**ISSUE DATE** | April 16, 2024  
**EFFECTIVE DATE** | April 16, 2024  
**NUMBER** | 99-24-04  
**SUBJECT** | 2024 Recommended Child and Adolescent Immunization Schedule  
**BY** | Sally A. Kozak  
Deputy Secretary  
Office of Medical Assistance Programs

**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/PROMISEnEnrollment.aspx](https://www.dhs.pa.gov/providers/Providers/Pages/PROMISEnEnrollment.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, 2024.*


**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, 2024* (2024 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](https://www.dhs.pa.gov/providers/Providers/Pages/Health%20Care%20for%20Providers/Contact-Information-for-Providers.aspx).
Providers are to follow the attached 2024 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, 2024** (Table 1);
- **Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2024** (Table 2); and
- **Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2024** (Table 3).

According to the *Morbidity and Mortality Weekly Report* Volume 73, January 11, 2024, the 2024 Immunization Schedule includes several changes to the cover page, tables, notes, appendix from the 2023 immunization schedule, and addendum section. The 2024 Immunization Schedule includes new or updated Advisory Committee on Immunization Practices (ACIP) recommendations for influenza vaccine, pneumococcal vaccines, respiratory syncytial virus monoclonal antibody (RSV-mAb), respiratory syncytial virus vaccines (RSV), COVID-19 vaccines, inactivated poliovirus vaccine (IPV), Mpox vaccine (Mpox), and meningococcal serogroups A, B, C, W, Y vaccine (MenACWY-TT/MenB-FHbp). Diphtheria and tetanus toxoid adsorbed vaccine (DT), 13-valent pneumococcal conjugate vaccine (PCV13), bivalent COVID-19 mRNA vaccines, and meningococcal serogroups A, C, W, Y polysaccharide diphtheria toxoid conjugate vaccine (MenACWY-D, Menactra) were deleted from all sections of the schedule, because these products are no longer distributed or recommended for use in children and adolescents in the United States. See *Morbidity and Mortality Weekly Report* Volume 73, January 11, 2024, which can be found at: [https://www.cdc.gov/mmwr/volumes/73/wr/pdfs/mm7301a2-H.pdf](https://www.cdc.gov/mmwr/volumes/73/wr/pdfs/mm7301a2-H.pdf).

The 2024 Immunization Schedule and ACIP guidance also include clarification of the recommendations for diphtheria, tetanus, and acellular pertussis vaccine (DTaP), Haemophilus influenzae type b vaccine (Hib), human papillomavirus vaccine (HPV), measles, mumps, and rubella vaccine (MMR), serogroup B meningococcal vaccine (MenB), and tetanus, diphtheria, and acellular pertussis vaccine (Tdap).

As explained in the *Morbidity and Mortality Weekly Report* Volume 73, January 11, 2024, the overall appearance of the 2024 Immunization Schedule has been updated. Substantial revisions were made to Table 3, which outlines the immunization schedule by medical indication. The definitions for the legend colors were revised to better highlight additional vaccination recommendations for each medical condition and to harmonize with the adult immunization schedule. Finally, a new addendum section was added, which will list new and updated ACIP recommendations that occur before the next annual update to the child and adolescent immunization schedule. The changes identified by ACIP are set forth below:
-3-

- Cover Page

  o In the table of abbreviations and trade names, the column header was changed from “vaccine” to “vaccines and other immunizing agents” to account for the inclusion of the newly licensed RSV monoclonal antibody (nirsevimab).
  o A sixth step in the “How to Use the Child and Adolescent Immunization Schedule” box was added directing health care providers to review the new Addendum section that lists new or updated ACIP recommendations that occur before the next annual update of the child and adolescent immunization schedule.
  o 20-valent pneumococcal conjugate vaccine (PCV20), RSV-mAb (nirsevimab), RSV for maternal vaccination (Abrysvo), Mpox (Jynneos), and pentavalent meningococcal vaccine (MenACWY-TT/MenB-FHbp, [Penbraya]) have been added to the table listing abbreviations and trade names of vaccines and other immunizing agents.
  o Diphtheria and Tetanus Toxoid Adsorbed vaccine (DT), 13-valent pneumococcal conjugate vaccine (PCV13), MenACWY-D (Menactra), and bivalent mRNA COVID-19 vaccines were removed from the table listing abbreviations and trade names of vaccines and other immunizing agents, because they are no longer distributed or recommended for use in the United States.

- Table 1 (Routine Immunization Schedule)

  o The column header was changed from “vaccine” to “vaccines and other immunizing agents” to account for the inclusion of the newly licensed RSV monoclonal antibody (nirsevimab).
  o COVID-19 row: The text overlay was revised to reflect updated vaccination recommendations. This text overlay now states, “1 or more doses of updated (2023–2024 Formula) vaccine.”
  o MenACWY row: Menactra has been deleted.
  o Mpox row: A new row was added for Jynneos with the column for age 18 years highlighted in purple reflecting the risk-based recommendation for this age group.
  o Pneumococcal conjugate row: PCV20 has been added and PCV13 has been deleted.
  o Pneumococcal polysaccharide vaccine (PPSV23) row: This row has been deleted because PPSV23 is no longer routinely recommended for all children and adolescents aged ≥2 years at increased risk for invasive pneumococcal disease. It is still recommended in certain circumstances.
  o RSV-mAb row: A new row has been added with the columns for ages birth–7 months highlighted in yellow to indicate the recommended age for routine immunization. The overlaying text, “1 dose depending on maternal RSV vaccination status” was also added. In addition, age 8–19 months is highlighted in purple to reflect the risk-based recommendation for this age group.
  o RSV row: A new row was added for Abrysvo (Pfizer Inc.) and ages 11–18 years are highlighted in purple with the overlaying text, “Seasonal administration during pregnancy” added to reflect the recommendation for the use of Abrysvo (Pfizer Inc.) during pregnancy.
• Table 2 (Catch-Up Immunization Schedule)
  o DTaP row: Language for the minimum interval between doses 4 and 5 was added to clarify when a fifth dose is indicated. The text reads, “A fifth dose is not necessary if the fourth dose was administered at age ≥4 years and ≥6 months after dose 3.”
  o MenACWY row: Menactra has been deleted.

