  |
| Human<br>papillomavirus<br>(HPV)<br>(HPV2,<br>Cervarix)<br>(HPV4,<br>Gardasil)<br><i>Give IM</i> | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize.</li> <li>org/catg.d/ p2010.pdf.</li> <li>For unvaccinated females through age 26yrs: Complete a 3-dose series of HPV2 or HPV4.</li> <li>For unvaccinated males through age 21yrs: Complete a 3-dose series of HPV4.</li> <li>For unvaccinated males age 22 through 26yrs: Complete a 3-dose series of HPV4.</li> <li>For unvaccinated males age 22 through 26yrs: Complete a 3-dose series of HPV4.</li> <li>For unvaccinated males age 22 through 26yrs: Complete a 3-dose series of HPV4.</li> <li>For unvaccinated males age 32 through 26yrs: Complete a 3-dose series of HPV4.</li> </ul> | <ul> <li>Give 3 doses on a 0, 1–2, 6m schedule. Use either HPV2 or HPV4 for women, and only HPV4 for men.</li> <li>There must be at least 4wks between doses #1 and #2 and at least 12wks between doses #2 and #3. Overall, there must be at least 24wks between doses #1 and #3, and 16wks between doses #2 and #3. If possible, use the same vaccine product for all three doses.</li> </ul> | <ul> <li>Contraindication</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Pregnancy.</li> </ul>   |
| Inactivated<br>Polio<br>(IPV)<br>Give IM or SC   | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize. org/catg.d/ p2010.pdf.</li> <li>Not routinely recommended for U.S. residents age 18yrs and older.</li> <li>Note: Adults living in the U.S. who never received or completed a primary series of polio vaccine need not be vaccinated unless they intend to travel to areas where exposure to wild-type virus is likely. Adults with documented prior vaccination can receive 1 booster dose if traveling to polio endemic areas or to areas where the risk of exposure is high.</li> </ul>  | • Refer to ACIP recommendations* regard-<br>ing unique situations, schedules, and dos-<br>ing information.   | <ul> <li>Contraindication</li> <li>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>Precautions</li> <li>Moderate or severe acute illness.</li> <li>Pregnancy.</li> </ul>   |

| Vaccine name<br>and route  | People for whom vaccination is recommended  | Schedule for vaccination administration<br>(any vaccine can be given with another)   | Contraindications and<br>precautions<br>(mild illness is not a<br>contraindication)   |
|--|---|--|---|
| Pneumococcal<br>conjugate (PCV13)<br>Give IM<br>Pneumococcal<br>polysaccharide<br>(PPSV23)<br>Give IM or SC  | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" www.immunize.org/catg.d/ p2010.pdf.</li> <li>All people age 65yrs or older should receive <ul> <li>1-time dose of PCV13 (if previously unvaccinated) and 1 dose of PPSV23.</li> <li>People younger than age 65 years should receive</li> <li>1-time dose of PCV13 and 1st dose of PPSV23 if they have functional or anatomic asplenia, immunocompromising condition (see below), CSF leaks, or are a candidate for or recipient of a cochlear implant,</li> <li>2nd dose of PPSV23 if at highest risk of serious pneumococcal infection, including those who</li> <li>Have anatomic or functional asplenia, including sickle cell disease.</li> <li>Have an immunocompromising condition, including HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome.</li> <li>Are receiving immunosuppressive chemotherapy (including high-dose corticosteroids).</li> <li>Have received an organ or bone marrow transplant.</li> </ul> </li> <li>PPSV23 only (not PCV13) if younger than 65 years and they have chronic cardiac or pulmonary disease (including asthma), chronic liver disease, alcoholism, diabetes, smoke cigarettes, or live in special environments or social settings (including American Indian/Alaska Natives age 50 through 64yrs if recommended by local public health authorities).</li> </ul> | <ul> <li>When recommended (see column at left), give PCV13 and/<br/>or PPSV23 if unvaccinated or if previous vaccination his-<br/>tory is unknown.</li> <li>For healthy people age 65yrs and older, give PCV13 first<br/>followed by PPSV23 in 6–12m.</li> <li>When both PCV13 and PPSV23 are indicated, give PCV13<br/>first followed by PPSV23 in 6–12m. If previously vaccinated<br/>with PPSV, give PCV13 at least 12m after PPSV23. For<br/>people at highest risk of serious pneumococcal infection, if<br/>not previously vaccinated with PPSV23, give PCV13 first,<br/>followed by PPSV23 in 8wks.</li> <li>Give another dose of PPSV23 to people</li> <li>Age 65yrs and older if 1st dose was given prior to age<br/>65yrs and 5yrs have elapsed since previous dose of PPSV</li> <li>Age 19–64yrs who are at highest risk of pneumococcal<br/>infection or rapid antibody loss (see the 3rd bullet in the<br/>box to left for listing of people at highest risk) and 5yrs<br/>have elapsed since dose #1.</li> </ul> | Contraindication<br>Previous severe allergic<br>reaction (e.g., anaphylaxis)<br>to this vaccine, including (for<br>PCV13) to any diphtheria<br>toxoid-containing vaccine, or<br>to any of its components.<br>Precaution<br>Moderate or severe acute<br>illness. |
| Meningococcal<br>conjugate vaccine,<br>quadrivalent<br>(MenACWY)<br>Menactra,<br>Menveo<br><i>Give IM</i><br>Meningococcal<br>polysaccharide<br>vaccine<br>(MPSV4)<br>Menomune<br><i>Give SC</i> | <ul> <li>For people through age 18 years, consult "Summary of Recommendations for Child/Teen Immunization" at www.immunize.org/catg.d/ p2010.pdf.</li> <li>People with anatomic or functional asplenia or persistent complement component deficiency.</li> <li>People who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the "meningitis belt" of Sub-Saharan Africa).</li> <li>Microbiologists routinely exposed to isolates of <i>N. meningitidis</i>.</li> <li>First year college students through age 21yrs who live in residence halls; see 5th bullet in the box to the right for details.</li> </ul>   | <ul> <li>Give 2 initial doses of MenACWY separated by 2m to adults 55yrs and younger with risk factors listed in 1st bullet in column to left or if vaccinating adults with HIV infection in this age group.</li> <li>Give 1 initial dose to all other adults with risk factors (see 2nd-4th bullets in column to left).</li> <li>Give booster doses every 5yrs to adults with continuing risk (see the 1st-3rd bullets in column to left).</li> <li>MenACWY is preferred over MPSV4 for people age 55yrs and younger. For people age 56yrs and older who anticipate multiple doses (see the 1<sup>st</sup>-3<sup>rd</sup> bullets in column to left) or who have received MenACWY previously, use MenACWY. For all others, give 1 dose of MPSV4.</li> <li>For first year college students age 19–21yrs living in residence halls, give 1 initial dose if unvaccinated and give booster dose if most recent dose was given when younger than 16yrs.</li> </ul>   | Contraindication<br>Previous severe allergic<br>reaction (e.g., anaphylaxis)<br>to this vaccine or to any of its<br>components.<br>Precaution<br>Moderate or severe acute<br>illness.   |

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

| Vaccine  | Dose                               | Route               |
|--|------------------------------------|---------------------|
| <b>Diphtheria, Tetanus, Pertussis</b><br>(DTaP, DT, Tdap, Td)  | 0.5 mL                             | IM                  |
| Haemophilus influenzae type b (Hib)  | 0.5 mL                             | IM                  |
| Hepatitis A (HepA)   | ≤18 yrs; 0.5 mL<br>≥19 yrs; 1.0 mL | IM                  |
| Hepatitis B (HepB)<br>* Persons 11–15 yrs may be given Recombivax HB (Merck)<br>1.0 mL adult formulation on a 2-dose schedule. | ≤19 yrs: 0.5 mL<br>≥20 yrs: 1.0 mL | IM                  |
| Human papillomavirus (HPV)   | 0.5 mL                             | IM                  |
| Influenza, live attenuated (LAIV)  | 0.2 mL                             | Intranasal<br>spray |
| Influenza, inactivated (IIV) and   | 6–35 mos: 0.25 mL                  | IM                  |
| recombinant (RIV)  | ≥3 yrs: 0.5 mL                     |                     |
| Influenza (IIV) Fluzone Intradermal,<br>for ages 18 through 64 years   | 0.1 mL                             | ID                  |
| Measles, Mumps, Rubella (MMR)  | 0.5 mL                             | SC                  |
| Meningococcal conjugate (MCV)  | 0.5 mL                             | IM                  |
| Meningococcal polysaccharide (MPSV)  | 0.5 mL                             | SC                  |
| Pneumococcal conjugate (PCV)   | 0.5 mL                             | IM                  |
| Pneumococcal polysaccharide (PPSV)   | 0.5 mL                             | IM or SC            |
| Polio, inactivated (IPV)   | 0.5 mL                             | IM or SC            |
| Rotavirus (RV)   | Rotarix: 1.0 mL<br>Rotateq: 2.0 mL | Oral                |
| Varicella (Var)  | 0.5 mL                             | SC                  |
| Zoster (Zos)   | 0.65 mL                            | SC                  |
| Combination Vaccines   |                                    |                     |
| DTaP-HepB-IPV (Pediarix)<br>DTaP-IPV/Hib (Pentacel)<br>DTaP-IPV (Kinrix)<br>Hib-HepB (Comvax)                                  | 0.5 mL                             | IM                  |
| MMRV (ProQuad)   | ≤12 yrs: 0.5 mL                    | SC                  |
| HepA-HepB (Twinrix)  | ≥18 yrs: 1.0 mL                    | IM                  |

