### Vaccines in the Child and Adolescent Immunization Schedule*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td>1vCOV-mRNA</td>
<td>Comirnaty®/Pfizer-BioNTech COVID-19 Vaccine</td>
</tr>
<tr>
<td></td>
<td>2vCOV-mRNA</td>
<td>SPIKEVAX®/Moderna COVID-19 Vaccine</td>
</tr>
<tr>
<td></td>
<td>1vCOV-aPS</td>
<td>Novavax COVID-19 Vaccine</td>
</tr>
<tr>
<td>Dengvaxia</td>
<td>DEN4CYD</td>
<td>Dengvaxia®</td>
</tr>
<tr>
<td>DTaP vaccine</td>
<td>DTaP</td>
<td>Daptacel® Infantrix®</td>
</tr>
<tr>
<td>Hib vaccine</td>
<td>Hib (PRP-T)</td>
<td>ActHIB® Hibrix® PedvaxHIB®</td>
</tr>
<tr>
<td>HepA vaccine</td>
<td>HepA</td>
<td>Havrix® Vaqta®</td>
</tr>
<tr>
<td>Hepatitis B vaccine</td>
<td>HepB</td>
<td>Engerix-B® Recombivax HB®</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td>HPV</td>
<td>Gardasil 9®</td>
</tr>
<tr>
<td>Influenza vaccine (live)</td>
<td>IIV4</td>
<td>Multiple</td>
</tr>
<tr>
<td>Influenza vaccine (live, attenuated)</td>
<td>LAIV4</td>
<td>FluMist® Quadrivalent</td>
</tr>
<tr>
<td>Measles, mumps, and rubella vaccine</td>
<td>MMR</td>
<td>M-M-R II® Priorix®</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-D</td>
<td>Menactra® Menveo®</td>
</tr>
<tr>
<td>Meningococcal serogroup B vaccine</td>
<td>MenACWY-TT</td>
<td>MenQuadrix®</td>
</tr>
<tr>
<td>MenB vaccine</td>
<td>MenB-4C</td>
<td>Bexsero®</td>
</tr>
<tr>
<td></td>
<td>MenB-FHbp</td>
<td>Trumenba®</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine</td>
<td>PCV13</td>
<td>Prevnar 13® Vaunveaucx®</td>
</tr>
<tr>
<td></td>
<td>PCV15</td>
<td>Pneumovax 23®</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide vaccine</td>
<td>PCV20</td>
<td>Prevnar 20®</td>
</tr>
<tr>
<td>Poliovirus vaccine</td>
<td>IPV</td>
<td>iPOL®</td>
</tr>
<tr>
<td>Rotavirus vaccine</td>
<td>RV1</td>
<td>RotaTeq®</td>
</tr>
<tr>
<td></td>
<td>RVS</td>
<td>Rotarix®</td>
</tr>
<tr>
<td>Tetanus, diphtheria, and acellular pertussis vaccine</td>
<td>Tdap</td>
<td>Adacel® Boostrix®</td>
</tr>
<tr>
<td>Tetanus and diphtheria vaccine</td>
<td>Td</td>
<td>Tenivac® TdVac®</td>
</tr>
<tr>
<td>Varicella vaccine</td>
<td>VAR</td>
<td>Varivax®</td>
</tr>
</tbody>
</table>

#### How to use the child and adolescent immunization schedule

1. **Determine recommended vaccine by age** (Table 1)
2. **Determine recommended interval for catch-up vaccination** (Table 2)
3. **Assess need for additional recommended vaccines by medical condition or other indication** (Table 3)
4. **Review vaccine types, frequencies, intervals, and considerations for special situations** (Notes)
5. **Review contraindications and precautions for vaccine types** (Appendix)

#### Recommended by the Advisory Committee on Immunization Practices (ACIP) and approved by the Centers for Disease Control and Prevention (CDC), American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), American College of Nurse-Midwives (ACNM), American Academy of Physician Assistants (AAPA), and National Association of Pediatric Nurse Practitioners (NAPNAP).

#### Questions or comments

- **Contact** [www.cdc.gov/cdc-info](http://www.cdc.gov/cdc-info) or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.

- **Download the CDC Vaccine Schedules app for providers at** [www.cdc.gov/vaccines/schedules/hcp/schedule-app.html](http://www.cdc.gov/vaccines/schedules/hcp/schedule-app.html)

#### Helpful information

- **Complete Advisory Committee on Immunization Practices (ACIP) recommendations:** [www.cdc.gov/vaccines/hcp/acip-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html)
- **General Best Practice Guidelines for Immunization (including contraindications and precautions):** [www.cdc.gov/vaccines/hcp/guidelines/index.html](http://www.cdc.gov/vaccines/hcp/guidelines/index.html)
- **Vaccine information statements:** [www.cdc.gov/vaccines/hcp/vis/index.html](http://www.cdc.gov/vaccines/hcp/vis/index.html)
- **ACIP Shared Clinical Decision-Making Recommendations:** [www.cdc.gov/vaccines/acip/acip-scdm-faqs.html](http://www.cdc.gov/vaccines/acip/acip-scdm-faqs.html)
- **ACIP Shared Clinical Decision-Making Recommendations:** [www.cdc.gov/vaccines/acip/acip-scdm-faqs.html](http://www.cdc.gov/vaccines/acip/acip-scdm-faqs.html)
- **U.S. Department of Health and Human Services Centers for Disease Control and Prevention:** [www.cdc.gov](http://www.cdc.gov)

---

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.*
These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars.

