

Vaccine name and route	People for whom vaccination is recommended	Schedule for vaccination administration (any vaccine can be given with another unless otherwise noted)	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Influenza</b> Inactivated Influenza vaccine (IIV*) <i>Give IM or ID (intradermally)</i></p> <p>* includes recombinant influenza vaccine (RIV3)</p> <p>Live attenuated influenza vaccine (LAIV) <i>Give NAS (intranasally)</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• Vaccination is recommended for all adults.</li> <li>• LAIV (Flumist) is approved only for healthy nonpregnant people age 2–49 yrs.</li> <li>• Adults age 18 through 64 yrs may be given any intramuscular IIV product (Fluzone, Fluvirin, Afluria, Flucelvax), or the intradermal IIV product (Fluzone Intradermal), or RIV3 (FluBlok).</li> <li>• Adults age 18 through 64 yrs may be given intramuscular IIV (Afluria) with a needle and syringe or using a jet injector (Stratis).</li> <li>• Adults age 65 yrs and older may be given standard-dose IIV, or high-dose IIV (Fluzone High-Dose), or RIV3.</li> </ul> <p><b>NOTE:</b> Health care personnel who care for severely immunocompromised persons (i.e., those who require care in a protective environment) should receive IIV rather than LAIV. For information on other contraindications and precautions to LAIV, see far right column.</p>	<ul style="list-style-type: none"> <li>• Give 1 dose every year in the fall or winter.</li> <li>• Begin vaccination services as soon as vaccine is available and continue until the supply is depleted.</li> <li>• Continue to give vaccine to unvaccinated adults throughout the influenza season (including when influenza activity is present in the community) and at other times when the risk of influenza exists.</li> <li>• If 2 or more of the following live virus vaccines are to be given – LAIV, MMR, Var, HZV, and/or yellow fever – they should be given on the same day. If they are not given on the same day, space them by at least 28d.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine, to any of its components, including egg protein. Adults with egg allergy of any severity may receive RIV or, adults who experience only hives with exposure to eggs may receive other IIV with additional safety precautions (i.e., observe patient for 30 minutes after receipt of vaccine for signs of a reaction).</li> <li>• For LAIV only: pregnancy; immunosuppression; receipt of specific antivirals (i.e., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48hrs. Avoid use of these anti-viral drugs for 14d after vaccination.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• History of Guillain-Barré syndrome (GBS) within 6 wks following previous influenza vaccination.</li> <li>• For LAIV only: Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, neurologic, hematologic, or metabolic (including diabetes) disorders; immunosuppression (including that caused by medications or HIV).</li> </ul>
<p><b>Td, Tdap</b> (Tetanus, diphtheria, pertussis) <i>Give IM</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• All people who lack written documentation of a primary series consisting of at least 3 doses of tetanus- and diphtheria-toxoid-containing vaccine.</li> <li>• A booster dose of Td or Tdap may be needed for wound management, so consult ACIP recommendations.<sup>1</sup></li> </ul> <p><b>For Tdap only</b></p> <ul style="list-style-type: none"> <li>• Adults who have not already received Tdap or whose Tdap history is not known.</li> <li>• Health care personnel of all ages.</li> <li>• Give Tdap to pregnant women during each pregnancy (preferred during 27–36 weeks’ gestation), regardless of the interval since prior Td or Tdap.</li> </ul>	<ul style="list-style-type: none"> <li>• For people who are unvaccinated or behind, complete the primary Td series (3 doses with an interval of 1–2m between dose #1 and #2, and an interval of 6–12m between dose #2 and #3); substitute a one-time dose of Tdap for one of the doses in the series, preferably the first.</li> <li>• Give Td booster every 10 yrs after the primary series has been completed.</li> <li>• Tdap should be given regardless of interval since previous Td.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>• For Tdap only, history of encephalopathy not attributable to an identifiable cause, within 7d following DTP/DTaP, or Tdap.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• History of Guillain-Barré syndrome within 6wks following previous dose of tetanus-toxoid-containing vaccine.</li> <li>• History of arthus reaction following a prior dose of tetanus- or diphtheria-toxoid-containing vaccine (including MCV4); defer vaccination until at least 10 yrs have elapsed since the last tetanus toxoid-containing vaccine.</li> <li>• For pertussis-containing vaccines only, progressive or unstable neurologic disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.</li> </ul>

<sup>1</sup> CDC. Preventing Tetanus, Diphtheria, and Pertussis Among Adults: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2006;55(RR-17):25.