### Injection Site and Needle Size

### Subcutaneous (SC) injection

Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person's age and body mass.

| AGE  | NEEDLE<br>LENGTH | INJECTION SITE  |
|--|------------------|---|
| Infants (1–12 mos)                                   | <sup>5</sup> /8" | Fatty tissue over anterolateral thigh muscle                              |
| Children 12 mos or older,<br>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<br>LENGTH                            | INJECTION SITE                                      |
|--|---|---|
| Newborns (1st 28 days)                 | <sup>5</sup> /8"*                           | Anterolateral thigh muscle                          |
| Infants (1–12 months)                  | 1"  | Anterolateral thigh muscle                          |
| Toddlers (1–2 years)                   | 1–1 <sup>1</sup> /4"<br><sup>5</sup> /8–1"* | Anterolateral thigh muscle or deltoid muscle of arm |
| Children and teens<br>(3–18 years)     | <sup>5</sup> /8–1"*<br>1–1 <sup>1</sup> /4" | Deltoid muscle of arm or anterolateral thigh muscle |
| Adults 19 years or older               |   |   |
| Male or female < 130 lbs               | <sup>5</sup> /8-1"*                         | Deltoid muscle of arm                               |
| Female 130–200 lbs<br>Male 130–260 lbs | 1–1 <sup>1</sup> /2"                        | Deltoid muscle of arm                               |
| Female 200+ lbs<br>Male 260+ lbs       | 1 <sup>1</sup> /2"                          | Deltoid muscle of arm                               |

\* A <sup>5</sup>/8" needle may be used for 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. **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 (SC) injection



### Intradermal (ID) administration of Fluzone ID vaccine



### Intranasal (IN) administration of Flumist (LAIV) vaccine



### immunization action coalition



Technical content reviewed by the Centers for Disease Control and Prevention

# HPV\* Vaccine



# Do I really need HPV vaccine? Yes!

You should get HPV vaccine because it can prevent some types of cancer and genital warts.

# Do I need it if I haven't had sex yet? Yes!

- You don't have to have sex to catch HPV, but sex increases your risk.
- You can get HPV by skin-to-skin intimate contact.
- People can get and spread HPV without knowing it.
- It's best to get vaccinated before you ever have sex.

# Should I get HPV vaccine if I've already had sex? Yes!

You still need to get vaccinated even if you have had sex. The vaccine provides a lot of protection.

# A Guide for Young Adults

\* human papillomavirus

HPV is a very common virus that can lead to:

- Cancers of the mouth and throat
- Cancer of the cervix
- Cancer of the penis, vagina, vulva, or anus
- Genital warts

HPV vaccine can prevent these!

# Why do I need 3 shots?

You need 3 HPV shots to be fully protected.

# I didn't get the vaccine at age 11 or 12. Should I get it now? Yes!

HPV vaccination is recommended for people ages 9 through 26. Even though it is ideal to get HPV vaccine as a preteen, it is still highly effective in teens and young adults.

# Is HPV vaccine safe? Yes!

- Millions of doses of HPV vaccine have been given without any problem.
- You may get a sore arm.

Make sure you get all 3 HPV shots. Complete your series!

 Occasionally, a few people faint, so sit for 15 minutes after getting the vaccine.

For more information on vaccines for teens and young adults, visit www.vaccineinformation.org/teens or www.vaccineinformation.org/

Adapted with permission from the Academic Pediatric Association

immunization action coalition

adults



# When Should I Get HPV Vaccine?

Have your healthcare provider fill in this chart about when you should be vaccinated.

| VACCINE<br>DOSE | RECOMMENDED                             | DATE DOSE GIVEN<br>OR DUE |
|-----------------|---|---------------------------|
| #1              | For people ages 9–26 years              |                           |
| #2              | 1–2 months after vaccine dose #1        |                           |
| #3              | At least 6 months after vaccine dose #1 |                           |

Technical content reviewed by the Centers for Disease Control and Prevention

Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

www.immunize.org/catg.d/p4251.pdf • Item #4251 (2/15)

# Make Sure Your Patients Are Protected from **Pneumococcal Disease!**

# Handouts for HCP

These one-page charts help identify which vaccine is needed by risk factor and age

| Pneumococcal Vaccines:   |   |  |  |  |
|--|---|--|--|--|
| CDC/IIISWCIS   | Tour Questions  | acipvax_p  |  |  |
| Equarts from the National Center for<br>Immunization and Reportancy Discusses<br>at the Centers for Diseases Central<br>and Prevention amery your questions<br>about presumcoccal polyacitomide<br>(PSV2) and presencoccal consigned<br>(PSV2) you contenses<br>New serious its presence of datases<br>that causes much colores and data.<br>An estimated \$4500 cases and 4210 datases<br>minimizing presence cal desises (PD)<br>bacterenia and meningitis occurred in the<br>United Statistic (2011, 1003) an estimated<br>in the Statistic (2011, 1003) and statistical                              | 8. erebrospal fuid (CS) tak,<br>5. erebrospal fuid (CS) tak,<br>5. encircle ar available splein leg, ick,<br>5. encircle ar available splein leg, ick,<br>10. encircle area splein leg, ick, ick, ick, ick, ick, ick, ick, ick  | Which adults are<br>dose of PCV13 w<br>All adults age 63<br>receive one dose<br>age 19 through 6<br>tions specified b<br>dose at the next<br>I mmunocomp<br>congenital or<br>HIV, chronic n<br>drome, leuken<br>disease, gener<br>immunosupp<br>plant, and mu<br>I functional or<br>and mu |  |  |
| 13.500 cases of IPD occurred among adults<br>age 65 years and odue: Children younger<br>than age 5 and adults older than 65 have the<br>lightest incidence of serious disease.<br>Case fatally rates are highest for porum-<br>cocal menungits and bacterenia, and the<br>highest mortally occurs among the eldehy and<br>patients who have underlying medical condi-<br>tions. Despite appropriate antimicrobial ther-<br>ay and intensive underlying medical condi-<br>tions have a sub-series of the overall<br>case fatally rate for pneumoccul bacterenia<br>is about 20% some adults. Among eldehy | Children and adults younger than age 63 who<br>are a highest risk to reviews pronuncocccal<br>infection or likely to have a rangel decline in<br>tribboly levels (exceptions 4) through<br>12 in provious answer) should get 2 dons<br>the risk provide provide the review of the risk<br>provide the risk provide provide the risk provide<br>their they running 65 for all least 3 years have<br>possed into the last dony. It alternst with<br>no risk factors through get 1 dons at age 63.<br>Thus, depending on risk and age at vac-<br>cutation, a person age 65 or older may have<br>received 1, 2, or 3 doses of PPSV23. | cell disease an<br>and congenita<br>• Cerebrospinal<br>• Cochlear Impli<br>What dosing intr<br>when giving PCV<br>(children and ad<br>to receive both v<br>Give PCV13 befo<br>children, if the ci<br>PPSV23, wait 8 v  |  |  |
| patients, the rate may be as high as 60%.  | What are the recommendations for routinely<br>administering PCV13 to children?  | not previously re<br>cine or whose pr  |  |  |
| Coccal polyarcharide vaccine (PSVC3);<br>PPSV23 (Pneumovax, Merck) is recommended<br>for anyone who meets any of the criteria below:<br>• Age 65 years and older<br>• Age 2 through 64 years with any of the fol-<br>lowing conditions<br>1. cigarette smokers age 19 years and older  | Cive infants a primary series of pneumococ-<br>cal conjugate vaccine (PCV13, Prevnar 13,<br>Pfizer) at age 2, 4, and 6 months. Boost at age<br>12 through 15 months. For catch-up vaccina-<br>tion, give PCV13 to healthy dildren through<br>age 99 months and give PCV13 to children<br>through age 71 months who have certain<br>underlying medical conditions. For informa-  | is unknown, give<br>6–12 months lat<br>64 years at high<br>ease give PCV13<br>8 weeks later. Fo<br>already received<br>before giving PC  |  |  |
| <ol> <li>alcoholism</li> <li>chronic liver disease, cirrhosis</li> <li>chronic cardiovascular disease, excluding<br/>hypertension (e.g., congestive heart fail-<br/>ure, cardiovnopathies)</li> <li>chronic pulmonary disease (including<br/>COPD and emphysema, and for adults<br/>age 19 years and older, asthma)</li> </ol>   | tion on underlying medical conditions, see<br>next question and answer.<br>Which underlying medical conditions indicate<br>that an older child or teen should receive<br>PCV13?<br>PCV13 vaccination is recommended for unvac-<br>cinated children and through 1 ======   | If patients who a<br>group for PPSV2<br>have already rec<br>healthcare provi<br>Yes. If patients of<br>vaccination histo<br>readily obtainable   |  |  |
| 6. diabetes mellitus<br>7. candidate for or recipient of cochlear<br>implant   | (6 years) who are in categories 4–12 in the<br>numbered list to the left and for PCV13-naïve<br>children age 6 through 18 years who are in<br>categories 7–12.  | the recommende<br>not harm the pa<br>co  |  |  |

