## Recommended Adult Immunization Schedule – United States, 2016

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

**Figure 1. Recommended immunization schedule for adults ages 19 years and older, by vaccine and age group**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–49 years</th>
<th>50–59 years</th>
<th>60–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)</td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Varicella</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV) Female</td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV) Male</td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pneumococcal 13-valent conjugate (PCV13)</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pneumococcal 23-valent polysaccharide (PPSV23)</td>
<td>1 or 2 doses depending on indication</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hepatitis B</td>
<td>3 doses</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Meningococcal 4-valent conjugate (MenACWY) or polysaccharide (MPSV4)</td>
<td>1 or more doses depending on indication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b (Hib)</td>
<td>1 or 3 doses depending on indication</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2. Vaccines that might be indicated for adults ages 19 years and older based on medical and other indications**

<table>
<thead>
<tr>
<th>Indication</th>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromising conditions (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cells/µL)</th>
<th>Men who have sex with men (MSM)</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart disease, chronic lung disease, chronic alcoholism</th>
<th>Asplenia and persistent complement component deficiencies</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Healthcare personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td>&lt;200</td>
<td></td>
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</tr>
<tr>
<td>Td/Tdap</td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Varicella</td>
<td>Contraindicated</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>HPV Female</td>
<td>3 doses through age 26 yrs</td>
<td></td>
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<tr>
<td>HPV Male</td>
<td>3 doses through age 26 yrs</td>
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<tr>
<td>Zoster</td>
<td>Contraindicated</td>
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<tr>
<td>MMR</td>
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<td></td>
<td></td>
<td></td>
<td>1 dose</td>
</tr>
<tr>
<td>PCV13</td>
<td>Contraindicated</td>
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<tr>
<td>PPSV23</td>
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<td></td>
<td></td>
<td></td>
<td>1, 2, or 3 doses depending on indication</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hepatitis B</td>
<td>3 doses</td>
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<tr>
<td>MenACWY or MPSV4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1 or more doses depending on indication</td>
</tr>
<tr>
<td>MenB</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3 doses post-HSCT recipients only</td>
</tr>
</tbody>
</table>

*Covered by the Vaccine Injury Compensation Program.*

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly recommended for adults ages 19 years and older, as of February 2016. For all vaccines being recommended on the Adult Immunization Schedule, a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. 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/hcp/acip-recs/index.html). 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.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention’s (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG), and American College of Nurse-Midwives (ACNM).
1. Additional Information

- Additional guidance for the use of the vaccines described in this supplement is available at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- Information on vaccination recommendations when vaccination status is unknown and other general immunization information can be found in the General Recommendations on Immunization at www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm.
- Information on travel vaccine requirements and recommendations (e.g., for hepatitis A and B, meningococcal, and other vaccines) is available at wwwnc.cdc.gov/travel/destinations/list.
- Additional information and resources regarding vaccination of pregnant women can be found at www.cdc.gov/vaccines/adults/rec-vac/pregnant.html.

2. Influenza vaccination.

- Annual vaccination against influenza is recommended for all persons age 6 months or older. A list of currently available influenza vaccines can be found at www.cdc.gov/flu/protect/vaccine/vaccines.htm.
- Persons age 6 months and older, including pregnant women can receive the inactivated influenza vaccine (IV). An age-appropriate IV formulation should be used.
- Intradermal IV is an option for persons ages 18 through 64 years.
- High-dose IV is an option for persons ages 65 years or older.
- Live-attenuated influenza vaccine (LAIV [FluMist]) is an option for healthy, non-pregnant persons ages 2 through 49 years.
- Recombinant influenza vaccine (RIV [Flublok]) is approved for persons ages 18 years or older.
- RIV, which does not contain any egg protein, may be administered to persons ages 18 years or older with egg allergy of any severity; IV may be used with additional safety measures for persons with hives-only allergy to eggs.
- Health care personnel who care for severely immunocompromised persons who require care in a protected environment should receive IV or RIV; health care personnel who receive LAIV should avoid providing care for severely immunocompromised persons for 7 days after vaccination.

3. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination.

- Administer 1 dose of Tdap vaccine to pregnant women during each pregnancy (preferably during 27 to 36 weeks’ gestation), regardless of interval since prior Td or Tdap vaccination.
- Persons age 11 years or older who have not received Tdap vaccine or for whom vaccine status is unknown should receive a dose of Tdap followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter. Tdap can be administered regardless of interval since the most recent tetanus or diphtheria toxoid-containing vaccine.
- Adults with an unknown or incomplete history of completing a 3-dose primary vaccination series with Td-containing vaccines should begin or complete a primary vaccination series including a Tdap dose.
- For unvaccinated adults, administer the first 2 doses at least 4 weeks apart and the third dose 6 to 12 months after the second.
- For incompletely vaccinated (i.e., less than 3 doses) adults, administer remaining doses.
- Refer to the ACIP statement for recommendations for administering Td/Tdap as prophylaxis in wound management (see footnote 1).