This document was adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP). To obtain copies of these recommendations, visit CDC’s website at [www.cdc.gov/vaccines/hcp/ACIP-recs/index.html](http://www.cdc.gov/vaccines/hcp/ACIP-recs/index.html) or visit the Immunization Action Coalition (IAC) website at [www.immunize.org/acip](http://www.immunize.org/acip).

**This table is revised periodically.** Visit IAC’s website at [www.immunize.org/adultrules](http://www.immunize.org/adultrules) to make sure you have the most current version.

For the purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.

A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses.

Vaccine name and route	People for whom vaccination is recommended	Schedule for vaccination administration (any vaccine can be given with another unless otherwise noted)	Contraindications and precautions (mild illness is not a contraindication)
<p><b>MMR</b> (Measles, mumps, rubella) <i>Give Subcut</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• People born in 1957 or later (especially those born outside the U.S.) should receive at least 1 dose of MMR if they have no laboratory evidence of immunity to each of the 3 diseases or documentation of a dose given on or after the first birthday.</li> <li>• People in high-risk groups, such as health care personnel (paid, unpaid, or volunteer), students entering college and other post–high school educational institutions, and international travelers, should receive a total of 2 doses.</li> <li>• People born before 1957 are usually considered immune, but evidence of immunity (serology or documented history of 2 doses of MMR) should be considered for health care personnel.</li> <li>• Women of childbearing age who do not have acceptable evidence of rubella immunity or vaccination.</li> </ul>	<ul style="list-style-type: none"> <li>• Give 1 or 2 doses (see criteria in 1st and 2nd bullets in box to left).</li> <li>• If dose #2 is recommended, give it no sooner than 4 wks after dose #1.</li> <li>• If woman of childbearing-age is found to be rubella susceptible and is not pregnant, give 1 dose of MMR; if she is pregnant, the dose should be given postpartum. This includes women who have already received 1 or 2 doses of rubella-containing vaccine.</li> <li>• If 2 or more of the following live virus vaccines are to be given – LAIV, MMR, Var, HZV, and/or yellow fever – they should be given on the same day. If they are not given on the same day, space them by at least 28d. May use as post-exposure prophylaxis if given within 3d of exposure.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</li> <li>• Pregnancy or possibility of pregnancy within 4 wks.</li> <li>• Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy; or severely symptomatic HIV).</li> </ul> <p><b>NOTE:</b> HIV infection is NOT a contraindication to MMR for those who are not severely immunocompromised (i.e., CD4+ T-lymphocyte counts are greater than or equal to 200 cells/<math>\mu</math>L) for 6 months.<sup>1</sup></p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• If blood, plasma, and/or immune globulin were given in past 11m, see ACIP’s <i>General Recommendations on Immunization</i><sup>2</sup> regarding time to wait before vaccinating.</li> <li>• History of thrombocytopenia or thrombocytopenic purpura.</li> </ul> <p><b>NOTE:</b> If TST (tuberculosis skin test) and MMR are both needed but not given on same day, delay TST for at least 4 wks after MMR.</p>
<p><b>Varicella</b> (chickenpox) (Var) <i>Give Subcut</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• All adults without evidence of immunity.</li> </ul> <p><b>NOTE:</b> Evidence of immunity is defined as written documentation of 2 doses of varicella vaccine; a history of varicella disease or herpes zoster (shingles) based on health care-provider diagnosis; laboratory evidence of immunity or confirmation of disease; and/or birth in the U.S. before 1980, with the exceptions that follow.</p> <ul style="list-style-type: none"> <li>– Health care personnel (HCP) born in the U.S. before 1980 who do not meet any of the criteria above should be tested or given the 2-dose vaccine series. If testing indicates they are not immune, give the 1st dose of varicella vaccine immediately. Give the 2nd dose 4–8 wks later.</li> <li>– Pregnant women born in the U.S. before 1980 who do not meet any of the criteria above should either 1) be tested for susceptibility during pregnancy and if found susceptible, given the 1st dose of varicella vaccine postpartum before hospital discharge, or 2) not be tested for susceptibility and given the 1st dose of varicella vaccine postpartum before hospital discharge. Give the 2nd dose 4–8 wks later.</li> </ul>	<ul style="list-style-type: none"> <li>• Give 2 doses.</li> <li>• Dose #2 is given 4–8 wks after dose #1.</li> <li>• If dose #2 is delayed, do not start over. Just give dose #2.</li> <li>• If 2 or more of the following live virus vaccines are to be given – LAIV, MMR, Var, HZV, and/or yellow fever – they should be given on the same day. If they are not given on the same day, space them by at least 28d.</li> <li>• May use as postexposure prophylaxis if given within 5d of exposure.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• Previous severe allergic reaction (e.g., anaphylaxis) anaphylactic reaction to this vaccine or to any of its components.</li> <li>• Pregnancy or possibility of pregnancy within 4 wks.</li> <li>• People on long-term immunosuppressive therapy or who are immunocompromised because of malignancy and primary or acquired immunodeficiency, including HIV/AIDS (although vaccination may be considered if CD4+ T-lymphocyte counts are greater than or equal to 200 cells/<math>\mu</math>L.<sup>3</sup>).</li> <li>• People with isolated B-lymphocyte deficiency may receive varicella vaccine.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP’s <i>General Recommendations on Immunization</i><sup>2</sup> regarding time to wait before vaccinating.</li> <li>• Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hrs before vaccination, if possible; delay resumption of these antiviral drugs for 14d after vaccination.</li> </ul>

