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NEEDLE TIPS

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What's Inside?

What you'll find in this *Needle Tips* issue

In the January 2010 issue, we promised you'd be seeing *Needle Tips* more often. We're delivering on our promise with this February issue. It focuses on informing you about recently issued ACIP recommendations and on the two newly published 2010 U. S. immunization schedules, one for children and one for adults. Here's what this issue contains:

For healthcare professionals

Ask the Experts includes information you need to know about ACIP's recently voted-upon recommendations for administering existing and newly licensed vaccines for human papillomavirus (HPV), Japanese encephalitis, and yellow fever.

The page 2 editorial describes what's available on the IAC website so you can access the resources you need to vaccinate various patient groups. These resources include ACIP recommendations, policy statements from the American Academy of Pediatrics, and vaccine manufacturers' vaccine package inserts.

The 2010 U.S. immunization schedules for vaccinating people ages 0 through 18 years and adults are reproduced in ready-to-print format. See pages 14–15 for detailed information about IAC's popular laminated full-color versions of the schedules.

For patients and parents

Ready-to-copy handouts: Save time by giving patients and parents copies of these handouts so they can find out which vaccines they or their children may need to receive at the current visit or a future visit.

Finally, to stay informed about breaking immunization news between issues of *Needle Tips*, be sure you're subscribed to *IAC Express*, IAC's free weekly email news service. To subscribe to it and to IAC's two other periodicals—*Needle Tips* and *Vaccinate Adults*—go to www.immunize.org/subscribe.

Ask the Experts

IAC extends thanks to our experts, William L. Atkinson, MD, MPH, and Andrew T. Kroger, MD, MPH, medical epidemiologists at the National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC).

Vaccine questions

What has changed in the 2010 U.S. immunization schedule for children/teens and the 2010 U.S. immunization schedule for adults?

Both schedules were published in early January in *Morbidity and Mortality Weekly Report (MMWR)*. The schedule for children is available at www.cdc.gov/mmwr/PDF/wk/mm5851-Immunization.pdf, and the schedule for adults at www.cdc.gov/mmwr/PDF/wk/mm5901-Immunization.pdf. Along with the new schedules, *MMWR* published a bulleted list of changes with each schedule. Both lists are reprinted in the paragraphs that follow.

Immunization questions?

- Call the CDC-INFO Contact Center at (800) 232-4636 or (800) CDC-INFO
- Email nipinfo@cdc.gov
- Call your state health dept. (phone numbers at www.immunize.org/coordinators)

Changes to the child/teen schedule:

- The statement concerning use of combination vaccines in the introductory paragraph has been changed to reflect the revised ACIP recommendation on this issue.
- The last dose in the inactivated poliovirus vaccine series is now recommended to be administered on or after the fourth birthday and at least 6 months after the previous dose. In addition, if 4 doses are administered before age 4 years, an additional (fifth) dose should be administered at age 4 through 6 years.
- The hepatitis A footnote has been revised to allow vaccination of children older than 23 months for whom immunity against hepatitis A is desired.
- Revaccination with meningococcal conjugate vaccine is now recommended for children who remain at increased risk for meningococcal disease after 3 years (if the first dose was administered at age 2 through 6 years), or after 5 years (if the first dose was administered at age 7 years or older).
- Footnotes for human papillomavirus (HPV) vaccine have been modified to include (1) the availability of and recommendations for bivalent HPV vaccine, and (2) a permissive recommendation for administration of quadrivalent HPV vaccine to males aged 9 through 18 years to reduce the likelihood of acquiring genital warts.

Changes to the adult schedule:

- The human papillomavirus (HPV) footnote (#2) includes language that a bivalent HPV vaccine (HPV2) has been licensed for use in females. Either HPV2 or the quadrivalent human papillomavirus vaccine (HPV4) can be used for vaccination of females ages 19 through 26 years. In addition, language has been added to indicate that ACIP issued a permissive recommendation for use of HPV4 in males.
- The measles, mumps, rubella (MMR) footnote (#5) has language added to clarify which adults born during or after 1957 do not need 1 or more doses of MMR vaccine for the measles and mumps components, and clarifies which women should receive a dose of MMR vaccine. Also, interval dosing information has been added to indicate when a second dose of MMR vaccine should be administered. Language has been added to highlight recommendations for vaccinating healthcare personnel born before 1957 routinely and during outbreaks.

(continued on page 16)

To receive "Ask the Experts" Q&As by email, subscribe to the Immunization Action Coalition's free email news service, *IAC Express*. Special "Ask the Experts" issues are published five times per year. Subscribe at www.immunize.org/subscribe

Needle Tips

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IAC maintains strict editorial independence in its publications.

Get Your Patients on Schedule for Vaccination

Access these helpful and handy resources on immunize.org

January marks the official release of the recommended immunization schedules for children, adolescents, and adults. The Immunization Action Coalition (IAC) offers one-stop access to the official schedules on our website—www.immunize.org. Here you will also find many relevant and timely vaccination resources for staff and patients. Read on for more details.

CDC Schedules and IAC's Laminated Versions
www.immunize.org/cdc/schedules

IAC offers easy access to CDC's immunization schedules for children, adolescents, and adults in one spot at CDC Schedules.

Based on CDC's 2010 immunization schedules, IAC's laminated schedules come complete with essential footnotes and are printed in color for easy reading. Each schedule has six pages (i.e., three double-sided pages); folded, each measures 8.5" x 11". Visit Shop IAC to learn more about the Child/Teen Laminated Schedules and Adult Laminated Schedules.

Visit CDC Schedules

Vaccine Schedules for Patients and Parents
www.immunize.org/printmaterials/topic_schedules.asp

IAC offers several easy-to-follow, ready-to-copy guides to the vaccine schedule for patients and parents. Access these free print materials for infants, children, teens, and adults in the "Schedules for Patients" section.

Official Vaccine Recommendations
www.immunize.org/vacpolicy

Vaccine Policy and Licensure is your source for official and authoritative information about vaccines from government agencies such as the Centers for Disease Control and Prevention (CDC). CDC's Advisory Committee on Immunization Practices (ACIP) recommendations are official federal guidelines for the use of vaccines and immune globulins in the United States. IAC provides three ways to access ACIP Recommendations.

Advisory Committee on Immunization Practices:
- Chronological Index
- Vaccine Index
- Topics of Interest Index

Links to additional ACIP-related resources are also provided.

For health professionals whose patients include infants, children, or teens, IAC also provides links to vaccine policy statements from the American Academy of Pediatrics (AAP). AAP Vaccine Policy Statements are provided in three easy-to-access indices.

AAP Vaccine Policy Statements:
- Chronological Index
- Vaccine Index
- Topics of Interest Index

Links to AAP Vaccine Resources for health professionals and the public are also provided.

Links to Package Inserts
www.immunize.org/packageinserts

Organized and indexed by vaccine, the web section of Package Inserts saves web users time by eliminating the need to search for a package insert on the Food and Drug Administration's website or on the website of a vaccine manufacturer.

Subscribe to IAC's Online Publications
www.immunize.org/subscribe

Finally, we suggest that web users who want to stay up to date subscribe to our free online publications: *IAC Express*, our weekly email news service, and *Needle Tips* and *Vaccinate Adults*, essential online publications for healthcare professionals who provide vaccination services.

Visit the Immunization Action Coalition's website often! www.immunize.org

Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information in "Vaccine Highlights" is current as of February 2, 2010.

CDC information

On Jan. 8, CDC published "Recommended Immunization Schedules for Persons Aged 0 Through 18 Years—U.S., 2010." Issued jointly by ACIP, AAP, and AAFP, it is available at www.cdc.gov/vaccines/recs/schedules/child-schedule.htm. *Needle Tips* has a reformatted version on pages 4–6. For detailed information on how the 2010 immunization schedule differs from the 2009 schedule, see the first question in Ask the Experts on page 1 of this issue of *Needle Tips.*

To learn about or order IAC's laminated 6-page color version of the child/teen schedule, go to www.immunize.org/shop/schedule_child.asp.

On Jan. 15, CDC published "Recommended Adult Immunization Schedule—U.S., 2010." Issued jointly by ACIP, AAFP, ACOG, and ACP, it is available at www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm. *Needle Tips* has a reformatted version on pages 7–9. For detailed information on how the 2010 immunization schedule differs from the 2009 schedule, see the first question in Ask the Experts on page 1 of this issue of *Needle Tips.*

To learn about or order IAC's laminated 6-page color version of the adult schedule, go to www.immunize.org/shop/schedule_adult.asp.

On Jan. 29, CDC's Health Alert Network (HAN) issued a CDC Health Update announcing that sanofi pasteur had voluntarily recalled 5 lots of its single-dose pre-filled syringe pediatric (0.25 mL) H1N1 influenza vaccine and 1 lot of single-dose pre-filled syringe H1N1 influenza vaccine for older children and adults (0.5 mL). The potency of these lots had fallen below pre-specified limits. These lots pose no safety concerns, and CDC and FDA agree there is no reason to revaccinate people who have received vaccine from these lots. To read the HAN announcement, go to www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00306.

On Dec. 23, 2009, CDC's Health Alert Network (HAN) issued a CDC Health Update announcing that MedImmune had notified CDC that it was voluntarily recalling 13 lots of its monovalent 2009 (H1N1) nasal-spray vaccine. The potency of the 13 lots had decreased. These lots pose no safety concerns. CDC and FDA agree there is no need to revaccinate people who have received vaccine from these lots. To read the HAN announcement, go to http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00304.

