2021 Recommended Child and Adolescent Immunization Schedule

IMPORTANT REMINDER: All providers must revalidate the Medical Assistance (MA) enrollment of each service location every 5 years. Providers should log into PROMISe to check the revalidation dates of each service location and submit revalidation applications at least 60 days prior to the revalidation dates. Enrollment (revalidation) applications may be found at: https://www.dhs.pa.gov/providers/Providers/Pages/PROMISe-Enrollment.aspx.

PURPOSE:

The purpose of this bulletin is to issue the U.S. Department of Health and Human Services’ Centers for Disease Control and Prevention’s (CDC) Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2021.


SCOPE:

This bulletin applies to all providers enrolled in the MA Program who administer immunizations and provide services in the Fee-for-Service and managed care delivery systems.

BACKGROUND/DISCUSSION:

As stated in 55 Pa. Code § 1241.42(2), the Department of Human Services (Department) is authorized to issue immunization guidelines based on recommendations of recognized medical organizations involved in children’s health care. To ensure that children and adolescents enrolled in MA receive immunizations that conform to nationally recognized standards, the Department is updating its immunization guidelines to conform to the Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2021 (2021 Immunization Schedule).

COMMENTS AND QUESTIONS REGARDING THIS BULLETIN SHOULD BE DIRECTED TO:

The appropriate toll-free number for your provider type.

Visit the Office of Medical Assistance Programs website at https://www.dhs.pa.gov/providers/Providers/Pages/Health%20Care%20for%20Providers/Contact-Information-for-Providers.aspx.
Providers are to follow the attached 2021 Immunization Schedule, which is comprised of three tables and a series of related notes. The three tables are as follows:

- Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2021 (Table 1);
- Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 month Behind, United States, 2021 (Table 2); and
- Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2021 (Table 3).

The 2021 Immunization Schedule, in conjunction with the Advisory Committee on Immunization Practices (ACIP), includes new or updated guidance for influenza vaccine (4) meningococcal serogroups A, C, W, and Y (MenACWY) vaccines (5), and COVID-19 vaccines (1,2). The 2021 Immunization Schedule and ACIP guidance also include clarification of the recommendations for diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP), Haemophilus influenzae type b vaccine (Hib), hepatitis A vaccine (HepA), hepatitis B vaccine (HepB), human papillomavirus vaccine (HPV), pneumococcal vaccines (PCV13 and PPSV23), measles, mumps, and rubella virus vaccine (MMR), tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine (Tdap), and varicella vaccine (VAR). See Morbidity and Mortality Weekly Report Volume 70, February 12, 2021, which can be found at: https://www.cdc.gov/mmwr/volumes/70/wr/pdfs/mm7006a1-H.pdf.

As explained by ACIP in the Morbidity and Mortality Weekly Report Volume 70, February 12, 2021, the overall appearance of the 2021 Immunization Schedule has been updated. These changes are in all portions of the immunization schedule, including the cover page, routine immunization schedule (Table 1), catch-up schedule (Table 2), medical indications for each vaccine (Table 3), and notes with details for each vaccine. The changes identified by ACIP are set forth below:

**Cover page**

- The American Academy of Physician Assistants and the National Association of Pediatric Nurse Practitioners have been added to the list of organizations that approve the child and adolescent immunization schedule.
- MenACWY-TT (MenQuadfi) and Diphtheria and Tetanus Toxoids and Acellular Pertussis Vaccine Adsorbed, Inactivated Poliovirus, *Haemophilus* b Conjugate and Hepatitis B Vaccine (Vaxelis) have been added to the table of vaccine abbreviations/trade names.
- The abbreviation for live attenuated influenza vaccine (LAIV) was changed to LAIV4.