1 CDC. Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013. Summary Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2013;62(No. RR-4):23.

2 CDC. General Recommendations on Immunization—Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2011;60(No. RR-2):39.

3 CDC. Prevention of Varicella. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2007;56(No. RR-4):24–25. September 2015

Vaccine name and route	People for whom vaccination is recommended	Schedule for vaccination administration (any vaccine can be given with another unless otherwise noted)	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Hepatitis A (HepA)</b> Give IM Brands may be used interchangeably.</p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>All adults who want to be protected from hepatitis A virus (HAV) infection.</li> <li>People who travel or work anywhere EXCEPT the U.S., Western Europe, New Zealand, Australia, Canada, and Japan.</li> <li>People with chronic liver disease; injecting and non-injecting drug users; men who have sex with men; people who receive clotting-factor concentrates; people who work with HAV in lab settings; food handlers when health authorities or private employers determine vaccination to be appropriate.</li> <li>People who anticipate close personal contact with an international adoptee from a country of high or intermediate endemicity during the first 60 days following the adoptee’s arrival in the U.S.</li> <li>Postexposure: adults age 40 yrs or younger with recent (within 2 wks) exposure to HAV, give HepA. For people older than age 40 yrs with recent (within 2 wks) exposure to HAV, immune globulin is preferred over HepA vaccine.</li> </ul>	<ul style="list-style-type: none"> <li>Give 2 doses, spaced 6–18m apart (depending on brand).</li> <li>If dose #2 is delayed, do not repeat dose #1. Just give dose #2.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>For Twinrix (hepatitis A and B combination vaccine [GSK]) for patients age 18yrs and older only: give 3 doses on a 0, 1, 6m schedule. There must be at least 4wks between doses #1 and #2, and at least 5m between doses #2 and #3.</p> </div>	<p><b>Contraindication</b> Previous severe allergic reaction (e.g. anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precautions</b> Moderate or severe acute illness.</p>
<p><b>Hepatitis B (HepB)</b> Give IM Brands may be used interchangeably.</p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>All adults who want to be protected from hepatitis B virus infection.</li> <li>Household contacts and sex partners of HBsAg-positive people; injecting drug users; sexually active people not in a long-term, mutually monogamous relationship; men who have sex with men; people with HIV; people seeking STD evaluation or treatment; hemodialysis patients and those with renal disease that may result in dialysis; diabetics younger than age 60 yrs (diabetics age 60 yrs and older may be vaccinated at the clinician’s discretion<sup>1</sup>); health care personnel and public safety workers who are exposed to blood; clients and staff of institutions for the developmentally disabled; inmates of long-term correctional facilities; certain international travelers; and people with chronic liver disease.</li> </ul> <p><b>NOTE:</b> Provide serologic screening for immigrants from endemic areas. If patient is chronically infected, assure appropriate disease management. For sex partners and household contacts of HBsAg-positive people, provide serologic screening and administer initial dose of HepB vaccine at same visit.</p>	<p>An alternative schedule can also be used at 0, 7d, 21–30d, and a booster at 12m.</p> <p>Give 3 doses on a 0, 1, 6m schedule.</p> <ul style="list-style-type: none"> <li>Alternative timing options for vaccination include 0, 2, 4m; 0, 1, 4m; and 0, 1, 2, 12m (Engerix brand only).</li> <li>There must be at least 4 wks between doses #1 and #2, and at least 8 wks between doses #2 and #3. Overall, there must be at least 16 wks between doses #1 and #3.</li> <li>Give adults on hemodialysis or with other immunocompromising conditions 1 dose of 40 µg/mL (Recombivax HB) at 0, 1, 6m or 2 doses of 20 µg/mL (Engerix-B) given simultaneously at 0, 1, 2, 6m.</li> <li><b>Schedule for those who have fallen behind:</b> If the series is delayed between doses, DO NOT start the series over. Continue from where the schedule was interrupted.</li> </ul>	<p><b>Contraindication</b> Previous severe allergic reaction (e.g. anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precaution</b> Moderate or severe acute illness.</p>

