



Notice to Readers: Recommended Adult
Immunization Schedule--United States, 2002-2003

Weekly

October 11, 2002 / 51(40);904-908

Notice to Readers: Recommended Adult Immunization Schedule --- United States, 2002--2003

Please note: A clarification has been published for this article. To view the clarification, please click [here](#).

Although the childhood immunization program in the United States has reduced the burden of vaccine-preventable disease substantially among children, substantial vaccine-preventable morbidity and mortality from diseases such as hepatitis A, hepatitis B, influenza, and pneumococcal infections continue to occur among adults. In February 2002, the Advisory Committee on Immunization Practices (ACIP) approved for the first time a schedule for the routine vaccination of persons aged ≥ 19 years. The Adult Immunization Schedule has been accepted by the American Academy of Family Physicians (AAFP) and the American College of Obstetricians and Gynecologists (ACOG). ACIP will review and approve annually both the recommended adult and childhood immunization schedules. Together, these schedules provide a comprehensive summary of recommendations for prevention of vaccine-preventable diseases during the life span of persons in the United States.

The Adult Immunization Schedule is based on published recommendations of ACIP (1), AAFP (2), ACOG (3), and the American College of Physicians--American Society of Internal Medicine (ACP-ASIM) with the Infectious Diseases Society of America (4) and was developed by members of these organizations and CDC. The schedule presents a tabular, color-coded summary of vaccine indications by age group (Figure 1) and medical condition (Figure 2). Footnotes included in Figure 1 are summaries of the ACIP recommendations for specific vaccines since 1991. Figure 2 includes special considerations or contraindications for vaccinating persons with specific medical conditions. Licensed combination vaccines can be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult manufacturers' package inserts for detailed recommendations. CDC and ACIP will update the schedule annually through collaboration with members of AAFP, ACOG, and ACP-ASIM.

Providers should report all postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS), telephone 800-822-7967. Reporting forms and instructions on filing a VAERS report are available at <http://www.vaers.org>. Tetanus-diphtheria (Td); hepatitis B; measles, mumps, and rubella (MMR); and varicella vaccines are covered by the Vaccine Injury Compensation Program (VICP). Health-care providers are required to give adult patients copies of the Vaccine Information Statements developed by CDC before administering each dose of the vaccines covered by VICP. Information on how to file a claim with VICP is available at 800-338-2382.

The schedule provides an up-to-date tool for family physicians, gynecologists, internists, and other health-care providers to assess the vaccine needs of patients during office visits and to administer the appropriate vaccines. Providers can use the schedule to promote the use of standing orders, patient-

reminder/recall systems, provider-reminder systems, and other strategies that reduce missed opportunities to vaccinate their patients. The notes accompanying the age-based table and the footnotes for highlighting issues unique to chronic disease groups provide information for providers who might be unfamiliar with the dosage or contraindications of a particular vaccine.

Because adult vaccination requires the participation of health-care providers in three medical specialties (internal medicine, family practice, and obstetrics and gynecology) that do not include vaccinations in clinical training, tools such as the adult immunization schedule could play an important role in educating health-care providers who want to vaccinate their adult patients.

A printable, annotated, color version of the schedule will be available at <http://www.cdc.gov/nip>. Additional information on adult immunization and ordering instructions for *Increasing Adult Vaccination Rates: What Works*, a CD-ROM--based continuing education program offering primary-care providers strategies for increasing vaccination rates among their adult patients, also will be available at this website.

References


1. CDC. Update on adult immunization: recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1991;40(No. RR-12).
2. American Academy of Family Physicians. Age charts for periodic health examinations. Available at <http://www.aafp.org/exam/table2.html> and <http://www.aafp.org/exam/table4.html>.
3. American College of Obstetricians and Gynecologists. Immunization during pregnancy. ACOG Technical bulletin 160, October 1991. Washington, DC: American College of Obstetricians and Gynecologists, 1991.
4. American College of Physicians. Guide for adult immunization. 3rd ed. Philadelphia, Pennsylvania: American College of Physicians, 1994.

Figure 1

FIGURE 1. Recommended adult immunization schedule — United States, 2002–2003

Vaccine	Age group (yrs)		
	19–49	50–64	≥65
Tetanus, diphtheria (Td)*	1 dose booster every 10 years [†]		
Influenza	1 dose annually for persons with medical or occupational indications or household contacts of persons with indications	1 annual dose	
Pneumococcal (polysaccharide)	1 dose for persons with medical or other indications (1 dose revaccination for immunosuppressive conditions)		1 dose for unvaccinated persons [†] 1 dose revaccination**
Hepatitis B*	3 doses (0, 1–2, 4–6 months) for persons with medical, behavioral, occupational, or other indications [†]		
Hepatitis A	2 doses (0, 6–12 months) for persons with medical, behavioral, occupational, or other indications [†]		
Measles, mumps, rubella (MMR)*	1 dose if MMR vaccination history is unreliable; 2 doses for persons with occupational, geographic, or other indications ^{††}		
Varicella*	2 doses (0, 4–8 weeks) for persons who are susceptible***		
Meningococcal (polysaccharide)	1 dose for persons with medical or other indications [†]		

 For all persons in this age group

 For persons with medical/exposure indications

 Catch-up on childhood vaccinations

* Covered by the Vaccine Injury Compensation Program.