**Table 1**

- **HepB row:** Arrows have been added to clarify the recommended ages for administering the second dose.
- **LAIV:** The abbreviation was changed to LAIV4.
-3-

- Table 3

  o **Legend:** The text that defines the red box has been edited to include “Vaccinate after pregnancy.” The text now reads “Not recommended/contraindicated—vaccine should not be administered. *Vaccinate after pregnancy.”
  o **LAIV:** The abbreviation was changed to LAIV4.
  o **MMR row:** An asterisk has been added in the pregnancy column. The asterisk links to the descriptive text “*Vaccinate after pregnancy” in the red box of the table’s legend.
  o **VAR row:** An asterisk has been added in the pregnancy column. The asterisk links to the descriptive text “*Vaccinate after pregnancy” in the red box of the table’s legend.
  o **HPV row:** The color for the pregnancy column has been changed from pink to red; an asterisk has also been added. The asterisk links to the descriptive text “*Vaccinate after pregnancy” in the red box of the table’s legend.

- Notes

  o **Additional Information:** The section has been updated to include COVID-19 vaccination recommendations.
  o **DTaP:** A “Special situations” section has been added that contains information regarding the recommendation for use of DTaP vaccine in wound management.
  o **Hib:** Text has been added to clarify the recommendations for catch-up vaccination. A bullet has been added to indicate that no further doses are needed if a dose was administered at age ≥15 months.
  o **HepA:** The note was updated to clarify information on the accelerated 4-dose series of combined HepA-HepB vaccine. The fourth dose at month 12 is a booster dose.
  o **HepB:** Additional text has been added to emphasize the birth dose in the vaccination note. The sentence on recommendations for infants born to an HBsAg-negative mother and weighing <2,000 g has been updated with language to provide further clarification regarding when the vaccine can be administered.
  o **HepB:** The note was updated to clarify information on the accelerated 4-dose series of combined HepA-HepB vaccine. The fourth dose at month 12 is a booster dose.
  o **HPV:** The note has been updated to clarify that if the vaccination schedule is interrupted, the series does not need to be restarted.
  o **Influenza vaccination:** The note has been updated to reflect the recommendations for the 2020–21 influenza season. The “Special situations” section was updated with language for persons who have egg allergy with symptoms other than hives, and two new bullets were added with information on severe allergic reactions after influenza vaccination. The abbreviation LAIV was changed to LAIV4. In addition, the bullets that outline circumstances under which LAIV4 should not be used were updated to include children aged <2 years, and more detailed information on the use of LAIV4 after receipt of influenza antiviral medications to account for newer antivirals with longer half-lives was added.
-4-

- MenACWY: MenACWY-TT (MenQuadfi) has been added to the list of vaccines in the sections on routine vaccination, catch-up vaccination, and special situations. In addition, the “Special situations” section has been updated with information on the recommendations for the use of MenACWY-CRM (Menveo) in infants who received dose 1 at age 3–6 months.

- Pneumococcal vaccination: Text has been added to the “Special situations” section of the note to clarify the recommendations for administering PPSV23 after PCV13.

- Tdap: A “Special situations” section has been added to the note that contains information regarding the recommendation for use of Tdap vaccine in wound management.

For guidance on immunization recommendations, providers are advised to use the tables and the notes together. The 2021 Immunization Schedule is recommended by ACIP and approved by the CDC, the American Academy of Pediatrics, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, the American College of Nurse-Midwives, the American Academy of Physician Assistants, and the National Association of Pediatric Nurse Practitioners.

PROCEDURE:

Providers should carefully review the 2021 Immunization Schedule for detailed information on the appropriate dosages and ages for the administration of vaccines and replace their current immunization schedule with the attached 2021 Immunization Schedule. Additional information is available from the CDC at: https://www.cdc.gov/vaccines/schedules/index.html.

The National Childhood Vaccine Injury Act requires that health care providers provide parents or patients with copies of Vaccine Information Statements before administering each dose of the vaccines listed in the schedule. Additional information is available from the CDC at: http://www.cdc.gov/vaccines/hcp/vis/index.html.

IMMUNIZATION GUIDANCE DURING COVID-19:

The CDC has released interim guidance for Immunization Services during the COVID-19 pandemic. With reduced vaccine administration during the COVID-19 pandemic, unvaccinated or undervaccinated patients are susceptible to preventable illness and communities are at risk for outbreaks. Implementation of strategies to promote adherence to the 2021 Immunization Schedule and ensure catch-up vaccination is important, especially for children. The full guidance is available at: https://www.cdc.gov/vaccines/pandemic-guidance/index.html.