<sup>1</sup> CDC. Use of Hepatitis B Vaccination for Adults with Diabetes Mellitus: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2011;60(50):1709.

Vaccine name and route	People for whom vaccination is recommended	Schedule for vaccination administration (any vaccine can be given with another unless otherwise noted)	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Zoster</b> (shingles) (HZV) <i>Give Subcut</i></p>	<ul style="list-style-type: none"> <li>• People age 60yrs and older.</li> </ul> <p><b>NOTE:</b> Do not test people age 60 yrs or older for varicella immunity prior to zoster vaccination. Persons born in the U.S. prior to 1980 can be presumed to be immune to varicella for the purpose of zoster vaccination, regardless of their recollection of having had chickenpox.</p>	<ul style="list-style-type: none"> <li>• Give 1-time dose if unvaccinated, regardless of previous history of herpes zoster (shingles) or chickenpox.</li> <li>• If 2 or more of the following live virus vaccines are to be given – MMR, Var, HZV, and/or yellow fever – they should be given on the same day. If they are not, space them by at least 28d.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• Previous severe allergic reaction (e.g., anaphylaxis) to any component of zoster vaccine.</li> <li>• Primary cellular or acquired immunodeficiency.</li> <li>• Pregnancy.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24hrs before vaccination, if possible; delay resumption of these antiviral drugs for 14d after vaccination.</li> </ul>
<p><b>Hib</b> (<i>Haemophilus influenzae</i> type b) <i>Give IM</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• Not routinely recommended for healthy adults.</li> <li>• Those adults at highest risk of serious Hib disease include people who 1) have anatomic or functional asplenia, 2) are undergoing an elective splenectomy, or 3) are recipients of hematopoietic stem cell transplant (HSCT).</li> </ul>	<ul style="list-style-type: none"> <li>• Give 1 dose of any Hib conjugate vaccine to adults in categories 1 or 2 (see 2nd bullet in column to left) if no history of previous Hib vaccine.</li> <li>• For HSCT patients, regardless of Hib vaccination history, give 3 doses, at least 4 wks apart, beginning 6–12m after transplant.</li> </ul>	<p><b>Contraindication</b></p> <p>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precautions</b></p> <p>Moderate or severe acute illness.</p>
<p><b>Human papillomavirus (HPV)</b> (HPV2, Cervarix) (HPV4, Gardasil; HPV9, Gardasil9) <i>Give IM</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• For unvaccinated females through age 26 yrs: Complete a 3-dose series of HPV2, HPV4, or HPV9.</li> <li>• For unvaccinated males through age 21 yrs: Complete a 3-dose series of HPV4 or HPV9.</li> <li>• For unvaccinated males age 22 through 26 yrs: Complete a 3-dose series of HPV4 or HPV9 for those who 1) have sex with men or 2) are immunocompromised as a result of infection (including HIV), disease, or medications, or 3) want to be protected from HPV</li> </ul>	<ul style="list-style-type: none"> <li>• Give 3 doses on a 0, 1–2, 6m schedule. Use either HPV2, HPV4, or HPV9 for women, and only HPV4 or HPV9 for men.</li> <li>• There must be at least 4wks between doses #1 and #2 and at least 12wks between doses #2 and #3. Overall, there must be at least 24wks between doses #1 and #3.</li> <li>• If the type of HPV vaccine previously given is not known or not available, any available HPV vaccine may be used to complete the series.</li> </ul>	<p><b>Contraindication</b></p> <p>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• Pregnancy.</li> </ul>
<p><b>Inactivated Polio</b> (IPV) <i>Give IM or Subcut</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• Not routinely recommended for U.S. residents age 18 yrs and older.</li> </ul> <p><b>NOTE:</b> Adults living in the U.S. who never received or completed a primary series of polio vaccine need not be vaccinated unless they intend to travel to areas where exposure to wild-type virus is likely. Adults with documented prior vaccination can receive 1 booster dose if traveling to polio endemic areas or to areas where the risk of exposure is high.</p>	<p>For unique situations, schedules, and dosing information, see ACIP inactivated polio vaccine recommendations on pages 829–830 at <a href="http://www.cdc.gov/mmwr/PDF/wk/mm5830.pdf">www.cdc.gov/mmwr/PDF/wk/mm5830.pdf</a>.</p>	<p><b>Contraindication</b></p> <p>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness.</li> <li>• Pregnancy.</li> </ul>