† A primary series for adults is 3 doses: the first 2 doses administered ≥ 4 weeks apart and the third dose administered 6–12 months after the second dose. Administer 1 dose if the person had received the primary series and the last vaccination was ≥ 10 years ago. The American College of Physicians Task Force on Adult Immunization supports a second option: a single Td booster at age 50 years for persons who have completed the full pediatric series, including the teenage/young-adult booster (1).

§ **Medical indications:** chronic disorders of the cardiovascular or pulmonary systems including asthma; chronic metabolic diseases, including diabetes mellitus, renal dysfunction, hemoglobinopathies, immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]), requiring regular medical followup or hospitalization during the preceding year; or women who will be in the second or third trimester of pregnancy during the influenza season. **Occupational indications:** health-care workers. **Other indications:** residents of nursing homes and other long-term-care facilities; persons likely to transmit influenza to persons at high risk (in-home caregivers to persons with medical indications, household contacts and out-of-home caregivers of children aged ≤ 23 months or children with asthma or other indicator conditions for influenza vaccination, and household members and caregivers of elderly persons and adults with high-risk conditions); and anyone who wishes to be vaccinated (2).

¶ **Medical indications:** chronic disorders of the pulmonary system (excluding asthma), cardiovascular diseases, diabetes mellitus, chronic liver diseases including liver disease as a result of alcohol abuse (e.g., cirrhosis), chronic renal failure or nephrotic syndrome, functional or anatomic asplenia (e.g., sickle cell disease or splenectomy), immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkin's disease, generalized malignancy, and organ or bone marrow transplantation), chemotherapy with alkylating agents, antimetabolites, or long-term systemic corticosteroids. **Geographic/other indications:** American Indian/Alaska Native. **Other indications:** residents of nursing homes and other long-term-care facilities (3).

** Revaccination with pneumococcal polysaccharide vaccine: one-time revaccination after 5 years for persons with chronic renal failure or nephrotic syndrome, functional or anatomic asplenia (e.g., sickle cell disease or splenectomy), immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkin's disease, generalized malignancy, and organ or bone marrow transplantation), chemotherapy with alkylating agents, antimetabolites, or long-term systemic corticosteroids. For persons aged ≥ 65 years, one-time revaccination if they were vaccinated ≥ 5 years previously and were aged < 65 years at the time of primary vaccination (3).

†† **Medical indications:** hemodialysis patients and patients who receive clotting-factor concentrates. **Occupational indications:** health-care workers and public-safety workers who are exposed to blood in the workplace; persons in training in schools of medicine, dentistry, nursing, laboratory technology; and other allied health professions. **Behavioral indications:** injection-drug users, persons with more than one sex partner during the preceding 6 months, persons with a recently acquired sexually transmitted disease (STD), all clients in STD clinics, and men who have sex with men (MSM). **Other indications:** household contacts and sex partners of persons with chronic hepatitis B virus (HBV) infection, clients and staff of institutions for the developmentally disabled, international travelers who will be located for ≥ 6 months in countries with high or intermediate prevalence of chronic HBV infection, and inmates of correctional facilities (4).

§§ For the combined hepatitis A–hepatitis B vaccine, use 3 doses at 0, 1, and 6 months. **Medical indications:** persons with clotting-factor disorders or chronic liver disease. **Behavioral indications:** MSM and users of injection-drug and noninjecting illegal drugs. **Occupational indications:** persons working with hepatitis A virus (HAV)-infected primates or with HAV in a research laboratory setting. **Other indications:** persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A (5).

††† **Measles component:** Adults born before 1957 might be considered to be immune to measles. Administer 2 doses of MMR for adults with at least one of the following conditions and without vaccination history:

- adults born after 1956
- persons vaccinated with killed-measles–virus vaccine during 1963–1969
- students in postsecondary education institutions
- health-care workers
- susceptible international travelers to countries in which measles is endemic.

Mumps component: 1 dose of MMR should be adequate for protection. **Rubella component:** Administer 1 dose of MMR to women whose rubella vaccination history is unreliable and counsel women to avoid becoming pregnant for 4 weeks after vaccination. For women of childbearing age, regardless of birth year, determine rubella immunity and counsel women routinely regarding congenital rubella syndrome. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. If pregnant and susceptible, vaccinate as early in postpartum period as possible (6).

*** Recommended for all persons who do not have reliable clinical history of varicella infection or serologic evidence of varicella zoster virus (VZV) infection; health-care workers and family contacts of immunocompromised persons; those who live or work in environments in which transmission is likely (e.g., teachers of young children, day care employees, and residents and staff members in institutional settings); persons who live or work in environments in which VZV transmission can occur (e.g., college students, inmates and staff members of correctional institutions, and military personnel); adolescents and adults living in households with children; women who are not pregnant but who might become pregnant in the future; and international travelers who are not immune to infection. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. If pregnant and susceptible, vaccinate as early in postpartum period as possible (7,8).

