

# Summary of Recommendations for Child/Teen Immunization\* (Age birth through 18 years)

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
<b>Hepatitis B (HepB)</b> <i>Give IM</i>	<ul style="list-style-type: none"> <li>Give HepB dose #1 within 24hrs of birth to all medically stable infants weighing <math>\geq 2000g</math> and born to HBsAg-negative mothers. Give dose #2 at age 1–2m and the final dose at age 6–18m (the last dose in the infant series should not be given earlier than age 24wks). After the birth dose, the series may be completed using 2 doses of single-antigen vaccine (ages 1–2m, 6–18m) or with 3 doses of Pediarix (ages 2m, 4m, 6m), which may result in giving a total of 4 doses of HepB vaccine.</li> <li><b>If mother is HBsAg-positive:</b> Give HBIG and HepB dose #1 within 12hrs of birth; complete series by age 6m. Test for HBsAg and anti-HBs at age 9–12m. If HepB series is delayed, test 1–2m after final dose.</li> <li><b>If mother's HBsAg status is unknown:</b> Give HepB dose #1 within 12 hrs of birth. If low birth weight (less than 2000g), also give HBIG within 12hrs. For infants weighing 2000g or more whose mother is subsequently found to be HBsAg positive, give the infant HBIG ASAP (no later than age 7d) and follow HepB immunization schedule for infants born to HBsAg-positive mothers.</li> <li>Vaccinate all other children and teens who have not completed a series of HepB vaccine.</li> </ul>	<ul style="list-style-type: none"> <li>Do not restart series, no matter how long since previous dose.</li> <li>3-dose series can be started at any age.</li> <li>Minimum intervals between doses: 4wks between #1 and #2, 8wks between #2 and #3, and at least 16wks between #1 and #3 (and give dose #3 no earlier than age 24wks).</li> </ul>	<p><b>Contraindication</b> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component, including to yeast.</p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>Moderate or severe acute illness, with or without fever.</li> <li>For infants who weigh less than 2000g, see ACIP recommendations at <a href="http://www.cdc.gov/mmwr/pdf/rr/rr5416.pdf">www.cdc.gov/mmwr/pdf/rr/rr5416.pdf</a>.</li> </ul>
<p><b>Special Notes on Hepatitis B Vaccine (HepB)</b></p> <p><b>Dosing of HepB:</b> For people age 0 through 19yrs, give 0.5 mL of 3 doses of Engerix-B or Recombivax HB; unvaccinated people age 18yrs and older may also be given 2 doses of Heplisav-B spaced 4wks apart, or the 3-dose series of the combined HepA and HepB vaccine (Twinrix).</p> <p><b>Alternative dosing schedule for unvaccinated adolescents age 11 through 15yrs:</b> Give 2 doses Recombivax HB 1.0 mL (adult formulation) spaced 4–6m apart. (Engerix-B is not licensed for a 2-dose schedule.)</p>			
<b>DTaP, DT (Diphtheria, tetanus, acellular pertussis)</b> <i>Give IM</i>	<ul style="list-style-type: none"> <li>Give to children at ages 2m, 4m, 6m, 15–18m, and 4–6yrs.</li> <li>May give dose #1 as early as age 6wks.</li> <li>May give #4 as early as age 12m if 6m have elapsed since #3.</li> <li>Do not give DTaP/DT to children age 7yrs and older.</li> <li>If possible, use the same DTaP product for all doses.</li> </ul>	<ul style="list-style-type: none"> <li>Dose #2 and #3 may be given 4wks after previous dose.</li> <li>Dose#4 may be given 6m after #3.</li> <li>If dose #4 is given before 4th birthday, wait at least 6m for #5 (age 4–6yrs).</li> <li>If dose #4 is given after 4th birthday, #5 is not needed.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</li> <li>For all pertussis-containing vaccines: Encephalopathy not attributable to an identifiable cause, within 7d after DTP/DTaP/DTap.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>Moderate or severe acute illness.</li> <li>History of Arthus reaction following a prior dose of tetanus or diphtheria toxoid-containing vaccine (including MenACWY); defer vaccination until at least 10yrs have elapsed since the last tetanus toxoid-containing vaccine.</li> <li>Guillain-Barré syndrome (GBS) within 6wks after previous dose of tetanus toxoid-containing vaccine.</li> <li>For all pertussis-containing vaccines: Progressive or unstable neurologic disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.</li> </ul>