4. Varicella vaccination.

- All adults without evidence of immunity to varicella (as defined below) should receive 2 doses of single-antigen varicella vaccine or a second dose if they have received only 1 dose.
- Vaccination should be emphasized for those who have close contact with persons at high risk for severe disease (e.g., health care personnel and family contacts of persons with immunocompromising conditions) or 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).
- 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 health care facility. The second dose should be administered 4 to 8 weeks after the first dose.
- 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, except health care personnel and pregnant women; 3) history of varicella based on diagnosis or verification of varicella disease by a health care provider; 4) history of herpes zoster based on diagnosis or verification of herpes zoster disease by a health care provider; or 5) laboratory evidence of immunity or laboratory confirmation of disease.

5. Human papillomavirus (HPV) vaccination.

- Three HPV vaccines are licensed for use in females (bivalent HPV vaccine [HPV2], quadrivalent HPV vaccine [HPV4], and 9-valent HPV vaccine [HPV9]), and two HPV vaccines are licensed for use in males (HPV4 and HPV9).
- For males, HPV4 or HPV9 is recommended in a 3-dose series for routine vaccination at age 11 or 12 years, and for those age 13 through 26 years, if not previously vaccinated.
- For males, HPV4 or HPV9 is recommended in a 3-dose series for routine vaccination at age 11 or 12 years and for those age 13 through 21 years, if not previously vaccinated. Males age 22 through 26 years may be vaccinated.
- HPV vaccination is recommended for men who have sex with men through age 26 years who did not get any or all doses when they were younger.
- Vaccination is recommended for immunocompromised persons (including those with HIV infection) through age 26 years for those who did not get any or all doses when they were younger.
- A complete HPV vaccination series consists of 3 doses. The second dose should be administered 4 to 8 weeks (minimum interval of 4 weeks) after the first dose; the third dose should be administered 24 weeks after the first dose and 16 weeks after the second dose (minimum interval of at least 12 weeks).
- HPV vaccines are not recommended for use in pregnant women. However, pregnancy testing is not needed before vaccination. If a woman is found to be pregnant after initiating the vaccination series, no intervention is needed; the remainder of the 3-dose series should be delayed until completion or termination of pregnancy.

6. Zoster vaccination.

- A single dose of zoster vaccine is recommended for adults age 60 years or older regardless of whether they report a prior episode of herpes zoster. Although the vaccine is licensed by the U.S. Food and Drug Administration for use among and can be administered to persons age 50 years or older, ACIP recommends that vaccination begin at age 60 years.
- Persons age 60 years and older with chronic medical conditions may be vaccinated unless their condition constitutes a contraindication, such as pregnancy or severe immunodeficiency.

7. Measles, mumps, rubella (MMR) vaccination.

- Adults born before 1957 are generally considered immune to measles and mumps. All adults born in 1957 or later should have documentation of 1 or more doses of MMR vaccine unless they have a medical contraindication to the vaccine or laboratory evidence of immunity to each of the three diseases. Documentation of provider-diagnosed disease is not considered acceptable evidence of immunity for measles, mumps, or rubella.
- Measles component: A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who: 1) are students in postsecondary educational institutions, 2) work in a health care facility, or 3) plan to travel internationally. Persons who received inactivated (killed) measles vaccine or measles vaccine of unknown type from 1963–1967 should be revaccinated with 2 doses of MMR vaccine.
- Mumps component: A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who: 1) are students in a postsecondary educational institution, 2) work in a health care facility, or 3) plan to travel internationally. Persons vaccinated before
• 1979 with either killed mumps vaccine or mumps vaccine of unknown type who are at high risk for mumps infection (e.g., persons who are working in a health care facility) should be considered for revaccination with 2 doses of MMR vaccine.

• **Rubella component:** For women of childbearing age, regardless of birth year, rubella immunity should be determined. If there is no evidence of immunity, women who are not pregnant should be vaccinated. Pregnant women who do not have evidence of immunity should receive MMR vaccine upon completion or termination of pregnancy and before discharge from the health care facility.

• **Health care personnel born before 1957:** For unvaccinated health care personnel born before 1957 who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease, health care facilities should consider vaccinating personnel with 2 doses of MMR vaccine at the appropriate interval for measles and mumps or 1 dose of MMR vaccine for rubella.