• Table 3 (Immunization by Medical Indication Schedule)
  o A sentence was added to the header of Table 3 stating that medical conditions are often not mutually exclusive and that health care providers should review all relevant columns in the Table if multiple conditions are present.
  o The column header was changed from “vaccine” to “vaccines and other immunizing agents” to account for the inclusion of the newly licensed RSV monoclonal antibody (nirsevimab).
  o Legend: The definitions of the yellow, purple, and gray colors boxes in the legend were revised. Based on the revised definitions, the colors for many of the rows in this table have changed. In addition, the checked yellow color was changed to a brown color to harmonize with the 2024 adult immunization schedule.
  o Mpox row: A new row was added for Jynneos. Across all medical indications listed, the entire row is purple reflecting the risk-based recommendation for Mpox vaccination. In the pregnancy column, an overlaying text, “See Notes” has been added, directing health care providers to review the pregnancy bullet in the Mpox vaccination notes.
  o RSV-mAb row: A new row was added to summarize nirsevimab immunization recommendations by medical condition. The columns for both immunocompromised status (excluding HIV infection) and HIV infection with CD4 <15% or <200 cells per mm³ is highlighted in brown and an overlaying text “2nd RSV season” was added. In addition, the column for heart disease or chronic lung disease is also highlighted in brown with the overlaying text “2nd RSV season for chronic lung disease.”
  o RSV row: A new row was added for use of Abrysvo (Pfizer Inc.) during 32–36 weeks’ gestation. The pregnancy column is highlighted in yellow with overlaying text of “seasonal administration” added to indicate that the maternal RSV vaccination recommendation is on the basis of RSV seasonality.

• Vaccine Notes
The notes for each vaccine and related agent are presented in alphabetical order. Edits have been made throughout the Notes section to harmonize language, to the greatest extent possible, with that in the adult immunization schedule.
  o Additional information: The text for vaccine injury compensation was revised to add Mpox and RSV to the list of vaccines not covered by the National Vaccine
Injury Compensation Program. Mpox is covered by the Countermeasures Injury Compensation Program.

- **COVID-19**: The language in the “Routine vaccination” and “Special situations” sections was revised to reflect the current COVID-19 vaccination recommendations for children and adolescents. The number of doses needed and intervals between doses might vary on the basis of a patient’s previous vaccination history, immunocompromised status, and the vaccine product used. The “Routine vaccination” section describes the recommendations for the general population, and the “Special situations” section describes the recommendations for persons who are moderately or severely immunocompromised. In addition, hyperlinks to the current COVID-19 vaccination schedules as well as Emergency Use Authorization indications for COVID-19 vaccines are included.

- **DTaP**: Language in the “Routine vaccination” section was revised to clarify primary and booster doses.

- **HPV**: In the “Routine vaccination” section, the recommendation for interrupted schedules was removed because that information is also presented on the Cover Page and applicable to all vaccines. In addition, to improve clarity, the words, “of any valency” were added to the bullet, “No additional dose recommended when any HPV vaccine series of any valency has been completed using the recommended dosing intervals.”

- **Influenza**: A hyperlink to the 2023–24 influenza recommendations and a bullet for the 2024–25 influenza recommendations were added. In the “Special situations” section, all bullets describing recommendations for persons with a history of egg allergy were removed. Persons with a history of egg allergy of any severity can be vaccinated with any influenza vaccine indicated for the recipient’s age and health status, with no additional safety considerations. A note describing this recommendation was added at the end of the “Special situations” section.

- **MMR**: The bullet, “If MMRV is used, the minimum interval between MMRV doses is 3 months” was moved to the end of the notes section. In addition, the “Routine vaccination,” “Catch-up vaccination,” and “Special situations” sections were revised to clarify that this minimal interval is applicable to all sections.

- **MenACWY**: All reference to Menactra was removed because this vaccine is no longer distributed in the United States, and any remaining doses of this product expired in October 2023. In addition, information about the use of the newly licensed pentavalent meningococcal vaccine (Penbraya) is included at the end of the MenACWY notes.

- **MenB**: A note summarizing recommendations for Penbraya was added. In addition, a link to a resource to assist health care providers with shared clinical decision-making recommendations for MenB vaccination was added.

- **Mpox**: A new section describing the recommendations for use of Jynneos in adolescents aged 18 years, including sexual risk factors and vaccination during pregnancy, was added.
- Pneumococcal: The “Routine vaccination,” “Catch-up vaccination,” and “Special situations” sections have been updated with the new recommendations for use of 15-valent pneumococcal conjugate vaccine (PCV15), PCV20, and PPSV23. PCV13 was deleted from all sections. Chronic kidney disease, chronic liver disease, and moderate persistent or severe persistent asthma were added to the list of medical conditions that increase the risk for invasive pneumococcal disease.

- Poliovirus: The “Catch up vaccination” section has been revised to include updated recommendations for adolescents aged 18 years. Language was added stating that most adolescents aged 18 years who were born and raised in the United States can assume to be vaccinated against poliovirus as children. The “Special situations” section was revised to describe administering a one-time, lifetime IPV booster to adolescents aged 18 years who have completed the primary series and are at increased risk for exposure to poliovirus.

- RSV-mAb: A new section was added to provide details on the use of nirsevimab in infants and young children. The “Routine immunization” section outlines the recommendations for infants aged <8 months. The “Special situations” section describes recommendations for age-eligible children who are undergoing cardiac surgery with cardiopulmonary bypass, and children aged 8–19 months who are at increased risk for severe RSV disease. Information describing timing of immunization, including guidance for jurisdictions with RSV seasonality that differs from most of the continental United States, was included.

- RSV: A new section was added outlining recommendations for maternal RSV vaccination with Abrysvo (Pfizer Inc.) using seasonal administration. Language was added to clarify that health care providers should take one of two approaches to prevent severe respiratory syncytial virus disease in infants: either administer Abrysvo (Pfizer Inc.) to pregnant persons at 32–36 weeks’ gestation or administer nirsevimab to the infant. Information describing vaccination timing, including guidance for jurisdictions with RSV seasonality that differs from most of the continental United States, was included.

- Tdap: The “Routine vaccination” and “Catch-up vaccination” sections were revised to clarify that the Tdap dose recommended at age 11–12 years is the adolescent Tdap booster dose.