Needle Tips editor's note: On Dec. 15, 2009, CDC's Health Alert Network issued a similar Health Update announcing that sanofi pasteur had voluntarily recalled certain lots of its pediatric H1N1 influenza vaccine. The lots posed no safety concerns, and there is no need to revaccinate people who received vaccine from these lots. This news was covered in the January 2010 issue of *Needle Tips* at www.immunize.org/nslt.d/n42/vaccine_highlights.pdf.

Other news

As of Jan. 21, PedvaxHIB, Merck's *Haemophilus influenzae* type b (Hib) vaccine, became fully available again in the U.S. for routine vaccination. For more information, see note 2 at www.cdc.gov/vaccines/vacgen/shortages.

On Dec. 23, 2009, FDA approved FluZone High-Dose (sanofi pasteur), an inactivated influenza virus vaccine for people ages 65 years and older to prevent disease caused by influenza virus subtypes A and B. To access the package insert, go to www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM195479.pdf.

On Nov. 30, 2009, *Pediatrics* published a supplement titled "Financing of Childhood and Adolescent Vaccines." The supplement is available without a subscription at http://pediatrics.aappublications.org/content/vol124/Supplement_5.

Current VIS dates

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 one of these sources: CDC's website at www.cdc.gov/vaccines/pubs/vis (has VISs in English) or IAC's website at www.immunize.org/vis (has VISs in more than 30 languages).

DTaP/DT/DTP.....5/17/07	MMR.....3/13/08
Hepatitis A.....3/21/06	PCV.....12/9/08
Hepatitis B.....7/18/07	PPSV.....10/6/09
Hib.....12/16/98	Polio.....1/1/00
HPV (H. papillomavirus)...2/2/07	Rabies.....10/6/09
H1N1 (inactivated)...10/2/09	Rotavirus.....8/28/08
H1N1 (LAIV).....10/2/09	Shingles.....10/6/09
Influenza (LAIV)..8/11/09	Td/Tdap.....11/18/08
Influenza (TIV).....8/11/09	Typhoid.....5/19/04
Japan. enceph. ..5/11/05	Varicella.....3/13/08
Meningococcal ... 1/28/08	Yellow fever.....11/9/04

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

Figure 1. Recommended Immunization Schedule for Persons Ages 0 through 6 Years, U.S., 2010

For those who fall behind or start late, see the catch-up schedule (Table 1).

Vaccine ▼ Age ▶	Birth	1 mo	2 mo	4 mo	6 mo	12 mo	15 mo	18 mo	19–23 mo	2–3 yrs	4–6 yrs
Hepatitis B[1]	HepB	HepB			HepB						
Rotavirus[2]			RV	RV	RV[2]						
Diphtheria, Tetanus, Pertussis[3]			DTaP	DTaP	DTaP	See footnote 3	DTaP				DTaP
Haemophilus influenzae type b[4]			Hib	Hib	Hib[4]	Hib					
Pneumococcal[5]			PCV	PCV	PCV	PCV				PPSV	
Inactivated Poliovirus[6]			IPV	IPV	IPV						IPV
Influenza[7]					Influenza (Yearly)						
Measles, Mumps, Rubella[8]						MMR		See footnote 8			MMR
Varicella[9]						Varicella		See footnote 9			Varicella
Hepatitis A[10]						HepA (2 doses)				HepA Series	
Meningococcal[11]										MCV	

Range of recommended ages for all children except certain high-risk groups

Range of recommended ages for certain high-risk groups

This schedule includes recommendations in effect as of December 15, 2009. Any dose not given at the recommended age should be given at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: www.cdc.gov/vaccines/pubs/acip-list.htm. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or by telephone, 800-822-7967.

1. Hepatitis B vaccine (HepB). *(Minimum age: birth)*

At birth:

- Give monovalent HepB to all newborns before hospital discharge.
- If mother is hepatitis B surface antigen (HBsAg)-positive, give newborn HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
- If mother's HBsAg status is unknown, give newborn HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if HBsAg-positive, give newborn HBIG (no later than age 1 week).

After the birth dose:

- The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be given at age 1 or 2 months. Monovalent HepB vaccine should be used for doses given before age 6 weeks. The final dose should be given no earlier than age 24 weeks.
- Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg 1 to 2 months after completion of at least 3 doses of the HepB series, at age 9 through 18 months (generally at the next well-child visit).
- Administration of 4 doses of HepB to infants is permissible when a combination vaccine containing HepB is given after the birth dose. The fourth dose should be given no earlier than age 24 weeks.

2. Rotavirus vaccine (RV). *(Minimum age: 6 weeks)*

- Give the first dose at age 6 through 14 weeks (maximum age: 14 weeks 6 days). Vaccination should not be initiated for infants ages 15 weeks 0 days or older.
- The maximum age for the final dose in the series is 8 months 0 days.
- If Rotarix is given at ages 2 and 4 months, a dose at 6 months is not indicated.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). *(Minimum age: 6 weeks)*

- The fourth dose may be given as early as age 12 months, provided at least 6 months have elapsed since the third dose.
- Give the final dose in the series at age 4 through 6 years.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib). *(Minimum age: 6 weeks)*

- If PRP-OMP (PedvaxHIB or Comvax [HepB-Hib]) is given at ages 2 and 4 months, a dose at age 6 months is not indicated.
- TriHiBit (DTaP/Hib) and Hiberix (PRP-T) should not be used for doses at ages 2, 4, or 6 months for the primary series but can be used as the final dose in children age 12 months through 4 years.

5. Pneumococcal vaccine. *(Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])*

- PCV is recommended for all children age younger than 5 years. Give 1 dose of PCV to all healthy children ages 24 through 59 months who are not completely vaccinated for their age.
- Give PPSV 2 or more months after last dose of PCV to children age 2 years or older with certain underlying medical conditions, including a cochlear implant. See *MMWR* 1997;46(No. RR-8).

6. Inactivated poliovirus vaccine (IPV). *(Minimum age: 6 weeks)*

- The final dose in the series should be given on or after the fourth birthday and at least 6 months following the previous dose.
- If 4 doses are given prior to age 4 years, a fifth dose should be given at age 4 through 6 years. See *MMWR* 2009;58(30):829–30.

7. Influenza vaccine (seasonal). *(Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])*

- Give annually to children ages 6 months through 18 years.
- For healthy children ages 2 through 6 years (i.e., those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used, except LAIV should not be given to children age 2 through 4 years who have had wheezing in the past 12 months.
- Children receiving TIV should receive 0.25 mL if age 6 through 35 months or 0.5 mL if age 3 years or older.
- Give 2 doses (separated by at least 4 weeks) to children age younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
- For recommendations for use of influenza A (H1N1) 2009 monovalent vaccine, see *MMWR* 2009;58(No. RR-10).

8. Measles, mumps, and rubella vaccine (MMR). *(Minimum age: 12 months)*

- Give the second dose routinely at age 4 through 6 years. However, the second dose may be given before age 4, provided at least 28 days have elapsed since the first dose.

9. Varicella vaccine. *(Minimum age: 12 months)*

- Give the second dose routinely at age 4 through 6 years. However, the second dose may be given before age 4, provided at least 3 months have elapsed since the first dose.
- For children ages 12 months through 12 years, the minimum interval between doses is 3 months. However, if the second dose was given at least 28 days after the first dose, it can be accepted as valid.

10. Hepatitis A vaccine (HepA). *(Minimum age: 12 months)*

- Give to all children age 1 year (i.e., ages 12 through 23 months). Give 2 doses at least 6 months apart.
- Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.
- HepA also is recommended for older children who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A is desired.