|                           |   |   |   |  |   |  | r Administering Pneumococca   | I Conjugate Vaccine                                      | (PCV)  |
|---------------------------|---|---|---|--|---|--|---|--|--|
| Dnoun                     |   | accina  | tion De   | comm   | ondati  | onc  | ination history of PCV7 and/or<br>13  | Recommended PC<br>(For minimum interval                  | V13 Schedule<br>guidance for catch-up vac              |
| neun                      | IUCUCCAI V  | accina  | LIOII KE  | comm   | enuali  | UIIS   | 63  | 3 doses, 8 weeks* app                                    | irt; 4th dose at age 12-15                             |
| for Ch                    | ildron'and  | A dult  | s by Ao   | na and l   | or Pick   | Factor   | c   | 2 doses, 8 weeks* app                                    | et; 4th dose at age 12-15                              |
| or cir                    | nuren and   | Auun  | 가면  | c anu/   |   | ( I actor  | es.   | I dose, at least 8 week                                  | es* after the most recent d                            |
| autina Da                 |   |   |   |  |   |  |   | dose at age 12-15 mo                                     | nihs   |
| ouune ke                  | commendations   |   | 1.0   | 10.1   | 1   | . (0000) (000)   | cs  | 2 doses, 8 weeks apar                                    | t*; Sed dose at age 12-15                              |
| r Prieumo                 | loccal conjugate va   | cine (PCVIS)  | and Prieumo   | icoccai Polysa   | conarioe vaco   | une (PPSVZS)   | and being age / mount   | months, at least 8 wee                                   | eks after the most recent d                            |
| For children              | Administra 00/02 cories to  | . all shildens basisse  | For adult   | Administra   | 1 sime days to 800  | (12 meters adults  | <b>cs</b>   | 2 doses, at least 8 wee                                  | rks apart  |
| age 2 months              | at age 2 months, followed   | by doses at 4 month   | age 65 y  | at age 65 ye   | ars, followed by a d  | dose of PPSV23   | e before age 12 months  | 2 doses, at least 8 wee                                  | rks apart  |
| and older                 | 6 months, and 12-15 mon   | ths (booster dose).   | and olde  | 6-12 mont  | hs later.   |  | e at or after age 12 months   | I dose, at least 8 week                                  | after the most recent do                               |
|                           |   |   |   |  |   |  | 8 doses before age 12 months  | I dose, at least 8 week                                  | after the most recent d                                |
| isk-based                 | Recommendation  | S   |   |  |   |  | es of PCV7 or other age-appropriate<br>dete PCV7 schedule                           | 1 PCV13 dose, at leas<br>PCV7 dose                       | t 8 weeks after the most                               |
| eople with                | Underlying Medical  | Conditions or   | Other Risk F  | actors   |   |  | ecinated or any incomplete schedule   | I dose, at least 8 week                                  | as after the most recent do                            |
|                           |   | PCV13   |   |  | PPSV23  |  | es of PCV7 or other age-appropriate<br>dete PCV7 schedule                           | 1 dose, at least 8 week                                  | is after the most recent de                            |
|                           | Underlying medical  | Administer PCVI3<br>doses needed to   | Administer 1 dose   | Administer 1 dose to   | Administer 1 dose   | Administer a second<br>dose of PPSV23                      | ecinated or any incomplete schedule of<br>han 3 doses                               | 2 doses, one at least 8<br>and another dose at le        | weeks after the most reco<br>ast 8 weeks later         |
| Risk Group                | condition or<br>other risk factor   | complete series to<br>children through  | children age 6<br>through 18 years  | age 19 through 64<br>years   | of PPSV23 at age<br>2 through 64 years  | S years after first<br>dose if age younger<br>then 65 mere | incomplete schedule of 3 doses  | 1 PCV13 dose, at leas<br>PCV7 dose                       | t 8 weeks after the most r                             |
| Immuno-                   | Chronic heart disease <sup>2</sup>  | X   |   |  | x   | train to years   | es of PCV7 or other age-appropriate   | 1 PCV13 dose, at leas                                    | t 8 weeks after the most r                             |
| competent                 | Chronic lung disease <sup>1</sup>   | х   |   |  | х   |  | interv of miss PCV13  | I down of PCV13  |  |
|                           | Diabetes mellitus   | X   |   |  | x   |  |   |  |  |
|                           | Cerebrospinal fluid leak  | X   | х   | x  | х   |  |   |  |  |
|                           | Cochlear implant  | x   | х   | x  | х   |  |   |  |  |
|                           | Alcoholism  |   |   |  | х   |  | a younger than age 12 months: 4 weeks;  | or children age 12 months                                | and older: 8 weeks.                                    |
|                           | Chronic liver disease,  |   |   |  | х   |  | Administering Pneumococcal  | Polysaccharide Vac                                       | cine (PPSV23)  |
|                           | cirrhosis   |   |   |  | -   |  | dule for PPSV23   | Respectantian  | with PPSV23  |
|                           | (a 19 yrs)  |   |   |  | х   | 1 1  | I dose of PPSV23 at are 2 years or olde   | rand   |  |
| Functional<br>or anatomic | Sickle cell disease/other<br>hemoglobinopathy   | ×   | х   | x  | х   | x  | at 8 weeks after last dose of PCV<br>1 dose of PPSV23 at are 2 years or olde        | r Give 1 additiona                                       | il dose of PPSV23 at least                             |
| asplenia                  | Congenital or acquired<br>asplenia  | ×   | х   | x  | x   | x  | t least 8 weeks after last dose of PCV  | lowing the first l<br>would be at age                    | PPSV23; the next recomm<br>65 years.                   |
| Immuno-<br>compromised    | Congenital or acquired<br>immunodeficiency <sup>4</sup>   | x   | х   | x  | х   | х  |   |  |  |
|                           | HIV   | X   | х   | x  | х   | X  | is that Are Indications for Pneu  | nococcal Vaccinatio                                      | n  |
|                           | Chronic renal failure   | x   | х   | x  | x   | x  |   |  |  |
|                           | Nephrotic syndrome  | x   | х   | х  | х   | x  | disease (particularly cyanotic congenita<br>base if teasted with produced high does | heart disease and cardiac                                | 2 failure); chronic lung di                            |
|                           | Leukemia  | х   | х   | х  | х   | X  | r implant   | cean conscionaritati), ana                               | teast inclinate, conceeping                            |
|                           | Lymphoma  | ×   | х   | x  | x   | x  | lisease and other hemoglobinopathies  |  |  |
|                           | Hodgkin disease   | X   | х   | x  | x   | x  | or acquired asplenia, or splenic dysfunct   | ca   |  |
|                           | Generalized malignancy  | X   | х   | х  | х   | х  | an<br>al failure and nershartic sandrome  |  |  |
|                           | latrogenic<br>immunosuppression <sup>5</sup>  | х   | х   | х  | х   | ×  | ociated with treatment with immanosur<br>lymphomas, and Hodykin disease; or so      | pressive drugs or radiation<br>id organ transplantation) | s therapy (e.g., malignant                             |
|                           | Solid organ transplant  | X   | х   | x  | х   | x  | immunodeficiency (includes B- [humor  | l] or T-lymphocyte deficit                               | ency; complement deficie                               |
|                           | Multiple myeloma  | ×   | х   | ×  | х   | ×  | sci, C2, C3, or C4 deliciency; and phag   | cyue disorders [excludin                                 | ș enronse granulomatous (                              |
|                           | <ol> <li>For PCVD vaccination of healthy children,<br/>dations the Pre-amounced Vaccine Use in<br/>www.immunice.org/catg.6/j2016.pdf.</li> <li>Particularly operate competibilities of data<br/>failure in children; excluding hypertraction</li> </ol> | ose "Reconneo" 3 india<br>Childwel" at onti<br>4 india<br>ose and cardiac defic<br>in adulte. and p | deg acthera in children i' trea<br>actensid therapy; including an<br>les & (humosal) or T-lymphac<br>encies (particularly C1, C2, C1<br>hagocytic disorders (escladin | nd with high-door and show and sith high-door and show an | Diseases requiring treatmen<br>drugs, including long-term s<br>radiation therapy. | t with immunoupprecise<br>systemic carticodensids and      | Ave. • St. Paul, MN 55104 • (651) 64  | www.immunias   | unia orging 4522(6.pdf + In<br>s.org + www.saccineinfo |

