Recommended Adult Immunization Schedule by Vaccine and Age Group

UNITED STATES · OCTOBER 2004–SEPTEMBER 2005

Vaccine \ Age group (yrs)	19–49	50–64	≥65
Tetanus, Diphtheria (Td)*	1 dose booster every 10 years[1]		
Influenza	1 dose annually[2]	1 dose annually[2]	
Pneumococcal (polysaccharide)	1 dose[3,4]		1 dose[3,4]
Hepatitis B*	3 doses (0, 1–2, 4–6 months)[5]		
Hepatitis A*	2 doses (0, 6–12 months)[6]		
Measles, Mumps, Rubella (MMR)*	1 or 2 doses[7]		
Varicella*	2 doses (0, 4–8 weeks)[8]		
Meningococcal (polysaccharide)	1 dose[9]		

*Covered by the Vaccine Injury Compensation Program.
See Footnotes for Recommended Adult Immunization Schedule on back cover.

For all persons in this group

For persons lacking documentation of vaccination or evidence of disease

For persons at risk (i.e., with medical/exposure indications)

The Recommended Adult Immunization Schedule is Approved by the Advisory Committee on Immunization Practices (ACIP), the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP)

This schedule indicates the recommended age groups for routine administration of currently licensed vaccines for persons aged ≥19 years. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. Providers should consult manufacturers' package inserts for detailed recommendations.

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 by telephone, 800-822-7967, or from the VAERS website at http://www.vaers.org.

Information on how to file a Vaccine Injury Compensation Program claim is available at http://www.hrsa.gov/osp/vicp 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, DC 20005, telephone 202-219-9657.

Additional information about the vaccines listed above and contraindications for immunization is available at http://www.cdc.gov/nip or 800-CDC-INFO [800-232-4636] (English and Spanish).

Recommended Adult Immunization Schedule by Vaccine and Medical and Other Indications

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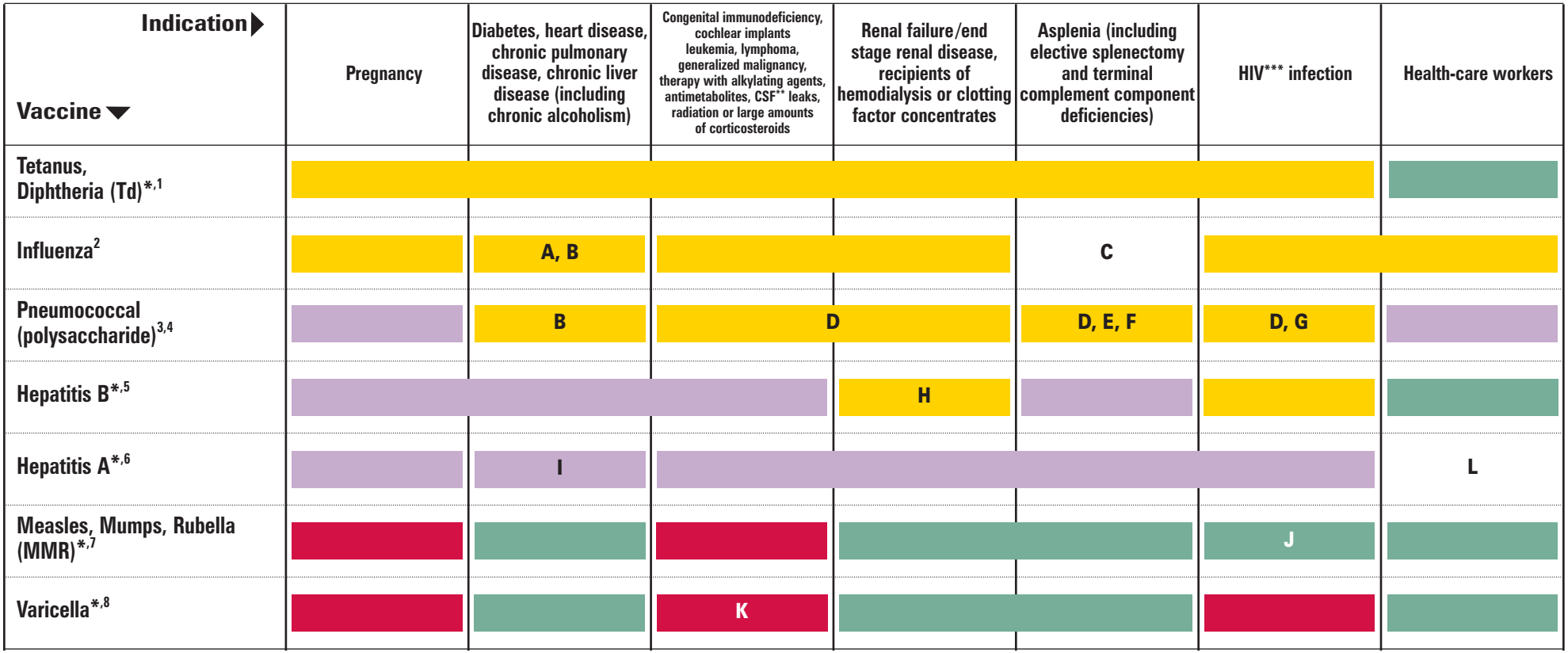

