What’s Inside?
Ask the Experts: CDC immunization experts answer your questions ........................................ 1
IAC Launches Major Redesign of Its Flagship Website—www.immunize.org .................................. 2
Vaccine Highlights: Recommendations, schedules, and more ...................................................... 4
Summary of Recommendations for Adult Immunization ................................................................. 6
Poster: Fever and Rash? Consider Measles. ... 10
Poster: Visiting Another Country? Protect Your Family. Think Measles ........................................ 11
Checklist for Safe Vaccine Storage and Handling ............................................................................. 12
Standing Orders for Administering Adult Vaccines .......................................................................... 14
IAC’s Immunization Order Form ............................................ 15

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 38.3°C or higher (101°F or higher), and

Visiting Another Country? Protect Your Family. Think Measles.

Ask the Experts

IAC extends thanks to our experts, medical epidemiologist Andrew T. Kroger, MD, MPH; nurse educator Donna L. Weaver, RN, MN; and medical epidemiologist William L. Atkinson, MD, MPH. All are with the National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC).

Please provide some details about the measles cases we’re experiencing across the United States.
We are currently seeing an increased number of measles importations into the U.S. due to recent increases in measles cases in countries commonly visited by U.S. travelers (e.g., France, India). During 2001–08, a median of 56 measles cases were reported to CDC each year. By contrast, during the first 19 weeks of 2011, 23 states reported 118 cases. Of the 118 cases, 89% were associated with importation from other countries.

Of the 118 cases, 47 (40%) resulted in hospitalization. All but one hospitalized patient were unvaccinated. The vaccinated patient reported having received 1 dose of measles-containing vaccine and was hospitalized for observation only.

Measles-mumps-rubella (MMR) vaccine is safe and highly effective in preventing measles and its complications. Maintaining high immunization rates with MMR vaccine is the cornerstone of outbreak prevention.

Suspect Measles; Vaccinate Against Measles

The U.S. is currently seeing the largest number of measles cases in 15 years, with 156 confirmed cases reported between January 1 and June 17, 2011. Most of these cases—136—were associated with importations from measles-endemic countries or countries where large outbreaks are occurring, primarily countries in Europe, Africa, and Asia. Health departments across the U.S. have issued press releases announcing measles cases. To access some of these releases, go to www.immunize.org/newreleases/state-local.asp.

Easily transmitted through the air, the measles virus is highly contagious: Following exposure, more than 90 percent of susceptible people develop measles. Given how contagious measles is, it is imperative that healthcare professionals recognize measles in healthcare settings and isolate patients with suspected measles from other patients.

Suspect measles

Because measles cases are occurring all across the U.S., you must maintain a high index of suspicion for this disease. A succinct summary of the signs and symptoms of measles appears in the Ask the Experts section below and continues on page 16. To view a collection of photos of people with measles, visit IAC’s website at www.immunize.org/photos/measles-photos.asp.

Isolate patients with suspected measles: Your front desk staff, appointment scheduler, and office nurse are your practice’s first line of defense in identifying patients who might be infected with measles. When scheduling a visit for a patient with a rash illness, make sure the scheduler either refers the caller to the office nurse, or is him- or herself well trained to ask appropriate questions so that a patient who might have measles is not allowed to enter the practice through the main waiting area where other patients potentially would be exposed. Ideally, any patient suspected of having measles should enter through a separate entrance and should be isolated from all other patients in a private room with the door closed. Do not use this patient’s exam room for ANY patients for at least two hours after the suspected measles patient has left.

Follow infection control guidance: If you suspect your patient might have measles, contact your local health department while the patient is still in your office to determine the next steps for clinical evaluation, testing, and follow-up.

For helpful guidance on infection control in your healthcare setting, see the online document from the California Department of Public Health

(continued on page 5, column 3)
Immunization Action Coalition (IAC) Launches Major Redesign of Its Flagship Website — www.immunize.org

Whether you’re a newcomer or a frequent visitor to IAC’s website for healthcare professionals, www.immunize.org, it’s an exciting time to stop by for a visit. The newly designed website offers you a deeper and broader experience through improved design and navigation, making it faster and easier for you to find the essential information you want and have come to expect from IAC. To see the improvements we’ve made, please visit www.immunize.org today.

NEW NAVIGATION FEATURES
Drop-down Menus
The new drop-down navigation feature, which is located near the top of every page, gives you quick access to IAC’s materials and resources. The drop-down feature comprises six major sections on www.immunize.org: (1) Handouts for Patients & Staff, (2) Clinic Resources, (3) Vaccine Information Statements, (4) Diseases & Vaccines, (5) Talking about Vaccines, and (6) Topics.

Central Feature Box
With its changing visual images, the Central Feature Box on IAC’s new home page is the place to go to find frequently updated content. In addition to IAC’s welcome message, the central box gives you access to these website sections: Needle Tips & More (IAC’s publications: Needle Tips, Vaccinate Adults, and IAC Express), What’s New at IAC, Immunization News, Featured Resources, and Shop IAC.

Most Popular Web Sections and Downloads
Right below the Central Feature Box, you’ll find links to this month’s top 15 web sections, as well as to the top 10 downloaded handouts for patients and staff.

Guide to www.immunize.org
At the bottom of the new home page, you will find an abbreviated alphabetical listing. It provides direct links to the majority of IAC’s web sections and resources.

News & Information
If you want to stay current on news and activities pertaining to U.S. immunization, be sure to check out the News & Information section; sources include the federal government, professional societies, international organizations, and specialized and mainstream media. You can access it from the Central Feature Box.

Featured Resources
Featured Resources is an ongoing and frequently updated listing of noteworthy immunization resources from our immunization partners. You can access it from the Central Feature Box.

We hope you’ll have a chance to explore the redesigned www.immunize.org. If you are interested in providing feedback about the new home page, please complete our survey at www.surveymonkey.com/s/SXSRMD6
Laminated adult and child immunization schedules
Order one of each for every exam room

Here are the ACIP/AAP/ACOG/ACP-approved schedule for adults and the ACIP/AAP/AAFP-approved immunization schedule for people ages 0 through 18 years. 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 15.
For 20 or more copies, contact us for discount pricing: admininfo@immunize.org

"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 new 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 15.
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.

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

Now you can give any patient a permanent vaccination record card designed specifically for their age group: adult, child & teen, 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 1 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.