- Appendix (Contraindications and Precautions)
  - The header sentence of the Appendix was revised to include all the sources used to create the Appendix.
  - The column header was changed from “Vaccine” to “Vaccines and other immunizing agents” to account for the inclusion of the newly licensed RSV monoclonal antibody (nirsevimab).
  - COVID-19 row: Two new rows for COVID-19 vaccines were added to describe contraindications and precautions to COVID-19 vaccination. The first row lists contraindications and precautions to receipt of mRNA vaccines (Pfizer-BioNTech
and Moderna), and the second row lists contraindications and precautions to receipt of the protein subunit vaccine (Novavax).

- **DTaP and DT row:** DT was deleted because this vaccine is no longer distributed in the United States.
- **Hib row:** In the “Contraindicated or Not Recommended” column, the bullet describing history of severe allergic reaction to dry natural latex was removed because most vials of Hib products no longer contain latex.
- **Meningococcal ACWY row:** Menactra was removed because this product is no longer distributed in the United States. Any remaining doses expired in October 2023.
- **Meningococcal ABCWY row:** A new row was added to describe contraindications and precautions to vaccination with the new pentavalent meningococcal vaccine, Penbraya.
- **RSV-mAb row:** A new row for nirsevimab was added to describe contraindications and precautions to nirsevimab.
- **RSV row:** A new row for RSV (Abrysvo [Pfizer Inc.]) was added describing the contraindications and precautions to RSV vaccination.

### Addendum

A new Addendum section was added to the child and adolescent immunization schedule to summarize new and updated ACIP recommendation(s) that occur before the next annual update to the child and adolescent immunization schedule.

For guidance on immunization recommendations, providers are advised to use the tables and the notes together. The 2024 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 Associates, and the National Association of Pediatric Nurse Practitioners.

**PROCEDURE:**

Providers should carefully review the 2024 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 2024 Immunization Schedule. Additional information is available from the CDC at: 
[https://www.cdc.gov/vaccines/schedules/index.html](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](http://www.cdc.gov/vaccines/hcp/vis/index.html).
ATTACHMENT:

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, UNITED STATES, 2024
**Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger**

**Vaccines and Other Immunizing Agents in the Child and Adolescent Immunization Schedule**

<table>
<thead>
<tr>
<th>Monoclonal antibody</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory syncytial virus monoclonal antibody (Nirsevimab)</td>
<td>RSV-mAb</td>
<td>Beyfortis™</td>
</tr>
<tr>
<td>DTaP, hepatitis B, and inactivated poliovirus vaccine</td>
<td>DTaP-HepB-IPV</td>
<td>Pediartix®</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®</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>Quadracel®</td>
</tr>
<tr>
<td>Measles, mumps, rubella, and varicella vaccine</td>
<td>MMRV</td>
<td>ProQuad®</td>
</tr>
<tr>
<td>Measles, mumps, and rubella vaccine</td>
<td>MMR</td>
<td>M-M-R II®</td>
</tr>
<tr>
<td>Respiratory syncytial virus vaccine</td>
<td>RSV</td>
<td>Gardasil 9®</td>
</tr>
<tr>
<td>Respiratory syncytial virus monoclonal antibody (Nirsevimab for ages 18 years or younger)</td>
<td>1vRSV-mAb</td>
<td>Comirnaty™/Pfizer-BioNTech COVID-19 Vaccine</td>
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<tr>
<td>Spikevax™/Moderna COVID-19 Vaccine</td>
<td>Spikevax™/Moderna COVID-19 Vaccine</td>
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<td>Novavax COVID-19 Vaccine</td>
<td>Novavax COVID-19 Vaccine</td>
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<tr>
<td>Dengue vaccine</td>
<td>DEN4CYD</td>
<td>Dengvaxia®</td>
</tr>
<tr>
<td>Diphtheria, tetanus, and acellular pertussis vaccine</td>
<td>DTaP</td>
<td>Daptacel®/Infasurf®</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b vaccine</td>
<td>Hib (PRP-T)</td>
<td>ActHIB®</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b vaccine</td>
<td>Hib (PRP-Omp)</td>
<td>Hibrix®/Hibvax®</td>
</tr>
<tr>
<td>Hepatitis A vaccine</td>
<td>HepA</td>
<td>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>IIV4</td>
<td>FluMist® Quadrivalent</td>
</tr>
<tr>
<td>Influenza vaccine (live, attenuated)</td>
<td>LAIV4</td>
<td>FluMist® Quadrivalent</td>
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<td>Measles, mumps, and rubella vaccine</td>
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<td>M-M-R II®/PrioRx</td>
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<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-CRM</td>
<td>Menveo®</td>
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<td>Meningococcal serogroup B vaccine</td>
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<td>MenQuadt®</td>
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<tr>
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<td>MenACWY-TT/ MenB-FHbp</td>
<td>Penbraya®</td>
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<td>Mpi B vaccine</td>
<td>Mpi</td>
<td>Jynneos®</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine</td>
<td>PCV15</td>
<td>Vaxneuvance™</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine</td>
<td>PCV20</td>
<td>Prevnar 20®</td>
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<tr>
<td>Pneumococcal polysaccharide vaccine</td>
<td>PRP-25</td>
<td>Pneumovax 23®</td>
</tr>
<tr>
<td>Poliovirus vaccine (inactivated)</td>
<td>IPV</td>
<td>Ipil®</td>
</tr>
<tr>
<td>Respiratory syncytial virus vaccine</td>
<td>RSV</td>
<td>Ablyser®</td>
</tr>
<tr>
<td>Rotavirus vaccine</td>
<td>RV1</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®/Tdrix®</td>
</tr>
<tr>
<td>Varicella vaccine</td>
<td>VAR</td>
<td>Varivax®</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Combination vaccine</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP, hepatitis B, and inactivated poliovirus vaccine</td>
<td>DTaP-HepB-IPV</td>
<td>Pediartix®</td>
</tr>
<tr>
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<td>DTaP-IPV</td>
<td>Pentacel®</td>
</tr>
<tr>
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<td>DTaP-IPV</td>
<td>Kinrix®</td>
</tr>
<tr>
<td>DTaP and inactivated poliovirus, <em>Haemophilus influenzae</em> type b vaccine</td>
<td>DTaP-IPV-Hib</td>
<td>Quadriacel®</td>
</tr>
<tr>
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<td>MMRV</td>
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</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 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 type, frequencies, intervals, and considerations for special situations (Notes)
5. Review contraindications and precautions for vaccine types (Appendix)
6. Review new or updated ACIP (Addendum)