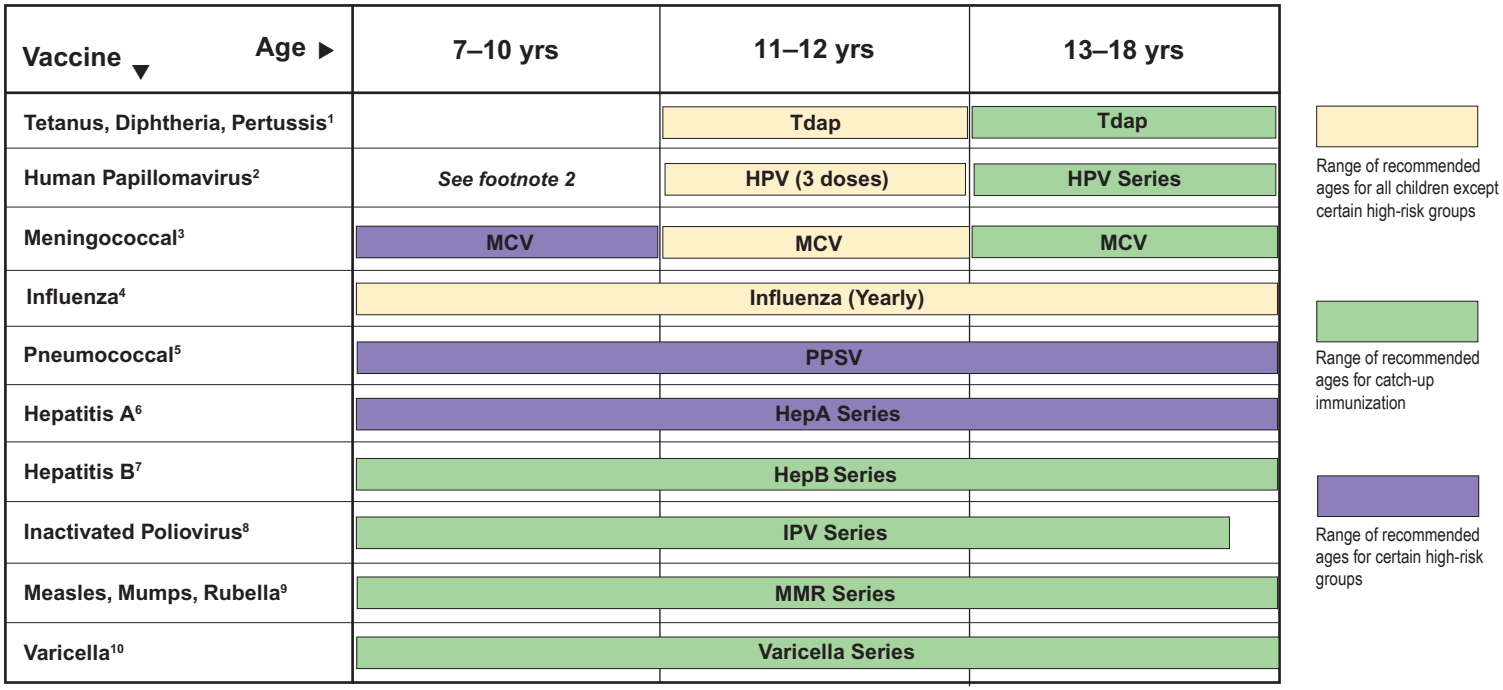
11. Meningococcal vaccine. *(Minimum age: 2 years for meningococcal conjugate vaccine [MCV4] and for meningococcal polysaccharide vaccine [MPSV4])*

- Give MCV4 to children ages 2 through 10 years with persistent complement component deficiency, anatomic or functional asplenia, and certain other conditions placing them at high risk.
- Give MCV4 to children previously vaccinated with MCV4 or MPSV4 after 3 years if first dose given at age 2 through 6 years. See *MMWR* 2009;58(37):1042–3.

The Recommended Immunization Schedules for Persons Ages 0 Through 18 Years are approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (www.aap.org), and the American Academy of Family Physicians (www.aafp.org).

Figure 2. Recommended Immunization Schedule for Persons Ages 7 through 18 Years, U.S., 2010

For those who fall behind or start late, see the schedule below and the catch-up schedule (Table 1).



This schedule includes recommendations in effect as of December 15, 2009. Any dose not given at the recommended age should be given at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: www.cdc.gov/vaccines/pubs/acip-list.htm. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or by telephone, 800-822-7967.

1. Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap). *(Minimum age: 10 years for Boostrix and 11 years for Adacel)*
- Give at age 11 or 12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoid (Td) booster dose.
- Persons ages 13 through 18 years who have not received Tdap should receive a dose.
- A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.

2. Human papillomavirus vaccine (HPV). *(Minimum age: 9 years)*
- Two HPV vaccines are licensed: a quadrivalent vaccine (HPV4) for the prevention of cervical, vaginal and vulvar cancers (in females) and genital warts (in females and males), and a bivalent vaccine (HPV2) for the prevention of cervical cancers in females.
- HPV vaccines are most effective for both males and females when given before exposure to HPV through sexual contact.
- HPV4 or HPV2 is recommended for the prevention of cervical precancers and cancers in females.
- HPV4 is recommended for the prevention of cervical, vaginal and vulvar precancers and cancers and genital warts in females.
- Give the first dose to females at age 11 or 12 years.
- Give the second dose 1 to 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).
- Give the series to females at age 13 through 18 years if not previously vaccinated.
- HPV4 may be given in a 3-dose series to males ages 9 through 18 years to reduce their likelihood of acquiring genital warts.

3. Meningococcal conjugate vaccine (MCV4).
- Give at age 11 or 12 years, or at age 13 through 18 years if not previously vaccinated.
- Give to previously unvaccinated college freshmen living in a dormitory.
- Give MCV4 to children ages 2 through 10 years with persistent complement component deficiency, anatomic or functional asplenia, or certain other conditions placing them at high risk.
- Give to children previously vaccinated with MCV4 or MPSV4 who remain at increased risk after 3 years (if first dose given at age 2 through 6 years) or after 5 years (if first dose given at age 7 years or older). Persons whose only risk factor is living in on-campus housing are not recommended to receive an additional dose. See *MMWR* 2009;58(37):1042–3.

4. Influenza vaccine (seasonal).
- Give annually to children ages 6 months through 18 years.
- For healthy nonpregnant persons ages 7 through 18 years (i.e., those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used.
- Give 2 doses (separated by at least 4 weeks) to children age younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
- For recommendations for use of influenza A (H1N1) 2009 monovalent vaccine, see *MMWR* 2009;58(No. RR-10).

5. Pneumococcal polysaccharide vaccine (PPSV).
- Give to children with certain underlying medical conditions, including a cochlear implant. A single revaccination should be given after 5 years to children with functional or anatomic asplenia or an immunocompromising condition. See *MMWR* 1997;46(No. RR-8).

6. Hepatitis A vaccine (HepA).
- Give 2 doses at least 6 months apart.
- HepA is recommended for children older than age 23 months who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A is desired.

7. Hepatitis B vaccine (HepB).
- Give the 3-dose series to those not previously vaccinated.
- A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children ages 11 through 15 years.

8. Inactivated poliovirus vaccine (IPV).
- The final dose in the series should be given on or after the fourth birthday and at least 6 months following the previous dose.
- If both OPV and IPV were given as part of a series, a total of 4 doses should be given, regardless of the child's current age.

9. Measles, mumps, and rubella vaccine (MMR).
- If not previously vaccinated, give 2 doses or the second dose for those who have received only 1 dose, with at least 28 days between the doses.

10. Varicella vaccine.
- For persons ages 7 through 18 years without evidence of immunity (see *MMWR* 2007;56 [No. RR-4]), give 2 doses if not previously vaccinated or the second dose if only 1 dose has been given.
- For persons ages 7 through 12 years, the minimum interval between doses is 3 months. However, if the second dose was given at least 28 days after the first dose, it can be accepted as valid.
- For persons age 13 years and older, the minimum interval between doses is 28 days.

Table 1. Catch-up Immunization Schedule for Persons Ages 4 Months through 18 Years Who Start Late or Who Are More Than 1 Month Behind, United States, 2010

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age.

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Catch-up schedule for persons ages 4 months through 6 years					
Hepatitis B[1]	Birth	4 weeks	**8 weeks** (and at least 16 wks after first dose)		
Rotavirus[2]	6 wks	4 weeks	4 weeks[2]		
Diphtheria, Tetanus, Pertussis[3]	6 wks	4 weeks	4 weeks	6 months	6 months[3]
Haemophilus influenzae type b[4]	6 wks	**4 weeks** if first dose given before age 12 mos **8 weeks (as final dose)** if first dose given at age 12–14 mos **No further doses needed** if first dose given at age 15 mos or older	**4 weeks**[4] if current age is younger than 12 mos **8 weeks (as final dose)**[4] if current age is 12 mos or older and first dose given before age 12 mos and second dose given before age 15 mos **No further doses needed** if previous dose given at age 15 mos or older	**8 weeks (as final dose)** This dose only necessary for children ages 12 mos through 59 mos who received 3 doses before age 12 mos	
Pneumococcal[5]	6 wks	**4 weeks** if first dose given before age 12 mos **8 weeks (as final dose for healthy children)** if first dose given at age 12 mos or older or current age is 24 through 59 mos **No further doses needed** for healthy children if first dose given at age 24 mos or older	**4 weeks** if current age is younger than 12 mos **8 weeks (as final dose for healthy children)** if current age is 12 mos or older **No further doses needed** for healthy children if previous dose given at age 24 mos or older	**8 weeks (as final dose)** This dose only necessary for children ages 12 mos through 59 mos who received 3 doses before age 12 mos or for high-risk children who received 3 doses at any age	
Inactivated Poliovirus[6]	6 wks	4 weeks	4 weeks	6 months[6]	
Measles, Mumps, Rubella[7]	12 mos	4 weeks			
Varicella[8]	12 mos	3 months			
Hepatitis A[9]	12 mos	6 months			
Catch-up schedule for persons ages 7 through 18 years					
Tetanus, Diphtheria/ Tetanus, Diphtheria, Pertussis[10]	7 yrs[10]	4 weeks	**4 weeks** if first dose given before age 12 mos **6 months** if first dose given at age 12 mos or older	**6 months** if first dose given before age 12 mos	
Human Papillomavirus[11]	9 yrs	Routine dosing intervals are recommended[11]			
Hepatitis A[9]	12 mos	6 months			
Hepatitis B[1]	Birth	4 weeks	**8 weeks** (and at least 16 wks after first dose)		
Inactivated Poliovirus[6]	6 wks	4 weeks	4 weeks	6 months	
Measles, Mumps, Rubella[7]	12 mos	4 weeks			
Varicella[8]	12 mos	**3 months** if person is younger than age 13 yrs **4 weeks** if person is age 13 years or older			

1. Hepatitis B vaccine (HepB).
- Give the 3-dose series to those not previously vaccinated.
- A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children ages 11 through 15 years.