Providers are also to follow guidance issued by the American Academy of Pediatrics regarding the provision of well-child visits during the COVID-19 pandemic. Since the onset of the pandemic, a decrease in well-child visits has resulted in delays in vaccinations, screenings, and referrals. Pediatricians should identify children who have missed well-child visits and/or recommended vaccinations and work with families to bring children up to date given the potential for other vaccine preventable disease outbreaks. Consistent with previous guidance,
all well-child care should occur in person whenever possible and within the child’s medical home where continuity of care may be established and maintained. For practices who have successfully implemented telehealth to provide appropriate elements of the well-child exam virtually, these telehealth visits should continue to be supported, followed by a timely in-person visit. The full guidance is available at: https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/guidance-on-providing-pediatric-well-care-during-covid-19/.

**OBSOLETE BULLETIN:**

This bulletin obsoletes MA Bulletin 99-20-03, issued November 12, 2020.

**ATTACHMENT:**

*Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, UNITED STATES, 2021*
# Recommended Child and Adolescent Immunization Schedule

**for ages 18 years or younger**

## Vaccines in the Child and Adolescent Immunization Schedule*

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Abbreviations</th>
<th>Trade names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, tetanus, and acellular pertussis vaccine</td>
<td>DTaP</td>
<td>Daptacel®, Infanrix®</td>
</tr>
<tr>
<td>Diphtheria, tetanus vaccine</td>
<td>DT</td>
<td>No trade name</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b vaccine</td>
<td>Hib (PRP-T)</td>
<td>ActHIB®, Hibex®, PedvaxHIB*</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b vaccine</td>
<td>Hib (PRP-OMP)</td>
<td></td>
</tr>
<tr>
<td>Hepatitis A 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>Human papillomavirus vaccine</td>
<td>HPV</td>
<td>Gardasil 9®</td>
</tr>
<tr>
<td>Influenza vaccine (inactivated)</td>
<td>IIV</td>
<td>Multiple</td>
</tr>
<tr>
<td>Influenza vaccine (live, attenuated)</td>
<td>LAIV4</td>
<td>FluMist® Quadivalent</td>
</tr>
<tr>
<td>Measles, mumps, and rubella vaccine</td>
<td>MMR</td>
<td>M-M-R II®</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-D</td>
<td>Menactra®</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-CRM</td>
<td>Menveo®</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-TT</td>
<td>MenQuad®</td>
</tr>
<tr>
<td>Meningococcal serogroup B vaccine</td>
<td>MenB-4C</td>
<td>Bexsero®</td>
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<tr>
<td>Meningococcal serogroup B vaccine</td>
<td>MenB-FHbp</td>
<td>Trumenba®</td>
</tr>
<tr>
<td>Pneumococcal 13-valent conjugate vaccine</td>
<td>PCV13</td>
<td>Prevnar 13®</td>
</tr>
<tr>
<td>Pneumococcal 23-valent polysaccharide vaccine</td>
<td>PPVS23</td>
<td>Pneumovax 23®</td>
</tr>
<tr>
<td>Poliovirus vaccine (inactivated)</td>
<td>IPV</td>
<td>IPOL®</td>
</tr>
<tr>
<td>Rotavirus vaccine</td>
<td>RV1, RV5</td>
<td>Rotarix®, RotaTeq®</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>Varrivax®</td>
</tr>
</tbody>
</table>

### Combination vaccines (use combination vaccines instead of separate injections when appropriate)

- DTaP, hepatitis B, and inactivated poliovirus vaccine
- DTaP, inactivated poliovirus, and *Haemophilus influenzae* type b vaccine
- DTaP and inactivated poliovirus vaccine
- DTaP, inactivated poliovirus, *Haemophilus influenzae* type b, and hepatitis B vaccine
- Measles, mumps, rubella, and varicella vaccine