To order, visit www.immunize.org/shop, or use the order form on page 15.
To receive sample cards, contact us: admininfo@immunize.org

Advisory Board
Liaisons from Organizations
Bernadette A. Albanese, MD, MPH
Council of State & Territorial Epidemiologists
William L. Atkinson, MD, MPH
Nat’l Ctr. for Immun. & Resp. Diseases, CDC
Stephen L. Cochi, MD, MPH
Nat’l Ctr. for Immun. & Resp. Diseases, CDC
Lawrence J. D’Angelo, MD, MPH
Society for Adolescent Health and Medicine
Paul Etkind, DrPH, MPH
Nat’l. Assn. of County & City Health Officials
Stanley A. Gall, MD
Amer. College of Obstetricians & Gynecologists
Bruce Gellin, MD, MPH
National Vaccine Program Office, DHHS
Neal A. Halsey, MD
Institute for Vaccine Safety, Johns Hopkins Univ.
Claire Hanman, MPH
Association of Immunization Managers
Carol E. Hayes, CNM, MN, MPH
American College of Nurse-Midwives
Gregory James, DO, MPH, FACOFP
American Orthopedic Association
Samuel L. Katz, MD
Pediatric Infectious Diseases Society
Marie-Michele Leger, MPH, PA-C
American Academy of Physician Assistants
Harold S. Margolis, MD
Nat’l Ctr. for Emerg. & Zoonotic Inf. Diseases, CDC
Martin G. Myers, MD
National Network for Immunization Information
Kathleen M. Neuzil, MD, MPH
American College of Physicians
Paul A. Offit, MD
Vaccine Education Ctr., Children’s Hosp. of Phila.
Mitchel C. Rothholz, RPh, MBA
American Pharmacists Association
Thomas N. Saari, MD
American Academy of Pediatrics
William Schaffner, MD
Infectious Diseases Society of America
Anne Schuchat, MD
Nat’l Ctr. for Immun. & Resp. Diseases, CDC
Thomas E. Stenwig, RN, PhD
American Nurses Association
Kathryn L. Talkington, MPAff
Assn. of State & Territorial Health Officials
Litjen Tan, PhD
American Medical Association
Ann S. Taub, MA, CPNP
National Assn. of Pediatric Nurse Practitioners
John W. Ward, MD
Division of Viral Hepatitis, NCHHSTP, CDC
Patricia N. Whitley-Williams, MD, MPH
National Medical Association
Walter W. Williams, MD, MPH
Nat’l Ctr. for Immun. & Resp. Diseases, CDC

Individuals
Hie-Won L. Hann, MD
Jefferson Medical College, Philadelphia, PA
Mark A. Kane, MD, MPH
Consultant, Seattle, WA
Edgar K. Marcuse, MD, MPH
University of Washington School of Medicine
Brian J. McMahon, MD
Alaska Native Medical Center, Anchorage, AK
Walter A. Orenstein, MD
Bill & Melinda Gates Foundation
Stanley A. Plotkin, MD
Vaxconsult.com
Gregory A. Poland, MD
Mayo Clinic, Rochester, MN
Sarah Jane Schwarzenberg, MD
University of Minnesota
Coleman I. Smith, MD
Minnesota Gastroenterology, Minneapolis, MN
Richard K. Zimmerman, MD, MPH
University of Pittsburgh

Vaccinate Adults! • July 2011 • Immunization Action Coalition • (651) 647-9009 • www.immunize.org • www.vaccineinformation.org 3
Vaccine Highlights

Editor’s note: The information in Vaccine Highlights is current as of July 29, 2011.

The next ACIP meetings

A committee of 15 national experts, the Advisory Committee on Immunization Practices (ACIP) advises CDC on the appropriate use of vaccines. ACIP meets 3 times a year in Atlanta; meetings are open to the public. The next meetings will be held on Oct. 25–26, 2011, and Feb. 22–23, 2012. For more information, including details about registration procedures, visit www.cdc.gov/vaccines/recs/acip.

ACIP periodically issues public health recommendations on the use of vaccines. Clinicians who vaccinate should have a current set for reference. Published in the Morbidity and Mortality Weekly Report (MMWR), ACIP recommendations are easily available. Here are sources:

- Download them from links on IAC’s website: www.immunize.org/acip.
- Download them from CDC’s website: www.cdc.gov/vaccines/pubs/acip-list.htm.

HPV vaccine news

On May 3, CDC published new editions of the VISs for the two human papillomavirus (HPV) vaccines, Gardasil and Cervarix. CDC/ACIP recommendations for use of HPV vaccine have not changed. To access the new VIS for Gardasil, go to www.immunize.org/vis/vis-hpv-gardasil.pdf. To access the new VIS for Cervarix, go to www.immunize.org/vis/vis-hpv-cervarix.pdf.

Influenza vaccine news

On July 26, CDC released two VISs for 2011–12 influenza vaccine, one for trivalent inactivated influenza vaccine (TIV; injectable) and one for live attenuated influenza vaccine (LAIV, nasal spray, FluMist). To access the VIS for TIV, go to www.immunize.org/vis/vis_flu_inactive.asp. To access the VIS for LAIV, go to www.immunize.org/vis/vis_flu_live.asp. Translations will be available soon at the links above.

JE vaccine news

On May 27, CDC published “Recommendations for Use of a Booster Dose of Inactivated Vero Cell Culture-Derived Japanese Encephalitis Vaccine.” It states that if the primary 2-dose series of inactivated Vero cell culture-derived Japanese encephalitis (JE) vaccine (Ixiaro; Novartis) was administered more than year previously, a booster dose may be given before potential JE virus exposure. The primary series is 2 doses administered 28 days apart. Ixiaro is recommended for certain U.S. travelers and laboratory personnel age 17 years and older for prevention of disease caused by JE virus. To obtain a copy of the recommendations, see pages 661–663 of this document: www.cdc.gov/mmwr/PDF/wk/mm6020.pdf.

Also on May 27, CDC published updated information on options for obtaining Japanese encephalitis (JE) vaccine for children. Vero cell culture-derived JE vaccine (Ixiaro; Novartis) is the only JE vaccine currently approved for U.S. use. It is intended for adults age 17 years and older. It will likely be several years before Ixiaro is licensed in the U.S. for use in children. Current options for obtaining JE vaccine for U.S. children include (1) enroll children in the ongoing clinical trial, (2) administer Ixiaro off-label, or (3) receive JE vaccine at an international travelers’ health clinic in Asia. To obtain this update, see pages 664–665 of this document: www.cdc.gov/mmwr/PDF/wk/mm6020.pdf.

Adenovirus vaccine news

On March 16, FDA approved Adenovirus Type 4 and Type 7 Vaccine, Live, Oral (Teva mm6020.pdf).
Pharmaceuticals USA) for use in military personnel age 17 through 50 years for prevention of febrile acute respiratory disease (ARD) caused by Adenovirus Type 4 and Type 7. To access the package insert, go to www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM247515.pdf.