To determine minimum intervals between doses, see the catch-up schedule (Table 2).

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 mo</th>
<th>2 mos</th>
<th>4 mos</th>
<th>6 mos</th>
<th>9 mos</th>
<th>12 mos</th>
<th>15 mos</th>
<th>18 mos</th>
<th>19–23 mos</th>
<th>2–3 yrs</th>
<th>4–6 yrs</th>
<th>7–10 yrs</th>
<th>11–12 yrs</th>
<th>13–15 yrs</th>
<th>16 yrs</th>
<th>17–18 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B (HepB)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
<td>4th</td>
<td>5th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)</td>
<td>1st</td>
<td>2nd</td>
<td></td>
<td></td>
<td>3rd</td>
<td>4th</td>
<td>5th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphtheria, tetanus, acellular pertussis (DTaP)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
<td>4th</td>
<td>5th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>1st</td>
<td>2nd</td>
<td></td>
<td></td>
<td></td>
<td>3rd or 4th</td>
<td>5th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV13, PCV15)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
<td>4th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus (IPV)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
<td>4th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 (1vCOV-mRNA, 2vCOV-mRNA, 1vCOV-aPS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2- or 3-dose primary series and booster (See Notes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza (IIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza (LAIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, acellular pertussis (Tdap)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal (MenACWY-D ≥9 mos, MenACWY-CRM ≥2 mos, MenACWY-TT ≥2 years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB-4C, MenB-FHbp)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dengue (DEN4CYD; 9-16 yrs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual vaccination 1 or 2 doses</td>
<td>Annual vaccination 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2023

COVID-19 vaccination recommendations have changed. Find the latest recommendations at www.cdc.gov/covidschedule
### Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2023

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child’s age. **Always use this table in conjunction with Table 1 and the Notes that follow.**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Minimum Interval Between Doses</th>
<th>Dose 3 to Dose 4</th>
<th>Dose 4 to Dose 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children age 4 months through 6 years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Birth</td>
<td>4 weeks</td>
<td></td>
<td>Dose 3 to Dose 4</td>
<td>Dose 4 to Dose 5</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>6 weeks Maximum age for first dose is 14 weeks, 6 days.</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphtheria, tetanus, and acellular pertussis</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td></td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td>Haemophilus influenzae type b</td>
<td>6 weeks</td>
<td>No further doses needed if first dose was administered at age 15 months or older. 4 weeks if first dose was administered before the 1st birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months.</td>
<td>No further doses needed if previous dose was administered at age 15 months or older. 4 weeks if current age is younger than 12 months and first dose was administered at younger age than 7 months and at least 1 previous dose was PRP-T (ActHib®, Pentacel®, Hibergen®), Vaxelis® or unknown. 8 weeks and age 12 through 59 months (as final dose) if current age is younger than 12 months and first dose was administered at age 7 through 11 months; OR if current age is 12 through 59 months and first dose was administered before the 1st birthday and second dose was administered at younger than 15 months; OR if both doses were PedvaxHIB® and were administered before the 1st birthday.</td>
<td>8 weeks (as final dose) if age 12 through 59 months who received 3 doses before the 1st birthday.</td>
<td></td>
</tr>
<tr>
<td>Pneumococcal conjugate</td>
<td>6 weeks</td>
<td>No further doses needed for healthy children if first dose was administered at age 24 months or older. 4 weeks if first dose was administered before the 1st birthday. 8 weeks (as final dose for healthy children) if first dose was administered at the 1st birthday or after.</td>
<td>No further doses needed for healthy children if previous dose was administered at age 24 months or older. 4 weeks if current age is younger than 12 months and previous dose was administered at &lt;7 months old. 8 weeks (as final dose for healthy children) if previous dose was administered between 7–11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was administered before age 12 months.</td>
<td>8 weeks (as final dose) if age 12 through 59 months regardless of risk, or age 60 through 71 months with any risk, who received 3 doses before age 12 months.</td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks if current age is &lt;4 years. 6 months (as final dose) if current age is 4 years or older.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella</td>
<td>12 months</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella</td>
<td>12 months</td>
<td>3 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>12 months</td>
<td>6 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal ACWY</td>
<td>2 months MenACWY-CRM 9 months MenACWY-Q 2 years MenACWY-TT</td>
<td>8 weeks</td>
<td>See Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| <strong>Children and adolescents age 7 through 18 years</strong> | | | | | |
| Meningococcal ACWY | Not applicable (N/A) | 8 weeks | | | |
| Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis | 7 years | 4 weeks | 4 weeks if first dose of DTaP/DT was administered before the 1st birthday. 6 months (as final dose) if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday | 6 months if first dose of DTaP/DT was administered before the 1st birthday. | |
| Human papillomavirus | 9 years | Routine dosing intervals are recommended. | | | |
| Hepatitis A | N/A | 6 months | | | |
| Hepatitis B | N/A | 4 weeks | | | |
| Inactivated poliovirus | N/A | 4 weeks | 6 months. A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose. | A fourth dose of IPV is indicated if all previous doses were administered at &lt;4 years or if the third dose was administered &lt;6 months after the second dose. | |
| Measles, mumps, rubella | N/A | 4 weeks | | | |
| Varicella | N/A | 3 months if younger than age 13 years. 4 weeks if age 13 years or older | | | |
| Dengue | 9 years | 6 months | 6 months | | |</p>
<table>
<thead>
<tr>
<th>VACCINE</th>
<th>Pregnancy</th>
<th>Immunocompromised status (excluding HIV infection)</th>
<th>HIV infection CD4+ counts</th>
<th>Kidney failure, end-stage renal disease, or on hemodialysis</th>
<th>Heart disease or chronic lung disease</th>
<th>CSF leak or cochlear implant</th>
<th>Asplenia or persistent complement deficiencies</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotavirus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diptheria, tetanus, and acellular pertussis (DTaP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal conjugate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza (IIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza (LAIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diptheria, and acellular pertussis (Tdap)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal ACWY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal polysaccharide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dengue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INDICATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccination according to the routine schedule recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended for persons with an additional risk factor for which the vaccine would be indicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccination is recommended, and additional doses may be necessary based on medical condition or vaccine. See Notes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precaution–vaccine might be indicated if benefit of protection outweighs risk of adverse reaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraindicated or not recommended–vaccine should not be administered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No recommendation/not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, “Altered Immunocompetence,” at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote J) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.
- Severe Combined Immunodeficiency
- LAIV4 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months
COVID-19 vaccination