**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

**Questions or comments**

Contact 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

**Helpful information**

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions): www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
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**Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Family Physicians (www.aafp.org), American Academy of Nurse-Midwives (www.midwife.org), American Academy of Physician Assistants (www.aapa.org), and National Association of Pediatric Nurse Practitioners (www.napnap.org).**

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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 type, frequencies, intervals, and considerations for special situations (Notes)
5. Review contraindications and precautions for vaccine types (Appendix)
6. Review new or updated ACIP (Addendum)
### Table 1
Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

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 and other immunizing agents</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><strong>Respiratory syncytial virus (RSV-mAb [Nirsevimab])</strong></td>
<td></td>
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<td></td>
<td>1 dose depending on maternal RSV vaccination status, See Notes</td>
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<tr>
<td><strong>Hepatitis B (HepB)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
<td>4th dose</td>
<td>5th dose</td>
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<tr>
<td><strong>Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>Diphtheria, tetanus, acellular pertussis (DTaP &lt;7 yrs)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
<td>4th dose</td>
<td>5th dose</td>
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<tr>
<td><strong>Haemophilus influenzae type b (Hib)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>Pneumococcal conjugate (PCV15, PCV20)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
<td>4th dose</td>
<td>See Notes</td>
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<tr>
<td><strong>Inactivated poliovirus (IPV &lt;18 yrs)</strong></td>
<td>1 dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>COVID-19 (1vCOV-mRNA, 1vCOV-aPS)</strong></td>
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<td></td>
<td></td>
<td>1 or more doses of updated (2023–2024 Formula) vaccine (See Notes)</td>
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<tr>
<td><strong>Influenza (IIV4)</strong></td>
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<td></td>
<td>Annual vaccination 1 or 2 doses</td>
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<tr>
<td><strong>Influenza (LAIV4)</strong></td>
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<td>Annual vaccination 1 or 2 doses</td>
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<tr>
<td><strong>Measles, mumps, rubella (MMR)</strong></td>
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<td></td>
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<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>Varicella (VAR)</strong></td>
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<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>Hepatitis A (HepA)</strong></td>
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<td></td>
<td></td>
<td></td>
<td>2-dose series, See Notes</td>
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<tr>
<td><strong>Tetanus, diphtheria, acellular pertussis (Tdap ≥7 yrs)</strong></td>
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<td></td>
<td>1 dose</td>
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<tr>
<td><strong>Human papillomavirus (HPV)</strong></td>
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<td>See Notes</td>
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<tr>
<td><strong>Meningococcal (MenACWY-CRM ≥2 mos, MenACWY-TT ≥2 years)</strong></td>
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<td>See Notes</td>
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<tr>
<td><strong>Meningococcal B (MenB-4C, MenB-FHbp)</strong></td>
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<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td><strong>Respiratory syncytial virus vaccine (RSV [Abrysvo])</strong></td>
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<td>See Notes</td>
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<tr>
<td><strong>Dengue (DEN4CYD; 9-16 yrs)</strong></td>
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<td>Seropositive in endemic dengue areas (See Notes)</td>
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<tr>
<td><strong>Mpox</strong></td>
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</tbody>
</table>

- **Range of recommended ages for all children**
- **Range of recommended ages for catch-up vaccination**
- **Range of recommended ages for certain high-risk groups**
- **Recommended vaccination can begin in this age group**
- **Recommended vaccination based on shared clinical decision-making**
- **No recommendation/not applicable**
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>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>
<td></td>
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</tr>
<tr>
<td><strong>Rotavirus</strong></td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks maximum age for final dose is 8 months, 0 days</td>
<td></td>
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</tr>
<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Hepatitis A</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Human papillomavirus</strong></td>
<td>9 years</td>
<td>4 weeks</td>
<td></td>
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</tr>
<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Meningococcal ACWY</strong></td>
<td>2 months MenACWY-CRM 2 years MenACWY-TT</td>
<td>8 weeks</td>
<td></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>
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</tr>
<tr>
<td><strong>Varicella</strong></td>
<td>12 months</td>
<td>3 months</td>
<td></td>
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</tr>
<tr>
<td><strong>Hepatitis A</strong></td>
<td>12 months</td>
<td>6 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meningococcal ACWY</strong></td>
<td>Not applicable (N/A)</td>
<td>8 weeks</td>
<td></td>
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</tr>
<tr>
<td><strong>Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis</strong></td>
<td>7 years</td>
<td>4 weeks</td>
<td></td>
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<tr>
<td><strong>Human papillomavirus</strong></td>
<td>9 years</td>
<td>Routine dosing intervals are recommended.</td>
<td></td>
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</tr>
<tr>
<td><strong>Hepatitis A</strong></td>
<td>N/A</td>
<td>6 months</td>
<td></td>
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</tr>
<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>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inactivated poliovirus</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td>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.</td>
<td>A fourth dose of IPV is indicated if all previous doses were administered at ≤4 years OR if the third dose was administered ≤6 months after the second dose.</td>
<td></td>
</tr>
<tr>
<td><strong>Measles, mumps, rubella</strong></td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
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</tr>
<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>
<td></td>
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<tr>
<td><strong>Dengue</strong></td>
<td>9 years</td>
<td>6 months</td>
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</tbody>
</table>
### Table 3: Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2024

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions are often not mutually exclusive. If multiple conditions are present, refer to guidance in all relevant columns. See Notes for medical conditions not listed.