On July 14, CDC issued a VIS for adenovirus vaccine. To access the VIS, go to www.immunize.org/vis/vis_adenovirus.pdf.

**CDC news**

In April, CDC published the twelfth edition of the Pink Book (formally titled *Epidemiology and Prevention of Vaccine-Preventable Diseases*). To download and order it, go to www.cdc.gov/vaccines/pubs/pinkbook. The cost of a soft-cover edition is $35 plus shipping and handling. The Pink Book is also available in e-reader format on Amazon.com, Google eBooks, and Barnes & Noble.

CDC recently made the 2012 edition of the Yellow Book (formally titled *CDC Health Information for International Travel*) available online and in print. To access the online and print versions, go to wwwnc.cdc.gov/travel/page/yellowbook-2012-home.htm. Single-copy cost is approximately $45.

CDC’s invaluable course “Epidemiology and Prevention of Vaccine-Preventable Diseases 2011” is available in DVD format and as a ten-module web-on-demand series. To access the web-on-demand version, go to: www.cdc.gov/vaccines/ed/epivac. To order one free copy of the DVD, locate item #22-0771 on this form: www.cdc.gov/pubs/NCIRD.aspx.


On May 13, CDC published “Summary of Notifiable Diseases—U.S., 2009.” It contains the official statistics, in tabular and graphic form, for the reported occurrence of nationally notifiable infectious diseases in the U.S. To access it, go to www.cdc.gov/mmwr/PDF/wk/mm5853.pdf.

**Vaccine safety news**

A supplement to the May 2011 issue of *Pediatrics* (a journal of the American Academy of Pediatrics) contains 18 articles on vaccine safety written by medical experts. Access to all articles is available at no charge at http://pediatrics.aappublications.org/content/vol127/Supplement_1.

The use of most Vaccine Information Statements (VISs) is mandated by federal law. Listed below are the dates of the most current VISs. Check your stock of VISs against this list. If you have outdated VISs, print current ones from IAC’s website at www.immunize.org/vis. You’ll find VISs in more than 30 languages.

- **DTaP/DT/DTP…** 5/17/07 MMRV …………. 5/21/10
- Hepatitis A…….. 3/21/06 PCV ………….. 4/16/10
- Hepatitis B ……….. 7/18/07 PPSV ………….. 10/6/09
- Hib ……………. 12/16/98 Polio ……………. 1/1/00
- HPV (Cervarix)….. 5/3/11 Rabies ………….. 10/6/09
- HPV (Gardasil)….. 5/3/11 Rotavirus ……….. 12/6/10
- Influenza (LAIV)… 7/26/11 Shingles ……….. 10/6/09
- Influenza (IV)…… 7/26/11 Td/Tdap ……….. 11/18/08
- Japan. enceph. …/3/1/10 Typhoid …………. 5/19/04
- Meningococcal… 1/28/08 Varicella …………. 3/13/08
- MMR ……………. 1/3/08 Yellow fever …………. 3/30/11

Multi-vaccine VIS ……….. 9/18/08
(for 6 vaccines given to infants/children: DTaP, IPV, Hib, HepB, PCV, RV)

**Current VISs and dates**

**Suspect Measles; Vaccinate Against Measles  (cont. from page 1)**

(CDPH) titled Healthcare Facility Infection Control Recommendations for Suspect Measles Patients. Additional practical resources on measles are found on pages 10–11 of this issue of Vaccinate Adults. Visit the CDPH website at www.cdphe.ca.gov/HealthInfo/discond/Pages/Measles.aspx for many more useful measles-related materials.

**Vaccinate against measles**

Make sure all healthcare personnel in your work setting who were born in 1957 or later have had two doses of MMR vaccine, according to CDC recommendations.

Vaccinate your patients with MMR vaccine. Several Q&As in the Ask the Experts section on page 16 address vaccinating patients of all ages, including those who are planning international travel, have been exposed to measles, live in communities where measles is present, or work in healthcare settings.

Measles is serious and highly contagious. It is vital that as healthcare professionals we take the lead in protecting our patients, coworkers, and communities from infection.

IAC welcomes Dr. Sharon Humiston as associate director for research

Sharon G. Humiston, MD, MPH, FAAP, recently joined IAC as associate director for research. A board-certified pediatrician, Dr. Humiston is also professor of pediatrics, University of Missouri-Kansas City, and a health services researcher and clinician in the Division of Emergency and Urgent Care, Children’s Mercy Hospitals and Clinics, Kansas City.

During the past 20 years, Dr. Humiston has held faculty appointments in emergency medicine and pediatrics at the University of Rochester School of Medicine and Dentistry, Rochester, NY. From 1997 to 2000, Sharon served as a medical officer in the Training and Education Branch, National Immunization Program, CDC. From 2005 to 2009, she was a member of the National Vaccine Advisory Committee, serving as chair of the Subcommittee on Communication and Public Engagement. She is a Fellow of the American Academy of Pediatrics.

Early in her career, Dr. Humiston wrote the first Vaccine Information Statements based on the 11-page pamphlets that had been distributed for each vaccine. Since then, she has authored more than 70 journal articles and reports, and has contributed ten chapters to scholarly medical textbooks. Her research interests include immunization outreach, adolescent immunization, school-located vaccination, and web-based immunization education for providers. She has been involved in approximately 30 research projects that have received funding from CDC and other government agencies. Some of her research projects have examined vaccine risk-benefit communication, emergency department vaccination, immunization coverage, and immunization outreach. Sharon reviews manuscripts for *Pediatrics, Archives of Pediatrics & Adolescent Medicine, Academic Pediatrics,* and *Journal of the National Medical Association.*

The mother of two children, one of whom is diagnosed with autism, Sharon is an immunization expert for Parents of Kids with Infectious Diseases (PKIDs), and a member of the Scientific Advisory Board, Autism Science Foundation.

We have added Sharon to IAC’s staff web page at: www.immunize.org/aboutus/iacstaff.aspx.

**Vaccine Highlights . . . continued from page 4**

*Vaccinate Adults! • July 2011 • Immunization Action Coalition • (651) 647-9009 • www.immunize.org • www.vaccineinformation.org*
### Influenza

**Trivalent inactivated influenza vaccine (TIV)**

**Give IM**

- Live attenuated influenza vaccine (LAIV)
  - Give intranasally


- Beginning with the 2010–11 influenza season, vaccination is recommended for all adults. (This includes healthy adults ages 19–49yrs without risk factors.)
- LAIV is only approved for healthy nonpregnant people age 2–49yrs.
- Adults ages 65yrs and older may be given standard-dose TIV or, alternatively, a high-dose TIV.