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Abbreviations</th>
<th>Trade names</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP, hepatitis B, and inactivated poliovirus vaccine</td>
<td>DTaP-HepB-IPV</td>
<td>Pediatrix®</td>
</tr>
<tr>
<td>DTaP, inactivated poliovirus, and <em>Haemophilus influenzae</em> type b vaccine</td>
<td>DTaP-IPV/Hib</td>
<td>Pentacel®</td>
</tr>
<tr>
<td>DTaP and inactivated poliovirus vaccine</td>
<td>DTaP-IPV</td>
<td>Kinrix®, Quadracel®</td>
</tr>
<tr>
<td>DTaP, inactivated poliovirus, <em>Haemophilus influenzae</em> type b, and hepatitis B vaccine</td>
<td>DTaP-IPV-Hib-HepB</td>
<td>Vaxelis®</td>
</tr>
<tr>
<td>Measles, mumps, rubella, and varicella vaccine</td>
<td>MMRV</td>
<td>ProQuad®</td>
</tr>
</tbody>
</table>

*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.

## How to use the child/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 and other indications (Table 3)
4. Review vaccine types, frequencies, intervals, and considerations for special situations (Notes)

**Report**
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to your state or local health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or 800-822-7967

**Helpful information**
- Complete ACIP recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Outbreak information (including case identification and outbreak response), see Manual for the Surveillance of Vaccine-Preventable Diseases: www.cdc.gov/vaccines/pubs/surv-manual

Download the CDC Vaccine Schedules App for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.
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). School entry and adolescent vaccine age groups are shaded in gray.

<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>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>&lt;--- 2&lt;sup&gt;nd&lt;/sup&gt; dose ---&gt;</td>
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<td>&lt;--- 3&lt;sup&gt;rd&lt;/sup&gt; dose ---&gt;</td>
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<tr>
<td>Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
<td>See Notes</td>
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<tr>
<td>Diphtheria, tetanus, acellular pertussis (DTaP &lt;7 yrs)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose</td>
<td>&lt;--- 4&lt;sup&gt;th&lt;/sup&gt; dose ---&gt;</td>
<td>5&lt;sup&gt;th&lt;/sup&gt; dose</td>
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<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
<td>See Notes</td>
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<td>&lt;--- 3&lt;sup&gt;rd&lt;/sup&gt; or 4&lt;sup&gt;th&lt;/sup&gt; dose ---&gt;</td>
<td>See Notes</td>
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<tr>
<td>Pneumococcal conjugate (PCV13)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose</td>
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<td>&lt;--- 4&lt;sup&gt;th&lt;/sup&gt; dose ---&gt;</td>
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<tr>
<td>Inactivated poliovirus (IPV &lt;18 yrs)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
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<td>&lt;--- 3&lt;sup&gt;rd&lt;/sup&gt; dose ---&gt;</td>
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<tr>
<td>Influenza (IIV)</td>
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<td>Annual vaccination 1 or 2 doses</td>
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<td>Annual vaccination 1 or 2 doses</td>
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<td>Annual vaccination 1 dose only</td>
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<tr>
<td>Influenza (LAIV4)</td>
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<td>Annual vaccination 1 or 2 doses</td>
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<td>Annual vaccination 1 dose only</td>
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<td>Measles, mumps, rubella (MMR)</td>
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<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
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<td>Varicella (VAR)</td>
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<td>&lt;--- 1&lt;sup&gt;st&lt;/sup&gt; dose ---&gt;</td>
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<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
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<td>Hepatitis A (HepA)</td>
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<td>See Notes</td>
<td>2-dose series, See Notes</td>
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<tr>
<td>Tetanus, diphtheria, acellular pertussis (Tdap ≥7 yrs)</td>
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<td>Human papillomavirus (HPV)</td>
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<tr>
<td>Meningococcal (MenACWY-D ≥9 mos, MenACWY-CRM ≥2 mos, MenACWY-TT ≥2 years)</td>
<td></td>
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<td>See Notes</td>
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<td>1&lt;sup&gt;st&lt;/sup&gt; dose</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose</td>
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<tr>
<td>Meningococcal B</td>
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<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
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</tbody>
</table>