<table>
<thead>
<tr>
<th>Vaccine and other immunizing agents</th>
<th>Pregnancy</th>
<th>Immunocompromised (excluding HIV infection)</th>
<th>HIV infection CD4 percentage and count*</th>
<th>CSF leak or cochlear implant</th>
<th>Asplenia or persistent complement component deficiencies</th>
<th>Heart disease or chronic lung disease</th>
<th>Kidney failure, End-stage renal disease or on Dialysis</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSV-mAb (nirsevimab)</td>
<td></td>
<td>2nd RSV season</td>
<td>1 dose depending on maternal RSV vaccination status, See Notes</td>
<td>2nd RSV season for chronic lung disease (See Notes)</td>
<td>1 dose depending on maternal RSV vaccination status, See Notes</td>
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<tr>
<td>Hepatitis B</td>
<td></td>
<td>DTaP: 1 dose each pregnancy</td>
<td>See Notes</td>
<td>See Notes</td>
<td>See Notes</td>
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<tr>
<td>Rotavirus</td>
<td></td>
<td>SCIDb</td>
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<tr>
<td>DTaP/Tdap</td>
<td></td>
<td>Tdap: 1 dose each pregnancy</td>
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<tr>
<td>Hib</td>
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<td>HSCT: 3 doses</td>
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<tr>
<td>Pneumococcal</td>
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<td>IPV</td>
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<tr>
<td>COVID-19</td>
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<td>IIV4</td>
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<tr>
<td>LAIV4</td>
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<td>Asthma, wheezing: 2–4 years*</td>
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<tr>
<td>MMR</td>
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<tr>
<td>Hepatitis A</td>
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<tr>
<td>HPV</td>
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<td>*</td>
<td>3 dose series. See Notes</td>
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<td>MenACWY</td>
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<tr>
<td>MenB</td>
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<tr>
<td>RSV (Abrysvo)</td>
<td></td>
<td>Seasonal administration, See Notes</td>
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<tr>
<td>Dengue</td>
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<tr>
<td>Mpox</td>
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**Notes:**

- For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, "Altered Immune Competence," 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 J) at [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html).

- **a.** Severe Combined Immunodeficiency

- **b.** Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction

- **c.** LAIV4 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months
**COVID-19 vaccination**
(minimum age: 6 months [Moderna and Pfizer BioNTech COVID-19 vaccines], 12 years [Novavax COVID-19 Vaccine])

### Routine vaccination

#### Age 6 months–4 years

**Unvaccinated:**
- 2-dose series of updated (2023–2024 Formula) Moderna at 0, 4-8 weeks
- 3-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 3-8, 11-16 weeks

**Previously vaccinated* with 1 dose of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna 4-8 weeks after the most recent dose.

**Previously vaccinated* with 2 or more doses of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna at least 8 weeks after the most recent dose.

**Previously vaccinated* with 1 dose of any Pfizer-BioNTech:**
2-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 8 weeks (minimum interval between previous Pfizer-BioNTech and dose 1: 3-8 weeks).

**Previously vaccinated* with 2 or more doses of any Pfizer-BioNTech:**
1 dose of updated (2023–2024 Formula) Pfizer-BioNTech at least 8 weeks after the most recent dose.

#### Age 5–11 years

**Unvaccinated:**
1 dose of updated (2023–2024 Formula) Moderna or Pfizer-BioNTech vaccine.

**Previously vaccinated* with 1 or more doses of Moderna or Pfizer-BioNTech:**
1 dose of updated (2023–2024 Formula) Moderna or Pfizer-BioNTech at least 8 weeks after the most recent dose.

#### Age 12–18 years

**Unvaccinated:**
- 1 dose of updated (2023–2024 Formula) Moderna or Pfizer-BioNTech vaccine
- 2-dose series of updated (2023–2024 Formula) Novavax at 0, 3-8 weeks

**Previously vaccinated* with any COVID-19 vaccine(s):**
1 dose of any updated (2023–2024 Formula) COVID-19 vaccine at least 8 weeks after the most recent dose.

### Special situations

**Persons who are moderately or severely immunocompromised**

#### Age 6 months–4 years

**Unvaccinated:**
- 3-dose series of updated (2023–2024 Formula) Moderna at 0, 4, 8 weeks
- 3-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 3, 11 weeks.

**Previously vaccinated* with 1 dose of any Moderna:**
2-dose series of updated (2023–2024 Formula) Moderna at 0, 4 weeks (minimum interval between previous Moderna and dose 1: 4 weeks).

**Previously vaccinated* with 2 doses of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna at least 4 weeks after the most recent dose.

**Previously vaccinated* with 3 or more doses of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna at least 8 weeks after the most recent dose.

**Previously vaccinated* with 1 dose of any Pfizer-BioNTech:**
2-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 8 weeks (minimum interval between previous Pfizer-BioNTech and dose 1: 3 weeks).

**Previously vaccinated* with 2 or more doses of any Pfizer-BioNTech:**
1 dose of updated (2023–2024 Formula) Pfizer-BioNTech at least 8 weeks after the most recent dose.

#### Age 5–11 years

**Unvaccinated:**
- 3-dose series of updated (2023–2024 Formula) Moderna at 0, 4, 8 weeks
- 3-dose series updated (2023–2024 Formula) Pfizer-BioNTech at 0, 3, 7 weeks.

**Previously vaccinated* with 1 dose of any Moderna:**
2-dose series of updated (2023–2024 Formula) Moderna at 0, 4 weeks (minimum interval between previous Moderna and dose 1: 4 weeks).

**Previously vaccinated* with 2 doses of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna at least 4 weeks after the most recent dose.

**Previously vaccinated* with 3 or more doses of any Moderna:**
1 dose of updated (2023–2024 Formula) Moderna at least 8 weeks after the most recent dose.
**Notes**

**Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024**

- **Previously vaccinated* with 3 or more doses of any Moderna or Pfizer-BioNTech:** 1 dose of updated (2023–2024 Formula) Moderna or Pfizer-BioNTech at least 8 weeks after the most recent dose.

**Age 12–18 years**

- **Unvaccinated:**
  - 3-dose series of updated (2023–2024 Formula) Moderna at 0, 4, 8 weeks
  - 3-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 3, 7 weeks
  - 2-dose series of updated (2023–2024 Formula) Novavax at 0, 3 weeks

- **Previously vaccinated* with 1 dose of any Moderna:** 2-dose series of updated (2023–2024 Formula) Moderna at 0, 4 weeks (minimum interval between previous Moderna dose and dose 1: 4 weeks).

- **Previously vaccinated* with 2 doses of any Moderna:** 1 dose of updated (2023–2024 Formula) Moderna at least 4 weeks after the most recent dose.

- **Previously vaccinated* with 1 dose of any Pfizer-BioNTech:** 2-dose series of updated (2023–2024 Formula) Pfizer-BioNTech at 0, 4 weeks (minimum interval between previous Pfizer-BioNTech dose and dose 1: 3 weeks).

- **Previously vaccinated* with 2 doses of any Pfizer-BioNTech:** 1 dose of updated (2023–2024 Formula) Pfizer-BioNTech at least 4 weeks after the most recent dose.

- **Previously vaccinated* with 3 or more doses of any Moderna or Pfizer-BioNTech:** 1 dose of any updated (2023–2024 Formula) COVID-19 vaccine at least 8 weeks after the most recent dose.