2. Rotavirus vaccine (RV).
- The maximum age for the first dose is 14 weeks 6 days. Vaccination should not be initiated for infants age 15 weeks 0 days or older.
- The maximum age for the final dose in the series is 8 months 0 days.
- If Rotarix was given for the first and second doses, a third dose is not indicated.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).
- The fifth dose is not necessary if the fourth dose was given at age 4 years or older.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib).
- Hib vaccine is not generally recommended for persons age 5 years or older. No efficacy data are available on which to base a recommendation concerning use of Hib vaccine for older children and adults. However, studies suggest good immunogenicity in persons who have sickle cell disease, leukemia, or HIV infection, or who have had a splenectomy; giving 1 dose of Hib vaccine to these persons who have not previously received Hib vaccine is not contraindicated.
- If the first 2 doses were PRP-OMP (PedvaxHIB or Comvax), and given at age 11 months or younger, the third (and final) dose should be given at age 12 through 15 months and at least 8 weeks after the second dose.
- If the first dose was given at age 7 through 11 months, give the second dose at least 4 weeks later and a final dose at age 12 through 15 months.

5. Pneumococcal vaccine.
- Give 1 dose of pneumococcal conjugate vaccine (PCV) to all healthy children ages 24 through 59 months who have not received at least 1 dose of PCV on or after age 12 months.
- For children ages 24 through 59 months with underlying medical conditions, give 1 dose of PCV if 3 doses were received previously or give 2 doses of PCV at least 8 weeks apart if fewer than 3 doses were received previously.
- Give pneumococcal polysaccharide vaccine (PPSV) to children ages 2 years or older with certain underlying medical conditions, including a cochlear implant, at least 8 weeks after the last dose of PCV. See *MMWR* 1997;46(No. RR-8).

6. Inactivated poliovirus vaccine (IPV).
- The final dose in the series should be given on or after the fourth birthday and at least 6 months following the previous dose.
- A fourth dose is not necessary if the third dose was given at age 4 years or older and at least 6 months following the previous dose.
- In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk for imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).

7. Measles, mumps, and rubella vaccine (MMR).
- Give the second dose routinely at age 4 through 6 years. However, the second dose may be given before age 4, provided at least 28 days have elapsed since the first dose.
- If not previously vaccinated, give 2 doses with at least 28 days between doses.

8. Varicella vaccine.
- Give the second dose routinely at age 4 through 6 years. However, the second dose may be given before age 4, provided at least 3 months have elapsed since the first dose.
- For persons ages 12 months through 12 years, the minimum interval between doses is 3 months.However, if the second dose was given at least 28 days after the first dose, it can be accepted as valid.
- For persons ages 13 years and older, the minimum interval between doses is 28 days.

9. Hepatitis A vaccine (HepA).
- HepA is recommended for children older than 23 months who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A is desired.

10. Tetanus and diphtheria toxoids (Td) and tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap).
- Doses of DTaP are counted as part of the Td/Tdap series.
- Tdap should be substituted for a single dose of Td in the catch-up series or as a booster for children ages 10 through 18 years; use Td for other doses.

11. Human papillomavirus vaccine (HPV).
- Give the series to females at age 13 through 18 years if not previously vaccinated.
- Use recommended routine dosing intervals for series catch-up (i.e., the second and third doses should be given at 1 to 2 and 6 months after the first dose). The minimum interval between the first and second doses is 4 weeks. The minimum interval between the second and third doses is 12 weeks, and the third dose should be given at least 24 weeks after the first dose.

Recommended Adult Immunization Schedule – United States, 2010

Note: These recommendations *must* be read with the footnotes that follow, which contain the number of doses, intervals between doses, and other important information.

Figure 1. Recommended adult immunization schedule, by vaccine and age group

Vaccine ▼ / Age group ▶	19–26 years	27–49 years	50–59 years	60–64 years	≥65 years
Tetanus, diphtheria, pertussis (Td/Tdap)[1,*]	Substitute one-time dose of Tdap for Td booster; then boost with Td every 10 yrs				Td booster every 10 yrs
Human papillomavirus (HPV)[2,*]	3 doses (females)				
Varicella[3,*]	2 doses				
Zoster[4]				1 dose	
Measles, mumps, rubella (MMR)[5,*]	1 or 2 doses		1 dose		
Influenza[6,*]			1 dose annually		
Pneumococcal (polysaccharide)[7,8]	1 or 2 doses				1 dose
Hepatitis A[9,*]	2 doses				
Hepatitis B[10,*]	3 doses				
Meningococcal[11,*]	1 or more doses				

*Covered by the Vaccine Injury Compensation Program.

Figure 2. Vaccines that might be indicated for adults based on medical and other indications

Indication ▶ / Vaccine ▼	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV])[3–5,12]	HIV infection[3–5,12,13] CD4+ T lymphocyte count <200 cells/μL	HIV infection[3–5,12,13] CD4+ T lymphocyte count ≥200 cells/μL	Diabetes, heart disease, chronic lung disease, chronic alcoholism	Asplenia[13] (including elective splenectomy and persistent complement component deficiencies)	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Healthcare personnel
Tetanus, diphtheria, pertussis (Td/Tdap)[1,*]	Td	Substitute one-time dose of Tdap for Td booster; then boost with Td every 10 yrs							
Human papillomavirus (HPV)[2,*]		3 doses for females through age 26 yrs							
Varicella[3,*]	Contraindicated			2 doses					
Zoster[4]	Contraindicated				1 dose				
Measles, mumps, rubella (MMR)[5,*]	Contraindicated			1 or 2 doses					
Influenza[6,*]	1 dose TIV annually								1 dose TIV or LAIV annually
Pneumococcal (polysaccharide)[7,8]		1 or 2 doses							
Hepatitis A[9,*]	2 doses								
Hepatitis B[10,*]	3 doses								
Meningococcal[11,*]	1 or more doses								

*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection)

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages19 years and older, as of January 1, 2010. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/pubs/acip-list.htm).

Footnotes

For complete statements by the Advisory Committee on Immunization Practices (ACIP), visit www.cdc.gov/vaccines/pubs/acip-list.htm

1. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination. Tdap should replace a single dose of Td for adults ages 19 through 64 years who have not received a dose of Tdap previously.

Adults with uncertain or incomplete history of primary vaccination series with tetanus and diphtheria toxoid-containing vaccines should begin or complete a primary vaccination series. A primary series for adults is 3 doses of tetanus and diphtheria toxoid-containing vaccines; give the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second; Tdap can substitute for any one of the doses of Td in the 3-dose primary series. The booster dose of tetanus and diphtheria toxoid-containing vaccine should be given to adults who have completed a primary series and if the last vaccination was received 10 or more years previously. Tdap or Td vaccine may be used, as indicated.

If a woman is pregnant and received the last Td vaccination 10 or more years previously, give Td during the second or third trimester. If the woman received the last Td vaccination less than 10 years previously, give Tdap during the immediate postpartum period. A dose of Tdap is recommended for postpartum women, close contacts of infants younger than age 12 months, and all healthcare personnel with direct patient contact if they have not previously received Tdap. An interval as short as 2 years from the last Td vaccination is suggested; shorter intervals can be used. Td may be deferred during pregnancy and Tdap substituted in the immediate postpartum period, or Tdap can be given instead of Td to a pregnant woman.

Consult the ACIP statement for recommendations for giving Td as prophylaxis in wound management.

2. Human papillomavirus (HPV) vaccination. HPV vaccination is recommended at age 11 or 12 years with catch-up vaccination at ages 13 through 26 years.

Ideally, vaccine should be given before potential exposure to HPV through sexual activity; however, females who are sexually active should still be vaccinated consistent with age-based recommendations. Sexually active females who have not been infected with any of the four HPV vaccine types (types 6, 11, 16, 18, all of which HPV4 prevents) or any of the two HPV vaccine types (types 16, 18, both of which HPV2 prevents) receive the full benefit of the vaccination. Vaccination is less beneficial for females who have already been infected with one or more of the HPV vaccine types. HPV4 or HPV2 can be given to persons with a history of genital warts, abnormal Papanicolaou test, or positive HPV DNA test, because these conditions are not evidence of prior infection with all vaccine HPV types.

HPV4 may be given to males ages 9 through 26 years to reduce their likelihood of acquiring genital warts. HPV4 would be most effective when given before exposure to HPV through sexual contact.

A complete series for either HPV4 or HPV2 consists of 3 doses. The second dose should be given 1 to 2 months after the first dose; the third dose should be given 6 months after the first dose.

Although HPV vaccination is not specifically recommended for persons with the medical indications described in Figure 2, "Vaccines that might be indicated for adults based on medical and other indications," it may be given to these persons because the HPV vaccine is not a live-virus vaccine. However, the immune response and vaccine efficacy might be less for persons with the medical indications described in Figure 2 than in persons who do not have the medical indications described or who are immunocompetent. Healthcare personnel are not at increased risk because of occupational exposure and should be vaccinated consistent with age-based recommendations.

3. Varicella vaccination. All adults without evidence of immunity to varicella should receive 2 doses of single-antigen varicella vaccine if not previously vaccinated or the second dose if they have received only 1 dose, unless they have a medical contraindication. Special consideration should be given to those who 1) have close contact with persons at high risk for severe disease (e.g., healthcare personnel and family contacts of persons with immunocompromising conditions) or 2) are at high risk for exposure or transmission (e.g., teachers; child-care employees; residents and staff members of institutional settings, including correctional institutions; college students; military personnel; adolescents and adults living in households with children; nonpregnant women of childbearing age; and international travelers).