<b>Td, Tdap (Tetanus, diphtheria, acellular pertussis)</b> <i>Give IM</i>	<ul style="list-style-type: none"> <li>For children and teens lacking previous Tdap: Give Tdap routinely at age 11–12yrs and vaccinate older teens on a catch-up basis; then boost every 10yrs with Td or Tdap.</li> <li>Make special efforts to give Tdap to children and teens who are 1) in contact with infants younger than age 12m and, 2) healthcare workers with direct patient contact.</li> <li>Give Tdap to pregnant adolescents during each pregnancy (preferred during the early part of gestational weeks 27 through 36wks), regardless of interval since prior Td or Tdap.</li> </ul>	<ul style="list-style-type: none"> <li>DTaP and DT should not be used for children age 7yrs and older; use Td and Tdap instead.</li> <li>Children as young as age 7yrs and teens who are unvaccinated or behind schedule should complete a 3-dose series with Tdap as the first dose, followed by Td or Tdap (with an interval of 1–2m between dose #1 and #2, and an interval of 6–12m between dose #2 and #3).</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>History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</li> <li>For all pertussis-containing vaccines: Encephalopathy not attributable to an identifiable cause, within 7d after DTP/DTaP/DTap.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>Moderate or severe acute illness.</li> <li>History of Arthus reaction following a prior dose of tetanus or diphtheria toxoid-containing vaccine (including MenACWY); defer vaccination until at least 10yrs have elapsed since the last tetanus toxoid-containing vaccine.</li> <li>Guillain-Barré syndrome (GBS) within 6wks after previous dose of tetanus toxoid-containing vaccine.</li> <li>For all pertussis-containing vaccines: Progressive or unstable neurologic disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized.</li> </ul>

\*This document was adapted from the vaccine recommendations of the Advisory Committee on Immunization Practices (ACIP) and also *General Best Practice Guidelines on Immunization of the ACIP*. To view the full vaccine recommendations and guidelines, visit CDC's website at [www.cdc.gov/vaccines/hcp/ACIP-recs/index.html](http://www.cdc.gov/vaccines/hcp/ACIP-recs/index.html).

**This table is revised periodically.** Visit IAC's website at [www.immunize.org/catg.d/p2010.pdf](http://www.immunize.org/catg.d/p2010.pdf) 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	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Rotavirus (RV)</b> <i>Give orally</i></p>	<ul style="list-style-type: none"> <li>• Rotarix (RV1): Give at ages 2m, 4m.</li> <li>• RotaTeq (RV5): Give at ages 2m, 4m, 6m.</li> <li>• May give dose #1 as early as age 6wks.</li> <li>• Give final dose no later than age 8m–0d.</li> </ul>	<ul style="list-style-type: none"> <li>• Do not begin series in infants older than age 14wks 6d.</li> <li>• Intervals between doses may be as short as 4wks.</li> <li>• If prior vaccination included use of different or unknown brand(s), a total of 3 doses should be given.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component. If allergy to latex, use RV5.</li> <li>• History of intussusception.</li> <li>• Diagnosis of severe combined immunodeficiency (SCID).</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• Altered immunocompetence other than SCID.</li> <li>• Chronic gastrointestinal disease.</li> <li>• For RV1 only, spina bifida or bladder exstrophy.</li> </ul>
<p><b>Hib (<i>Haemophilus influenzae</i> type b)</b> <i>Give IM</i></p>	<ul style="list-style-type: none"> <li>• ActHib (PRP-T), Hiberix, or Pentacel: Give at age 2m, 4m, 6m, 12–15m (booster dose).</li> <li>• PedvaxHIB (containing PRP-OMP): Give at age 2m, 4m, 12–15m (booster dose).</li> <li>• Dose #1 of Hib vaccine should not be given earlier than age 6wks.</li> <li>• Give final dose (booster dose) no earlier than age 12m and a minimum of 8wks after the previous dose.</li> <li>• Hib vaccines are interchangeable; however, if different brands of Hib vaccines are administered for dose #1 and dose #2, a total of 3 doses is necessary to complete the primary series in infants, followed by a booster after age 12m.</li> <li>• For vaccination of children 12 through 59m who are immunocompromised (immunoglobulin deficiency, complement component deficiency, HIV infection, receipt of chemotherapy or radiation therapy for cancer) or asplenic: if previously received no doses or only 1 dose before age 12m, give 2 additional doses at least 8wks apart; if previously received 2 or more doses before age 12m, give 1 additional dose.