8. **Pneumococcal vaccination.**

• **General information**
  - Adults are recommended to receive 1 dose of 13-valent pneumococcal conjugate vaccine (PCV13) and 1, 2, or 3 doses (depending on indication of 23-valent pneumococcal polysaccharide vaccine (PPSV23).
  - PCV13 should be administered at least 1 year after PPSV23.
  - PPSV23 should be administered at least 1 year after PCV13, except among adults with immunocompromising conditions, anatomical or functional asplenia, or cerebrospinal fluid leak or cochlear implant, for whom the interval is at least 8 weeks; the interval between PPSV23 is at least 5 years.
  - No additional dose of PPSV23 is indicated for adults vaccinated with PPSV23 at age 65 years or older.
  - When indicated, PCV13 and PPSV23 should be administered to adults whose pneumococcal vaccination history is incomplete or unknown.

• **Adults age 65 years and older (immunocompetent) who**
  - Have not received PCV13 or PPSV23: Administer PCV13 followed by PPSV23 at least 1 year after PCV13.
  - Have not received PCV13 but have received a dose of PPSV23 at age 65 years or older: Administer PCV13 at least 1 year after PPSV23.
  - Have not received PCV13 but have received 1 or more doses of PPSV23 before age 65 years: Administer PCV13 at least 1 year after the most recent dose of PPSV23. Administer a dose of PPSV23 at least 1 year after PCV13 and at least 5 years after most recent dose of PPSV23.
  - Have received PCV13 but not PPSV23 before age 65 years: Administer PPSV23 at least 1 year after PCV13.
  - Have received PCV13 and 1 or more doses of PPSV23 before age 65 years: Administer PPSV23 at least 1 year after PCV13 and at least 5 years after the most recent dose of PPSV23.

• **Adults age 19 years or older with immunocompromising conditions or anatomical or functional asplenia (defined below) who**
  - Have not received PCV13 or PPSV23: Administer PCV13 followed by PPSV23 at least 8 weeks after PCV13. Administer a second dose of PPSV23 at least 5 years after the first dose of PPSV23.
  - Have not received PCV13 but have received 1 dose of PPSV23: Administer PCV13 at least 1 year after the PPSV23. Administer a second dose of PPSV23 at least 8 weeks after PCV13 and at least 5 years after the first dose of PPSV23.
  - Have not received PCV13 but have received 2 doses of PPSV23: Administer PCV13 at least 1 year after the most recent dose of PPSV23.
  - Have received PCV13 but not PPSV23: Administer PPSV23 at least 8 weeks after PCV13. Administer a second dose of PPSV23 at least 5 years after the first dose of PPSV23.
  - Have received PCV13 and 1 dose of PPSV23: Administer a second dose of PPSV23 at least 8 weeks after PCV13 and at least 5 years after the first dose of PPSV23.
  - If the most recent dose of PPSV23 was administered before age 65 years, at age 65 years or older, administer a dose of PPSV23 at least 8 weeks after PCV13 and at least 5 years after the last dose of PPSV23.

9. **Hepatitis A vaccination.**

• Vaccinate any person seeking protection from hepatitis A virus (HAV) infection and persons with any of the following indications:
  - men who have sex with men
  - persons who use injection or noninjection illicit drugs;
  - persons working with HAV-infected primates or with HAV in a research laboratory setting;
  - persons with chronic liver disease and persons who receive clotting factor concentrates;
  - persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A (see footnote 1); and
  - unvaccinated persons who anticipate close personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with high or intermediate endemicity of hepatitis A (see footnote 1). The first dose of the 2-dose hepatitis A vaccine series should be administered as soon as adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

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

• Vaccinate any person seeking protection from hepatitis B virus (HBV) infection and persons with any of the following indications:
  ◦ sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than 1 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;
  ◦ health care personnel and public safety workers who are potentially exposed to blood or other infectious body fluids;
  ◦ persons who are younger than age 60 years with diabetes as soon as feasible after diagnosis; persons with diabetes who are age 60 years or older at the discretion of the treating clinician based on the likelihood of acquiring HBV infection, including the risk posed by an increased need for assisted blood glucose monitoring in long-term care facilities, the likelihood of experiencing chronic sequelae if infected with HBV, and the likelihood of immune response to vaccination;
  ◦ persons with end-stage renal disease (including patients receiving hemodialysis), persons with HIV infection, and persons with chronic liver disease;
  ◦ household contacts and sex partners of hepatitis B surface antigen-positive persons, clients and staff members of institutions for persons with developmental disabilities, and international travelers to regions with high or intermediate levels of endemic HBV infection (see footnote 1); and
  ◦ all adults in the following settings: STD treatment facilities, HIV testing and treatment facilities, facilities providing drug abuse treatment and prevention services, health care 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 day care facilities for persons with developmental disabilities.
• Administer missing doses to complete a 3-dose series of hepatitis B vaccine to those persons not vaccinated or not completely vaccinated. The second dose should be administered at least 1 month after the first dose; the third dose should be administered 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 Twinrix schedule may be used, administered on days 0, 7, and 21–30, followed by a booster dose at 12 months.
• Adult patients receiving hemodialysis or with other immunocompromising conditions should receive 1 dose of 40 mcg/mL (Recombivax HB) administered on a 3-dose schedule at 0, 1, and 6 months or 2 doses of 20 mcg/mL (Engerix-B) administered simultaneously on a 4-dose schedule at 0, 1, 2, and 6 months.