**Note:** LAIV may not be given to some adults; see contraindications and precautions listed in far right column.

**Contraindications**

- Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs.
- For LAIV only: pregnancy; chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, neurological/neuromuscular, hematologic, or metabolic (including diabetes) disorders; immunosuppression (including that caused by medications or HIV).

**Precautions**

- Moderate or severe acute illness.
- History of Guillain-Barré syndrome (GBS) within 6wks following previous influenza vaccination.
- For LAIV only: receipt of specific antivirals (i.e., amantadine, rimantadine, zanamivir, or oseltamivir) 48hrs before vaccination. Avoid use of these antiviral drugs for 14d after vaccination.

**Schedule for vaccine administration**

- Give 1 dose every year in the fall or winter.
- Begin vaccination services as soon as vaccine is available and continue until the supply is depleted.
- 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.
- If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.

**Contraindications and precautions**

- Item #P2011 (4/11)

*This document was adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP). To obtain copies of these recommendations, call the CDC-INFO Contact Center at (800) 232-4636; visit CDC’s website at [www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm); or visit the Immunization Action Coalition (IAC) website at [www.immunize.org/acip](http://www.immunize.org/acip). This table is revised periodically. Visit IAC’s website at [www.immunize.org/adultrules](http://www.immunize.org/adultrules) to make sure you have the most current version.*

Technical content reviewed by the Centers for Disease Control and Prevention, April 2011.


Immunization Action Coalition  •  1573 Selby Avenue  •  Saint Paul, MN 55104  •  (651) 647-9009  •  www.immunize.org  •  www.vaccineinformation.org  •  admin@immunize.org
### Summary of Recommendations for Adult Immunization (Age 19 years & older) (Page 2 of 4)