</li> <li>• Hib is not routinely given to healthy children age 5yrs and older.</li> <li>• 1 dose of Hib vaccine should be administered to children age 5yrs and older who have anatomic or functional asplenia (including sickle cell disease) and who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after age 14m.</li> <li>• 1 dose of Hib vaccine should be administered to unvaccinated persons 5 through 18yrs of age with HIV infection.</li> </ul>	<p><b>All Hib vaccines:</b></p> <ul style="list-style-type: none"> <li>• If dose #1 was given at 12–14m, give booster in 8wks.</li> <li>• Give only 1 dose to unvaccinated children ages 15–59m.</li> </ul> <p><b>ActHib:</b></p> <ul style="list-style-type: none"> <li>• Dose #2 and #3 may be given 4wks after previous dose.</li> <li>• If dose #1 was given at age 7–11m, only 3 doses are needed; #2 is given at least 4wks after #1, then final dose at age 12–15m (wait at least 8wks after dose #2).</li> </ul> <p><b>PedvaxHIB:</b></p> <ul style="list-style-type: none"> <li>• Dose #2 may be given 4wks after #1.</li> </ul> <p><b>NOTE:</b> Recipients of hematopoietic stem cell transplant should receive 3 doses of Hib vaccine at least 4wks apart beginning 6–12m after transplant, regardless of Hib vaccination history.</p>	<p><b>Contraindications</b></p> <p>History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component</p> <p><b>Precaution</b></p> <p>Moderate or severe acute illness, with or without fever.</p>

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Varicella</b> (Var; MMRV) (Chickenpox) <i>Give Subcut</i></p>	<ul style="list-style-type: none"> <li>• Give dose #1 at age 12–15m.</li> <li>• Give dose #2 at age 4–6yrs. Dose #2 of Var or MMRV may be given earlier if at least 3m since dose #1. If dose #2 was given at least 4wks after dose #1, it can be accepted as valid.</li> <li>• Give a 2nd dose to all older children/teens with history of only 1 dose.</li> <li>• MMRV may be used in children age 12m through 12yrs (see note below).</li> </ul>	<ul style="list-style-type: none"> <li>• If younger than age 13yrs, space dose #1 and #2 at least 3m apart. If age 13yrs or older, space at least 4wks apart.</li> <li>• May use as postexposure prophylaxis if given within 5d.</li> <li>• If Var and either LAIV, MMR, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart. If yellow fever vaccine, space by 30d.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</li> <li>• Pregnancy or possibility of pregnancy within 4wks.</li> <li>• Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy, or severely symptomatic HIV).</li> <li>• Family history of congenital or hereditary immunodeficiency in first-degree relatives (e.g., parents and siblings), unless the immune competence of the potential vaccine recipient has been substantiated clinically or verified by a laboratory test.</li> <li>• Children on high-dose 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 percentages are 15% or greater in children age 1 through 8yrs or 200 cells/μL in children age 9yrs and older).</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP's <i>General Best Practice Guidelines for Immunization</i>* regarding time to wait before vaccinating.</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> <li>• Use of aspirin or aspirin-containing products.</li> <li>• For MMRV only, personal or family (i.e., sibling or parent) history of seizures.</li> </ul> <p><b>NOTE:</b> For patients with humoral immunodeficiency or leukemia, see <a href="http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf">www.cdc.gov/mmwr/pdf/rr/rr5604.pdf</a>.</p>