Evidence of immunity to varicella in adults includes any of the following: 1) documentation of 2 doses of varicella vaccine at least 4 weeks apart; 2) U.S.-born before 1980 (although for healthcare personnel and pregnant women, birth before 1980 should not be considered evidence of immunity); 3) history of varicella based on diagnosis or verification of varicella by a healthcare provider (for a patient reporting a history of or having an atypical case, a mild case, or both, healthcare providers should seek either an epidemiologic link with a typical varicella case or to a laboratory-confirmed case or evidence of laboratory confirmation, if it was performed at the time of acute disease); 4) history of herpes zoster based on diagnosis or verification of herpes zoster by a healthcare provider; or 5) laboratory evidence of immunity or laboratory confirmation of disease.

Pregnant women should be assessed for evidence of varicella immunity. Women who do not have evidence of immunity should receive the first dose of varicella vaccine upon completion or termination of pregnancy and before discharge from the healthcare facility. The second dose should be given 4–8 weeks after the first dose.

4. Herpes zoster vaccination. A single dose of zoster vaccine is recommended for adults ages 60 years and older regardless of whether they report a prior episode of herpes zoster. Persons with chronic medical conditions may be vaccinated unless their condition constitutes a contraindication.

5. Measles, mumps, rubella (MMR) vaccination. Adults born before 1957 generally are considered immune to measles and mumps.

Measles component: Adults born during or after 1957 should receive 1 or more doses of MMR vaccine unless they have 1) a medical contraindication; 2) documentation of vaccination with 1 or more doses of MMR vaccine; 3) laboratory evidence of immunity; or 4) documentation of physician-diagnosed measles. A second dose of MMR vaccine, given 4 weeks after the first dose, is recommended for adults who 1) have been recently exposed to measles or are in an outbreak setting; 2) have been vaccinated previously with killed measles vaccine; 3) have been vaccinated with an unknown type of measles vaccine during 1963–1967; 4) are students in postsecondary educational institutions; 5) work in a healthcare facility; or 6) plan to travel internationally.

Mumps component: Adults born during or after 1957 should receive 1 dose of MMR vaccine unless they have 1) a medical contraindication; 2) documentation of vaccination with 1 or more doses of MMR vaccine; 3) laboratory evidence of immunity; or 4) documentation of physician-diagnosed mumps. A second dose of MMR vaccine, given 4 weeks after the first dose, is recommended for adults who 1) live in a community experiencing a mumps outbreak and are in an affected age group; 2) are students in postsecondary educational institutions; 3) work in a healthcare facility; or 4) plan to travel internationally.

Rubella component: 1 dose of MMR vaccine is recommended for women who do not have documentation of rubella vaccination, or who lack laboratory evidence of immunity. For women of childbearing age, regardless of birth year, rubella immunity should be determined and women should be counseled regarding congenital rubella syndrome. Women who do not have evidence of immunity should receive MMR vaccine upon completion or termination of pregnancy and before discharge from the healthcare facility.

Healthcare personnel born before 1957: For unvaccinated healthcare personnel born before 1957 who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease, healthcare facilities should consider vaccinating personnel with 2 doses of MMR vaccine at the appropriate interval (for measles and mumps) and 1 dose of MMR vaccine (for rubella), respectively. During outbreaks, healthcare facilities should recommend that unvaccinated healthcare personnel born before 1957, who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease, receive 2 doses of MMR vaccine during an outbreak of measles or mumps, and 1 dose during an outbreak of rubella. Complete information about evidence of immunity is available at www.cdc.gov/vaccines/recs/provisional/default.htm.

6. Seasonal Influenza vaccination: Vaccinate all persons age 50 years and older and any younger persons who would like to decrease their risk for influenza. Vaccinate persons ages 19 through 49 years with any of the following indications:

Medical: Chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases (including diabetes mellitus); renal or hepatic dysfunction, hemoglobinopathies, or immunocompromising conditions (including immunocompromising conditions caused by medications or HIV); cognitive, neurologic, or neuromuscular disorders; and pregnancy during the influenza season. No data exist on the risk for severe or complicated influenza disease among persons with asplenia; however, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

Occupational: All healthcare personnel, including those employed by long-term care and assisted-living facilities, and caregivers of children younger than age 5 years.

(continued)

Footnotes (continued)

Other: Residents of nursing homes and other long-term care and assisted-living facilities; persons likely to transmit influenza to persons at high risk (e.g., in-home household contacts and caregivers of children younger than age 5 years, persons age 50 years and older, and persons of all ages with high-risk conditions).

Healthy, nonpregnant adults younger than age 50 years without high-risk medical conditions who are not contacts of severely immunocompromised persons in special-care units may receive either intranasally administered live, attenuated influenza vaccine (FluMist) or inactivated vaccine. Other persons should receive the inactivated vaccine.

7. Pneumococcal polysaccharide (PPSV) vaccination. Vaccinate all persons with the following indications: *Medical:* Chronic lung disease (including asthma); chronic cardiovascular diseases; diabetes mellitus; chronic liver diseases, cirrhosis; chronic alcoholism; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]); immunocompromising conditions (including chronic renal failure or nephrotic syndrome); and cochlear implants and cerebrospinal fluid leaks. Vaccinate as close to HIV diagnosis as possible.

Other: Residents of nursing homes or long-term care facilities and persons who smoke cigarettes. Routine use of PPSV is not recommended for American Indian/Alaska Natives or persons younger than age 65 years unless they have underlying medical conditions that are PPSV indications. However, public health authorities may consider recommending PPSV for American Indians/Alaska Natives and persons ages 50 through 64 years who are living in areas in which the risk for invasive pneumococcal disease is increased.

8. Revaccination with PPSV. One-time revaccination after 5 years is recommended for persons with chronic renal failure or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy); and for persons with immunocompromising conditions. For persons age 65 years and older, one-time revaccination is recommended if they were vaccinated 5 or more years previously and were younger than age 65 years at the time of primary vaccination.

9. Hepatitis A (HepA) vaccination. Vaccinate persons with any of the following indications and any person seeking protection from hepatitis A virus (HAV) infection:

Behavioral: Men who have sex with men and persons who use injection drugs.

Occupational: Persons working with HAV-infected primates or with HAV in a research laboratory setting.

Medical: Persons with chronic liver disease and persons who receive clotting factor concentrates.

Other: Persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A (a list of countries is available at wwwn.cdc.gov/travel/contentdiseases.aspx).

Unvaccinated persons who anticipate close personal contact (e.g., household contact or regular babysitting) with an international adoptee from a country of high or intermediate endemicity during the first 60 days after arrival of the adoptee in the United States should consider vaccination. The first dose of the 2-dose hepatitis A vaccine series should be given as soon as adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

Single-antigen vaccine formulations should be given in a 2-dose schedule at either 0 and 6–12 months (Havrix), or 0 and 6–18 months (Vaqta). If the combined hepatitis A and hepatitis B vaccine (Twinrix) is used, give 3 doses at 0, 1, and 6 months; alternatively, a 4-dose schedule, given on days 0, 7, and 21 to 30 followed by a booster dose at month 12 may be used.

10. Hepatitis B (HepB) vaccination. Vaccinate persons with any of the following indications and any person seeking protection from hepatitis B virus (HBV) infection:

Behavioral: Sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than one sex partner during the previous 6 months); persons seeking evaluation or treatment for a sexually transmitted disease (STD); current or recent injection-drug users; and men who have sex with men.

Occupational: Healthcare personnel and public-safety workers who are exposed to blood or other potentially infectious body fluids.

Medical: Persons with end-stage renal disease, including patients receiving hemodialysis; persons with HIV infection; and persons with chronic liver disease.

Other: Household contacts and sex partners of persons with chronic HBV infection; clients and staff members of institutions for persons with developmental disabilities; and international travelers to countries with high or intermediate prevalence of chronic HBV infection (a list of countries is available at wwwn.cdc.gov/travel/contentdiseases.aspx).

Hepatitis B vaccination is recommended for all adults in the following settings: STD treatment facilities; HIV testing and treatment facilities; facilities providing drug-abuse treatment and prevention services; healthcare settings targeting services to injection-drug users or men who have sex with men; correctional facilities; end-stage renal disease programs and facilities for chronic hemodialysis patients; and institutions and nonresidential daycare facilities for persons with developmental disabilities.

Give or complete a 3-dose series of hepatitis B vaccine to those persons not previously vaccinated. The second dose should be given 1 month after the first dose; the third dose should be given at least 2 months after the second dose (and at least 4 months after the first dose). If the combined hepatitis A and hepatitis B vaccine (Twinrix) is used, give 3 doses at 0, 1, and 6 months; alternatively, a 4-dose schedule, given on days 0, 7, and 21 to 30 followed by a booster dose at month 12 may be used.

Adult patients receiving hemodialysis or with other immunocompromising conditions should receive 1 dose of 40 μg/mL (Recombivax HB) given on a 3-dose schedule or 2 doses of 20 μg/mL (Engerix-B) given simultaneously on a 4-dose schedule at 0, 1, 2, and 6 months.

11. Meningococcal vaccination. Meningococcal vaccine should be given to persons with the following indications:

Medical: Adults with anatomic or functional asplenia, or persistent complement component deficiencies.