*Covered by the Vaccine Injury Compensation Program.
**Cerebrospinal fluid.
***Human immunodeficiency virus.
See Special Notes for Medical and Other Indications below. Also see Footnotes for Recommended Adult Immunization Schedule on back cover.

For all persons in this group | **For persons lacking documentation of vaccination or evidence of disease** | **For persons at risk (i.e., with medical/exposure indications)** | **Contraindicated**

Special Notes for Medical and Other Indications

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

B. Asthma is an indication for influenza vaccination but not for pneumococcal vaccination.

C. No data exist specifically on the risk for severe or complicated influenza infections among persons with asplenia. However, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

D. For persons aged <65 years, revaccinate once after ≥5 years have elapsed since initial vaccination.

E. Administer meningococcal vaccine and consider *Haemophilus influenzae* type b vaccine.

F. For persons undergoing elective splenectomy, vaccinate ≥2 weeks before surgery.

G. Vaccinate as soon after diagnosis as possible.

H. For hemodialysis patients, use special formulation of vaccine (40 μg/mL) or two 20 μg/mL doses administered at one body site. Vaccinate early in the course of renal disease. Assess antibody titers to hepatitis B surface antigen (anti-HB) levels annually. Administer additional doses if anti-HB levels decline to <10 mIU/mL.

I. For all persons with chronic liver disease.

J. Withhold MMR or other measles-containing vaccines from HIV-infected persons with evidence of severe immunosuppression (see *MMWR* 1998;47 [No. RR-8]:21–2 and *MMWR* 2002;51 [No. RR-2]:22–4).

K. Persons with impaired humoral immunity but intact cellular immunity may be vaccinated (see *MMWR* 1999;48[No. RR-6]).

L. No data to support a recommendation.

Footnotes

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1. **Tetanus and diphtheria (Td).** Adults, including pregnant women with uncertain history of a complete primary vaccination series, should receive a primary series of Td. A primary series for adults is 3 doses; administer the first 2 doses at least 4 weeks apart and the 3rd dose 6–12 months after the second. Administer 1 dose if the person received the primary series and if the last vaccination was received ≥10 years previously. Consult recommendations for administering Td as prophylaxis in wound management (see *MMWR* 1991;40[No. RR-10]). The American College of Physicians Task Force on Adult Immunization supports a second option for Td use in adults: a single Td booster at age 50 years for persons who have completed the full pediatric series, including the teenage/young adult booster.

2. **Influenza vaccination.** The Advisory Committee on Immunization Practices (ACIP) recommends inactivated influenza vaccination for the following indications, when vaccine is available. *Medical indications:* chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases, including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]); and pregnancy during the influenza season. *Occupational indications:* health-care workers and employees of long-term–care and assisted living facilities. *Other indications:* residents of nursing homes and other long-term–care facilities; persons likely to transmit influenza to persons at high risk (i.e., in-home caregivers to persons with medical indications, household/close contacts and out-of-home caregivers of children aged 0–23 months, household members and caregivers of elderly persons and adults with high-risk conditions); and anyone who wishes to be vaccinated. For healthy persons aged 5–49 years without high-risk conditions who are not contacts of severely immunocompromised persons in special care units, either the inactivated vaccine or the intranasally administered influenza vaccine (FluMist®) may be administered (see *MMWR* 2004;53[No. RR-6]).
   Note: Because of the influenza vaccine shortage in 2004, the Centers for Disease Control and Prevention (CDC) and the ACIP had modified the influenza vaccine recommendations (see *MMWR* 2004;53[39];923-924). These were further modified on December 17, 2004, and this schedule reflects those changes (i.e., routinely recommending influenza vaccination of persons 50-64 years of age) (see *MMWR* 2004;53[50];1183-1184).