11. Meningococcal vaccination.
• General information
  ◦ Serogroup A, C, W, and Y meningococcal vaccine is available as a conjugate (MenACWY [Menactra, Menveo]) or a polysaccharide (MPSV4 [Menomune]) vaccine.
  ◦ Serogroup B meningococcal (MenB) vaccine is available as a 2-dose series of MenB-4C vaccine (Bexsero) administered at least 1 month apart or a 3-dose series of MenB-FHbp (Trumeneba) vaccine administered at 0, 2, and 6 months; the two MenB vaccines are not interchangeable (i.e., the same MenB vaccine product must be used for all doses).
  ◦ MenACWY vaccine is preferred for adults with serogroup A, C, W, and Y meningococcal vaccine indications who are age 55 years or younger and for adults age 56 years or older 1) who were vaccinated previously with MenACWY vaccine and are recommended for revaccination or 2) for whom multiple doses of vaccine are anticipated; MPSV4 vaccine is preferred for adults age 56 years or older who have not received MenACWY vaccine previously and who require a single dose only (e.g., persons at risk because of an outbreak).
  ◦ Revaccination with MenACWY vaccine every 5 years is recommended for adults previously vaccinated with MenACWY or MPSV4 vaccine who remain at increased risk for infection (e.g., adults with anatomical or functional asplenia or persistent complement component deficiencies, or microbiologists who are routinely exposed to isolates of Neisseria meningitidis.)
  ◦ MenB vaccine is approved for use in persons ages 10 through 25 years; however, because there is no theoretical difference in safety for persons older than age 25 years compared to those ages 10 through 25 years, MenB vaccine is recommended for routine use in persons ages 10 years and older who are at increased risk for serogroup B meningococcal disease.
  ◦ There is no recommendation for MenB revaccination at this time.
  ◦ MenB vaccine may be administered concomitantly with MenACWY vaccine, but at a different anatomic site, if feasible.
  ◦ HIV infection is not an indication for routine vaccination with MenACWY or MenB vaccine; if an HIV-infected person of any age is to be vaccinated, administer 2 doses of MenACWY vaccine at least 2 months apart.
• Adults with anatomical or functional asplenia or persistent complement component deficiencies: Administer 2 doses of MenACWY vaccine at least 2 months apart and revaccinate every 5 years. Also, administer a series of MenB vaccine.
• Microbiologists who are routinely exposed to isolates of Neisseria meningitidis: Administer a single dose of MenACWY vaccine; revaccinate with MenACWY vaccine every 5 years if the person remains at risk for infection. In addition, administer a series of Men B vaccine.
• Persons at risk because of a meningococcal disease outbreak: If the outbreak is attributable to serogroup A, C, W, or Y, administer a single dose of MenACWY vaccine; if the outbreak is attributable to serogroup B, administer a series of MenB vaccine.
• Persons who travel to or live in countries in which meningococcal disease is hyperendemic or epidemic: Administer a single dose of MenACWY vaccine and revaccinate with MenACWY vaccine every 5 years if an increased risk of infection remains (see footnote 1); MenB vaccine is not recommended because meningococcal disease in these countries is generally not caused by serogroup B.
• Military recruits: Administer a single dose of MenACWY vaccine.
• First-year college students ages 21 years or younger who live in residence halls: Administer a single dose of MenACWY vaccine if they have not received a dose on or after their 16th birthday.
• Young adults ages 16 through 23 years (preferred age range is 16 through 18 years): May be vaccinated with a series of MenB vaccine to provide short-term protection against most strains of serogroup B meningococcal disease.

12. Haemophilus influenzae type b (Hib) vaccination.
• One dose of Hib vaccine should be administered to persons who have anatomical or functional asplenia or sickle cell disease or are undergoing elective splenectomy if they have not previously received Hib vaccine. Hib vaccination 14 or more days before splenectomy is suggested.
• Recipients of hematopoietic stem cell transplant (HSCT) should be vaccinated with a 3-dose regimen 6–12 months after a successful transplant, regardless of vaccination history; at least 4 weeks should separate doses.
• Hib vaccine is not recommended for adults with HIV infection since their risk for Hib infection is low.

13. Immunocompromising conditions.
Inactivated vaccines (e.g., pneumococcal, meningococcal, and inactivated influenza vaccines) generally are acceptable and live vaccines generally should be avoided in persons with immune deficiencies or immunocompromising conditions. Information on specific conditions is available at www.cdc.gov/vaccines/hcp/acip-recs/index.html.