<p><b>MMR</b> (Measles, mumps, rubella; MMRV) <i>Give Subcut</i></p>	<ul style="list-style-type: none"> <li>• Give dose #1 at age 12–15m.</li> <li>• Give MMR at age 6–11m if traveling internationally; revaccinate with 2 doses of MMR at age 12–15m and at least 4wks later. The dose given at younger than 12m does not count toward the 2-dose series.</li> <li>• Give dose #2 at age 4–6yrs. Dose #2 may be given earlier if at least 4wks since dose #1. For MMRV: dose #2 may be given earlier if at least 3m since dose #1.</li> <li>• Give a 2nd dose to all older children and teens with history of only 1 dose.</li> <li>• MMRV may be used in children age 12m through 12yrs (see note above).</li> </ul>	<ul style="list-style-type: none"> <li>• If MMR and either LAIV, Var, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart. If yellow fever vaccine, space by 30d.</li> <li>• When using MMR for both doses, minimum interval is 4wks.</li> <li>• When using MMRV for both doses, minimum interval is 3m.</li> <li>• May use as postexposure measles prophylaxis if given within 3d.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</li> <li>• Pregnancy or possibility of pregnancy within 4wks.</li> <li>• Severe immunodeficiency (e.g., hematologic and solid tumors; receiving chemotherapy; congenital immunodeficiency; long-term immunosuppressive therapy, or severely symptomatic HIV).</li> <li>• Family history of congenital or hereditary immunodeficiency in first-degree relatives (e.g., parents and siblings), unless the immune competence of the potential vaccine recipient has been substantiated clinically or verified by a laboratory test.</li> </ul> <p><b>NOTE:</b> HIV infection is NOT a contraindication to MMR for children who are not severely immunocompromised (see <a href="http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf">www.cdc.gov/mmwr/pdf/rr/rr5604.pdf</a>).</p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP's <i>General Best Practice Guidelines for Immunization</i>* regarding time to wait before vaccinating.</li> <li>• History of thrombocytopenia or thrombocytopenic purpura.</li> <li>• For MMRV only, personal or family (i.e., sibling or parent) history of seizures.</li> <li>• Need for tuberculin skin testing (TST) or interferon-gamma release assay (IGRA) testing. If TST or IGRA needed, give TST or IGRA before or on same day as MMR, or give TST or IGRA 4wks following MMR.</li> </ul>

**NOTE:** For the first dose of MMR and varicella given at age 12–47m, either MMR and Var or MMRV may be used. Unless the parent or caregiver expresses a preference for MMRV, CDC recommends that MMR and Var be used for the first doses in this age group.

# Summary of Recommendations for Child/Teen Immunization\* (Age birth through 18 years)

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contra-indication)
<p><b>Pneumococcal conjugate (PCV13)</b>                      Prevnar 13                      Give IM</p>	<ul style="list-style-type: none"> <li>• Give at ages 2m, 4m, 6m, 12–15m (booster dose).</li> <li>• Dose #1 may be given as early as age 6wks.</li> <li>• For age 24 through 59m and healthy: if unvaccinated or any incomplete schedule of 3 doses of PCV 13 was received previously, give 1 supplemental dose of PCV13 at least 8 wks after the most recent dose.</li> <li>• For high-risk** children ages 2 through 5yrs: give 2 doses at least 8wks apart if they previously received an incomplete schedule of fewer than 3 doses; give 1 dose at least 8wks after the most recent dose if they previously received 3 doses.</li> <li>• For high-risk** children: all recommended PCV13 doses should be given prior to PPSV vaccination.</li> <li>• PCV13 is not routinely given to healthy children age 5yrs and older.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>** High-risk</b>  <i>For both PCV13 and PPSV23 in children ages 2–18yrs: those with sickle cell disease; anatomic or functional asplenia; chronic renal failure or nephrotic syndrome; cerebrospinal fluid leaks; HIV infection; immunosuppression; diseases associated with immunosuppressive treatment and/or radiation therapy, including cancer; asthma, if taking high dose corticosteroids; solid organ transplantation; or who have or will have a cochlear implant.</i></p> <p><i>For both PCV13 and PPSV23 in 2–5yrs: those with chronic cardiac or pulmonary disease; diabetes</i></p> <p><i>For PPSV23 only in 6–18yrs: those with chronic cardiac, pulmonary, or liver disease, diabetes, alcoholism</i></p> </div>	<ul style="list-style-type: none"> <li>• When children are behind on PCV13 schedule, minimum interval for doses given to children younger than age 12m is 4wks; for doses given at 12m and older, it is 8wks.</li> <li>• <b>For age 7 through 11m:</b> If history of 0 doses, give 2 doses of PCV13, 4wks apart, with a 3rd dose at age 12–15m; if history of 1 or 2 doses, give 1 dose of PCV13 with a 2nd dose at age 12–15m at least 8wks later.