- **Previously vaccinated* with 1 or more doses of Janssen or Novavax or with or without dose(s) of any Original monovalent or bivalent COVID-19 vaccine:** 1 dose of any updated (2023–2024 Formula) COVID-19 vaccine at least 8 weeks after the most recent dose.

There is no preferential recommendation for the use of one COVID-19 vaccine over another when more than one recommended age-appropriate vaccine is available.

Administer an age-appropriate COVID-19 vaccine product for each dose. For information about transition from age 4 years to age 5 years or age 11 years to age 12 years during COVID-19 vaccination series, see Tables 1 and 2 at www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#covid-vaccines.


*Note: Previously vaccinated is defined as having received any Original monovalent or bivalent COVID-19 vaccine (Janssen, Moderna, Novavax, Pfizer-BioNTech) prior to the updated 2023–2024 formulation.

**Note:** Persons who are moderately or severely immunocompromised have the option to receive one additional dose of updated (2023–2024 Formula) COVID-19 vaccine at least 2 months following the last recommended updated (2023–2024 Formula) COVID-19 vaccine dose. Further additional updated (2023–2024 Formula) COVID-19 vaccine dose(s) may be administered, informed by the clinical judgement of a healthcare provider and personal preference and circumstances. Any further additional doses should be administered at least 2 months after the last updated (2023–2024 Formula) COVID-19 vaccine dose. Moderately or severely immunocompromised children 6 months–4 years of age should receive homologous updated (2023–2024 Formula) mRNA vaccine dose(s) if they receive additional doses.

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**Dengue vaccination**

**(minimum age: 9 years)**

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

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

**Routine vaccination**

- 5-dose series (3-dose primary series at age 2, 4, and 6 months, followed by a booster doses at ages 15–18 months and 4–6 years

**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)**

  - **ActHIB®, Hibercen®, 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 age12–15 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 age12–15 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.
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

- 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

- Hematopoietic stem cell transplant (HSCT):
  - 3-dose series 4 weeks apart starting 6 to 12 months after successful transplant, regardless of Hib vaccination history

- Elective splenectomy:
  - Unvaccinated * persons age 5 years or older
  - 1 dose

- 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

- Immunoglobulin deficiency, early component complement deficiency:
  Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart

- Hepatitis A vaccination

  (minimum age: 12 months for routine vaccination)

  Routine vaccination
  - 2-dose series (minimum interval: 6 months) at age 12–23 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): Administer dose 1 as soon as travel is considered.

- 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

- 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 may receive:
    - Heplisav-B®: 2-dose series at least 4 weeks apart
    - TWINRIX®: 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.).
**Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024**

### 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 <10mlU/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:** Hepisav-B and PreHevbrio are not recommended in pregnancy due to lack of safety data in pregnant persons.

### Human papillomavirus vaccination (minimum age: 9 years)

#### Routine and catch-up vaccination

- HPV vaccination routinely 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)
- No additional dose recommended when any HPV vaccine series of any valency has been completed using 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:
  - **Age 6 months–8 years** who have received fewer than 2 influenza vaccine doses before July 1, 2023, or whose influenza vaccination history is unknown: 2 doses, separated by at least 4 weeks. Administer dose 2 even if the child turns 9 years between receipt of dose 1 and dose 2.
  - **Age 6 months–8 years** who have received at least 2 influenza vaccine doses before July 1, 2023: 1 dose
  - **Age 9 years or older:** 1 dose
- For the 2023–2024 season, see [www.cdc.gov/mmwr/volumes/72/rr/rr7202a1.htm](http://www.cdc.gov/mmwr/volumes/72/rr/rr7202a1.htm).
- For the 2024–25 season, see the 2024–25 ACIP influenza vaccine recommendations.

### Special situations

- Close contacts (e.g., household contacts) of severely immunosuppressed persons who require a protected environment: should not receive LAIV4. If LAIV4 is given, they should avoid contact with for such immunosuppressed persons for 7 days after vaccination.

**Note:** Persons with an egg allergy can receive any influenza vaccine (egg-based and non-egg-based) appropriate for age and health status.

### 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.

### Meningococcal serogroup A,C,W,Y vaccination (minimum age: 2 months [MenACWY CRM, Menvio], 2 years [MenACYW TT, MenQuadfi]), 10 years [MenACYW TT/MenB-FHbp, Penbraya])

#### 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

### Special situations

- **Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:**
  - **Menveo**
    - Dose 1 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)
    - Dose 1 at age 24 months or older: 2-dose series at least 8 weeks apart
  - **MenQuadfi**
    - Dose 1 at age 24 months or older: 2-dose series at least 8 weeks apart
Travel to countries with hyperendemic or epidemic meningococcal disease, including countries in the African meningitis belt or during the Hajj (www.cdc.gov/travel/):

- Children less than age 24 months:
  - Menveo** (age 2–23 months)
    - Dose 1 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)
- Children age 2 years or older: 1 dose Menveo** or MenQuadrix

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** or MenQuadrix

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.

*Menveo has two formulations: lyophilized and liquid. The liquid formulation should not be used before age 10 years. See www.cdc.gov/vaccines/vpd/ mening/downloads/menveo-single-vial-presentation.pdf.

Note: 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.

Children age 10 years or older may receive a single dose of Penbraya™ as an alternative to separate administration of MenACWY and MenB when both vaccines would be given on the same clinic day (see “Meningococcal serogroup B vaccination” section below for more information).

Meningococcal serogroup B vaccination (minimum age: 10 years [MenB-4C, Bexsero®; MenB-FHbp, Trumenba*; MenACWY TT/MenB-FHbp, Penbraya™])

### 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)

For additional information on shared clinical decision-making for MenB, see www.cdc.gov/vaccines/hcp/admin/downloads/isd-job-aid-scdm-mening-b-shared-clinical-decision-making.pdf

### Special situations

Anatomic or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:

- Bexsero®: 2-dose series at least 1 month apart
- Trumenba*: 3-dose series at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed; if dose 3 is administered earlier than 4 months after dose 2, a 4th dose should be administered at least 4 months after dose 3)

Note: Bexsero® and Trumenba* are not interchangeable; the same product should be used for all doses in a series.

For MenB 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.