Pneumococcal Vaccines: CDC Answers Your Ouestions

Pneumococcal Vaccination Recommendations for Children and Adults by Age and/or Risk Factor www.immunize.org/catg.d/p2019.pdf

Recommendations for Pneumococcal Vaccine Use in Children and Teens

www.immunize.org/catg.d/p2015.pdf

www.immunize.org/catg.d/p2016.pdf

# These documents are ready to download, copy, and share with your patients.

**Ouestions and Answers: Pneumococcal Disease and Vaccines** www.immunize.org/catg.d/p4213.pdf

Pneumococcal disease is serious... Make sure your child is protected! www.immunize.org/catg.d/p4318.pdf

#### **SPANISH:**

www.immunize.org/catg.d/p4318-01.pdf

Protect yourself from pneumococcal disease...Get vaccinated! www.immunize.org/catg.d/p4412.pdf

#### **SPANISH:**

www.immunize.org/catg.d/p4412-01.pdf





# **Patient Schedules for All Adults** and for High-Risk Adults

Vaccinations for Adults

Α

epatitis lep8)

You're never too old to get immunized!

Getting immunized is a lifelong, life-protecting job. Don't leave you office without making sure you've had all the vaccinations you ne

|   | 2 0 1  |
|---|--|
| Vaccine   | Do you need it?  |
| Hepatitis A<br>(HepA)   | Maybe. You need this vaccine if you have a specific risk factor for hepatit<br>want to be protected from this disease. The vaccine is usually given in   |
| Hepatitis B<br>(HepB)   | Maybe. You need this vaccine if you have a specific risk factor for hepati<br>want to be protected from this disease. The vaccine is given in 3 doses.   |
| Human<br>papillomavirus<br>(HPV)  | Maybe. You need this vaccine if you are a woman age 26 years or young<br>younger. Men age 22 through 26 years with a risk condition* also need<br>age 22 through 26 who wants to be protected from HPV may receive it,<br>in 3 doses over a 6-month period.  |
| Influenza   | Yes! You need a dose every fall (or winter) for your protection and for the pr   |
| Measles, mumps,<br>rubella (MMR)  | Maybe. You need at least 1 dose of MMR if you were born in 1957 or later. Y  |
| Meningococcal<br>(MCV4, MPSV4)  | Maybe. You need this vaccine if you have one of several health conditio and a first-year college student living in a residence hall and you either or were vaccinated before age 16.* $\uparrow$   |
| Pneumococcal<br>(PPSV23 [polysac-<br>charide vaccine];<br>PCV13 [conjugate<br>vaccine])       | Maybe. Adults age 65 years and older should receive the 2 types of pne<br>and PPSV23. You should receive a dose of PCV13 first, followed by a do<br>months later. You might need one or both of these vaccines before age of<br>if you have a long-term health condition such as asthma or heart, lung,<br>time dose of PCV13 is recommended for adults; some adults will need<br>Talk to your healthcare provider to find out if and when when you need |
| Tetanus,<br>diphtheria,<br>whooping cough<br>(pertussis)<br>(Tdap, Td)                        | Yesf All adults who have not yet received a dose of Tdip, as an adolesce<br>vaccine (the adult whooping cough vaccine). And, all women need to go<br>nancy. After that, you need at 10 booster dose every 10 years. Consult yo<br>haven't had at least 3 tetranus: and diphtheria-containing shots sometim<br>a deep or diny wound.  |
| Varicella<br>(Chickenpox)   | Maybe. If you've never had chickenpox or were vaccinated but received healthcare provider to find out if you need this vaccine.*   |
| Zoster (shingles)   | Maybe. If you are age 60 years or older, you should get a 1-time dose o  |
| Hib (Haemophilus<br>influenzae type b)  | Maybe. Some adults with certain high-risk conditions need vaccination care provider to find out if you need this vaccine.* †   |
| Consult your healthc<br>your level of risk for i<br>for this vaccine.<br>People who lack a sp | Are you planning to travel outside the United States? If so,<br>frection and your need<br>The Centers for Disease Control and Prevention (COC) pri<br>and their healthcare provides in deciding which vaccines<br>even exessary to prevent illess and injury during internan<br>www.ecc.gov/travel/desitations/fist, or 2180 CDC1 <sup>1</sup>   |

ta . 651-647-9009

Vaccinations for Adults with Hepatitis C Infection

A

vaccinations you should have to protect your h

Vaccinations for Adults with HIV Infection

This table shows i

Vaccinations for Men Who Have Sex with Men The table below shows which vaccinations you should have to protect your health if you are a man who has sex with other men. Make sure you and your healthcare pro keen your vaccinations run to date Do you need it? Hepatitis A (HepA) es! Men who have sex w Hepatitis I (HepB) Human papil mavirus (HP whe lfv Δ

These documents reflect current ACIP recommendations. Download, copy, and share the entire series widely!

|   | The table below shows which vaccinations you should have to protect your health<br>if you do not have a functioning spleen. Make sure you and your healthcare provider<br>keep your vaccinations up to date.   |
|---|--|
| Vaccine   | Do you need it?  |
| Hepatitis A<br>(HepA)   | Maybe. You need this vaccine if you have a specific risk factor for hepatitis A virus infection® or simply<br>want to be protected from this disease. The vaccine is usually given in 2 doses, 6 months apart.   |
| Hepatitis B<br>(HepB)   | Moybe. You need this vaccine if you have a specific risk factor for hepatitis B virus infection® or simply<br>want to be protected from this disease. The vaccine is given in 3 doses, usually over 6 months.  |
| Human papillo-<br>mavirus (HPV)   | Moybe. You need this vaccine if you are a woman age 26 or younger or a man age 21 or younger. Men age<br>22 through 26 with a risk condition <sup>4</sup> also need vaccination. Any other man age 72 through 26 who warts<br>to be protected from HPY may receive it, too. The vaccine is given in 3 does over a 6-month period.  |
| Influenza   | Yes! You need a flu shot every fall (or winter) for your protection and for the protection of others around yo   |
| Measles, mumps,<br>rubella (MMR)  | Maybe. Most adults are already protected because they got MMR vaccine or were infected with measles,<br>mumps, and rubella as children. If you weren't previously vaccinated or were born in 1957 or later,<br>you need at least 1 doss of MMR. Some people, such as international travelers and people who work in<br>healthcare, need a second dose about a month after the first dose.  |
| Meningococcal<br>(MCV4, MPSV4)  | Yes! You are at increased risk for meningococcal disease because you do not have a functioning spleen.<br>If you have never received meningococcal vaccine, you should receive 2 doses of MenACWY separated b<br>about 8 weeks, then a booter dose very 5 years threather.   |
| Pneumococcal<br>(PCV13 [conjugate<br>vaccine]; PPSV23<br>[polysaccharide<br>vaccine]) | Yeaf Both types of pneumococcal vaccine (PCV13 and PPSV23) are recommended for you because you<br>do not have a functioning spleen. If you haven't neckwed both vaccines, call your heathcare provider and<br>schedule them now. The door ef CPV13 is given first, followed by 1 door ef PFV23.6-12 months later.<br>If you received your first door ef CPV23 when you were younger than age 63, you will need a second door<br>at age 65 or older, provided at least 52 years have passed and increyour previous oer PPSV23.  |
| Tetanus, diph-<br>theria, whooping<br>cough (pertussis)<br>(Tdap, Td)                 | Yesf All adults need to get a 1-time dose of Tdap vaccine (the adult whooping cough vaccine) and wome<br>need to get a dose during each pregnancy. After that, you need a Td booster dose every 10 years. Consult<br>your healthcare provider I you haven thad at least 3 tetanus- and diphtheria containing shots sometime<br>in your life or if you have a deep or dirty wound.  |
| Varicella<br>(Chickenpox)   | Meybe. Most adults are already protected because they had chickenpox as children. However, if you<br>are an adult born in the U.S. In 1980 or later and have never had chickenpox or the vaccine, you can be<br>vaccinated with this 2-does series. Talk to your healthcare provider.  |
| Zoster (shingles)   | Maybe. If you are age 60 years and older, you should get a 1-time dose of this vaccine now.  |
| Hib (Haemophilus<br>influenzae type b)  | Yes! You are at increased risk for Hib disease because you do not have a functioning spleen. If you have<br>never received Hib vaccine (or don't know if you received it) you should receive 1 dose now.   |
| Consult your healthcs<br>your level of risk for in<br>for this vaccine.               | r provider to determine<br>Rectan ed pour read<br>Rectan ed pour read<br>menta ed pour read<br>menta ed pour read<br>menta esta esta esta esta esta esta esta es   |
| Consult your healthc:<br>your level of risk for in<br>for this vaccine.               | products determines<br>Margan planting to transf analish the bland Stand Y (as, you may one additional are<br>factorian of you can be<br>and their balance products in develop which services, medications, and of our margan<br>and their balance products in develop which services, medications, and of our how<br>means are provide medications and purple damagementation from Vec 40C vec balance<br>means are provide medications and purple damagements and the transformation of the transformation<br>means are provide medications and purple damagements and the transformation and the transformation<br>means are provide medications and purple damagements and the transformation<br>means are provided and the transformation and the transformation<br>Paul, Marsenta - 451-6-7 9009 - www.immatict.org ************************************ |