Range of recommended ages for all children
Range of recommended ages for catch-up immunization
Range of recommended ages for certain high-risk groups
Recommended based on shared clinical decision-making or
*can be used in this age group
No recommendation/not applicable
## Table 2

**Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 month Behind, United States, 2021**

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.**

### Children age 4 months through 6 years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Dose 2 to Dose 3</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>Hepatitis B</strong></td>
<td>Birth</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose. Minimum age for the final dose is 24 weeks.</td>
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<tr>
<td><strong>Rotavirus</strong></td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>Maximum age for the final dose is 8 months, 0 days.</td>
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</tr>
<tr>
<td><strong>Diphtheria, tetanus, and acellular pertussis</strong></td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>Maximum age for the final dose is 8 months, 0 days.</td>
<td></td>
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</tr>
<tr>
<td><strong>Haemophilus influenzae type b</strong></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 than age 7 months and at least 1 previous dose was PRP-T (ActHib, Pentacel, Hibrix) 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 PRP-OMP (PedvaxHIB, Comvax) and were administered before the 1st birthday.</td>
<td>8 weeks (as final dose) if current age is &lt;4 years. 6 months (as final dose) if current age is 4 years or older.</td>
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</tr>
<tr>
<td><strong>Pneumococcal conjugate</strong></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 current age is &lt;4 years. 6 months (as final dose) if current age is 4 years or older.</td>
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<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>Minimum age for the final dose is 4 years. 6 months (minimum age 4 years for final dose).</td>
<td></td>
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</tr>
<tr>
<td><strong>Measles, mumps, rubella</strong></td>
<td>12 months</td>
<td>4 weeks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Varicella</strong></td>
<td>12 months</td>
<td>3 months</td>
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<tr>
<td><strong>Hepatitis A</strong></td>
<td>12 months</td>
<td>6 months</td>
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<tr>
<td><strong>Meningococcal ACWY</strong></td>
<td>2 months MenACWY-CRM</td>
<td>8 weeks</td>
<td></td>
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</tr>
<tr>
<td><strong>Measles, mumps, rubella</strong></td>
<td>12 months</td>
<td>4 weeks</td>
<td>6 months (as final dose) if current age is &lt;4 years. 6 months (as final dose) if current age is 4 years or older.</td>
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<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>6 months (as final dose) 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.</td>
<td>6 months if first dose of DTaP/DT was administered before the 1st birthday.</td>
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<tr>
<td><strong>Human papillomavirus</strong></td>
<td>9 years</td>
<td>Routine dosing intervals are recommended.</td>
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<tr>
<td><strong>Hepatitis A</strong></td>
<td>N/A</td>
<td>6 months</td>
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<tr>
<td><strong>Hepatitis B</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose.</td>
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<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td>6 months</td>
<td>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.</td>
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<tr>
<td><strong>Measles, mumps, rubella</strong></td>
<td>N/A</td>
<td>4 weeks</td>
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<tr>
<td><strong>Varicella</strong></td>
<td>N/A</td>
<td>3 months if younger than age 13 years. 4 weeks if age 13 years or older.</td>
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</tbody>
</table>