3. **Pneumococcal polysaccharide vaccination.** *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, Hodgkins disease, generalized malignancy, or organ or bone marrow transplantation); chemotherapy with alkylating agents, antimetabolites, or long-term systemic corticosteroids; or cochlear implants. *Geographic/other indications:* Alaska Natives and certain American Indian populations. *Other indications:* residents of nursing homes and other long-term–care facilities (see *MMWR* 1997;46[No. RR-8] and *MMWR* 2003;52:739–40).

4. **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, Hodgkins disease, generalized malignancy, or organ or bone marrow transplantation); or 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 (see *MMWR* 1997;46[No. RR-8]).

5. **Hepatitis B vaccination.** *Medical indications:* hemodialysis patients or patients who receive clotting factor concentrates. *Occupational indications:* health-care workers and public-safety workers who have exposure to blood in the workplace; and 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 previous 6 months; persons with a recently acquired sexually transmitted disease (STD); all clients in STD clinics; and men who have sex with men. *Other indications:* household contacts and sex partners of persons with chronic hepatitis B virus (HBV) infection; clients and staff members of institutions for the developmentally disabled; inmates of correctional facilities; or international travelers who will be in countries with high or intermediate prevalence of chronic HBV infection for >6 months (http://www.cdc.gov/travel/diseases/hbv.htm) (see *MMWR* 1991;40[No. RR-13]).

6. **Hepatitis A vaccination.** *Medical indications:* persons with clotting factor disorders or chronic liver disease. *Behavioral indications:* men who have sex with men or users of 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. If the combined Hepatitis A and Hepatitis B vaccine is used, administer 3 doses at 0, 1, and 6 months (http://www.cdc.gov/travel/diseases/hav.htm) (see MMWR 1999;48[No. RR-12]).

7. **Measles, mumps, rubella (MMR) vaccination.** *Measles component:* adults born before 1957 can be considered immune to measles. Adults born during or after 1957 should receive ≥1 dose of MMR unless they have a medical contraindication, documentation of ≥1 dose, or other acceptable evidence of immunity. A second dose of MMR is recommended for adults who 1) were recently exposed to measles or in an outbreak setting, 2) were previously vaccinated with killed measles vaccine, 3) were vaccinated with an unknown vaccine during 1963–1967, 4) are students in postsecondary educational institutions, 5) work in health-care facilities, or 6) plan to travel internationally. *Mumps component:* 1 dose of MMR vaccine should be adequate for protection. *Rubella component:* Administer 1 dose of MMR vaccine 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, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. For women who are pregnant and susceptible, vaccinate as early in the postpartum period as possible (see *MMWR* 1998;47[No. RR-8] and *MMWR* 2001;50:1117).

8. **Varicella vaccination.** Recommended for all persons lacking a reliable clinical history of varicella infection or serologic evidence of varicella zoster virus (VZV) infection who might be at high risk for exposure or transmission. This includes health-care workers and family contacts of immuno-compromised persons; persons who live or work in environments where transmission is likely (e.g., teachers of young children, child care employees, and residents and staff members in institutional settings); persons who live or work in environments where VZV transmission can occur (e.g., college students, inmates, and staff members of correctional institutions, and military personnel); adolescents aged 11–18 years and adults living in households with children; women who are not pregnant but who might become pregnant; and international travelers who are not immune to infection.
   Note: Approximately 95% of U.S.-born adults are immune to VZV. Do not vaccinate pregnant women or those planning to become pregnant during the next 4 weeks. For women who are pregnant and susceptible, vaccinate as early in the postpartum period as possible (see *MMWR* 1999;48[No. RR-6]).

9. **Meningococcal vaccine (quadrivalent polysaccharide for serogroups A, C, Y, and W 135).** *Medical indications:* adults with terminal complement component deficiencies or those with anatomic or functional asplenia. *Other indications:* travelers to countries in which meningococcal disease is hyperendemic or epidemic (e.g., the "meningitis belt" of sub-Saharan Africa and Mecca, Saudi Arabia). Revaccination after 3–5 years might be indicated for persons at high risk for infection (e.g., persons residing in areas where disease is epidemic). Counsel college freshmen, especially those who live in dormitories, regarding meningococcal disease and availability of the vaccine to enable them to make an educated decision about receiving the vaccination (see *MMWR* 2000;49[No. RR-7]). The American Academy of Family Physicians recommends that colleges should take the lead on providing education on meningococcal infection and availability of vaccination and offer it to students who are interested. Physicians need not initiate discussion of meningococcal quadrivalent polysaccharide vaccine as part of routine medical care.