<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
</table>
| **MMR** *(Measles, mumps, rubella)*  
- People born in 1957 or later (especially those born outside the U.S.) should receive at least 1 dose of MMR if there is no laboratory evidence of immunity or documentation of a dose given on or after the first birthday.  
- People in high-risk groups, such as healthcare personnel (paid, unpaid, or volunteer), students entering college and other post–high school educational institutions, and international travelers, should receive a total of 2 doses.  
- 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.  
- Women of childbearing age who do not have acceptable evidence of rubella immunity or vaccination.  
- Give 1 or 2 doses (see criteria in 1st and 2nd bullets in box to left).  
- If dose #2 is recommended, give it no sooner than 4wks after dose #1.  
- If a pregnant woman is found to be rubella susceptible, give 1 dose of MMR postpartum.  
- If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, Zos, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.  
- Within 72hrs of measles exposure, give 1 dose as postexposure prophylaxis to susceptible adults.  
**Note:** Routine post-vaccination serologic testing is not recommended.  
**Contraindications**  
- Previous anaphylactic reaction to this vaccine or to any of its components.  
- Pregnancy or possibility of pregnancy within 4wks.  
- Severe immunodeficiency (e.g., hematomic 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 those who are not severely immunocompromised (i.e., CD4+ T-lymphocyte counts are greater than or equal to 200 cells/µL).  
**Precautions**  
- Moderate or severe acute illness.  
- If blood, plasma, and/or immune globulin were given in past 11m, see ACIP statement General Recommendations on Immunization* regarding time to wait before vaccinating.  
- History of thrombocytopenia or thrombocytopenic purpura.  
**Note:** If TST (tuberculin skin test) and MMR are both needed but not given on same day, delay TST for 4–6wks after MMR. | **Contraindications**  
- People age 60yrs and older.  
- Give 1-time dose if unvaccinated, regardless of previous history of herpes zoster (shingles) or chickenpox.  
- If 2 or more of the following live virus vaccines are to be given—MMR, Zos, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.  
| **Varicella** *(chickenpox)*  
*(Var)*  
- All adults without evidence of immunity.  
**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; and/or birth in the U.S. before 1980, with the exceptions that follow.  
- 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 4–8 wks later.  
- 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.  
- Give 2 doses.  
- Dose #2 is given 4–8wks after dose #1.  
- If dose #2 is delayed, do not repeat dose #1. Just give dose #2.  
- If 2 or more of the following live virus vaccines are to be given—LAIV, MMR, Var, Zos, 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 postexposure prophylaxis if given within 5d.  
**Note:** Routine post-vaccination serologic testing is not recommended.  
- 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. | **Contraindications**  
- Previous anaphylactic reaction to this vaccine or to any of its components.  
- Pregnancy or possibility of pregnancy within 4wks.  
- Severe immunodeficiency (e.g., hematomic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy; or severely symptomatic HIV).  
- Persons on high-dose immunosuppressive therapy or who are immunocompromised because of malignancy and primary or acquired cellular immunodeficiency, including HIV/AIDS (although vaccination may be considered if CD4+ T-lymphocyte counts are greater than or equal to 200 cells/µL). See MMWR 2007;56,RR-4).  
**Precautions**  
- Moderate or severe acute illness.  
- If blood, plasma, and/or immune globulin were given in past 11m, see ACIP statement General Recommendations on Immunization* regarding time to wait before vaccinating.  
- 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. |  
| **Zoster** *(shingles)*  
*(Zos)*  
*Give SC* | People age 60yrs and older.  
- Give 1-time dose if unvaccinated, regardless of previous history of herpes zoster (shingles) or chickenpox.  
- If 2 or more of the following live virus vaccines are to be given—MMR, Zos, and/or yellow fever—they should be given on the same day. If they are not, space them by at least 28d.  
- 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. | **Contraindications**  
- Previous anaphylactic reaction to any component of zoster vaccine.  
- Primary cellular or acquired immunodeficiency.  
- Pregnancy.  
**Precautions**  
- Moderate or severe acute illness.  
- 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. |
<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
</table>
• All people who lack written documentation of a primary series consisting of at least 3 doses of tetanus- and diphtheria-toxoid-containing vaccine.  
• A booster dose of Td or Tdap may be needed for wound management, so consult ACIP recommendations.*  
• In pregnancy, when indicated, give Td or Tdap in 2nd or 3rd trimester. If not administered during pregnancy, give Tdap in immediate postpartum period. | • For people who are unvaccinated or behind, complete the primary Td series (spaced at 0, 1–2m, 6–12m intervals); substitute a one-time dose of Tdap for one of the doses in the series, preferably the first.  
• Give Td booster every 10yrs after the primary series has been completed.  
• Tdap can be given regardless of interval since previous Td. | Contraindications  
• Previous anaphylactic reaction to this vaccine or to any of its components.  
• For Tdap only, history of encephalopathy, not attributable to an identifiable cause, within 7d following DTP/DTP.  
Precautions  
• Moderate or severe acute illness.  
• Guillain-Barré syndrome within 6wks following previous dose of tetanus-toxoid-containing vaccine.  
• Progressive or unstable neurologic disorder, uncontrolled seizures, or progressive neuropathy.  
• History of arthus reaction following a prior dose of tetanus-toxoid-containing vaccine.  
Note: Tdap may be given to pregnant women at the provider’s discretion. |
| Using tetanus toxoid (TT) instead of Tdap or Td is not recommended. | • Adults younger than age 65yrs who have not already received Tdap.  
• Adults of any age, including adults age 65yrs and older, in contact with infants younger than age 12m (e.g., parents, grandparents, childcare providers) who have not received a dose of Tdap should be prioritized for vaccination.  
• Healthcare personnel of all ages.  
• Adults age 65yrs and older without a risk indicator (e.g., not in contact with an infant) may also be vaccinated with Tdap. | | |
| Hepatitis A (HepA) Give IM Brands may be used interchangeably. | For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at www.immunize.org/catg.d/p2010.pdf.  
• All people who want to be protected from hepatitis A virus (HAV) infection.  
• People who travel or work anywhere EXCEPT the U.S., Western Europe, New Zealand, Australia, Canada, and Japan.  
• People with chronic liver disease; injecting and non-injecting drug users; men who have sex with men; people who receive clotting-factor concentrates; people who work with HAV in experimental lab settings; food handlers when health authorities or private employers determine vaccination to be appropriate.  
• People who anticipate close personal contact with an international adoptee from a country of high or intermediate endemicity during the first 60 days following the adoptee’s arrival in the U.S.  
• Adults age 40yrs or younger with recent (within 2 wks) exposure to HAV. For people older than age 40yrs with recent (within 2 wks) exposure to HAV, immune globulin is preferred over HepA vaccine. | •Give 2 doses.  
• The minimum interval between doses #1 and #2 is 6m.  
• If dose #2 is delayed, do not repeat dose #1. Just give dose #2. | Contraindication  
Previous anaphylactic reaction to this vaccine or to any of its components.  
Precautions  
• Moderate or severe acute illness.  
• Safety during pregnancy has not been determined, so benefits must be weighed against potential risk. |
| | 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.  
An alternative schedule can also be used at 0, 7d, 21–30d, and a booster at 12m. | | |
• All adults who want to be protected from hepatitis B virus infection.  
• Household contacts and sex partners of HBsAg-positive people; injecting drug users; sexually active people not in a long-term, mutually monogamous relationship; men who have sex with men; people with HIV; persons seeking STD evaluation or treatment; hemodialysis patients and those with renal disease that may result in dialysis; healthcare personnel and public safety workers who are exposed to blood; clients and staff of institutions for the developmentally disabled; inmates of long-term correctional facilities; certain international travelers; and people with chronic liver disease.  
Note: Provide serologic screening for immigrants from endemic areas. If patient is chronically infected, assure appropriate disease management. For sex partners and household contacts of HBsAg-positive people, provide serologic screening and administer initial dose of HepB vaccine at same visit. | Give 3 doses on a 0, 1, 6m schedule.  
• Alternative timing options for vaccination include 0, 2, 4m; 0, 1, 4m; and 0, 1, 2, 12m (Engerix brand only).  
• 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.  
• Schedule for those who have fallen behind: If the series is delayed between doses, DO NOT start the series over. Continue from where you left off. | Contraindication  
Previous anaphylactic reaction to this vaccine or to any of its components.  
Precaution  
Moderate or severe acute illness. |
<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human papillomavirus (HPV)</strong> (HPV2, Cervarix) (HPV4, Gardasil)</td>
<td>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>. • All previously unvaccinated women through age 26yrs. • Consider giving HPV4 to men through age 26yrs to reduce their likelihood of acquiring genital warts.</td>
<td>• Give 3 doses on a 0, 2, 6m schedule. • 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. If possible, use the same vaccine product for all three doses.</td>
<td><strong>Contraindication</strong> Previous anaphylactic reaction to this vaccine or to any of its components. <strong>Precautions</strong> • Moderate or severe acute illness. • Data on vaccination in pregnancy are limited. Vaccination should be delayed until after completion of the pregnancy.</td>
</tr>
<tr>
<td>Meningococcal conjugate vaccine, quadrivalent (MCV4) Menactra, Menevo</td>
<td>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>. • People with anatomic or functional asplenia or persistent complement component deficiency. • 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). • Microbiologists routinely exposed to isolates of N. meningitidis. • Incoming and current college students ages 19 through 21 may require vaccination; see 5th bullet in the box to the right for details.</td>
<td>• Give 2 initial doses of MCV4 separated by 2m to adults 55yrs and younger with risk factors listed in 1st bullet in column to left or if vaccinating adults in this age group with HIV infection. Give 1 dose of MPSV4 to adults 56yrs and older with risk factors. • Give 1 initial dose to all other adults with risk factors (see 2nd–4th bullets in column to left). • Give booster doses every 5yrs to adults with continuing risk (see the 1st–3rd bullets in column to left for listings of people with possible continuing risk). • MCV4 is preferred over MPSV4 for people age 55yrs and younger; use MPSV4 ONLY if age 56yrs or older or if there is a permanent contraindication/precaution to MCV4. • Give 1 initial dose to unvaccinated incoming college students ages 19–21yrs; give booster dose to incoming students who received the most recent dose when younger than 16yrs. Consider same vaccination strategy for existing college students ages 19–21yrs.</td>
<td><strong>Contraindication</strong> Previous anaphylactic reaction to this vaccine or to any of its components. <strong>Precautions</strong> • Moderate or severe acute illness.</td>
</tr>
<tr>
<td>Meningococcal polysaccharide vaccine (MPSV4) Menomune</td>
<td>Give SC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polio (IPV)</strong></td>
<td>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>. • Not routinely recommended for U.S. residents age 18yrs and older. 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. Previously vaccinated adults can receive 1 booster dose if traveling to polio endemic areas or to areas where the risk of exposure is high.</td>
<td>• Refer to ACIP recommendations* regarding unique situations, schedules, and dosing information.</td>
<td><strong>Contraindication</strong> Previous anaphylactic reaction to this vaccine or to any of its components. <strong>Precautions</strong> • Moderate or severe acute illness. • Pregnancy.</td>
</tr>
</tbody>
</table>
Fever and Rash?........Consider Measles

Measles cases continue to be identified in California in returning international travelers. Measles is highly contagious. Please protect patients, visitors, and staff!