</li> <li>• <b>For age 12 through 23m:</b> If unvaccinated or history of 1 dose before age 12m, give 2 doses of PCV13 8wks apart; if history of 1 dose at or after age 12m or 2 or 3 doses before age 12m, give 1 dose of PCV13 at least 8wks after most recent dose.</li> <li>• <b>For age 2 through 5yrs</b> and at high risk**: If unvaccinated or any incomplete schedule of 1 or 2 doses, give 2 doses of PCV13, 1 at least 8wks after the most recent dose and another dose at least 8wks later; if any incomplete series of 3 doses, give 1 supplemental dose of PCV13 at least 8wks after the most recent dose.</li> <li>• <b>For children ages 6 through 18yrs</b> with functional or anatomic asplenia (including sickle cell disease), HIV infection or other immunocompromising condition, cochlear implant, or CSF leak, give 1 dose of PCV13 if no previous history of PCV13.</li> </ul>	<p><b>Contraindication</b>                      History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component, including yeast.</p> <p><b>Precaution</b>                      Moderate or severe acute illness, with or without fever.</p>
<p><b>Pneumococcal polysaccharide (PPSV23)</b>                      Pneumovax 23                      Give IM or Subcut</p>	<ul style="list-style-type: none"> <li>• Give 1 dose at least 8wks after final dose of PCV13 to high-risk** children age 2yrs and older.</li> <li>• For children who have sickle cell disease, functional or anatomic asplenia, HIV infection, or other immunocompromising condition, give a 2nd dose of PPSV 5 yrs after previous PPSV (see ACIP pneumococcal recommendations at <a href="http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf">www.cdc.gov/mmwr/pdf/rr/rr5911.pdf</a>).</li> </ul>		<p><b>Contraindication</b>                      History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</p> <p><b>Precaution</b>                      Moderate or severe acute illness, with or without fever.</p>
<p><b>Human papillomavirus (HPV)</b>                      Give IM</p>	<ul style="list-style-type: none"> <li>• Give a 2-dose series of HPV to all adolescents at age 11–12yrs on a 0, 6–12m schedule; may give as early as age 9yrs.</li> <li>• Give a 3-dose series of HPV to any child who is immunocompromised (may give as young as age 9yrs) and to teens age 15yrs or older on a 0, 1–2, 6m schedule.</li> <li>• Give a 3-dose series of HPV to all persons through age 26yrs who were not previously vaccinated.</li> <li>• <b>Other guidance:</b> Pregnancy is neither a contraindication nor a precaution to HPV vaccine, but vaccination should be delayed until after pregnancy.</li> </ul>	<ul style="list-style-type: none"> <li>• With the exception of immunocompromised persons, a 2-dose schedule may be followed for all persons initiating the HPV vaccine series before age 15yrs.</li> <li>• A 3-dose schedule must be followed for all persons initiating the series at age 15yrs or older, as well as for immunocompromised persons ages 9 through 26yrs.</li> <li>• Minimum intervals between doses: 2-dose schedule: 5m; 3-dose schedule: 4wks between #1 and #2; 12wks between #2 and #3 and 5m between #1 and #3.</li> </ul>	<p><b>Contraindication</b>                      History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component, including yeast.</p> <p><b>Precaution</b>                      Moderate or severe acute illness, with or without fever.</p>

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Hepatitis A (HepA)</b> <i>Give IM</i></p>	<ul style="list-style-type: none"> <li>• Give 2 doses spaced 6–18m apart to all children at age 1yr (12–23m).</li> <li>• Vaccinate all previously unvaccinated children and adolescents age 2 through 18yrs.</li> <li>• Give 1 dose to children age 6–11m who travel anywhere outside the U.S., most, but not all of Western Europe, New Zealand, Australia, Canada, or Japan. This dose does not count toward the routine 2-dose series given at age 1yr.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum interval between doses is 6m.</li> <li>• Give 1 dose as postexposure prophylaxis to incompletely vaccinated children and teens age 12m and older who have recently (during the past 2wks) been exposed to hepatitis A virus. For children younger than 12 months, use IG (0.1 mL/kg), rather than vaccine, for postexposure prophylaxis.</li> </ul>	<p><b>Contraindication</b> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</p> <p><b>Precautions</b> Moderate or severe acute illness, with or without fever.</p>