Vaccinations for Adults – You're Never Too Old to Get Immunized

www.immunize.org/catg.d/p4030.pdf

- Vaccinations for Men Who Have Sex with Men NEW www.immunize.org/catg.d/p4046.pdf
- Vaccinations for Adults without a Spleen NEW www.immunize.org/catg.d/p4047.pdf

Vaccinations for Adults with Hepatitis C Infection

Also available in Spanish at www.immunize.org/handouts/ vaccine-schedules.asp



Vaccinations for Adults with Lung Disease

Do you

# Using Standing Orders for Administering Vaccines: What You Should Know

### What are standing orders?

The use of standing orders for vaccination facilitates the delivery of immunization services to patients in clinics, hospitals, and community settings.

Standing orders have been shown to increase vaccination coverage rates.

## Go to www.immunize.org/ standing-orders

for the most current versions of sample standing orders

#### FOOTNOTE

1 The Task Force was established in 1996 by the U.S. Department of Health and Human Services to identify population health interventions that are scientifically proven to save lives, increase lifespans, and improve quality of life. The Task Force produces recommendations (and identifies evidence gaps) to help inform the decision making of federal, state, and local health departments, other government agencies, communities, healthcare providers, employers, schools, and research organizations. For more information, see www.thecommunity guide.org/index.html.

Standing orders authorize nurses, pharmacists, and other appropriately trained healthcare personnel, where allowed by state law, to assess a patient's immunization status and administer vaccinations according to a protocol approved by an institution, physician, or other authorized practitioner. The standing orders work by enabling assessment and vaccination of the patient without the need for clinician examination or direct order from the attending provider at the time of the interaction. Standing orders can be established for the administration of one or more specific vaccines to a broad or narrow set of patients in healthcare settings such as clinics, hospitals, pharmacies, and long-term care facilities.

# Who recommends standing orders for vaccination?

The Community Preventive Services Task Force (Task Force): The Task Force<sup>1</sup> recommends standing orders for vaccinations based on strong evidence of effective-ness in improving vaccination rates:

- **1.** in adults and children,
- **2.** when used alone or when combined with additional interventions, and
- 3. across a range of settings and populations.

Read the full Task Force Finding and Rationale Statement at www.thecommunityguide.org/vaccines/ standingorders.html

The Centers for Disease Control and Prevention (CDC): CDC's Advisory Committee on Immunization Practices (ACIP) specifically recommends standing orders for influenza and pneumococcal vaccinations and several other vaccines (e.g., hepatitis B, varicella). See *Use of Standing Orders Programs to Increase Adult Vaccination Rates: Recommendations of the ACIP. MMWR* 2000;49 (No. RR-1) at www.cdc.gov/mmwr/preview/mmwrhtml/ rr4901a2.htm.

### What are the elements of a standing order?

A comprehensive standing order should include the following elements:

- 1. who is targeted to receive the vaccine;
- how to determine if a patient needs or should receive a particular vaccination (e.g., indications, contraindications, and precautions);
- **3.** procedures for administering the vaccine (e.g., vaccine name, schedule for vaccination, appropriate needle size, vaccine dosage, route of administration);

- provision of any federally required information (e.g., Vaccine Information Statement);
- 5. how to document vaccination in the patient record;
- **6.** a protocol for the management of any medical emergency related to the administration of the vaccine; and
- **7.** how to report possible adverse events occurring after vaccination.

# Who is authorized to administer vaccines under standing orders?

Each of the 50 states separately regulates the practice of medicine, nursing, pharmacy, and other health-related practitioners. For further information about who can carry out standing orders in your state, contact your state immunization program or the appropriate state body (e.g., state board of medical/nursing/pharmacy practice).

### Who is authorized to sign the standing order?

In general, standing orders are approved by an institution, physician, or authorized practitioner. State law or regulatory agency might authorize other healthcare professionals to sign standing orders.

# What should be done with the standing orders after they have been signed?

Signed standing orders should be kept with all other signed medical procedures and protocols that are operational in one's clinic setting. A copy should also be available for clinic staff who operate under those standing orders.

# Do standing orders need to be renewed (e.g., yearly)?

Generally, standing orders will include an implementation date as well as an expiration date. Periodic review of standing orders is important, because vaccine recommendations may change over time.

### Where can I find sample standing orders?

The Immunization Action Coalition has developed templates of standing orders for vaccines that are routinely recommended to children and adults. They are updated as needed and reviewed for technical accuracy by immunization experts at CDC. The most current versions can be accessed by going to www.immunize.org/standingorders.

# **Standing Orders for Administering Vaccines** to Children and Adults Click blue text to view standing orders documents

Download these standing orders and use them "as is" or modify them to suit your work setting.



| <b>STANDING ORDER</b> (date of latest revision) | VACCINES    | <b>STANDING ORDER</b> (date of latest revision) |
|---|-------------|---|
| <b>child</b><br>(OCT 2012)                      | DTaP        | _   |
| child/teen<br>(JUNE 2013)                       | НерА        | adult<br>(JUNE 2013)                            |
| child/teen<br>(OCT 2012)                        | НерВ        | adult<br>(JUNE 2013)                            |
| child<br>(April 2013)                           | Hib         | _   |
| child/teen<br>(NOV 2012)                        | HPV         | adult<br>(NOV 2012)                             |
| child/teen<br>(OCT 2014)                        | IPV (polio) | _   |
| child/teen<br>(SEPT 2014)                       | Influenza   | adult<br>(JAN 2015)                             |
| child/teen<br>(JUNE 2013)                       | MMR         | adult<br>(JUNE 2013)                            |
| child/teen<br>(FEB 2014)                        | MCV4, MPSV  | adult<br>(JUNE 2013)                            |
| child/teen<br>(APRIL 2013)                      | PCV         | adult   |
| <b>child</b><br>(FEB 2014)                      | PPSV        | (OCT 2014)                                      |
| <b>child</b><br>(FEB 2014)                      | Rotavirus   | _   |
| _   | Tdap        | pregnant woman<br>(FEB 2014)                    |
| child/teen<br>(APRIL 2013)                      | Td/Tdap     | adult<br>(April 2013)                           |
| child/teen<br>(FEB 2014)                        | Varicella   | <b>adult</b><br>(FEB 2014)                      |
| _   | Zoster      | adult<br>(feb 2015)                             |

Additional sets of standing orders for all routinely recommended vaccines are available at: www.immunize.org/standing-orders