(most recent version of the COVID-19 vaccination schedule)

For vaccination recommendations for persons ages 19 years or older, see the Recommended Adult Immunization Schedule, 2023.

**Notes**

COVID-19 vaccination recommendations have changed. Find the latest recommendations at [www.cdc.gov/covidschedule](http://www.cdc.gov/covidschedule).

**Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2023**

**Routine vaccination**

- **Age 6 months–4 years:** 2-dose series at 0, 4-8 weeks (Moderna) or 3-dose series at 0, 3-8, 11-16 weeks (Pfizer-BioNTech)
- **Age 6 months–4 years:** 2-dose series at 0, 4-8 weeks (Moderna) or 2-dose series at 0, 3-8 weeks (Pfizer-BioNTech)
- **Age 9-16 years:** 2-dose series at 0, 4-8 weeks (Moderna) or 2-dose series at 0, 3-8 weeks (Novavax, Pfizer-BioNTech)

**Special situations**

**Persons who are moderately or severely immunocompromised**

- **Age 6 months–4 years:** 3-dose series at 0, 4, 8 weeks (Moderna) or 3-dose series at 0, 3, 11 weeks (Pfizer-BioNTech)
- **Age 5–11 years:** 3-dose series at 0, 4, 8 weeks (Moderna) or 3-dose series at 0, 3, 7 weeks (Pfizer-BioNTech)
- **Age 12–18 years:** 3-dose series at 0, 4, 8 weeks (Moderna) or 2-dose series at 0, 3 weeks (Novavax) or 3-dose series at 0, 3, 7 weeks (Pfizer-BioNTech)

**Booster dose:** see [www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html](http://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html)

**Special situations**

**Diphtheria, tetanus, and pertussis (DTaP) vaccination**

- **Age 5–11 years living in areas with endemic dengue:**
  - 3-dose series administered at 0, 6, and 12 months

**Catch-up vaccination**

- **Dose 5 is not necessary if dose 4 was administered at age 4 years or older and at least 6 months after dose 3.**
- **For other catch-up guidance, see Table 2.**

**Dengue vaccination**

- **Age 9–16 years living in areas with endemic dengue:**
  - 3-dose series administered at 0, 6, and 12 months
  - **Prospectively:** Dose 4 may be administered as early as age 12 months if at least 6 months have elapsed since dose 3.
  - **Retrospectively:** A 4th dose that was inadvertently administered as early as age 12 months may be counted if at least 4 months have elapsed since dose 3.

**Special situations**

- **Wound management:** in children less than age 7 years with history of 3 or more doses of diphtheria or tetanus toxoid-containing vaccine: For all wounds except clean and minor wounds, administer DTaP if more than 5 years since last dose of tetanus-toxoid-containing vaccine. For detailed information, see [www.cdc.gov/mmwr/volumes/67/rr/rr6702a1.htm](http://www.cdc.gov/mmwr/volumes/67/rr/rr6702a1.htm).
Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2023

**Haemophilus influenzae type b vaccination**  
(minimum age: 6 weeks)

### Routine vaccination

- **ActHIB®, Hiberix®, Pentacel®, or Vaxelis®**: 4-dose series (3-dose primary series at age 2, 4, and 6 months, followed by a booster dose® at age 12–15 months)
  - "Vaxelis® is not recommended for use as a booster dose. A different Hib-containing vaccine should be used for the booster dose.
- **PedvaxHIB®**: 3-dose series (2-dose primary series at age 2 and 4 months, followed by a booster dose at age 12–15 months)

### Catch-up vaccination

- **Dose 1 at age 7–11 months**: Administer dose 2 at least 4 weeks later and dose 3 (final dose) at age 12–15 months or 8 weeks after dose 2 (whichever is later).
- **Dose 1 at age 12–14 months**: Administer dose 2 (final dose) at least 8 weeks after dose 1.
- **Dose 1 before age 12 months and dose 2 before age 15 months**: Administer dose 3 (final dose) at least 8 weeks after dose 2.
- **2 doses of PedvaxHIB® before age 12 months**: Administer dose 3 (final dose) at age 12–59 months and at least 8 weeks after dose 2.
- **1 dose administered at age 15 months or older**: No further doses needed
- **Unvaccinated at age 15–59 months**: Administer 1 dose.
- **Previously unvaccinated children age 60 months or older who are not considered high risk**: Do not require catch-up vaccination

For other catch-up guidance, see Table 2. Vaxelis® can be used for catch-up vaccination in children less than age 5 years. Follow the catch-up schedule even if Vaxelis® is used for one dose primary series. A Hib-containing vaccine should be used for the first dose.