Other: First-year college students living in dormitories; microbiologists routinely exposed to isolates of *Neisseria meningitidis;* military recruits; and persons who travel to or live in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the "meningitis belt" of sub-Saharan Africa during the dry season [December through June]), particularly if their contact with local populations will be prolonged. Vaccination is required by the government of Saudi Arabia for all travelers to Mecca during the annual Hajj.

Meningococcal conjugate vaccine (MCV4) is preferred for adults with any of the preceding indications who are age 55 years or younger; meningococcal polysaccharide vaccine (MPSV4) is preferred for adults age 56 years and older. Revaccination with MCV4 after 5 years is recommended for adults previously vaccinated with MCV4 or MPSV4 who remain at increased risk for infection (e.g., adults with anatomic or functional asplenia). Persons whose only risk factor is living in on-campus housing are not recommended to receive an additional dose.

12. Immunocompromising conditions. Inactivated vaccines generally are acceptable (e.g., pneumococcal, meningococcal, influenza [inactivated influenza vaccine]) and live vaccines generally are avoided in persons with immune deficiencies or immunocompromising conditions. Information on specific conditions is available at www.cdc.gov/vaccines/pubs/acip-list.htm.

13. Selected conditions for which *Haemophilus influenzae* type b (Hib) vaccine may be used. Hib vaccine generally is not recommended for persons age 5 years and older. No efficacy data are available on which to base a recommendation concerning use of Hib vaccine for older children and adults. However, studies suggest good immunogenicity in patients who have sickle cell disease, leukemia, or HIV infection or who have had a splenectomy. Giving 1 dose of Hib vaccine to these high-risk persons who have not previously received Hib vaccine is not contraindicated.

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382.To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 24 hours a day, 7 days a week.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

When Do Children and Teens Need Vaccinations?

Age	HepB Hepatitis B	DTaP/Tdap Diphtheria, tetanus, pertussis	Hib *Haemophilus influenzae* type b	Polio	PCV Pneumococcal conjugate	RV Rotavirus	MMR Measles, mumps, rubella	Varicella Chickenpox	HepA Hepatitis A	HPV Human papillomavirus	MCV4 Meningococcal conjugate	Influenza
Birth	✓											
2 months	✓ (1–2 mos)	✓	✓	✓	✓	✓						
4 months	✓[1]	✓	✓	✓	✓	✓						
6 months		✓	✓[2]		✓	✓[2]						
12 months	✓ (6–18 mos)	✓[4] (15–18 mos)	✓ (12–15 mos)	✓ (6–18 mos)	✓ (12–15 mos)		✓ (12–15 mos)	✓ (12–15 mos)	✓✓ (2 doses given 6 mos apart at age 12–23 mos)			✓[3] (given each fall or winter to children ages 6 mos–18 yrs)
15 months												
18 months			Catch-up[5] (to 5 years)		Catch-up[5] (to 5 years)		Catch-up[5]	Catch-up[5]				
19–23 months	Catch-up[5]	Catch-up[5]		Catch-up[5]								
4–6 years		✓		✓			✓	✓				
7–10 years		Catch-up[5]							Catch-up[5]			
11–12 years		✓ Tdap		Catch-up[5]			Catch-up[5]	Catch-up[5]		✓✓✓[6]	✓	
13–18 years		Catch-up[5] (Tdap/Td)								Catch-up[5,6]	Catch-up[5,7]	

1. Your infant may not need a dose of HepB at age 4 months depending on the type of vaccine that your healthcare provider uses.
2. Your infant may not need a dose of Hib vaccine or RV vaccine at age 6 months depending on the type of vaccine that your healthcare provider uses.
3. One dose is recommended for most people. Children younger than age 9 years who are receiving influenza vaccine for the first time, or who received only 1 dose in the previous season (if it was their first vaccination season), should receive 2 doses spaced at least 4 weeks apart this season.
4. This dose of DTaP may be given as early as age 12 months if it has been 6 months since the previous dose.
5. If your child's vaccinations are delayed or missed entirely, they should be given as soon as possible.
6. All girls and women age 11 through 26 years should be vaccinated with 3 doses of HPV vaccine, given over a 6-month period. Boys and men age 11 through 26 years may also be vaccinated with one of the HPV vaccines (Gardasil) to reduce their likelihood of getting genital warts. The vaccine may be given to children as young as age 9 years.
7. If you have a teenager who is enrolling in college and planning to live in a dormitory and who hasn't previously been vaccinated against meningococcal disease, they should be vaccinated now.

Please note: Some children may need additional vaccines. Talk to your healthcare provider.

Technical content reviewed by the Centers for Disease Control and Prevention, January 2010.

www.immunize.org/catg.d/p4050.pdf • Item #P4050 (1/10)

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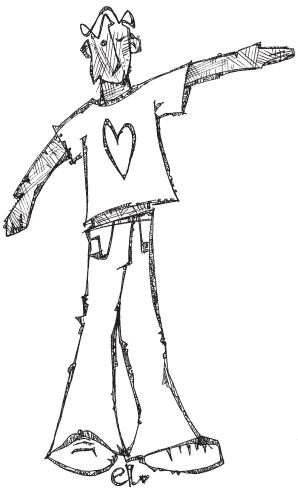


Are you 11–19 years old?

Then you need to be vaccinated against these serious diseases!

Many people between the ages of 11 and 19 think they are done with their vaccinations. They think vaccinations are just for little kids. But guess what? There are millions of people between the ages of 11 and 19 who need vaccinations to prevent whooping cough, tetanus, diphtheria, hepatitis B, hepatitis A, chickenpox, measles, mumps, rubella, polio, influenza, meningococcal disease, pneumococcal disease, and human papillomavirus infection. Are you one of them?

Getting immunized is a lifelong, life-protecting job. Make sure you and your healthcare provider keep your immunizations up to date. Check to be sure you've had all the vaccinations you need.

Hepatitis B (HepB)	You need a series of doses of hepatitis B vaccine if you have not already received them.
Measles, Mumps, Rubella (MMR)	Check with your healthcare provider to make sure you've had 2 doses of MMR.
Tetanus, diphtheria, pertussis (whooping cough) (Tdap, Td)	You need a booster dose of Tdap at age 11–12 years. If you're older and already had a Td booster, you should get a Tdap shot to get the extra protection against pertussis. After that you will need a Td booster dose every ten years.
Polio (IPV)	If you haven't completed your series of polio vaccine doses and you are not yet 18, you should complete them now.
Varicella (Var) (chickenpox shot)	If you have not been previously vaccinated and have not had chickenpox, you should get vaccinated against this disease. The vaccine is given as a 2-dose series. Any teenager who was vaccinated as a child with only 1 dose should get a second dose now.
Hepatitis A (HepA)	Anyone can get infected with hepatitis A. That is why many teens want to be protected by vaccine. Some teens, however, have an even greater chance of getting the disease. These risk factors include traveling outside the United States*, babysitting or having household contact with a child who was adopted from a foreign country within the last 60 days, being a male who has sex with other males, using illegal drugs, or having a clotting factor disorder or chronic liver disease. Talk to your healthcare provider about this 2-dose series of shots.
Human Papillomavirus (HPV)	All adolescent girls should get a series of 3 doses of HPV vaccine to prevent cervical cancer. If you haven't had these shots, you should get vaccinated now. Adolescent boys, too, can get the Gardasil brand of the HPV vaccine to prevent genital warts.
Influenza	All children and teens through age 18 years should receive annual vaccination against influenza. All adults who want to be protected from this serious disease should get yearly influenza vaccination every fall or winter.
Pneumococcal disease (pneumococcal shot)	Do you have a chronic health problem? Talk to your healthcare provider about whether you should receive a pneumococcal shot.
Meningococcal disease	This vaccine is recommended for all teens ages 11 through 18 years, college freshmen who will be or are living in dormitories, and those with certain special medical conditions. Ask your healthcare provider.

*** Do you travel outside the United States?**

If so, you may need additional vaccines. The Centers for Disease Control and Prevention (CDC) operates an international traveler's health information line. Call (800) 232-4636 or visit CDC's website at www.cdc.gov/travel for information about your destination. You may also consult a travel clinic or your healthcare professional.

Technical content reviewed by the Centers for Disease Control and Prevention, January 2010.

www.immunize.org/catg.d/p4020.pdf • Item #P4020 (1/10)

Your name: _____ Date of birth: ___/___/___ (mo.) (day) (yr.) Today's date: ___/___/___ (mo.) (day) (yr.)

Do I need any vaccinations today?

Many adults are behind on their vaccinations. This questionnaire will help you and your healthcare provider determine if you need any vaccinations today. Please check the boxes that apply to you.

Influenza vaccination

- ❑ I'd like to be vaccinated to avoid getting influenza and spreading it to others this season.
- ❑ I am age 50 or older.
- ❑ I live with or provide care for a child younger than age 5.
- ❑ I am younger than age 50 and have an ongoing health problem, such as lung, heart, kidney, liver, or blood disease; diabetes; HIV/AIDS; a disease that affects my immune system; a neurologic condition; or a health condition that may cause me to choke when I swallow.
- ❑ I live with or provide care for an adult age 50 or older or who has one of the health conditions described above.
- ❑ I live in a nursing home or chronic care facility.
- ❑ I am or will be pregnant during the influenza season.
- ❑ I am a healthcare worker.