# Vaccines work!

CDC statistics demonstrate dramatic declines in vaccine-preventable diseases when compared with the pre-vaccine era

| DISEASE  | PRE-VACCINE ERA<br>ESTIMATED ANNUAL<br>MORBIDITY <sup>*</sup> | MOST RECENT<br>REPORTS<br>OR ESTIMATES <sup>†</sup><br>OF U.S. CASES | PERCENT<br>DECREASE |
|--|---|--|---------------------|
| Diphtheria                                       | 21,053  | 0†   | 100%                |
| <i>H. influenzae</i> (invasive, <5 years of age) | 20,000  | 31‡  | >99%                |
| Hepatitis A                                      | 117,333   | 2,890§   | 98%                 |
| Hepatitis B (acute)                              | 66,232  | 18,800§  | 72%                 |
| Measles  | 530,217   | 187 <sup>†</sup>   | >99%                |
| Mumps  | 162,344   | 584 <sup>†</sup>   | >99%                |
| Pertussis  | 200,752   | 28,639†  | 86%                 |
| Pneumococcal disease (invasive, <5 years of ag   | e) 16,069   | 1,900**  | 88%                 |
| Polio (paralytic)                                | 16,316  | 1,   | >99%                |
| Rotavirus (hospitalizations, <3 years of age)    | 62,500**  | 12,500††   | 80%                 |
| Rubella  | 47,745  | 9†   | >99%                |
| Congenital Rubella Syndrome                      | 152   | 1‡   | 99%                 |
| Smallpox   | 29,005  | 0†   | 100%                |
| Tetanus  | 580   | 26†  | 96%                 |
| Varicella  | 4,085,120   | 167,490 <sup>§§</sup>  | 96%                 |
|  |   |  |                     |

\* CDC. JAMA November 14, 2007; 298(18):2155-63.

<sup>†</sup> CDC. MMWR August 15, 2014; 63(32):702–15.

- \* An additional 10 cases of Hib are estimated to have occurred among the 185 reports of Hib (<5 years) with unknown serotype.
- § CDC. Viral Hepatitis Surveillance United States, 2011.

\*\* CDC. MMWR, February 6, 2009; 58(RR-2):1-25.

- \*\* CDC. Active Bacterial Core Surveillance, 2013 data (unpublished).
- <sup>††</sup> CDC. New Vaccine Surveillance Network, 2013 data (unpublished); U.S. rotavirus disease now has a biennial pattern.
- §§ CDC. Varicella Program, 2013 data (unpublished).

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Technical content reviewed by the Centers for Disease Control and Prevention

# **Top Ten Reasons to Protect Your Child by Vaccinating**

Here are the top ten reasons to protect your child by vaccinating him or her against serious diseases.

Parents want to do everything possible to make sure their children are healthy and protected from preventable diseases. Vaccination is the best way to do that.

**2** Vaccination protects children from serious illness and complications of vaccinepreventable diseases which can include amputation of an arm or leg, paralysis of limbs, hearing loss, convulsions, brain damage, and death.



**3** Vaccine-preventable diseases, such as measles, mumps, and whooping cough, are still a threat. They continue to infect U.S. children, resulting in hospitalizations and deaths every year.

Though vaccination has led to a dramatic decline in the number of U.S. cases of several infectious diseases, some of these diseases are quite common in other countries and are brought to the U.S. by international travelers. If children are not vaccinated, they



- could easily get one of these diseases from a traveler or while traveling themselves.
   Outbreaks of preventable diseases occur when many parents decide not to vaccinate their children.
- 6 Vaccination is safe and effective. All vaccines undergo long and careful review by scientists, doctors, and the federal government to make sure they are safe.



- Organizations such as the American Academy of Pediatrics, the American Academy of Family Physicians, and the Centers for Disease Control and Prevention all strongly support protecting children with recommended vaccinations.
- 8 Vaccination protects others you care about, including family members, friends, and grandparents.
- **9** If children aren't vaccinated, they can spread disease to other children who are too young to be vaccinated or to people with weakened immune systems, such as transplant recipients and people with cancer. This could result in long-term complications and even death for these vulnerable people.

# 10

We all have a public health commitment to our communities to protect each other and each other's children by vaccinating our own family members.

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www.immunize.org/catg.d/p4016.pdf • Item #P4016 (11/14)

# Screening Checklists for Contraindications and Precautions to Vaccines

| Patient name: Date o   | t birth:(r              | no.) (da                            | y) (yr.                         |
|--|-------------------------|-------------------------------------|---------------------------------|
| Screening Checklist for Contraindications  | s to                    |                                     |                                 |
| Vaccines for Children and Teens  |                         |                                     |                                 |
| For parents/guardians: The following questions will help us determine which v<br>be given today. If you answer "yes" to any question, it does not necessarily mean y   | accines yo<br>our child | our child<br>should                 | l may<br>not be                 |
| vaccinated. It just means additional questions must be asked. If a question is not   |                         |                                     | Don't                           |
| Les the shild side today?  | Yes                     | No                                  | Know                            |
| 1. Is the child sick today:  |                         |                                     |                                 |
| <ol><li>Does the child have allergies to medications, food, a vaccine component, or latex?</li></ol>   |                         |                                     |                                 |
| 3. Has the child had a serious reaction to a vaccine in the past?  |                         |                                     |                                 |
| 4. Has the child had a health problem with lung, heart, kidney or metabolic disease<br>(e.g., diabetes), asthma, or a blood disorder? Is he/she on long-term aspirin   |                         |                                     |                                 |
| <ol> <li>If the child to be vaccinated is 2 through 4 years of age, has a healthcare<br/>provider told you that the child had wheezing or asthma in the past 12 mor</li> </ol>   |                         | I                                   | Patient                         |
| 6. If your child is a baby, have you ever been told he or she has had intussusce   |                         |                                     |                                 |
| 7. Has the child, a sibling, or a parent had a seizure; has the child had brain or<br>nervous system problems?   | Va<br>Va                | ree                                 | nin<br>nes                      |
| 8. Does the child have cancer, leukemia, HIV/AIDS, or any other immune sys   | For                     | patien                              | ts: The                         |
| 9. In the past 3 months, has the child taken medications that weaken their imn<br>system, such as cortisone, prednisone, other steroids, or anticancer drugs, or<br>radiation treatments?  | lf yo<br>mea<br>to ex   | u answe<br>ns addit<br>kplain it.   | er "yes"<br>ional qu            |
| <ol> <li>In the past year, has the child received a transfusion of blood or blood prod<br/>or been given immune (gamma) globulin or an antiviral drug?</li> </ol>  | I. A                    | re you si                           | ck toda;                        |
| <ol> <li>Is the child/teen pregnant or is there a chance she could become pregnant</li> </ol>  | 2. C                    | o you h                             | ave aller                       |
| the next month?  | 3. H                    | lave you                            | ever ha                         |
| 12. Has the child received vaccinations in the past 4 weeks?   | 4. C<br>ki              | o you h<br>dney dis                 | ave a lo<br>ease, m             |
| Form reviewed by:  | 5. C                    | o you hi                            | ave cano                        |
| Did you bring your child's immunization record card with you?<br>t is important to have a personal record of your child's vaccinations. If you don't have c<br>o give you one with all your child's vaccinations on it. Keep it in a safe place and bring it<br>care for your child. Your child will need this document to enter day care or school, for e | 6. In<br>su<br>ra       | the past<br>uch as co<br>adiation t | t 3 mon<br>ortisone,<br>reatmer |
| Technica<br>MUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize  | 7. H                    | lave you                            | had a s                         |
| www.i  | 8. C<br>o               | ouring the<br>r been g              | e past ye<br>iven imr           |
|  | 9. Fe                   | or wome<br>uring the                | en: Are<br>next m               |
| For ready-to-copy  |                         |                                     |                                 |

These checklists cover precautions and contraindications to vaccination.

Ask your patients to complete the checklist on page 1. Page 2 is not for patients, it is reference material for you.

Patient name:

Date of birth: / / / (day) / (yr.)