### Notes

- For detailed information on use of Vaxelis® see www.cdc.gov/mmwr/volumes/69/wr/mm6905a5.htm.

#### Special situations

- **Chemotherapy or radiation treatment**: Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
  - 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose
  
Doses administered within 14 days of starting therapy or during therapy should be repeated at least 3 months after therapy completion.

### Haemophilus influenzae type b vaccination

**Routine vaccination**

- **Hematopoietic stem cell transplant (HSCT)**:
  - 3-dose series 4 weeks apart starting 6 to 12 months after successful transplant, regardless of Hib vaccination history
- **Anatomic or functional asplenia (including sickle cell disease)**:
  - Age 12–59 months
    - Unvaccinated or only 1 dose before age 12 months:
      - 2 doses, 8 weeks apart
    - 2 or more doses before age 12 months:
      - 1 dose at least 8 weeks after previous dose
- **Unvaccinated® persons age 5 years or older**
  - 1 dose
- **Elective splenectomy**:
  - **Unvaccinated® persons age 15 months or older**
    - 1 dose (preferably at least 14 days before procedure)
- **HIV infection**:
  - Age 12–59 months
    - Unvaccinated or only 1 dose before age 12 months:
      - 2 doses, 8 weeks apart
    - 2 or more doses before age 12 months:
      - 1 dose at least 8 weeks after previous dose
- **Unvaccinated® persons age 5–18 years**
  - 1 dose
- **Immunoglobulin deficiency, early component complement deficiency**:
  - Age 12–59 months
    - Unvaccinated or only 1 dose before age 12 months:
      - 2 doses, 8 weeks apart
    - 2 or more doses before age 12 months:
      - 1 dose at least 8 weeks after previous dose

*Unvaccinated = Less than routine series (through age 14 months) or no doses (age 15 months or older)

### Routine vaccination

- Adolescents age 18 years or older may receive the combined HepA and HepB vaccine, **Twinrix**, as a 3-dose series (0, 1, and 6 months) or 4-dose series (3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months).

### International travel

- **Persons traveling to or working in countries with high or intermediate endemic hepatitis A** (www.cdc.gov/travel/)
  - **Infants age 6–11 months**: 1 dose before departure; revaccinate with 2 doses (separated by at least 6 months) between age 12–23 months.
  - **Unvaccinated age 12 months or older**: Administer dose 1 as soon as travel is considered.

### Hepatitis B vaccination

**Hepatitis B vaccination**  
(minimum age: birth)

#### Routine vaccination

- **3-dose series at age 0, 1–2, 6–18 months (use monovalent HepB vaccine for doses administered before age 6 weeks)**
  - Birth weight ≥2,000 grams: 1 dose within 24 hours of birth if medically stable
  - Birth weight <2,000 grams: 1 dose at chronological age 1 month or hospital discharge (whichever is earlier and even if weight is still <2,000 grams).
  - Infants who did not receive a birth dose should begin the series as soon as possible (see Table 2 for minimum intervals).
  - Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose.
  - **Minimum intervals (see Table 2)**: when 4 doses are administered, substitute “dose 4” for “dose 3” in these calculations
  - **Final (3rd or 4th) dose**: age 6–18 months (minimum age 24 weeks)
  - **Mother is HBsAg-positive**
    - Birth dose (monovalent HepB vaccine only): administer HepB vaccine and hepatitis B immune globulin (HBIG) (in separate limbs) within 12 hours of birth, regardless of birth weight.
    - Birth weight <2000 grams: administer 3 additional doses of HepB vaccine beginning at age 1 month (total of 4 doses)
    - **Final (3rd or 4th) dose**: administer at age 6 months (minimum age 24 weeks)
    - **Test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose. Do not test before age 9 months.**
### Human papillomavirus vaccination (minimum age: 9 years)

#### Routine and catch-up vaccination
- HPV vaccination routinely recommended at age 11–12 years (can start at age 9 years) and catch-up HPV vaccination recommended for all persons through age 18 years if not adequately vaccinated.
- 2- or 3-dose series depending on age at initial vaccination:
  - Age 9–14 years at initial vaccination: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon).
  - Age 15 years or older at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon).
- Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
- No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

#### Special situations
- Immunocompromising conditions, including HIV infection: 3-dose series, even for those who initiate vaccination at age 9 through 14 years.
- History of sexual abuse or assault: Start at age 9 years.
- Pregnancy: Pregnancy testing not needed before vaccination; HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant.

### Influenza vaccination (minimum age: 6 months [IIV], 2 years [LAIV4], 18 years [recombinant influenza vaccine, RIV4])

#### Routine vaccination
- Use any influenza vaccine appropriate for age and health status annually:
  - 2 doses, separated by at least 4 weeks, for children age 6 months–8 years who have received fewer than 2 influenza vaccine doses before July 1, 2022, or whose influenza vaccination history is unknown (administer dose 2 even if the child turns 9 between receipt of dose 1 and dose 2).
  - 1 dose for children age 6 months–8 years who have received at least 2 influenza vaccine doses before July 1, 2022.
  - 1 dose for all persons age 9 years or older.