Vaccine name and route	People for whom vaccination is recommended	Schedule for vaccination administration (any vaccine can be given with another unless otherwise noted)	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Pneumococcal conjugate (PCV13)</b> <i>Give IM</i></p> <hr/> <p><b>Pneumococcal polysaccharide (PPSV23)</b> <i>Give IM or Subcut</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <p><b>All people age 65 yrs or older should receive</b></p> <ul style="list-style-type: none"> <li>• 1-time dose of PCV13 (if previously unvaccinated) and 1 dose of PPSV23, separated by 1 yr; if possible, give PCV13 first.</li> </ul> <p><b>People younger than age 65 years should receive</b></p> <ul style="list-style-type: none"> <li>• 1-time dose of PCV13 and 1st dose of PPSV23 if they have functional or anatomic asplenia, immunocompromising condition (see below), CSF leaks, or are a candidate for or recipient of a cochlear implant,</li> <li>• 2nd dose of PPSV23 if at highest risk of serious pneumococcal infection, including those who <ul style="list-style-type: none"> <li>– Have anatomic or functional asplenia, including sickle cell disease.</li> <li>– Have an immunocompromising condition, including HIV infection, leukemia, lymphoma, Hodgkin’s disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome.</li> <li>– Are receiving immunosuppressive chemotherapy (including high-dose corticosteroids).</li> <li>– Have received an organ or bone marrow transplant.</li> </ul> </li> <li>• PPSV23 only (not PCV13) if younger than 65 yrs and they have chronic cardiac or pulmonary disease (including asthma), chronic liver disease, alcoholism, diabetes, smoke cigarettes, or live in special environments or social settings (including American Indian/Alaska Natives age 50 through 64 yrs if recommended by local public health authorities).</li> </ul>	<ul style="list-style-type: none"> <li>• When recommended (see column at left), give PCV13 and/or PPSV23 if unvaccinated or if previous vaccination history is unknown.</li> <li>• For healthy people age 65 yrs and older, give PCV13 first followed by PPSV23 in 1 yr.</li> <li>• When both PCV13 and PPSV23 are indicated, give PCV13 first followed by PPSV23 in 1yr. If previously vaccinated with PPSV, give PCV13 at least 12m after PPSV23. For people at highest risk of serious pneumococcal infection, if not previously vaccinated with PPSV23, give PCV13 first, followed by PPSV23 in 8 wks.</li> <li>• Give another dose of PPSV23 to people <ul style="list-style-type: none"> <li>– Age 65 yrs and older if 1st dose was given prior to age 65 yrs and 5 yrs have elapsed since previous dose of PPSV.</li> <li>– Age 19–64 yrs who are at highest risk of pneumococcal infection or rapid antibody loss (see the 3rd bullet in the box to left for listing of people at highest risk) and 5 yrs have elapsed since dose #1.</li> </ul> </li> </ul>	<p><b>Contraindication</b></p> <p>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine, including (for PCV13) to any diphtheria toxoid-containing vaccine, or to any of its components.</p> <p><b>Precaution</b></p> <p>Moderate or severe acute illness.</p>