Keep an eye out for measles symptoms:

Suspect measles in patients with:

- fever and rash
- history of international travel or contact with international visitors in the prior 3 weeks.

Note: A history of 2 doses of MMR vaccine does not exclude a measles diagnosis.

Prodrome
- Mild to moderate fever
- Cough
- Coryza
- Conjunctivitis

Rash onset
- Fever spikes, often as high as 104º to 105º F
- Red, maculopapular rash that may become confluent—typically starts at hairline, then face, and spreads rapidly down body
- Koplik’s spots (tiny blue/white spots on the bright red background of the buccal mucosa) may be present

Act immediately if you suspect measles:

- Implement airborne infection control precautions immediately, mask and isolate patient—negative pressure room, if available.
- Permit only staff immune to measles to be near the patient.
- Notify your local health department immediately.
- Expedite measles serologic testing (IgM and IgG) at a public health lab; use of commercial labs may delay diagnosis.
- Safeguard other facilities: assure airborne infection control precautions before referring patients.
- Do not use any regular exam room for at least 2 hours after a suspected measles patient has left the room.

Adapted with permission from the California Department of Public Health, Immunization Branch
Distributed by Immunization Action Coalition • www.immunize.org
You’ll find other measles resources at www.cdph.ca.gov/HealthInfo/discond/Pages/Measles.aspx
VISITING ANOTHER COUNTRY? PROTECT YOUR FAMILY.

THINK MEASLES.

Measles is widespread in places like Europe, Africa, Asia, India, and the Philippines.

BEFORE YOU TRAVEL
Tell your doctor where you are traveling. Babies and children may need measles protection at a younger age than usual.

AFTER YOU TRAVEL
Call your doctor if anyone gets a fever and rash within 3 weeks of returning from your trip. Describe where you traveled.

Talk with your doctor if you are planning an international trip.

For more information go to www.cdc.gov/travel.

Adapted with permission from the California Department of Public Health, Immunization Branch
Distributed by Immunization Action Coalition • www.immunize.org
You’ll find other measles resources at www.cdph.ca.gov/HealthInfo/discond/Pages/Measles.aspx
Establish Storage and Handling Policies

1. We have designated a primary vaccine coordinator and at least one back-up coordinator to be in charge of vaccine storage and handling at our facility.

2. Both the primary and back-up vaccine coordinator(s) have completely reviewed either CDC's online vaccine storage and handling guidance or equivalent training materials offered by our state health department's immunization program.

3. We have detailed, up-to-date, written policies for general vaccine management, including policies for routine activities and an emergency vaccine-retrieval-and-storage plan for power outages and other problems. Our policies are based on CDC's vaccine storage and handling guidance and/or on instruction from our state or local health department's immunization program.

4. We review these policies with all staff annually and with new staff, including temporary staff, when they are hired.

Log In New Vaccine Shipments

5. We maintain a vaccine inventory log that we use to document the following:
   a. Vaccine name and number of doses received
   b. Date we received the vaccine
   c. Condition of vaccine when we received it
   d. Vaccine manufacturer and lot number
   e. Vaccine expiration date

Use Proper Storage Equipment

6. We store vaccines in refrigerator and freezer units designed specifically for storing biologics, including vaccines. Alternatively, we keep frozen and refrigerated vaccines in separate, free-standing freezer and refrigerator units. At a minimum, we use a household-style unit with a separate exterior door for the freezer and separate thermostats for the freezer and refrigerator. We do NOT use a dormitory-style unit (a small combination freezer-refrigerator unit with a freezer compartment inside the refrigerator).

7. We use only calibrated thermometers with a Certificate of Traceability and Calibration* that are recalibrated as recommended by the manufacturer.

8. We have planned back-up storage units(s) in the event of a power failure or other unforeseen event. We perform regular maintenance to assure optimal functioning.

Ensure Optimal Operation of Storage Units

9. We have a "Do Not Unplug" sign next to the electrical outlets for the refrigerator and freezer and a "Do Not Stop Power" warning label by the circuit breaker for the electrical outlets. Both include emergency contact information.

10. We keep the storage unit clean, dusting the coils and cleaning beneath it every 3–6 months.

Maintain Correct Temperatures

11. We always keep at least one accurate calibrated thermometer (+/-1°C [+/-2ºF]) with the vaccines in the refrigerator; ideally, we have a continuous-temperature logger and/or temperature-sensitive alarm system.

12. We maintain the refrigerator temperature at 35–46°F (2–8ºC), and we aim for 40°F (5ºC).

*Certificate of Traceability and Calibration with calibration measurements traceable to a testing laboratory accredited by the International Organization of Standardization, to the standards of the National Institute of Standards and Technology, or to another internationally recognized standards agency.
13. We keep extra containers of water in the refrigerator (e.g., in the door, on the floor of the unit where the vegetable bins were located) to help maintain cool temperatures.

14. We always keep at least one accurate calibrated thermometer (+/-1ºC [+/-2ºF]) with vaccines in the freezer.

15. We maintain the average temperature in the freezer at +5ºF (-15ºC), preferably colder but no colder than -58ºF (-50ºC).

16. We keep ice packs or ice-filled containers in the freezer to help maintain cold temperatures.

Store Vaccines Correctly

17. We post signs on the doors of the refrigerator and freezer that indicate which vaccines should be stored in the refrigerator and which in the freezer.

18. We do NOT store any food or drink in any vaccine storage unit.

19. We store vaccines in the middle of the refrigerator or freezer (never in the doors), with room for air to circulate.

20. We have removed all vegetable and deli bins from the storage unit.

21. If we are using a combination refrigerator-freezer unit, we do not store vaccines in front of the cold air outlet that leads from the freezer to the refrigerator (often near the top shelf).

22. We check vaccine expiration dates and rotate our supply of each type of vaccine so that we use the vaccines that will expire soonest.

23. We store vaccines in their original packaging in clearly labeled uncovered containers with slotted sides that allow air to circulate.

Maintain Daily Temperature Logs

24. On days when our practice is open, we document refrigerator and freezer temperatures on the daily log twice a day — first thing in the morning and right before our facility closes.

25. We consistently record temperatures on the log in either Fahrenheit or Celsius. We NEVER mix in any way how we record our temperatures. For example, if the log prompts us to insert an "x" by the temperature that's preprinted on the log, we do not attempt to write in the actual temperature.

26. The logs show whom to call if the temperature in the storage unit goes out of range.

27. When we change the thermostat setting, we document it in the daily log sheet's note section.

28. If out-of-range temperatures occur in the unit, we document in the daily log sheet's note section who responded and when.