<p><b>Inactivated polio (IPV)</b> <i>Give Subcut or IM</i></p>	<ul style="list-style-type: none"> <li>• Give to children at ages 2m, 4m, 6–18m, 4–6yrs.</li> <li>• May give dose #1 as early as age 6wks.</li> <li>• Not routinely recommended for U.S. residents age 18yrs and older (except certain travelers). For information on polio vaccination for international travelers, see <a href="http://wwwnc.cdc.gov/travel/diseases">wwwnc.cdc.gov/travel/diseases</a>.</li> <li>• Doses of oral poliovirus vaccine (OPV) administered outside the U.S. before Apr. 1, 2016 may be counted toward the IPV series, unless OPV specifically noted as part of a campaign.</li> </ul>	<ul style="list-style-type: none"> <li>• The final dose should be given on or after the 4th birthday and at least 6m from the previous dose.</li> <li>• If dose #3 is given after 4th birthday, dose #4 is not needed if dose #3 is given at least 6m after dose #2.</li> </ul>	<p><b>Contraindication</b> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</p> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• Pregnancy.</li> </ul>
<p><b>Influenza</b> Inactivated influenza vaccine (IIV) <i>Give IM</i></p> <p>IIV includes recombinant influenza vaccine (RIV) for teens ages 18yrs and older</p> <hr/> <p>Live attenuated influenza vaccine (LAIV) <i>Give NAS (intranasally)</i></p>	<ul style="list-style-type: none"> <li>• Vaccinate all children and teens age 6m and older.</li> <li>• For children age 6m through 8yrs, give 2 doses of age-appropriate vaccine, spaced 4 wks apart, who 1) are first-time vaccinees, or 2) have received only one lifetime dose previous to this current season (season runs July to June).</li> <li>• For IIV in children age 6–35m, give one of the following: Afluria 0.25 mL dose, Fluarix 0.5 mL dose, FluLaval 0.5 mL dose, or Fluzone 0.25 or 0.5 mL dose.</li> <li>• For IIV in children age 3yrs and older, give 0.5 mL dose of any age-appropriate influenza vaccine.</li> <li>• For LAIV in children age 2yrs and older, give 0.2 mL nasal spray dose.</li> <li>• For teens age 18yrs and older: recombinant influenza vaccine (RIV) may also be used.</li> <li>• <b>Other guidance:</b> children with functional or anatomic asplenia, complement deficiency, cochlear implant, or CSF leak should not receive LAIV.</li> </ul>	<p><b>Contraindications</b></p> <ul style="list-style-type: none"> <li>• History of severe allergic reaction (e.g., anaphylaxis) to a previous dose of any influenza vaccine or to a vaccine component (except egg).</li> <li>• For LAIV only: Age younger than 2yrs; pregnancy; functional or anatomic asplenia; CSF leak; cochlear implant; immunosuppression (including that caused by medications or HIV); for children and teens ages 6m through 18yrs, current aspirin or salicylate-containing medication; for children age 2 through 4yrs, wheezing or asthma within the past 12m; receipt of zanamivir and oseltamivir within 48hrs, peramivir within 5d, or baloxavir within 17d (if use of any of these antiviral drugs within 14d after LAIV, revaccinate with IIV).</li> <li>• <b>NOTE:</b> People with egg allergy of any severity can receive any age-appropriate influenza vaccine (i.e., any IIV, RIV, or LAIV) that is otherwise appropriate for their health status. People having had a previous severe reaction to eggs involving symptoms other than hives should be administered vaccine in a medical setting (e.g., a health department or physician office) and should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions, unless receiving egg-free cIIV or RIV.</li> </ul> <p><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• History of Guillain-Barré syndrome (GBS) within 6wks of a previous influenza vaccination.</li> <li>• For children/teens who experience only hives with exposure to eggs, give any age-appropriate influenza vaccine.</li> <li>• For LAIV only: Chronic pulmonary (including asthma in children age 5yrs and older), cardiovascular (except hypertension), renal, hepatic, neurological/neuromuscular, hematologic or metabolic (including diabetes) disorders.</li> </ul>	

Vaccine name and route	Schedule for routine vaccination and other guidelines (any vaccine can be given with another, unless otherwise noted)	Schedule for catch-up vaccination and related issues	Contraindications and precautions (mild illness is not a contraindication)