#### Catch-up vaccination
- For the 2022–2023 season, see [www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm](http://www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm).
- For the 2023–24 season, see the 2023–24 ACIP influenza vaccine recommendations.

### Measles, mumps, and rubella vaccination (minimum age: 12 months for routine vaccination)

#### Routine vaccination
- 2-dose series at age 12–15 months, age 4–6 years.
- MMR or MMRV may be administered.

**Note:** For dose 1 in children age 12–47 months, it is recommended to administer MMR and varicella vaccines separately. MMRV may be used if parents or caregivers express a preference.

#### Catch-up vaccination
- Unvaccinated children and adolescents: 2-dose series at least 4 weeks apart.
- The maximum age for use of MMRV is 12 years.
- Minimum interval between MMRV doses: 3 months.

### Notes

- **Mother is HBsAg-unknown**
  - If other evidence suggestive of maternal hepatitis B infection exists (e.g., presence of HBV DNA, HBsAg-positive, or mother known to have chronic hepatitis B infection), manage infant as if mother is HBsAg-positive.
    - **Birth dose (monovalent HepB vaccine only):**
      - Birth weight ≥2,000 grams: administer HepB vaccine within 12 hours of birth. Determine mother’s HBsAg status as soon as possible. If mother is determined to be HBsAg-positive, administer HBIG as soon as possible (in separate limb), but no later than 7 days of age.
      - Birth weight <2,000 grams: administer HepB vaccine and HBIG (in separate limbs) within 12 hours of birth. Administer 3 additional doses of HepB vaccine beginning at age 1 month (total of 4 doses).
    - **Final (3rd or 4th) dose:** administer at age 6 months (minimum age 24 weeks).
      - If mother is determined to be HBsAg-positive or if status remains unknown, test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose. Do not test before age 9 months.

- **Catch-up vaccination**
  - Unvaccinated persons should complete a 3-dose series at 0, 1–2, 6 months. See Table 2 for minimum intervals.
  - Adolescents age 11–15 years may use an alternative 2-dose schedule with at least 4 months between doses (adult formulation Recombivax HB* only).
  - Adolescents age 18 years or older may receive:
    - Heplisav-B*: 2-dose series at least 4 weeks apart.
    - PreHevbrio*: 3-dose series at 0, 1, and 6 months.
    - Combined HepA and HepB vaccine, Twinrix*: 3-dose series (0, 1, and 6 months) or 4-dose series (3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months).

- **Special situations**
  - Revaccination is not generally recommended for persons with a normal immune status who were vaccinated as infants, children, adolescents, or adults.
  - Post-vaccination serology testing and revaccination (if anti-HBs < 10mIU/mL) is recommended for certain populations, including:
    - Infants born to HBsAg-positive mothers
    - Persons who are predialysis or on maintenance dialysis
    - Other immunocompromised persons
    - For detailed revaccination recommendations, see [www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hepb.html](http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hepb.html).

*Note:* Heplisav-B and PreHevbrio are not recommended in pregnancy due to lack of safety data in pregnant persons.

---

### Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2023

[See the full schedule for detailed recommendations and notes.](https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hepb.html)
**Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2023**

**Meningococcal serogroup A,C,W,Y vaccination**
(minimum age: 2 months [MenACWY-CRM, Menveo], 9 months [MenACWY-D, Menactra], 2 years [MenACWY-TT, MenQuadfi])

**Notes**
*Menveo has two formulations: lyophilized and liquid. The liquid formulation should not be used before age 10 years.*

**Meningococcal serogroup B vaccination**
(minimum age: 10 years [MenB-4C, Bexsero®, MenB-FHbp, Trumenba®])

**Shared clinical decision-making**
- **Adolescents not at increased risk** age 16–23 years (preferred age 16–18 years) based on shared clinical decision-making:
  - **Bexsero®**: 2-dose series at least 1 month apart
  - **Trumenba®**: 2-dose series at least 6 months apart
    (if dose 2 is administered earlier than 6 months, administer a 3rd dose at least 4 months after dose 2)

**Special situations**
- **Anatomic or functional asplenia, sickle cell disease, or HIV infection:**
  - **Age 9–23 months**: Not recommended
  - **Age 2 months**: 4-dose series (additional 3 doses at age 4, 6, and 12 months)
  - **Age 3–6 months**: 3- or 4-dose series (dose 2 [and dose 3 if applicable] at least 8 weeks after previous dose until a dose is received at age 7 months or older, followed by an additional dose at least 12 weeks later and after age 12 months)
  - **Age 11–12 years**: 1 dose Menveo**, Menactra®, or MenQuadfi®
  - **Menactra** (age 9–23 months):
    - 2-dose series (dose 2 at least 12 weeks after dose 1; dose 2 may be administered as early as 8 weeks after dose 1 in travelers)
  - **Children age 2 years or older**: 1 dose Menveo**, Menactra®, or MenQuadfi®

First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits:
- 1 dose Menveo**, Menactra®, or MenQuadfi®

**Adolescent vaccination of children who received MenACWY prior to age 10 years:**
- **Children for whom boosters are recommended** because of an ongoing increased risk of meningococcal disease (e.g., those with complement component deficiency, HIV, or asplenia): Follow the booster schedule for persons at increased risk.
- **Children for whom boosters are not recommended** (e.g., a healthy child who received a single dose for travel to a country where meningococcal disease is endemic): Administer MenACWY according to the recommended adolescent schedule with dose 1 at age 11–12 years and dose 2 at age 16 years.