29. Trained staff (other than staff designated to record the temperatures) review the logs weekly.

30. We keep the temperature logs on file for at least 3 years.

Take Emergency Action As Needed

31. In the event that vaccines are exposed to improper storage conditions, we take the following steps:

   a. We restore proper storage conditions as quickly as possible; if necessary, we move the vaccine to our planned back-up storage unit. We address the storage unit’s mechanical or electrical problems according to guidance from the manufacturer or repair service.

   b. In responding to improper storage conditions, we do NOT make frequent or large changes in thermostat settings. After changing the setting, we give the unit at least a day to stabilize its temperature.

   c. We temporarily label exposed vaccines “Do not use” and keep them separate from any unexposed vaccines. We do not use exposed vaccines until our state health department’s immunization program or the vaccine manufacturer gives us approval.

   d. We document exactly what happened, noting the temperature in the storage unit and the amount of time the vaccines were out of proper storage conditions. We contact our state health department’s immunization program or the vaccine manufacturer to determine how to handle the exposed vaccines.

   e. We follow the health department or manufacturer’s instructions and keep a record detailing the event. Where applicable, we mark the exposed vials with a revised expiration date provided by the manufacturer.

If we answer YES to all of the above, we give ourselves a pat on the back! If not, we assign someone to implement needed changes!
**Standing orders for administering adult vaccines**

*Free and CDC-reviewed, they’re ready for you to download, copy, and use!*

### Vaccine Standing Orders

<table>
<thead>
<tr>
<th>Vaccine Standing Orders</th>
<th>(Date of latest revision)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A (HepA)</td>
<td>(1/11)</td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td>(8/07)</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>(2/10)</td>
</tr>
<tr>
<td>Influenza</td>
<td>(8/10)</td>
</tr>
<tr>
<td>Measles-mumps-rubella (MMR)</td>
<td>(1/08)</td>
</tr>
<tr>
<td>Meningococcal conjugate (MCV4) and Meningococcal polysaccharide (MPSV)</td>
<td>(4/11)</td>
</tr>
</tbody>
</table>

### Vaccine Standing Orders

<table>
<thead>
<tr>
<th>Vaccine Standing Orders</th>
<th>(Date of latest revision)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal polysaccharide (PPSV)</td>
<td>(1/11)</td>
</tr>
<tr>
<td>Tetanus-diphtheria toxoids and pertussis (Td/Tdap)</td>
<td>(1/11)</td>
</tr>
<tr>
<td>Varicella (VAR; chickenpox)</td>
<td>(7/08)</td>
</tr>
<tr>
<td>Zoster (ZOS; shingles)</td>
<td>(5/08)</td>
</tr>
</tbody>
</table>

### Medical Management of Vaccine Reactions in Adult Patients

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Symptoms</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaphylaxis</td>
<td>Hives; angioedema (swelling of the lips, tongue, and throat); difficulty breathing; wheezing; nausea; diarrhea; abdominal pain; lightheadedness; fainting; */<em>sniffing</em>; */<em>trembling</em>; fever</td>
<td>Call 911 or seek emergency medical treatment immediately. Provide CPR and assist with breathing if necessary. Use epinephrine if prescribed by health care provider. Monitor patient closely.</td>
</tr>
<tr>
<td>Psychological</td>
<td>Fright before injection is given; feelings of panic, fear, anxiety, or confusion</td>
<td>Give reassurance. Avoid situations that may trigger reactions.</td>
</tr>
<tr>
<td>Extreme paleness, sweating, coldness of skin</td>
<td>Examine the patient to determine if injury is caused by the vaccine.</td>
<td></td>
</tr>
<tr>
<td>Immediate medical protocol available, as well as equipment and medications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate or severe acute illness with or without fever</td>
<td>Call 911 or seek emergency medical treatment immediately. Monitor patient closely.</td>
<td></td>
</tr>
<tr>
<td>Soreness, redness, itching, or swelling at injection site (e.g., arm) above the level of the injection</td>
<td>Cool, damp cloths to patient’s face and neck.</td>
<td></td>
</tr>
<tr>
<td>Bleeding injection site (e.g., arm) above the level of the injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postpartum period if the one-time Tdap dose has never been administered.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report all adverse reactions to Td and Tdap vaccines to the federal Vaccine Adverse Event Reporting System (VAERS) at <a href="http://www.vaers.hhs.gov">www.vaers.hhs.gov</a>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Use these standing orders for adult vaccinations

*Click blue text to obtain standing orders documents*
Order Essential Immunization Resources from IAC

**New DVD! Immunization Techniques: Best Practices with Infants, Children, and Adults**

New in 2010 from the California Department of Public Health’s Immunization Branch, this 25-minute DVD helps ensure that staff administer vaccines correctly to all age groups. An excellent training tool, the DVD provides detailed information on these major topics:

- Preparing vaccines—Mixing, reconstituting, and drawing up a variety of vaccine products and preparations
- Administering vaccines—Identifying correct needle lengths, injection angles, and injection sites, and giving injectable, oral, and nasal-spray vaccines.
- Communicating with parents and patients—Providing VISs, answering questions, and observing patients after vaccination

To order the new DVD or any of our other essential immunization resources, print out and mail or fax the form below or place your order online at [www.immunize.org/shop](http://www.immunize.org/shop).

---

**Order Essential Immunization Resources**

**CD-ROM of IAC print materials**

FREE with a contribution of $75 or more (see below). The CD contains all of IAC’s ready-to-print materials in English and any translations available in Spanish. Includes VISs in English and Spanish.

---

**Laminated 2011 U.S. Immunization Schedules**

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Amt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2008 Child/teen schedule: 1-4 copies—$7.50 each; 5-19 copies—$5.50 each</td>
<td>$________</td>
</tr>
<tr>
<td>R2009 Adult schedule: 1-4 copies—$7.50 each; 5-19 copies—$5.50 each</td>
<td>$________</td>
</tr>
</tbody>
</table>

**NEW DVD! Immunization Techniques: Best Practices with Infants, Children, and Adults**

1-9 copies—$17 each; 10-24 copies—$10.25 each; 25-49 copies—$7 each

D2021 Immunization Techniques: Best Practices with Children/Teens/Adults...$________

**Patient Immunization Record Cards** — for children & teens, for adults, and for a lifetime!

(all are wallet-sized; details p. 3; call for discounts on bulk orders)

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Amt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2003 Child/teen immunization record cards</td>
<td>$________</td>
</tr>
<tr>
<td>R2005 Adult immunization record cards</td>
<td>$________</td>
</tr>
<tr>
<td>R2004 Lifetime immunization record cards</td>
<td>$________</td>
</tr>
</tbody>
</table>

---

**Make a Charitable Contribution**

I am a [new] [renewing contributor].