Children age 10 years or older may receive a dose of Penbraya™ as an alternative to separate administration of MenACWY and MenB when both vaccines would be given on the same clinic day. For age-eligible children not at increased risk, if Penbraya™ is used for dose 1 MenB, MenB-FHbp (Trumenba) should be administered for dose 2 MenB. For age-eligible children at increased risk of meningococcal disease, Penbraya™ may be used for additional MenACWY and MenB doses (including booster doses) if both would be given on the same clinic day and at least 6 months have elapsed since most recent Penbraya™ dose.

Mpxo vaccination (minimum age: 18 years [Jynneos*])

### Special situations

- **Age 18 years and at risk for Mpxo infection**: 2-dose series, 28 days apart.

Risk factors for Mpxo infection include:

- Persons who are gay, bisexual, and other MSM, transgender or nonbinary people who in the past 6 months have had:
  - A new diagnosis of at least 1 sexually transmitted disease
  - More than 1 sex partner
  - Sex at a commercial sex venue
  - Sex in association with a large public event in a geographic area where Mpxo transmission is occurring
- Persons who are sexual partners of the persons described above
- Persons who anticipate experiencing any of the situations described above
- Persons who have received prior Jynneos vaccination

For detailed information, see: www.cdc.gov/vaccines/acip/meetings/downloads/slides-2023-10-25-26/04-MPOX-Rao-508.pdf

Pneumococcal vaccination (minimum age: 6 weeks [PCV13], [PCV 20]; 2 years [PPSV23])

### Routine vaccination with PCV

- 4-dose series at 2, 4, 6, 12–15 months

### Catch-up vaccination with PCV

- Healthy children ages 2–4 years with any incomplete* PCV series: 1 dose PCV
- For other catch-up guidance, see Table 2.

Note: For children without risk conditions, PCV20 is not indicated if they have received 4 doses of PCV13 or PCV15 or another age appropriate complete PCV series.
Special situations

Children and adolescents with cerebrospinal fluid leak; chronic heart disease; chronic kidney disease (excluding maintenance dialysis and nephrotic syndrome); chronic liver disease; chronic lung disease (including moderate persistent or severe persistent asthma); cochlear implant; or diabetes mellitus:

Age 2–5 years
• Any incomplete* PCV series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after the most recent PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (at least 8 weeks after the most recent dose and administered at least 8 weeks apart)
• Completed recommended PCV series but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no further PCV or PPSV23 doses needed
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 administer at least 8 weeks after the most recent PCV dose.

Age 6–18 years
• Not previously received any dose of PCV13, PCV15, or PCV20: administer 1 dose of PCV15 or 1 dose of PCV20. If PCV15 is used and no previous receipt of PPSV23, administer 1 dose of PPSV23 at least 8 weeks after the most recent PCV15 dose.**
• Received PCV before age 6 years but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no additional dose of PCV or PPSV23
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV dose.
• Received 1 dose PCV13 only at or after age 6 years: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV13 dose.
• Not previously received any dose of PCV or PPSV23 indicated.

Children and adolescents on maintenance dialysis, or with immunocompromising conditions such as nephrotic syndrome; congenital or acquired asplenia or splenic dysfunction; congenital or acquired immunodeficiencies; diseases and conditions treated with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and solid organ transplant; HIV infection; or sickle cell disease or other hemoglobinopathies:

Age 2–5 years
• Any incomplete* PCV series:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after the most recent PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (at least 8 weeks after the most recent dose and administered at least 8 weeks apart)
• Completed recommended PCV series but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no further PCV or PPSV23 doses needed
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV dose.

Age 6–18 years
• Not previously received any dose of PCV13, PCV15, or PCV20: administer 1 dose of PCV15 or 1 dose of PCV20. If PCV15 is used and no previous receipt of PPSV23, administer 1 dose of PPSV23 at least 8 weeks after the most recent PCV15 dose.**
• Received PCV before age 6 years but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no additional dose of PCV or PPSV23
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV dose.
• Received 1 dose PCV13 only at or after age 6 years: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV13 dose.
• Received 1 dose PCV13 and 1 dose PPSV23 at or after age 6 years: no further doses of any PCV or PPSV23 indicated.

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

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.
• Adolescents age 18 years known or suspected to be unvaccinated or incompletely vaccinated: administer remaining doses (1, 2, or 3 IPV doses) to complete a 3-dose primary series.* Unless there are specific reasons to believe they were not vaccinated, most persons aged 18 years or older born and raised in the United States can assume they were vaccinated against polio as children.

Series containing oral poliovirus 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/mm6606a7.htm?s_cid=mm6606a7_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/mm6601a6.htm?s_cid=mm6601a6_w.
• For other catch-up guidance, see Table 2.

Notes
Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024
**Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024**

**Special situations**
- Adolescents aged 18 years at increased risk of exposure to poliovirus and completed primary series*: may administer one lifetime IPV booster

*Note: Complete primary series consist of at least 3 doses of IPV or trivalent oral poliovirus vaccine (tOPV) in any combination.

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html

**Respiratory syncytial virus immunization**
(minimum age: birth [Nirsevimab, RSV-mAb Beyfortus™])

**Routine immunization**
- Infants born October–March in most of the continental United States*
  - Mother did not receive RSV vaccine OR mother’s RSV vaccination status is unknown; administer 1 dose nirsevimab within 1 week of birth in hospital or outpatient setting
  - Mother received RSV vaccine less than 14 days prior to delivery: administer 1 dose nirsevimab within 1 week of birth in hospital or outpatient setting
  - Mother received RSV vaccine at least 14 days prior to delivery: nirsevimab not needed but can be considered in rare circumstances at the discretion of healthcare providers (see special populations and situations at www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html)

- Infants born April–September in most of the continental United States*
  - Mother did not receive RSV vaccine OR mother’s RSV vaccination status is unknown: administer 1 dose nirsevimab shortly before start of RSV season*
  - Mother received RSV vaccine less than 14 days prior to delivery: administer 1 dose nirsevimab shortly before start of RSV season*
  - Mother received RSV vaccine at least 14 days prior to delivery: nirsevimab not needed but can be considered in rare circumstances at the discretion of healthcare providers (see special populations and situations at www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html)

Infants with prolonged birth hospitalization** (e.g., for prematurity) discharged October through March should be immunized shortly before or promptly after discharge.