Pneumococcal vaccination

- ❑ I am age 65 or older, and I have never had a pneumococcal shot.
- ❑ I am age 65 or older and had one pneumococcal shot when I was younger than age 65; it has been 5 years or more since that shot.
- ❑ I am younger than age 65, I have not been vaccinated against pneumococcal disease, and at least one of the following applies to me:
  - I smoke cigarettes.
  - I have heart, lung (including asthma), liver, kidney, or sickle cell disease; diabetes; or alcoholism.
  - I have a weakened immune system due to cancer, Hodgkin's disease, leukemia, lymphoma, multiple myeloma, kidney failure, HIV/AIDS; or I am receiving radiation therapy; or I am on medication that suppresses my immune system.
  - I have had an organ or bone marrow transplant.
  - I have had my spleen removed, have had or will have a cochlear implant, or have leaking spinal fluid.

Tetanus-, diphtheria-, and pertussis (whooping cough)-containing vaccination (e.g., DTP, DTaP, Tdap, or Td)

- ❑ I am younger than age 65 and have not had a pertussis-containing vaccine as an adult.
- ❑ I have or will have close contact with a child younger than age 12 months and have not had a pertussis-containing vaccine as an adolescent or adult.
- ❑ I have not yet had at least 3 tetanus- and diphtheria-containing shots.
- ❑ I have had at least 3 tetanus- and diphtheria-containing shots in my lifetime, but I believe it's been 10 years or more since I received my last shot.
- ❑ I have no idea if I ever received any tetanus- and diphtheria-containing shots in school, the military, or elsewhere.

Human papillomavirus vaccination

- ❑ I am a woman age 26 or younger and haven't completed a series of shots against human papillomavirus.
- ❑ I am a man age 26 or younger and want protection against genital warts.

Shingles (zoster) vaccination

- ❑ I am an adult age 60 or older and haven't had a shingles shot.

Note: Adults may need additional vaccinations, such as polio or others. Talk to your healthcare provider.

(continued on page 2)

Technical content reviewed by the Centers for Disease Control and Prevention, January 2010.

www.immunize.org/catg.d/p4036.pdf • Item #P4036 (1/10)

Hepatitis A vaccination

- ❑ I want to be vaccinated to avoid getting hepatitis A and spreading it to others.
- ❑ I was vaccinated with hepatitis A vaccine in the past but never received the second shot.
- ❑ I might have been exposed to the hepatitis A virus in the past 2 weeks.
- ❑ I am in one of the following risk groups, and I haven't completed the 2-dose series of hepatitis A shots:
  - I travel in countries where hepatitis A is common.[1,2]
  - I have (or will have) contact with an adopted child within the first 60 days of their arrival from a country where hepatitis A is common.[2]
  - I am a man who has sex with men.
  - I use street drugs.
  - I have chronic liver disease.
  - I have a clotting factor disorder.

Hepatitis B vaccination

- ❑ I want to be vaccinated to avoid getting hepatitis B and spreading it to others.
- ❑ I am age 18 or younger and haven't completed the series of hepatitis B shots.
- ❑ I was vaccinated with hepatitis B vaccine in the past but never completed the full 3-dose series.
- ❑ I am in one of the following risk groups, and I haven't completed the series of hepatitis B shots:
  - I am sexually active and am not in a long-term, mutually monogamous relationship.
  - I am a man who has sex with men.
  - I am an immigrant, or my parents are immigrants from an area of the world where hepatitis B is common.[3,4]
  - I live with or am a sex partner of a person with hepatitis B.
  - I have been diagnosed with a sexually transmitted disease.
  - I have been diagnosed with HIV.
  - I inject street drugs.
  - I have chronic liver disease.
  - I am or will be on kidney dialysis.
  - I am a healthcare or public safety worker who is exposed to blood or other body fluids.
  - I provide direct services for people with developmental disabilities.
  - I travel outside the U.S.[1,3]

Measles-Mumps-Rubella (MMR) vaccination

- ❑ I was born in 1957 or later and never received an MMR shot.
- ❑ I am a woman thinking about a future pregnancy and do not know if I'm immune to rubella.
- ❑ I am a healthcare worker, I do not have a history of measles or mumps, and I've had only one dose of MMR vaccine.
- ❑ I was born in 1957 or later, and I am included in one of the following groups for whom 2 MMR shots are recommended, but I have received only 1 shot.
  - ❑ I am entering college or a post–high school educational institution.
  - ❑ I had a blood test that shows I do not have immunity to measles, mumps, or rubella.
  - ❑ I travel internationally.

Chickenpox (varicella) vaccination

- ❑ I was born in 1980 or later and have never had chickenpox or the vaccine, or I just don't know.
- ❑ I was born before 1980 and am either a healthcare worker or foreign born, and am not sure if I've had chickenpox or not.
- ❑ I may become pregnant and do not know if I've had chickenpox or the vaccine.

Meningococcal vaccination

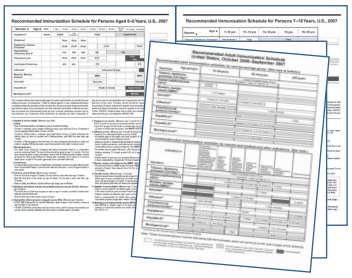
- ❑ I am age 18 or younger and haven't received a meningococcal shot.
- ❑ I am (or will be) a college freshman living in a dorm.
- ❑ I am traveling to an area of the world where meningococcal disease is common.[1]
- ❑ I have sickle cell disease, or my spleen isn't working or has been removed, or I have a persistent complement component deficiency.
- ❑ I was previously vaccinated 5 or more years ago and continue to be at risk for meningococcal disease. Note: this does not apply to students whose only risk factor is living in a college dormitory.

1. Call your local travel clinic to find out if additional vaccines are recommended.
2. Countries where hepatitis A is common include all countries other than the U.S., Western Europe, Canada, Japan, Australia, and New Zealand.
3. Areas with high rates of hepatitis B include Africa, China, Korea, Southeast Asia including Indonesia and the Philippines, South and Western Pacific Islands, interior Amazon Basin, certain parts of the Caribbean (i.e., Haiti and the Dominican Republic), and the Middle East except Israel. Areas with moderate rates include South Central and Southwest Asia, Israel, Japan, Eastern and Southern Europe, Russia, and most of Central and South America.
4. Most adults from moderate- or high-risk areas of the world do not know their hepatitis B status. All patients from these areas need hepatitis B blood tests to determine if they have been previously infected. The first hepatitis B shot can be given during the same visit as the blood tests but only after the blood is drawn.

Order Essential Immunization Resources from IAC

To order visit www.immunize.org/shop or use order form on the next page

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 and the ACIP/AAFP/ACOG/ACP-approved schedule for adults. Both are laminated for heavy-duty use, complete with essential footnotes, and printed in color for easy reading. The cost is $7.50 each for 1–4 schedules, with discounts for larger orders: $5.50 each for 5–19 schedules, $4.50 each for 20–99 schedules, and $4 each for 100–499 schedules.

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For 500 or more schedules, contact us for discount pricing: admininfo@immunize.org

Immunization record cards available for all ages—for children & teens, for adults, and for a lifetime!

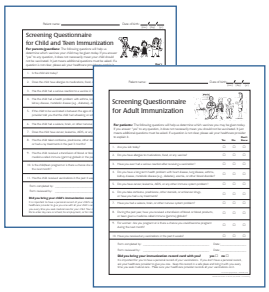
Give any patient a permanent vaccination record card designed specifically for their age group: child & teen, adult, or lifetime. The three cards list all vaccines recommended for each age. The cards are printed on durable rip-, smudge-, and water-proof paper. Wallet-sized when folded, the cards are brightly colored to stand out. 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 $37.50 (first order of a 250-card box has a 30-day, money-back guarantee). Discounts for larger orders: 2 boxes $35 each; 3 boxes $32.50 each; 4–7 boxes $30 each; 8–10 boxes $28.75 each; 11–200 boxes $27.50 each

To order, visit www.immunize.org/shop, or use order form on page 15.

For sample cards, pricing for 201 or more boxes, or customization, contact us: admininfo@immunize.org

Immunization screening questionnaires for contraindications! English on front, Spanish on back; in 100-sheet pads



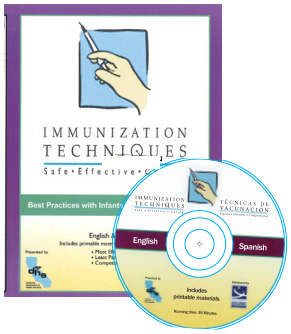
Save valuable staff time and make sure your patients are fully screened by using these simple 1-page questionnaires (one for child/teen immunization, another for adults). Patients respond to questions by checking off "yes" and "no" boxes while waiting to be seen. Staff reviews answers during the visit. These pads are priced at $16 per 100-sheet pad. Prices drop to $12 each for 2 pads, $11 each for 3 pads, $10 each for 4–9 pads. Keep pads at the receptionist's desk, the nurses' station, and in every exam room. To view the pads or for more details, visit IAC's website at www.immunize.org/shop.

To order, visit www.immunize.org/shop or use order form on page 15.