**Special situations**
- **International travel**
  - **Infants age 6–11 months**: 1 dose before departure; revaccinate with 2-dose series at age 12–15 months (12 months for children in high-risk areas) and dose 2 as early as 4 weeks later.
  - **Unvaccinated children age 12 months or older**: 2-dose series at least 4 weeks apart before departure.
  - **In mumps outbreak settings, for information about additional doses of MMR (including 3rd dose of MMR), see www.cdc.gov/mmwr/volumes/67/wr/mm6701a7.htm

**Notes**
*Menveo has two formulations: lyophilized and liquid. The liquid formulation should not be used before age 10 years.*

**Note:** Menactra® should be administered either before or at the same time as DTaP. MenACWY may be administered simultaneously with MenB vaccines if indicated, but at a different anatomic site, if feasible.

For MenACWY **booster dose recommendations** for groups listed under “Special situations” and in an outbreak setting and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm.

**Routine vaccination**
- 2-dose series at age 11–12 years; 16 years

**Catch-up vaccination**
- **Age 13–15 years**: 1 dose now and booster at age 16–18 years (minimum interval: 8 weeks)
- **Age 16–18 years**: 1 dose

**Anatomic or functional asplenia, sickle cell disease, or HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:**
- **Menveo®**: 1 dose at age 2 months; 4-dose series (additional 3 doses at age 4, 6, and 12 months)
- **Dose 1 at age 3–6 months**: 3- or 4-dose series (dose 2 [and dose 3 if applicable] at least 8 weeks after previous dose until a dose is received at age 7 months or older, followed by an additional dose at least 12 weeks later and after age 12 months)
- **Dose 1 at age 7–23 months**: 2-dose series (dose 2 at least 12 weeks after dose 1 and after age 12 months)
- **Menactra® (age 9–23 months)**:
  - 2-dose series (dose 2 at least 12 weeks after dose 1; dose 2 may be administered as early as 8 weeks after dose 1 in travelers)
  - **Children age 2 years or older**: 1 dose Menveo**, Menactra®, or MenQuadfi®

**First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits:**
- 1 dose Menveo**, Menactra®, or MenQuadfi®

**Adolescent vaccination of children who received MenACWY prior to age 10 years:**
- **Children for whom boosters are recommended** because of an ongoing increased risk of meningococcal disease (e.g., those with complement component deficiency, HIV, or asplenia): Follow the booster schedule for persons at increased risk.
- **Children for whom boosters are not recommended** (e.g., a healthy child who received a single dose for travel to a country where meningococcal disease is endemic): Administer MenACWY according to the recommended adolescent schedule with dose 1 at age 11–12 years and dose 2 at age 16 years.
Pneumococcal vaccination (minimum age: 6 weeks [PCV13], [PCV15], 2 years [PPSV23])

Routine vaccination with PCV
- 4-dose series at 2, 4, 6, 12–15 months

Catch-up vaccination with PCV
- Healthy children age 24–59 months with any incomplete* PCV series: 1 dose PCV
- For other catch-up guidance, see Table 2.

Note: PCV13 and PCV15 can be used interchangeably for children who are healthy or have underlying conditions. PCV15 is not indicated for children who have received 4 doses of PCV13 or another age appropriate complete PCV13 series.

Special situations
Underlying conditions below: When both PCV and PPSV23 are indicated, administer PCV first. PCV and PPSV23 should not be administered during the same visit.

Chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma treated with high-dose, oral corticosteroids); diabetes mellitus:

Age 2–5 years
- Any incomplete* series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after any prior PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after completing all recommended PCV doses)

Age 6–18 years
- Any incomplete* series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after any prior PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after completing all recommended PCV doses)

Cerebrospinal fluid leak, cochlear implant:

Age 2–5 years
- Any incomplete* series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after any prior PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after completing all recommended PCV doses)

Age 6–18 years
- Any incomplete* series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after any prior PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (8 weeks after the most recent dose and administered 8 weeks apart)
  - No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after completing all recommended PCV doses)

Sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiency; HIV infection; chronic renal failure; nephrotic syndrome; malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and other diseases associated with treatment with immunosuppressive drugs or radiation therapy; solid organ transplantation; multiple myeloma:

Age 2–5 years
- Any incomplete* series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after any prior PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after completing all recommended PCV doses) and a dose 2 of PPSV23 5 years later

Age 6–18 years
- Any history of either PCV or PPSV23: 1 dose PCV, 2 doses PPSV23 at least 8 weeks later
- Any PCV but no PPSV23: 1 dose PPSV23 at least 8 weeks after the most recent dose of PCV
- PPSV23 but no PCV: 1 dose PCV at least 8 weeks after the most recent dose of PPSV23

Notes
- Pneumococcal vaccination below ages 2 years can be administered at any interval during the first 6 months of life. Minimum ages for PCV and PPSV23 are 6 weeks.
- PCV13 and PCV15 can be used interchangeably for children who are healthy or have underlying conditions. PCV15 is not indicated for children who have received 4 doses of PCV13 or another age appropriate complete PCV13 series.
- *Incomplete series = Not having received all doses in either the recommended series or an age-appropriate catch-up series see Table 2 in ACIP pneumococcal recommendations at www.cdc.gov/mmwr/volumes/71/wr/mm7137a3.htm for guidance on determining which pneumococcal vaccines a patient needs and when. Please refer to the mobile app, which can be downloaded here: www.cdc.gov/vaccines/vpd/pneumo/hcp/pneumoapp.html

Poliovirus vaccination (minimum age: 6 weeks)

Routine vaccination
- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose on or after age 4 years and at least 6 months after the previous dose.
- 4 or more doses of IPV can be administered before age 4 years when a combination vaccine containing IPV is used. However, a dose is still recommended on or after age 4 years and at least 6 months after the previous dose.