# Screening Checklist for Contraindications to Vaccines for Adults

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 healthcare provider to explain it.

|  |   | Yes                | No                | Know                 |
|--|---|--------------------|-------------------|----------------------|
| ١.   | 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                           | , □<br>r? □        |                   |                      |
| 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 weaken your immune syste<br>such as cortisone, prednisone, other steroids, or anticancer drugs, or have you ha<br>radiation treatments? | em,<br>d □         |                   |                      |
| 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,<br>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:              |                   |                      |
| Did you bring your immunization record card with you? yes no<br>It is important for you to have a personal record of your vaccinations. If you don't have a personal record ask your healthcare provider to give you one. Keep this record in a safe place and bring it with you eventime you seek medical care. Make sure your healthcare provider records all your vaccinations on it. |   |                    |                   | ord,<br>very         |
|  | Technical content rev   | iewed by the Cente | rs for Disease Co | ntrol and Prevention |

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 www.immunize.org/catg.d/p4065.pdf • Item #P4065 (1/15)
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For ready-to-copy 81/2 x 11" versions of these 2-page pieces, visit

- www.immunize.org/ catg.d/p4060.pdf
- www.immunize.org/ catg.d/p4065.pdf

# Screening Checklists for Influenza Vaccination

| Screening Checklist for Contraine<br>Inactivated Injectable Influenza   | dications to<br>/accination   |
|---|---|
| For patients (both children and adults) to be vaccinated: The fol<br>us determine if there is any reason we should not give you or your child in<br>za vaccination today. If you answer "yes" to any question, it does not nece<br>child) should not be vaccinated. It just means additional questions must be<br>not clear, please ask your healthcare provider to explain it. | lowing questions will help<br>hactivated injectable influen-<br>ssarily mean you (or your<br>asked. If a question is<br>Pon't<br>Yes No Know  |
| 1. Is the person to be vaccinated sick today?   |   |
| 2. Does the person to be vaccinated have an allergy to eggs or to a component of the vaccine?   |   |
| 3. Has the person to be vaccinated ever had a serious reaction to<br>influenza vaccine in the past?   | Patient name:   |
| 4. Has the person to be vaccinated ever had Guillain-Barré syndrome?  | Screening C   |
| Form completed by:  | <ul> <li>For use with people age 2 th reason we should not give you on answer "yes" to any question, it c means additional questions must healthcare provider to explain it.</li> <li>I. Is the person to be vaccinated sick</li> <li>2. Does the person to be vaccinated influenza vaccine?</li> <li>3. Has the person to be vaccinated evaccinated evaccinated evaccinated evaccinated evaccinated evaccinated evaccinated (lung disease (including asthma), kid disease (e.g., diabetes), or anemia</li> </ul> |
| IMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immuniz<br>www.i  | <ol> <li>If the person to be vaccinated is a chas a healthcare provider told you</li> <li>Does the person to be vaccinated system problem; or, in the past 3 r immune system, such as cortisone,</li> </ol>   |
| Screening checklist for   | they had radiation treatments?     8. Is the person to be vaccinated rece     9. Is the child as tage (2 upon theorem)  |
| injectable influenza vaccine:   | therapy or aspirin-containing therap  |
| <ul> <li>www.immunize.org/catg.d/<br/>p4066.pdf</li> </ul>  | 10. Is the person to be vaccinated preg     11. Has the person to be vaccinated ev  |
| Screening checklist for   | <ol> <li>Does the person to be vaccinated<br/>immune system is severely compro<br/>isolation room of a bone marrow t</li> </ol>   |
| intranasal influenza vaccine:   | 13. Has the person to be vaccinated re  |
| • www.immunize.org/catg.d/  | Form completed by:<br>Form reviewed by:   |

p4067.pdf

# Contraindications

These checklists will help you quickly identify contraindications.

Be sure to screen every time you vaccinate!

Date of birth: \_\_\_\_/\_\_\_(day) /\_\_\_\_(yr.)

# Screening Checklist for Contraindications to Live Attenuated Intranasal Influenza Vaccination

For use with people age 2 through 49 years: The following questions will help us determine if there is any reason we should not give you or your child live attenuated intranasal influenza vaccine (FluMist) today. If you answer "yes" to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your **Don't** 

| 1   | nealthcare provider to explain it.   | Ye           | s No | Know |
|-----|--|--------------|------|------|
| ١.  | Is the person to be vaccinated sick today?   |              |      |      |
| 2.  | Does the person to be vaccinated have an allergy to eggs or to a component of the influenza vaccine?   |              |      |      |
| 3.  | Has the person to be vaccinated ever had a serious reaction to influenza vaccine in the pa   | ıst? 🗆       |      |      |
| 4.  | Is the person to be vaccinated younger than age 2 years or older than age 49 years?  |              |      |      |
| 5.  | Does the person to be vaccinated have a long-term health problem with heart disease,<br>lung disease (including asthma), kidney disease, neurologic disease, liver disease, metabolic<br>disease (e.g., diabetes), or anemia or another blood disorder?  | c 🗆          |      |      |
| 6.  | If the person to be vaccinated is a child age 2 through 4 years, in the past 12 months,<br>has a healthcare provider told you the child had wheezing or asthma?  |              |      |      |
| 7.  | Does the person to be vaccinated have cancer, leukemia, HIV/AIDS, or any other immun<br>system problem; or, in the past 3 months, have they taken medications that weaken the<br>immune system, such as cortisone, prednisone, other steroids, or anticancer drugs; or hav<br>they had radiation treatments? | ve 🗆         |      |      |
| 8.  | Is the person to be vaccinated receiving influenza antiviral medications?  |              |      |      |
| 9.  | Is the child or teen (2 years through 17 years of age) to be vaccinated receiving aspirin therapy or aspirin-containing therapy?   |              |      |      |
| 10. | Is the person to be vaccinated pregnant or could she become pregnant within the next m   | onth? 🛛      |      |      |
| Π.  | Has the person to be vaccinated ever had Guillain-Barré syndrome?  |              |      |      |
| 12. | Does the person to be vaccinated live with or expect to have close contact with a person<br>immune system is severely compromised and who must be in protective isolation (e.g., ar<br>isolation room of a bone marrow transplant unit)?   | whose<br>n 🗆 |      |      |
| 13. | Has the person to be vaccinated received any other vaccinations in the past 4 weeks?   |              |      |      |
| Fc  | rm completed by: Date:   | :            |      |      |
| Fo  | rm reviewed by: Date   | :            |      |      |

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Andrew T. Kroger, MD, MPH



Donna L. Weaver, RN, MN

# How long does it take to show signs of measles after being exposed?

There is an average of 10–12 days from exposure to a person infected with measles virus to the appearance of the first symptom, which is usually fever. The measles rash doesn't usually appear until approximately 14 days after exposure, 2–4 days after the fever begins.

#### Has ACIP made any new recommendations for use of MMR vaccine (Merck) because of the current multi-state outbreak of measles?

No. Existing recommendations for use of MMR are still applicable. The most current recommendations were published in June 2013 and are available at www.cdc.gov/mmwr/pdf/rr/rr6204.pdf.

#### What is the earliest age at which I can give MMR to an infant who will be traveling internationally?

ACIP recommends that children who travel or live abroad should be vaccinated at an earlier age than that recommended for children who reside in the United States. Before their departure from the United States, children age 6 through 11 months should receive 1 dose of MMR. The risk for measles exposure can be high in both developed and developing countries. Consequently, CDC encourages all international travelers to be up to date on their immunizations regardless of their travel destination and to keep a copy of their immunization records with them as they travel. For additional information on the worldwide measles situation, and on CDC's measles vaccination information for travelers, go to wwwnc.cdc.gov/travel.

#### We have young adult patients in our practice at high risk for measles, including those going back to college, going to Disneyland, or preparing for international travel, who don't remember ever receiving MMR vaccine or having had measles disease. How should we manage these patients?

You have two options. You can test for immunity or you can just give 2 doses of MMR at least 4 weeks apart. There is no harm in giving MMR vaccine to a person who may already be immune to one or more of the vaccine viruses. If you or the patient opt for testing, and the tests indicate the patient is not immune to one or more of the vaccine components, give your patient 2 doses of MMR at least 4 weeks apart. If any test results are indeterminate or equivocal, consider your patient nonimmune. ACIP does not recommend serologic testing after vaccination because commercial tests may not be sensitive enough to reliably detect vaccine-induced immunity.

IAC's

"Ask the Experts" team

from the

**Centers for Disease** 

**Control and Prevention** 

#### We have measles cases in our community. How can I best protect the young children in my practice?

First of all, make sure all your patients are fully vaccinated according to the U.S. immunization schedule.

In certain circumstances, such as for international travel, MMR is recommended for infants age 6 through 11 months. During a measles outbreak situation, consult your local or state health department to find out if measles vaccination of infants as young as age 6 months is recommended in your area as a control measure. Do not count any dose of MMR vaccine as part of the 2-dose series if it is administered before a child's first birthday. Instead, repeat the dose when the child is age 12 months.

In the case of a local outbreak, you also might consider vaccinating children age 12 months and older at the minimum age (12 months, instead of 12–15 months) and giving the second dose 4 weeks later (at the minimum interval) instead of waiting until age 4–6 years.