For 10 or more pads, contact us for discount pricing: admininfo@immunize.org

Immunization Techniques: Safe, Effective, Caring — DVD or VHS video

(created by the State of California, Immunization Program, 2001)



This 35-minute DVD or VHS video presents practical information on administering intramuscular (IM) and subcutaneous (SC) vaccines to people of all ages. Includes discussion of anatomic sites, needle sizes, vaccines and routes of administration, and much more. Excellent for training new staff and refreshing experienced staff. Comes with presenter notes and a skills checklist. $10.50 for DVD or VHS video.

To order, visit www.immunize.org/shop, or use the order form on page 15.

Order Essential Immunization Resources from IAC

Laminated immunization schedules give you solid information for 2010—order today!

IAC has two laminated immunization schedules for 2010—one for children/teens and one for adults. Based on CDC's immunization schedules, these laminated schedules are covered with a tough, washable coating. This allows them to stand up to a year's worth of use as at-your-fingertips guides to immunization and as teaching tools you can use to give patients and parents authoritative information. Plus, each schedule includes a guide to vaccine contraindications and precautions, an additional feature that will help you make on-the-spot determinations about the safety of vaccinating patients of any age.

To order laminated schedules 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.**

It's convenient to shop IAC online at www.immunize.org/shop

Order Essential Immunization Resources

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Laminated U.S. Immunization Schedules (details p. 14; call for discounts on bulk orders)

Qty. — Amt.

____ R2008 Child/teen schedule: 1-4 copies–$7.50 each; 5-19 copies–$5.50 each ... $ _____

____ R2009 Adult schedule: 1-4 copies–$7.50 each; 5-19 copies–$5.50 each..... $ _____

Padded Questionnaires for Vaccine Contraindications English on one side/Spanish on the other (details p. 14; call for discounts on bulk orders)

100 sheets/pad; 1 pad–$16; 2 pads–$12 each; 3 pads–$11 each; 4 pads–$10 each

____ R4060 Child/teen screening questionnaire in English/Spanish ..... $ _____

____ R4065 Adult screening questionnaire in English/Spanish..... $ _____

Patient Immunization Record Cards – (wallet-sized) (details p. 14; call for discounts on bulk orders)

250 cards/box; 1 box–$37.50; 2 boxes–$35 each; 3 boxes–$32.50 each; 4 boxes–$30 each

____ R2003 Child/teen immunization record cards ..... $ _____

____ R2005 Adult immunization record cards ..... $ _____

____ R2004 Lifetime immunization record cards ..... $ _____

DVD and Videotape (call for discounts on bulk orders)

____ D2020 DVD: Immunization Techniques: Safe, Effective, Caring ..... $10.50 _____

____ V2020 Videotape: Immunization Techniques: Safe, Effective, Caring .... $10.50 _____

Subtotal for Purchases $ _____

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- The hepatitis A footnote (#9) has language added to indicate that unvaccinated persons who anticipate close contact with an international adoptee should consider vaccination.
- The hepatitis B footnote (#10) has language added to include schedule information for the 3-dose hepatitis B vaccine.
- The meningococcal vaccine footnote (#11) clarifies which vaccine formulations are preferred for adults ages 55 years and younger and 56 years and older, and which vaccine formulation can be used for revaccination. New examples have been added to demonstrate who should and should not be considered for revaccination.
- The selected conditions for *Haemophilus influenza* type b (Hib) footnote (#13) clarifies which high-risk persons may receive 1 dose of Hib vaccine.

CDC provides multiple formats of these schedules on its website at www.cdc.gov/vaccines/recs/schedules/default.htm.

IAC will make available for purchase full-color, 6-page laminated versions of both the child and the adult immunization schedules. For details go to www.immunize.org/shop.

Please review the recommendations for the use of the two human papillomavirus (HPV) vaccines, Cervarix (GSK) and Gardasil (Merck). What are the differences between them?

Cervarix is an inactivated bivalent vaccine (HPV2) that protects against HPV types 16 and 18. Gardasil is an inactivated quadrivalent vaccine (HPV4) that protects against HPV types 16 and 18, and also against types 6 and 11, which are human papillomaviruses that cause genital warts.

For prevention of cervical cancers and precancers, ACIP recommends that females ages 9 through 26 years be vaccinated with either Cervarix or Gardasil. To prevent genital warts, as well as cervical cancers and precancers, ACIP recommends vaccination with Gardasil. Gardasil may also be given to males ages 9 through 26 years to reduce their likelihood of acquiring genital warts.

Ideally, HPV vaccine should be administered before potential exposure to HPV through sexual contact. Therefore, for prevention of cervical cancers and precancers, ACIP recommends that females ages 11 or 12 years be routinely vaccinated with either Cervarix or Gardasil. HPV vaccination also is recommended for females ages 13 through 26 years who have not been previously vaccinated or who have not completed the full vaccination series. The vaccination series can be started in males and females beginning at age 9 years.

Both HPV vaccines are administered in a 3-dose schedule, with the second dose administered 1 to 2 months after the first dose and the third dose 6 months after the first dose. The minimum interval between the first and second doses of vaccine is 4 weeks. The minimum interval between the second and third doses of vaccine is 12 weeks. The minimum interval between the first and third doses is 24 weeks.

Whenever possible, use the same brand of HPV vaccine for all doses in the series. In situations when that's not possible, use the second HPV brand to complete the series. A total of 3 doses of HPV vaccine (either of a single brand or of a combination of brands) completes the series. Do not start the series over again. If fewer than 3 doses of Gardasil are received, protection against HPV types 6 and 11 may not be adequate.

Read the complete provisional recommendations here: www.cdc.gov/vaccines/recs/provisional/downloads/hpv-vac-dec2009-508.pdf.

What are the recommendations for using Gardasil to prevent genital warts in boys and men?

ACIP's provisional recommendations state: "The 3-dose series of quadrivalent HPV vaccine may be given to males aged 9 through 26 years to reduce their likelihood of acquiring genital warts." The schedule and minimum intervals are the same as for females. See the question and answer above for details.

Use of HPV vaccine is covered under the Vaccines For Children (VFC) program. Can VFC-eligible boys receive HPV vaccine under the program?

Yes. Since ACIP states that Gardasil can be administered to males to protect them from genital warts, VFC vaccine provided by the VFC program can be used for VFC-eligible males ages 9 through 18 years.

Please describe the recommendations for the use of the Japanese encephalitis (JE) vaccine, Ixiaro (Intercell Biomedical).

FDA licensed Ixiaro in March 2009. The other U.S.-licensed vaccine, JE-VAX, available in the U.S. since 1992, is no longer being manufactured, but existing supplies are still available for children ages 1 through 16 years who are at risk for exposure to Japanese encephalitis.

Ixiaro is indicated for the prevention of disease caused by Japanese encephalitis virus (JEV) in people age 17 years and older. People for whom Ixiaro vaccination is indicated (i.e., travelers age 17 and older who plan to spend a month or longer in endemic areas during the JEV transmission season) should receive 2 doses administered IM 28 days apart. The series should be completed at least 1 week prior to potential exposure to JEV. No data exist on the interchangeability of JE-VAX and Ixiaro. People age 17 and older who have received 1 or 2 doses of JE-VAX in the past should receive a full series of 2 doses of Ixiaro (separated by at least 28 days) if they are still at risk of exposure to Japanese encephalitis.

To access the provisional recommendations for the use of JE vaccine, go to www.cdc.gov/vaccines/recs/provisional/downloads/je-july2009-508.pdf.

The Ixiaro package insert is located at www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM142570.pdf.

Information about the 1993 recommendations for use of JE-VAX is available at www.cdc.gov/mmwr/pdf/rr/rr4201.pdf.

What's new regarding yellow fever vaccination recommendations?

On December 9, 2009, CDC posted provisional recommendations for use of yellow fever (YF) vaccine. The provisional recommendations include two new contraindications and one new precaution to YF vaccination.

YF vaccine is now contraindicated for people whose immunologic response is either suppressed or modulated by current or recent radiation therapy or drugs, and for people with thymus disorders associated with abnormal immune cell function, such as thymomas.

Being age 60 years or older years is now a precaution for YF vaccine administration, especially for people who have not previously received YF vaccine.

To access the yellow fever vaccine provisional recommendations, go to www.cdc.gov/vaccines/recs/provisional/downloads/yf-vac-dec-2009-508.pdf.

Is CDC planning to release any new or updated VISs in the near future?

On October 6, 2009, CDC released three new VISs, one for PPSV, one for zoster vaccine, and one for rabies. New and updated VISs that will likely be available within the next few months include measles-mumps-rubella-varicella (MMRV), human papillomavirus (HPV), Japanese encephalitis, yellow fever, anthrax, and pneumococcal conjugate vaccine (PCV). You can find the latest news about VIS changes on CDC's web page at www.cdc.gov/vaccines/pubs/vis/vis-news.htm.

All English-language VISs, as well as their translations in more than 30 languages are available on IAC's website at www.immunize.org/vis. In addition, IAC always informs IAC Express subscribers about new and revised VISs as soon as they are released. To subscribe to IAC Express, go to www.immunize.org/subscribe.

Is enough H1N1 influenza vaccine available now to start vaccinating people who are not in one of the targeted high-risk groups?

Supplies of vaccines that protect against the 2009 H1N1 virus are increasing. In areas where health department jurisdictions recommend it, providers can give 2009 H1N1 vaccine to anyone who wants it. Most states already allow this, and CDC is encouraging people who have been waiting to receive the 2009 H1N1 vaccine to get vaccinated now.

Needle Tips correction policy

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