Catch-up vaccination
- In the first 6 months of life, use minimum ages and intervals only for travel to a polio-endemic region or during an outbreak.
- IPV is not routinely recommended for U.S. residents age 18 years or older.

Series containing oral polio vaccine (OPV), either mixed OPV-IPV or OPV-only series:
- Total number of doses needed to complete the series is the same as that recommended for the U.S. IPV schedule. See www.cdc.gov/mmwr/volumes/66/wr/mm6601a6.htm?s_cid=mm6601a6_w.
- Only trivalent OPV (tOPV) counts toward the U.S. vaccination requirements.
  - Doses of OPV administered before April 1, 2016, should be counted (unless specifically noted as administered during a campaign).
  - Doses of OPV administered on or after April 1, 2016, should not be counted.
  - For guidance to assess doses documented as “OPV,” see www.cdc.gov/mmwr/volumes/66/wr/mm6606a7.htm?s_cid=mm6606a7_w.
- For other catch-up guidance, see Table 2.

Special situations
- Adolescents aged 18 years at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
Rotavirus vaccination (minimum age: 6 weeks)

Routine vaccination
- **Rotarix**: 2-dose series at age 2 and 4 months
- **RotaTeq**: 3-dose series at age 2, 4, and 6 months
- If any dose in the series is either RotaTeq or unknown, default to 3-dose series.

Catch-up vaccination
- Do not start the series on or after age 15 weeks, 0 days.
- The maximum age for the final dose is 8 months, 0 days.
- For other catch-up guidance, see Table 2.

Tetanus, diphtheria, and pertussis (Tdap) vaccination (minimum age: 11 years for routine vaccination, 7 years for catch-up vaccination)

Routine vaccination
- **Adolescents age 11–12 years**: 1 dose Tdap
- **Pregnancy**: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36.
- Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Catch-up vaccination
- **Adolescents age 13–18 years who have not received Tdap**: 1 dose Tdap, then Td or Tdap booster every 10 years
- **Persons age 7–18 years not fully vaccinated** with DTaP: 1 dose Tdap as part of the catch-up series (preferably the first dose); if additional doses are needed, use Td or Tdap.
- **Tdap administered at age 7–10 years**:
  - **Children age 7–9 years** who receive Tdap should receive the routine Tdap dose at age 11–12 years.
  - **Children age 10 years** who receive Tdap do not need the routine Tdap dose at age 11–12 years.
- **DTaP inadvertently administered on or after age 7 years**:
  - **Children age 7–9 years**: DTaP may count as part of catch-up series. Administer routine Tdap dose at age 11–12 years.
  - **Children age 10–18 years**: Count dose of DTaP as the adolescent Tdap booster.
- For other catch-up guidance, see Table 2.

Special situations
- **Wound management** in persons age 7 years or older with history of 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons age 11 years or older who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant adolescent, use Tdap.
  - For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm6903a5.htm.

*Fully vaccinated = 5 valid doses of DTaP OR 4 valid doses of DTaP if dose 4 was administered at age 4 years or older

Varicella vaccination (minimum age: 12 months)

Routine vaccination
- 2-dose series at age 12–15 months, 4–6 years
- VAR or MMRV may be administered*
- Dose 2 may be administered as early as 3 months after dose 1 (a dose inadvertently administered after at least 4 weeks may be counted as valid)

*Note: For dose 1 in children age 12–47 months, it is recommended to administer MMR and varicella vaccines separately. MMRV may be used if parents or caregivers express a preference.

Catch-up vaccination
- Ensure persons age 7–18 years without evidence of immunity have a 2-dose series:
  - **Age 7–12 years**: Routine interval: 3 months (a dose inadvertently administered after at least 4 weeks may be counted as valid)
  - **Age 13 years and older**: Routine interval: 4–8 weeks (minimum interval: 4 weeks)
  - The maximum age for use of MMRV is 12 years.
### Guide to Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4-1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions available at [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html) and ACIP’s Recommendations for the Prevention and Control of 2022-23 seasonal influenza with Vaccines available at [www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm](http://www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm).