Finally, remember that infants too young for routine vaccination and people with medical conditions that contraindicate measles immunization depend on high MMR vaccination coverage among those around them. Urge all your patients and their family members to get vaccinated if they are not immune.

# What are the contraindications and precautions for MMR vaccine?

Contraindications are the following:

- History of a severe (anaphylactic) reaction to neomycin (or other vaccine component) or following previous dose of MMR
- Pregnancy
- Severe immunosuppression from either disease or therapy

Precautions are the following:

- Receipt of an antibody-containing blood product in the previous 11 months
- Moderate or severe acute illness with or without fever
- History of thrombocytopenia or thrombocytopenic purpura

Important details about the contraindications and precautions for MMR vaccine are in the current MMR ACIP statement, available at www.cdc. gov/mmwr/pdf/rr/rr6204.pdf.

#### I have patients who remember receiving MMR vaccine but have no written record, or whose parents report the patient has been vaccinated. Should I accept this as evidence of vaccination?

No. Self-reported doses and history of vaccination provided by a parent or other caregiver are not considered to be valid. You should only accept a written, dated record as evidence of MMR vaccination.

#### If you can give the second dose of MMR as early as 28 days after the first dose, why do we routinely wait until kindergarten entry to give the second dose?

The second dose of MMR may be given as early as 4 weeks after the first dose, and be counted as a valid dose if both doses were given after the first birthday. The second dose is not a booster, but rather it is intended to produce immunity in the small number of people who fail to respond to the first dose. The risk of measles is higher in school-age children than those of preschool age, so it is important to receive the second dose by school entry. It is also convenient to give the second dose at this age, since the child will have an immunization visit for other school entry vaccines.

#### Can I give MMR to a breastfeeding mother?

Yes. Breastfeeding does not interfere with the response to MMR vaccine. Vaccination of a woman who is breastfeeding poses no risk to the infant being breastfed. Although it is believed that rubella vaccine virus, in rare instances, may be transmitted via breast milk, the infection in the infant is asymptomatic.

#### What is the recommended length of time a woman should wait after receiving MMR vaccine before becoming pregnant?

Although the MMR package insert recommends a 3-month deferral of pregnancy after MMR vaccination, ACIP recommends deferral of pregnancy for four weeks. For details on this issue see ACIP recommendations (*MMWR* 2013; 62[4]: 1–34) at www.cdc.gov/mmwr/pdf/rr/rr6204.pdf.

# Can we give an MMR to a 15-month-old whose mother is pregnant?

Yes. Measles, mumps, and rubella vaccine viruses are not transmitted from the vaccinated person,

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#### Ask the Experts...continued from page 26

so MMR vaccination of a household contact does not pose a risk to a pregnant household member.

# What is the recommendation for MMR vaccine for healthcare personnel (HCP)?

ACIP recommends that all HCP born during or after 1957 have adequate presumptive evidence of immunity to measles, mumps, and rubella, defined as documentation of two doses of measles and mumps vaccine and at least one dose of rubella vaccine, laboratory evidence of immunity, or laboratory confirmation of disease. ACIP also recommends consideration of MMR vaccination of all unvaccinated HCP who were born before 1957 and who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease.

During an outbreak of measles or mumps, healthcare facilities should recommend 2 doses of MMR separated by at least 4 weeks for unvaccinated HCP, regardless of birth year, who lack laboratory evidence of measles or mumps immunity or laboratory confirmation of disease. During outbreaks of rubella, healthcare facilities should recommend 1 dose of MMR for unvaccinated personnel, regardless of birth year, who lack laboratory evidence of rubella immunity or laboratory confirmation of infection or disease.

#### Would you consider HCP with 2 documented doses of MMR vaccine to be immune even if their serology for 1 or more of the antigens comes back negative?

Yes. HCP with 2 documented doses of MMR vaccine are considered to be immune regardless of the results of a subsequent serologic test for measles, mumps, or rubella. Documented ageappropriate vaccination supersedes the results of subsequent serologic testing. HCP who do not have documentation of MMR vaccination and whose serologic test is interpreted as "indeterminate" or "equivocal" should be considered not immune and should receive 2 doses of MMR. ACIP does not recommend serologic testing after vaccination.

#### If a healthcare professional had a positive test for measles antibody more than 10 years ago, is it necessary to retest them now?

No. Once measles immunity is documented, there is no need for further vaccination or testing. "Once immune, always immune" is true for varicella, mumps, and rubella, as well as for measles, regardless of the results of subsequent testing. ACIP

#### Needle Tips correction policy

If you find an error, please notify us immediately by sending an email message to admin@immunize.org. We publish notification of significant errors in our email announcement service, *IAC Express*. Be sure you're signed up for this service. To subscribe, visit www.immunize.org/subscribe. does not recommend repeat antibody testing once evidence of immunity (such as appropriate vaccination or IgG seropositivity) has been established.

#### Can I give MMR to a child whose sibling is receiving chemotherapy for leukemia? Yes. MMR vaccine should be given to the healthy

household contacts of immunosuppressed children.

# Is there any evidence that MMR causes autism?

No. This issue has been studied extensively in recent years, including a thorough review by the Institute of Medicine (IOM), an impartial group of the world's leading experts that advises Congress on science issues. After reviewing more than 200 studies in 2004 and more than 1,000 studies in 2011, the consensus report strongly stated that the evidence did not show a link between vaccines and autism. To access the IOM committee minutes, as well as the executive summaries and full reports, visit www.immunize.org/iom.

In 2014, researchers from the RAND Corporation published an update to the 2011 IOM report. In a systematic review of the evidence published on vaccine safety to date, they found the evidence was strong that MMR vaccine is not associated with autism. For more information, see "Evidence Shows Vaccines Unrelated to Autism" at www.immunize.org/catg.d/p4028.pdf and "MMR Vaccine Does Not Cause Autism" at www.immunize.org/ catg.d/p4026.pdf.

### Pneumococcal vaccines

#### We have a healthy 78-year-old female patient who received PCV13 (Prevnar13, Pfizer). then received PPSV23 (Pneumovax 23, Merck) approximately 5 weeks later. She had not received PPSV23 previously. Is the PPSV23 dose valid, or does it need to be repeated? What to do when doses of PCV13 and PPSV23 are given without the recommended minimum interval between them isn't spelled out in the new ACIP pneumococcal recommendations. The CDC subject matter experts have provided the following guidance: in such a case, the dose given second does not need to be repeated. This is an exception to the usual procedure for a minimum interval violation (as described in ACIP's General Recommendations on Immunization). For your reference, the recommended interval between the dose of PCV13 and PPSV23 is 6-12 months and the acceptable minimum interval is 8 weeks.

Why is it recommended to give PCV13 before PPSV23 to adults age 65 years and older? Wouldn't PPSV23 protect them against ten additional strains of the pneumococcal virus? PCV13 is recommended to be given first because of the immune response to the vaccine when given in this sequence. An evaluation of immune response after a second pneumococcal vaccination administered 1 year after an initial dose showed that subjects who received PPSV23 as the initial dose had lower antibody responses after subsequent administration of PCV13 than those who had received PCV13 as the initial dose followed by a dose of PPSV23.

### Scheduling vaccines

# Two live virus vaccines can be given on the same day. How do you define "day"?

The "same day" generally means at the same visit. This interval has not been precisely defined and probably will never be since it would be extremely difficult to study in order to develop an evidencebased recommendation. Immunization programs (and their computer systems) likely define this differently. It seems reasonable that if two vaccines were given on the same date then they would both be valid.

### **Combination vaccines**

#### A dose of Kinrix (DTaP-IPV; GlaxoSmithKline) was inadvertently given to a 4-month-old in our practice who needed DTaP and IPV. Can these doses be considered valid?

As you know, Kinrix is only licensed for use as the fifth dose of the DTaP vaccine series and the fourth dose of the IPV series in children aged 4–6 years. CDC has provided this guidance for when Kinrix is given off-label:

- Kinrix given to a child younger than 4 years as DTaP and IPV doses 1, 2, or 3: Count as valid if all minimum intervals met.
- Kinrix given to a child younger than 4 years as DTaP and IPV doses #4 and/or #5: Count as valid for DTaP #4; not valid for DTaP #5 or IPV #4, both of which must be administered at age 4–6 years.

However, you should check with your state immunization manager to see what they will accept. Checking with your state is particularly important for validating a last dose of IPV vaccine administered before the fourth birthday. Their guidance may vary depending on the date of administration or your upcoming travel plans. Contact information can be found here: www. immunize.org/coordinators.

To find more than 1,000 "Ask the Experts" Q&As answered by CDC experts, visit www.immunize.org/askexperts

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