<p><b>Meningococcal conjugate, quadrivalent (MenACWY)</b> Menactra, Menveo, MenQuadfi <i>Give IM</i></p>	<ul style="list-style-type: none"> <li>• Give a 2-dose series of MenACWY with dose #1 at age 11–12yrs and dose #2 at age 16yrs.</li> <li>• If unvaccinated at 11–12yrs, give dose #1 at age 13 through 15yrs. Give dose #2 at 16 through 18yrs with a minimum interval of at least 8wks between doses.</li> <li>• If unvaccinated at 11 through 15yrs, give dose #1 at 16 through 18yrs.</li> <li>• For first year college students living in a residence hall, regardless of age:             <ul style="list-style-type: none"> <li>◊ If unvaccinated, give 1 dose.</li> <li>◊ If history of 1 dose given when younger than age 16, give dose #2.</li> <li>◊ If most recent dose given after 16th birthday and more than 5 years have elapsed, give 1 dose.</li> </ul> </li> <li>• Give Menveo to children age 2–18m with persistent complement component deficiency, complement inhibitor use, HIV infection, or anatomic/functional asplenia; give at ages 2, 4, 6, 12–15m.</li> <li>• For unvaccinated or partially vaccinated children age 7–23m with persistent complement component deficiency: 1) if age 7–23m and using Menveo, give a 2-dose series at least 3m apart with dose #2 given after age 12m or, 2) if age 9–23m and using Menactra, give a 2-dose series at least 3m apart. Give any brand of MenACWY to unvaccinated children age 24m and older with persistent complement component deficiency or anatomic or functional asplenia; give 2 doses, 2m apart. If Menactra is given, it must be separated by 4wks from the final dose of PCV13.</li> <li>• Give age-appropriate series of meningococcal conjugate vaccine (brand must be licensed for age of child) to 1) children age 2m and older at risk during a community outbreak attributable to a vaccine serogroup and 2) children age 2m and older traveling to or living in countries with hyperendemic or epidemic meningococcal disease. Prior receipt of MenHibrix is not sufficient for children traveling to the meningitis belt or the Hajj.</li> </ul>	<ul style="list-style-type: none"> <li>• If previously vaccinated and risk of meningococcal disease persists, revaccinate with MenACWY in 3yrs (if previous dose given when younger than age 7yrs) or in 5 yrs (if previous dose given at age 7yrs or older). Then, give additional booster doses every 5 yrs if risk continues.</li> <li>• Minimum ages: 2m Menveo; 9m Menactra; 2yrs MenQuadfi.</li> <li>• A catch-up dose of MenACWY may be given at age 19 through 21 yrs to those who did not receive a dose after their 16th birthday.</li> <li>• If using Menactra in a high-risk child, it should be given before or at the same visit as DTaP is administered.</li> <li>• MenACWY vaccine may be given concomitantly with MenB vaccine.</li> </ul>	<p><b>Contraindication</b> History of severe allergic reaction (e.g., anaphylaxis) to a previous dose or to a vaccine component.</p> <p><b>Precaution</b></p> <ul style="list-style-type: none"> <li>• Moderate or severe acute illness, with or without fever.</li> <li>• For MenB only: pregnancy.</li> </ul>
<p><b>Meningococcal serogroup B (MenB)</b> Bexsero and Trumenba <i>Give IM</i></p>	<ul style="list-style-type: none"> <li>• Teens age 16 through 18yrs may be vaccinated based on shared clinical decision-making. Give 2 doses of either MenB vaccine: Bexsero, spaced 1m apart; Trumenba, spaced 6m apart.</li> <li>• For children age 10yrs and older with persistent complement component deficiencies or complement inhibitor use, functional or anatomic asplenia, including sickle cell disease, or who are at risk during a community outbreak of serotype B, give either 2 doses of Bexsero, 1m apart, or 3 doses of Trumenba on a 0, 1–2, and 6m schedule.</li> </ul>	<ul style="list-style-type: none"> <li>• At-risk children (see 2nd bullet in column to left) should receive a 1-dose booster 1 year after completing the primary series, followed by boosters every 2–3 years if risk continues.</li> <li>• Minimum age: 10yrs.</li> <li>• The brands of MenB vaccine are not interchangeable. If the brand of MenB vaccine used for the primary series is unknown or unavailable, complete a primary series with the available brand.</li> <li>• MenB vaccine may be given concomitantly with MenACWY vaccine.</li> </ul>	