### Children and adolescents age 7 through 18 years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Dose 2 to Dose 3</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>Meningococcal ACWY</strong></td>
<td>Not applicable (N/A)</td>
<td>8 weeks</td>
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<tr>
<td><strong>Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis</strong></td>
<td>7 years</td>
<td>4 weeks</td>
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<tr>
<td><strong>Human papillomavirus</strong></td>
<td>9 years</td>
<td>Routine dosing intervals are recommended.</td>
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<tr>
<td><strong>Hepatitis A</strong></td>
<td>N/A</td>
<td>6 months</td>
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<tr>
<td><strong>Hepatitis B</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose.</td>
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<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td>6 months</td>
<td>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.</td>
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</tr>
<tr>
<td><strong>Measles, mumps, rubella</strong></td>
<td>N/A</td>
<td>4 weeks</td>
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<tr>
<td><strong>Varicella</strong></td>
<td>N/A</td>
<td>3 months if younger than age 13 years. 4 weeks if age 13 years or older.</td>
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<tr>
<td>VACCINE</td>
<td>Pregnancy</td>
<td>Immunocompromised status (excluding HIV infection)</td>
<td>HIV infection CD4+ count(\text{≥15% and total CD4 cell count of } \geq 200/\text{mm}^3)</td>
<td>Heart disease or chronic lung disease</td>
<td>Kidney failure, end-stage renal disease, or on hemodialysis</td>
<td>CSF leak or cochlear implant</td>
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<tr>
<td>Hepatitis B</td>
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<tr>
<td>Rotavirus</td>
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<tr>
<td>Diphtheria, tetanus, and acellular pertussis (DTaP)</td>
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<tr>
<td><em>Haemophilus influenzae</em> type b</td>
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<tr>
<td>Pneumococcal conjugate</td>
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<tr>
<td>Inactivated poliovirus</td>
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<tr>
<td>Influenza (IIV)</td>
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<tr>
<td>Influenza (LAIV4)</td>
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<td>Measles, mumps, rubella</td>
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<tr>
<td>Varicella</td>
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<tr>
<td>Hepatitis A</td>
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<tr>
<td>Tetanus, diphtheria, and acellular pertussis (Tdap)</td>
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<tr>
<td>Human papillomavirus</td>
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<tr>
<td>Meningococcal ACWY</td>
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<td>Meningococcal B</td>
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<tr>
<td>Pneumococcal polysaccharide</td>
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</table>

1 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](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html) and Table 4-1 (footnote D) at [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html).

2 Severe Combined Immunodeficiency

3 LAIV4 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months
For vaccination recommendations for persons ages 19 years or older, see the Recommended Adult Immunization Schedule, 2021.

Additional information

**COVID-19 Vaccination**

ACIP recommends use of COVID-19 vaccines within the scope of the Emergency Use Authorization or Biologics License Application for the particular vaccine. Interim ACIP recommendations for the use of COVID-19 vaccines can be found at www.cdc.gov/vaccines/hcp/acip-recs/index.html.

- Consult relevant ACIP statements for detailed recommendations at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For information on contraindications and precautions for the use of a vaccine, consult the General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html and relevant ACIP statements at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For calculating intervals between doses, 4 weeks = 28 days. Intervals of ≥2 months are determined by calendar months.
- Within a number range (e.g., 12–18), a dash (−) should be read as “through.”
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum age or minimum interval should not be counted as valid and should be repeated as age appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see Table 3-1, Recommended and minimum ages and intervals between vaccine doses, in General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html.
- Information on travel vaccination requirements and recommendations is available at www.cdc.gov/travel/.
- For information about vaccination in the setting of a vaccine-preventable disease outbreak, contact your state or local health department.
- The National Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the traditional legal system for resolving vaccine injury claims. All routine child and adolescent vaccines are covered by VICP except for pneumococcal polysaccharide vaccine (PPSV23). For more information, see www.hrsa.gov/vaccinecompensation/index.html.

**Haemophilus influenzae type b vaccination**

(minimum age: 6 weeks)

**Routine vaccination**
- **ActHIB, Hibrix, or Pentacel:** 4-dose series at 2, 4, 6, 12–15 months
- **PedvaxHIB:** 3-dose series at 2, 4, 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) 8 weeks after dose 2.
- **2 doses of PedvaxHIB before age 12 months:** Administer dose 3 (final dose) at 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.

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

(minimum age: 6 weeks [4 years for Kinrix or Quadracel])

**Routine vaccination**
- 5-dose series at 2, 4, 6, 15–18 months, 4–6 years
  - **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.

**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.

**Special situations**

- **Wound management in children less than age 7 years with history of 3 or more doses of 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.