†††† Meningococcal vaccine (quadrivalent polysaccharide for serogroups A, C, Y, and W-135). **Medical indications:** consider vaccination for adults with terminal complement-component deficiencies or with anatomic or functional asplenia. **Other indications:** travelers to countries in which disease is hyperendemic or epidemic (e.g., the “meningitis belt” of sub-Saharan Africa and Mecca [Saudi Arabia] during Hajj). Revaccination at 3–5 years might be indicated for persons at high risk for infection (e.g., persons residing in areas in which disease is epidemic). Counsel college freshmen, especially those who live in dormitories, about meningococcal disease and the vaccine so that they can make an educated decision about receiving the vaccination (9). AAFP recommends that colleges should take the lead in providing education about meningococcal infection and vaccination and offer it to those who are interested. Health-care providers need not initiate discussion of the meningococcal quadrivalent polysaccharide vaccine as part of routine medical care.

[Return to top.](#)

Figure 2

FIGURE 2. Recommended immunizations for adults with medical conditions — United States, 2002–2003

Medical condition	Vaccine						
	Tetanus-diphtheria (Td)*	Influenza	Pneumococcal (poly-saccharide)	Hepatitis B*	Hepatitis A	Measles, mumps, rubella (MMR)*	Varicella*
Pregnancy		A					
Diabetes, heart disease, chronic pulmonary disease, and chronic liver disease, including chronic alcoholism		B	C		D		
Congenital immunodeficiency, leukemia, lymphoma, generalized malignancy, therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids			E				F
Renal failure/end stage renal disease and recipients of hemodialysis or clotting factor concentrates			E	G			
Asplenia including elective splenectomy and terminal complement-component deficiencies			E,H,I				
Human immunodeficiency virus (HIV) infection			E,J				

For all persons in this age group
 For persons with medical/exposure indications
 Catch-up on childhood vaccinations
 Contraindicated

* Covered by the Vaccine Injury Compensation Program.

A. If pregnancy is at second or third trimester during influenza season.

B. Although chronic liver disease and alcoholism are not indicator conditions for influenza vaccination, administer 1 dose annually if the patient is aged ≥50 years, has other indications for influenza vaccine, or if patient requests vaccination.

C. Asthma is an indicator condition for influenza but not for pneumococcal vaccination.

D. For all persons with chronic liver disease.

E. Revaccinate once if ≥5 years have elapsed since initial vaccination.

F. Persons with impaired humoral but not cellular immunity might be vaccinated (6).

G. Hemodialysis patients: Use special formulation of vaccine (40 µg/mL) or two 1.0 mL 20 µg doses administered at one site. Vaccinate early in the course of renal disease. Assess antibody titers to hepatitis B surface antigen (anti-HBs) levels annually. Administer additional doses if anti-HBs levels decline to <10 millinternational units (mIU)/mL.

H. Also administer meningococcal vaccine.

I. Elective splenectomy: Vaccinate ≥2 weeks before surgery.

J. Vaccinate as close to diagnosis as possible when CD4 cell counts are highest.

K. Withhold MMR or other measles-containing vaccines from HIV-infected persons with evidence of severe immunosuppression (10).

Return to top.

References

1. American College of Physicians. Guide for adult immunization. 3rd ed. Philadelphia, Pennsylvania: American College of Physicians, 1994.
2. CDC. Prevention of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2002;51 (No. RR-3).
3. CDC. Prevention of pneumococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1997;46(No. RR-8).
4. CDC. Hepatitis B virus: a comprehensive strategy for eliminating transmission in the United States through universal childhood vaccination: recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1991;40(No. RR-13).
5. CDC. Prevention of hepatitis A through active or passive immunization: recommendations of the

Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48(No. RR-12).

6. CDC. Measles, mumps, and rubella---vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1998;47(No. RR-8).
7. CDC. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1996;45 (No. RR-11).
8. CDC. Prevention of varicella: updated recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48(No. RR-6).
9. CDC. Control and prevention of meningococcal disease and control and prevention of serogroup C meningococcal disease: evaluation and management of suspected outbreaks: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1997;46(No. RR-5).
10. CDC. Measles pneumonitis following measles-mumps-rubella vaccination of a patient with HIV infection, 1993. MMWR 1996;45:603-6.

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.

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites. URL addresses listed in *MMWR* were current as of the date of publication.

Disclaimer All *MMWR* HTML versions of articles are electronic conversions from ASCII text into HTML. This conversion may have resulted in character translation or format errors in the HTML version. Users should not rely on this HTML document, but are referred to the electronic PDF version and/or the original *MMWR* paper copy for the official text, figures, and tables. An original paper copy of this issue can be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402-9371; telephone: (202) 512-1800. Contact GPO for current prices.

****Questions or messages regarding errors in formatting should be addressed to mmwrq@cdc.gov.**

Page converted: 10/10/2002

[Print Help](#)

[MMWR Home](#) | [MMWR Search](#) | [Help](#) | [Contact Us](#)

[CDC Home](#) | [Search](#) | [Health Topics A-Z](#)

This page last reviewed 10/10/2002

Centers for Disease Control and Prevention
Morbidity and Mortality Weekly Report