<p><b>Meningococcal conjugate (MCV4; Menactra, Menveo)</b> <i>Give IM</i></p> <hr/> <p><b>Meningococcal polysaccharide (MPSV4; Menomune)</b> <i>Give Subcut</i></p>	<p>For people through age 18 years, consult “Summary of Recommendations for Child/Teen Immunization” at <a href="http://www.immunize.org/catg.d/p2010.pdf">www.immunize.org/catg.d/p2010.pdf</a>.</p> <ul style="list-style-type: none"> <li>• People with anatomic or functional asplenia or persistent complement component deficiency.</li> <li>• People who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of Sub-Saharan Africa).</li> <li>• Microbiologists routinely exposed to isolates of <i>N. meningitidis</i>.</li> <li>• First-year college students through age 21 yrs who live in residence halls and who have not been previously vaccinated or who received their first dose prior to age 16 yrs.; see the 5th bullet in the box to the right for details.</li> </ul>	<ul style="list-style-type: none"> <li>• Give 2 initial doses of MCV4 separated by 2m to adults 55 yrs and younger with risk factors listed in 1st bullet in column to left or if vaccinating adults with HIV infection in this age group.</li> <li>• Give 1 initial dose of MCV4 to all other adults with risk factors (see 2nd–4th bullets in column to left).</li> <li>• Give booster doses of MCV4 every 5 yrs to adults with continuing risk (see the 1st–3rd bullets in column to left).</li> <li>• MCV4 is preferred over MPSV4 for people age 55 yrs and younger. For people age 56 yrs and older who anticipate multiple doses (see the 1st–3rd bullets in column to left) or who have received MCV4 previously, use MCV4. For all others, give 1 dose of MPSV4.</li> <li>• For first-year college students age 19–21 yrs living in residence halls, give 1 initial dose of MCV4 if unvaccinated. Give dose #2 if most recent dose was given when younger than 16 yrs.</li> </ul>	<p><b>Contraindication</b></p> <p>Previous severe allergic reaction (e.g., anaphylaxis) to this vaccine or to any of its components.</p> <p><b>Precaution</b></p> <p>Moderate or severe acute illness.</p>
<p><b>Meningococcal serogroup B (MenB; Bexsero, Trumenba)</b> <i>Give IM</i></p>	<ul style="list-style-type: none"> <li>• Young adults through age 23 yrs as a Category B (permissive) recommendation (to allow for individual clinical decision-making).</li> <li>• People with anatomic or functional asplenia or persistent complement component deficiency.</li> <li>• Microbiologists routinely exposed to isolates of <i>N. meningitidis</i>.</li> <li>• People identified as at increased risk because of a serogroup B meningococcal disease outbreak.</li> </ul>	<ul style="list-style-type: none"> <li>• Give either 2 doses of Bexsero, 1m apart, or 3 doses of Trumenba on a 0-, 2-, and 6-month schedule. MenB products are not interchangeable.</li> <li>• MenB vaccine may be given concomitantly with MCV4 vaccine.</li> </ul>	