**Haemophilus influenzae type b vaccination**

(minimum age: 6 weeks)

**Routine vaccination**
- **ActHIB, Hibrix, or Pentacel:** 4-dose series at 2, 4, 6, 12–15 months
- **PedvaxHIB:** 3-dose series at 2, 4, 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) 8 weeks after dose 2.
- **2 doses of PedvaxHIB before age 12 months:** Administer dose 3 (final dose) at 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.

**Special situations**

- **Chemotherapy or radiation treatment:**
  - 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.

- **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):**
  - 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:**
  - 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:**
  - 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)
Hepatitis A vaccination (minimum age: 12 months for routine vaccination)

**Routine vaccination**
- 2-dose series (minimum interval: 6 months) beginning at age 12 months

**Catch-up vaccination**
- Unvaccinated persons through age 18 years should complete a 2-dose series (minimum interval: 6 months).
- Persons who previously received 1 dose at age 12 months or older should receive dose 2 at least 6 months after dose 1.
- 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 (minimum age: birth)

**Birth dose (monovalent HepB vaccine only)**
- **Mother is HBsAg-negative:** 1 dose within 24 hours of birth for all medically stable infants ≥2,000 grams. Infants <2,000 grams: Administer 1 dose at chronological age 1 month or hospital discharge (whichever is earlier and even if weight is still ≥2,000 grams).
- **Mother is HBsAg-positive:**
  - Administer HepB vaccine and hepatitis B immune globulin (HBIG) (in separate limbs) within 12 hours of birth, regardless of birth weight. For infants <2,000 grams, administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.
  - Test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose.
  - **Mother’s HBsAg status is unknown:**
    - Administer HepB vaccine within 12 hours of birth, regardless of birth weight.
    - For infants <2,000 grams, administer HBIG in addition to HepB vaccine (in separate limbs) within 12 hours of birth. Administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.
    - Determine mother’s HBsAg status as soon as possible. If mother is HBsAg-positive, administer HBIG to infants ≥2,000 grams as soon as possible, but no later than 7 days of age.

**Routine series**
- 3-dose series at 0, 1–2, 6–18 months (use monovalent HepB vaccine for doses administered before age 6 weeks)
- Infants who did not receive a birth dose should begin the series as soon as feasible (see Table 2).
- Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose.

**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
  - 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: 3 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 after completing series with recommended dosing intervals using any HPV vaccine.

**Special situations**
- **Immunocompromising conditions, including HIV infection:** 3-dose series as above
- **History of sexual abuse or assault:** Start at age 9 years.
- Pregnancy: HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant; pregnancy testing not needed before vaccination

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, 2020, 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, 2020
  - 1 dose for all persons age 9 years or older
- For the 2021–22 season, see the 2021–22 ACIP influenza vaccine recommendations.

**Special situations**
- **Egg allergy, hives only:** Any influenza vaccine appropriate for age and health status annually
- **Egg allergy with symptoms other than hives** (e.g., angioedema, respiratory distress, need for emergency medical services or epinephrine): Any influenza vaccine appropriate for age and health status annually. If using an influenza vaccine other than Flublok or Flucelvax, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- **Severe allergic reactions to vaccines** can occur even in the absence of a history of previous allergic reaction. All vaccination providers should be familiar with the office emergency plan and certified in cardiopulmonary resuscitation.
- **A previous severe allergic reaction to influenza vaccine** is a contraindication to future receipt of any influenza vaccine.
- **LAIV4 should not be used** in persons with the following conditions or situations:
  - History of severe allergic reaction to a previous dose of any influenza vaccine or to any vaccine component (excluding egg, see details above)
  - Receiving aspirin or salicylate-containing medications
  - Age 2–4 years with history of asthma or wheezing
  - Immunocompromised due to any cause (including medications and HIV infection)
  - Anatomic or functional asplenia
  - Close contacts or caregivers of severely immunosuppressed persons who require a protected environment
  - Pregnancy
  - Cochlear implant
  - Cerebrospinal fluid-oropharyngeal communication
  - Children less than age 2 years
  - 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
### Measles, mumps, and rubella vaccination
(minimum age: 12 months for routine vaccination)