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindications or Not Recommended</th>
<th>Precautions</th>
</tr>
</thead>
</table>
| Influenza, egg-based, inactivated injectable ([IIV4]) | • Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency)  
• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg) | • Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
• Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist.  
• Moderate or severe acute illness with or without fever |
| Influenza, cell culture-based inactivated injectable ([ccIIV4], Flucelvax® Quadrivalent) | • Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component of ccIIV4 | • Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
• Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist.  
• Moderate or severe acute illness with or without fever |
| Influenza, recombinant injectable ([RIV4], Flublok® Quadrivalent) | • Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component of RIV4 | • Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
• Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist.  
• Moderate or severe acute illness with or without fever |
| Influenza, live attenuated [LAIV4, Flumist® Quadrivalent] | • Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency)  
• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg)  
• Children age 2 – 4 years with a history of asthma or wheezing  
• Anatomic or functional asplenia  
• Immunocompromised due to any cause including, but not limited to, medications and HIV infection  
• Close contacts or caregivers of severely immunosuppressed persons who require a protected environment  
• Pregnancy  
• Cochlear implant  
• Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear or any other cranial CSF leak  
• Children and adolescents receiving aspirin or salicylate-containing medications  
• Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days  
• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
• Asthma in persons aged 5 years old or older  
• Persons with underlying medical conditions (other than those listed under contraindications) that might predispose to complications after wild-type influenza virus infection (e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus))  
• Moderate or severe acute illness with or without fever |

---

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html)

2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html)

3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at [www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states](http://www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states)
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindicated or Not Recommended</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dengue (DENACYD)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;- Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised)&lt;br&gt;- Lack of laboratory confirmation of a previous Dengue infection</td>
<td>- Pregnancy&lt;br&gt;- HIV infection without evidence of severe immunosuppression&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Diphtheria, tetanus, pertussis (DTaP)&lt;br&gt;Tetanus, diphtheria (DT)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;- For DTaP only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of previous dose of DTP or DTaP</td>
<td>- Guillain–Barré syndrome (GBS) within 6 weeks after previous dose of tetanus-toxoid–containing vaccine&lt;br&gt;- History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine&lt;br&gt;- For DTaP only: Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;- Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised)</td>
<td>- Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product)&lt;br&gt;- History of thrombocytopenia or thrombocytopenic purpura&lt;br&gt;- Need for tuberculosis skin testing or interferon-gamma release assay (IGRA) testing&lt;br&gt;- Moderate or severe acute illness with or without fever&lt;br&gt;- For MMRV only: Personal or family (i.e., sibling or parent) history of seizures of any etiology</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)&lt;br&gt;Measles, mumps, rubella, and varicella (MMRV)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt; including neomycin and yeast&lt;br&gt;- Pregnancy: Heplisav-B and PreHevbrio are not recommended due to lack of safety data in pregnant persons. Use other hepatitis B vaccines if HepB is indicated&lt;sup&gt;3&lt;/sup&gt;</td>
<td>- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Meningococcal ACWY (MenACWY)&lt;br&gt;[MenACWY-CRM (Winerove)&lt;sup&gt;3&lt;/sup&gt;; MenACWY-D (Menactra)&lt;sup&gt;3&lt;/sup&gt;; MenACWY-TT (MenQuadfi)&lt;sup&gt;3&lt;/sup&gt;]; for MenACWY-D and Men ACWY-CRM only: severe allergic reaction to any diphtheria toxoid–or CRM197–containing vaccine</td>
<td>- Pregnancy&lt;br&gt;- Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent</td>
<td>- For MenACWYW-CRM only: Preterm birth if less than age 9 months&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Meningococcal B (MenB)&lt;br&gt;[MenB-4C (Bexsero)&lt;sup&gt;3&lt;/sup&gt;; MenB-Fhrp (Trumeneb)]&lt;sup&gt;3&lt;/sup&gt;</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;</td>
<td>- Pregnancy&lt;br&gt;- For MenB-4C only: Latex sensitivity&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV)&lt;br&gt;Pneumococcal polysaccharide (PPSV23)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt; including yeast&lt;br&gt;- Severe allergic reaction (e.g., anaphylaxis) to any diphtheria-toxoid–containing vaccine or its component&lt;sup&gt;1&lt;/sup&gt;</td>
<td>- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Poliovirus vaccine, inactivated (IPV)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;</td>
<td>- Pregnancy&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Rotavirus (RV) [RV1 (Rotarix)&lt;sup&gt;3&lt;/sup&gt;; RV5 (RotaTeq)&lt;sup&gt;3&lt;/sup&gt;], RSV (Rotarix)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt; including yeast&lt;br&gt;- Severe combined immunodeficiency (SCID)&lt;br&gt;- History of intussusception</td>
<td>- Altered immunocompetence other than SCID&lt;br&gt;- Chronic gastrointestinal disease&lt;br&gt;- RV1 only: Spina bifida or bladder exstrophy&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Tetanus, diphtheria, and acellular pertussis (Tdap)&lt;br&gt;Tetanus, diphtheria (Td)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;- Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised)</td>
<td>- Guillain–Barré syndrome (GBS) within 6 weeks after previous dose of tetanus-toxoid–containing vaccine&lt;br&gt;- History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine&lt;br&gt;- For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized&lt;br&gt;- Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component&lt;sup&gt;1&lt;/sup&gt;</td>
<td>- Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product)&lt;br&gt;- Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination)&lt;br&gt;- Use of aspirin or aspirin-containing products&lt;br&gt;- Moderate or severe acute illness with or without fever&lt;br&gt;- If using MMRV, see MMR/MMRV for additional precautions</td>
</tr>
</tbody>
</table>

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states.
4. For information on the pregnancy exposure registries for persons who were inadvertently vaccinated with Heplisav-B or PreHevbrio while pregnant, please visit heplisavpregnancyregistry.com/ or www.prehevbrio.com/#safety.