**Here is my contribution:**

- $25
- $50
- $75
- $100
- $125
- $150
- $200
- $250
- other: $________

- As a thank-you gift, I’d like a packet of some of IAC’s most popular print pieces.
- I’m contributing $75 or more and would like the additional thank-you gift of a CD containing all of IAC’s English- and Spanish-language print materials, plus Vaccine Information Statements in English and Spanish.

IAC is a 501(c)(3) charitable organization and your contribution is tax deductible to the fullest extent of the law.

**Total for Purchases and Contribution $________**

---

**How to Place an Order**

**By Credit Card:** Order easily online at our secure shopping cart at [www.immunize.org/shop](http://www.immunize.org/shop).

**By Check, Purchase Order, or Credit Card:** Print out this page, fill out the necessary information, and Fax the page to: (651) 647-9131 or Mail the page to: Immunization Action Coalition 1573 Selby Avenue, Suite 234 St. Paul, MN 55104

Our federal ID# is 41-1768237.

**For Questions or International Orders:** Contact us by phone at (651) 647-9009 or email admininfo@immunize.org

**Thank you** for your support of the Immunization Action Coalition. We depend on you!

---

**Method of payment:**

- [ ] Check enclosed (payable to Immunization Action Coalition)
- [ ] Purchase order # __________________
- [ ] Visa
- [ ] Mastercard
- [ ] Am. Express
- [ ] Discover

<table>
<thead>
<tr>
<th>Card #</th>
<th>Expiration Date</th>
<th>CV Code #*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mo/yr</td>
<td></td>
</tr>
</tbody>
</table>

*The CV Code is the Credit Verification Code, the additional 3- or 4-digit number on your credit card.

**Total for Purchases and Contribution $________**

---

It’s convenient to shop IAC online at [www.immunize.org/shop](http://www.immunize.org/shop)

---

Vaccinate Adults! • July 2011 • Immunization Action Coalition • (651) 647-9009 • [www.immunize.org](http://www.immunize.org) • [www.vaccineinformation.org](http://www.vaccineinformation.org)
• 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.

Providers should be especially aware of the possibility of measles in people with fever and rash who have recently traveled abroad or who have had contact with international travelers.

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.

**How contagious is measles?**
Measles is highly infectious. It is primarily transmitted from person to person via large respiratory droplets. Airborne transmission via aerosolized droplets has been documented in closed areas (e.g., office examination room) for up to 2 hours after a person with measles occupied the area.

Following exposure, more than 90% of susceptible people develop measles. The virus can be transmitted from 4 days before the rash becomes visible to 4 days after the rash appears.

**How long does it take to show signs of measles after being exposed?**
It takes an average of 10–12 days from exposure to the appearance of the first symptom, which is usually fever. The measles rash doesn’t usually appear until approximately 14 days after exposure, 2–3 days after the fever begins.

**If a susceptible person is exposed to measles, can anything prevent them from developing the disease?**
If the person has not been vaccinated, measles vaccine may prevent disease if given within 72 hours of exposure. Immune globulin (a blood product containing antibodies to the measles virus) may prevent or lessen the severity of measles if given within 6 days of exposure.

**What are the recommendations for the use of MMR vaccine to prevent measles?**
MMR vaccine is recommended routinely for all children at age 12–15 months, with a second dose at age 4–6 years. The second dose of MMR can be given as early as 4 weeks (28 days) after the first dose and be counted as a valid dose if both doses were given after the child’s first birthday. The second dose is not a booster, but rather is intended to produce immunity in the small number of people who fail to respond to the first dose.

Adults with no evidence of immunity (defined as documented receipt of 1 dose [2 doses 4 weeks apart if high risk] of live measles virus-containing vaccine, laboratory evidence of immunity, documentation of physician-diagnosed measles, or birth before 1957) should get 1 dose of MMR unless the adult is in a high-risk group. High-risk people need 2 doses; they include healthcare personnel, international travelers, students at post-high school educational institutions, people exposed to measles in an outbreak setting, and those previously vaccinated with killed measles vaccine or with an unknown type of measles vaccine during 1963–1967.

Infants age 6–11 months should receive 1 dose of MMR vaccine before international travel. Any dose of MMR administered before the first birthday should not be counted as part of the 2-dose series, and should be repeated when the child is age 12–15 months.

**My adult patient doesn’t remember if he ever received MMR vaccine or had measles disease and is planning an international trip. How should I handle this situation?**
You have the choice of testing for immunity or just giving 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 test indicates 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 the test result is indeterminate or equivocal, consider your patient nonimmune. CDC does not recommend serologic testing after vaccination because commercial tests are not sensitive enough to detect vaccine-induced immunity reliably.

**I’m a healthcare worker. How can I ensure I am protected against measles?**
If you are a healthcare worker and you do not have acceptable evidence of immunity—documented receipt of 2 doses of live measles virus-containing vaccine at least 4 weeks apart or laboratory evidence of immunity—either get tested for immunity or get 2 doses of MMR at least 4 weeks apart. If you choose the testing route, and your result is negative, indeterminate, or equivocal, get 2 doses of MMR at least 4 weeks apart. CDC does not recommend serologic testing after vaccination.

I understand that in March 2011, FDA expanded the age indication for Zostavax (shingles vaccine; ZOS; Merck) to include the vaccine’s use in people age 50 through 59 years (while retaining the age indication for use in people age 60 years and older). Can you tell me what ACIP recommends about this?

At its June 2011 meeting, the ACIP reviewed the current status of ZOS licensure and the burden of herpes zoster (HZ) disease. ACIP declined to vote to expand the recommendations for the use of ZOS to include people age 50 through 59 years for the following reasons: (1) vaccines that contain varicella virus (i.e., varicella, ZOS, and MMRV vaccines) are in recurrent short supply in the U.S., (2) though the burden of HZ disease increases after age 50, disease rates are lower in this age group than they are in the 60-years-and-older age group, (3) currently, ZOS vaccination rates are less than 10 percent, and (4) a recommendation to vaccinate people age 50–59 years could result in more zoster disease if the limited supply of vaccine were to be given to people whose risk of disease is lower than that of older, more vulnerable adults.

**Can pharmacists in all states administer Zostavax (ZOS)?**
According to the American Pharmacist Association, 45 states currently allow pharmacists to administer ZOS, including many who administer it on a walk-in basis, using a protocol or standing orders. Not all pharmacists in the 45 states provide vaccination services, and of those who do, not all administer ZOS. It is best to call pharmacies ahead of time to find out if they have ZOS to administer to your patients.