**Routine vaccination**
- 2-dose series at 12–15 months, 4–6 years
- Do not give <12 months
- Catch-up vaccination: children ≥ 4 years

**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.

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

**Routine vaccination**
- 2-dose series at 11–12 years, 16 years
- Children ≥ 3 years: 1 dose 4 weeks after the first dose

**Catch-up vaccination**
- Age 6–11 months: 2 doses, 0, 12 months
- Age 12 months or older: 2 doses, 0, 8 weeks

### 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 (including sickle cell disease), persistent complement component deficiency, complement inhibitor use:
- Eculizumab, ravulizumab

#### HIV infection:
- Persistent complement component deficiency

#### Persistent complement component deficiency or complement inhibitor use:
- Age < 3 months: 2-dose series at least 12 weeks apart
- Age < 24 months or older: dose 2 at least 4 weeks after dose 1

### Pneumococcal vaccination
(minimum age: 6 weeks [PCV13], 2 years [PPSV23])

**Routine vaccination with PCV13**
- 4-dose series at 2, 4, 6, 12–15 months

**Catch-up vaccination with PCV13**
- 1 dose for healthy children age 24–59 months with any incomplete* PCV13 series
- For other catch-up guidance, see Table 2.

### Special situations

#### Underlying conditions below: When both PCV13 and PPSV23 are indicated, administer PCV13 first. PCV13 and PPSV23 should not be administered during 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 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
    - Less than 3 PCV13 doses: 2 doses PCV13 (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 PCV13 doses)

#### Cerebrospinal fluid leak, cochlear implant:
- Age 2–5 years
  - Any incomplete* series with:
    - 3 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
    - Less than 3 PCV13 doses: 2 doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
  - No history of PCV13: 1 dose PCV13 (at least 8 weeks after completing all recommended PCV13 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 6–18 years

- Any incomplete* series with:
  - 3 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
  - Less than 3 PCV13 doses: 2 doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose) and a 2nd dose of PPSV23 5 years later

Age 6–18 years

- Any incomplete* series with:
  - 3 PCV13 doses: 1 dose PCV13, 2 doses PPSV23 (dose 1 of PPSV23 administered 8 weeks after PCV13 and dose 2 of PPSV23 administered at least 5 years after dose 1 of PPSV23)
  - Any PCV13 but no PPSV23: 2 doses PPSV23 (dose 1 of PPSV23 administered 8 weeks after the most recent dose of PCV13 and dose 2 of PPSV23 administered at least 5 years after dose 1 of PPSV23)
  - PPSV23 but no PCV13: 1 dose PCV13 at least 8 weeks after the most recent PPSV23 dose and a 2nd dose of PPSV23 administered 5 years after dose 1 of PPSV23 and at least 8 weeks after a dose of PCV13

Chronic liver disease, alcoholism:

Age 6–18 years

- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose)

*Incomplete series = Not having received all doses in either the recommended series or an age-appropriate catch-up series. See Tables 8, 9, and 11 in the ACIP pneumococcal vaccine recommendations (www.cdc.gov/mmwr/pdf/rr/rr5911.pdf) for complete schedule details.

**Notes**

Centers for Disease Control and Prevention | Recommended Child and Adolescent Immunization Schedule, United States, 2021

**Rotavirus vaccination**

(minimum age: 6 weeks)

**Routine vaccination**

- Rotarix: 2-dose series at 2 and 4 months
- RotaTeq: 3-dose series at 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.

**Varicella vaccination**

(minimum age: 12 months)

**Routine vaccination**

- 2-dose series at 12–15 months, 4–6 years
- Dose 2 may be administered as early as 3 months after dose 1 (a dose administered after a 4-week interval may be counted).

**Catch-up vaccination**

- Ensure persons age 7–18 years without evidence of immunity (see MMWR at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have a 2-dose series:
  - Age 7–12 years: routine interval: 3 months (a dose administered after a 4-week interval may be counted).
  - Age 13 years and older: routine interval: 4–8 weeks (minimum interval: 4 weeks)
  - The maximum age for use of MMRV is 12 years.

**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