**Special situations**
- Ages 8–19 months with chronic lung disease of prematurity requiring medical support (e.g., chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the second RSV season; severe immunocompromise; cystic fibrosis with either weight for length <10th percentile or manifestation of severe lung disease (e.g., previous hospitalization for pulmonary exacerbation in the first year of life or abnormalities on chest imaging that persist when stable)**:*
  - 1 dose nirsevimab shortly before start of second RSV season*

- Ages 8–19 months who are American Indian or Alaska Native:
  - 1 dose nirsevimab shortly before start of second RSV season*

- Age-eligible and undergoing cardiac surgery with cardiopulmonary bypass**: 1 additional dose of nirsevimab after surgery. For additional details see special populations and situations at www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html

*Note: While the timing of the onset and duration of RSV season may vary, nirsevimab may be administered October through March in most of the continental United States. Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdiction with tropical climate) should follow guidance from public health authorities (e.g., CDC, health departments) or regional medical centers on timing of administration based on local RSV seasonality.

- Either maternal RSV vaccination or infant immunization with nirsevimab (RSV monoclonal antibody) is recommended to prevent respiratory syncytial virus lower respiratory tract infection in infants.

- All other pregnant persons: RSV vaccine not recommended. There is currently no ACIP recommendation for RSV vaccination in subsequent pregnancies. No data are available to inform whether additional doses are needed in later pregnancies.

*Note: Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdiction with tropical climate) should follow guidance from public health authorities (e.g., CDC, health departments) or regional medical centers on timing of administration based on local RSV seasonality.

**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.

**Respiratory syncytial virus vaccination**
(RSV [Abrysvo™])

**Routine vaccination**
- Pregnant at 32 weeks 0 days through 36 weeks and 6 days gestation from September through January in most of the continental United States*: 1 dose RSV vaccine (Abrysvo™). Administer RSV vaccine regardless of previous RSV infection.

- Either maternal RSV vaccination or infant immunization with nirsevimab (RSV monoclonal antibody) is recommended to prevent respiratory syncytial virus lower respiratory tract infection in infants.

*Note: Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdiction with tropical climate) should follow guidance from public health authorities (e.g., CDC, health departments) or regional medical centers on timing of administration based on local RSV seasonality.

**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.

For further guidance, see www.cdc.gov/mmwr/volumes/72/wr/mm7234a4.htm and www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html
Tetanus, diphtheria, and pertussis (Tdap) vaccination
(minimum age: 11 years for routine vaccination, 7 years for catch-up vaccination)

Routine vaccination
• **Age 11–12 years**: 1 dose Tdap (adolescent booster)
• **Pregnancy**: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36.

Note: Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Catch-up vaccination
• **Age 13–18 years who have not received Tdap**: 1 dose Tdap (adolescent booster)
• **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**:
  - **Age 7–9 years**: who receive Tdap should receive the adolescent Tdap booster dose at age 11–12 years.
  - **Age 10 years**: who receive Tdap do not need the adolescent Tdap booster dose at age 11–12 years.
• **DTaP inadvertently administered on or after age 7 years**:
  - **Age 7–9 years**: DTaP may count as part of catch-up series. Administer adolescent Tdap booster dose at age 11–12 years.
  - **Age 10–18 years**: Count dose of DTaP as the adolescent Tdap booster dose.
• 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.

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 (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 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.

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

Centers for Disease Control and Prevention | Recommended Child and Adolescent Immunization Schedule, United States, 2024
## Contraindication and Precautions for COVID-19 Vaccination

<table>
<thead>
<tr>
<th>Vaccines and other Immunizing Agents</th>
<th>Contraindicated or Not Recommended</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 mRNA vaccines (Pfizer-BioNTech, Moderna)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID-19 vaccine</td>
<td>Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID-19 vaccine; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID-19 vaccine. Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine. Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A). Moderate or severe acute illness, with or without fever.</td>
</tr>
<tr>
<td>COVID-19 protein subunit vaccine (Novavax)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID-19 vaccine</td>
<td>Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID-19 vaccine; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID-19 vaccine. Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine. Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A). Moderate or severe acute illness, with or without fever.</td>
</tr>
<tr>
<td>Influenza, egg-based, inactivated injectable (iIV4)</td>
<td>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)</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Moderate or severe acute illness with or without fever.</td>
</tr>
<tr>
<td>Influenza, cell culture-based inactivated injectable (ccIV4) (Flucelvax Quadrivalent)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any ccIV of any valency, or to any component of ccIV4</td>
<td>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 ccIV4, 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.</td>
</tr>
<tr>
<td>Influenza, recombinant injectable (RIV4) (Flublok Quadrivalent)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component of RIV4</td>
<td>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 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.</td>
</tr>
<tr>
<td>Influenza, live attenuated (LAIV4) (Flumist Quadrivalent)</td>
<td>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)</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Asthma in persons age 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.</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.
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.
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID-19 vaccines contain polyethylene glycol (PEG).
# Appendix

## Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

<table>
<thead>
<tr>
<th>Vaccines and other immunizing agents</th>
<th>Contraindicated or not recommended¹</th>
<th>Precautions²</th>
</tr>
</thead>
</table>
| Dengue (DENACYD) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Pregnancy  
• HIV infection without evidence of severe immunosuppression  
• Moderate or severe acute illness with or without fever |
| Diphtheria, tetanus, pertussis (DTaP) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Guillain–Barré syndrome (GBS) within 6 weeks after previous dose of tetanus-toxoid–containing vaccine  
• 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  
• For DTaP only: Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized  
• Moderate or severe acute illness with or without fever |
| Haemophilus influenzae type b (HiB) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Moderate or severe acute illness with or without fever |
| Hepatitis A (HepA) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ including neomycin | • Moderate or severe acute illness with or without fever |
| Hepatitis B (HepB) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ including yeast  
• 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 indicated²  | • Moderate or severe acute illness with or without fever |
| Hepatitis A–Hepatitis B vaccine (HepA–HepB) [Twinrix] | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ including neomycin and yeast | • Moderate or severe acute illness with or without fever |
| Human papillomavirus (HPV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Severe acute illness with or without fever |
| Measles, mumps, rubella (MMR) Measles, mumps, rubella, and varicella (MMRV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product)  
• History of thrombocytopenia or thrombocytopenic purpura  
• Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing  
• Moderate or severe acute illness with or without fever  
• For MMRV only: Personal or family (i.e., sibling or parent) history of seizures of any etiology |
| Meningococcal ACWY (MenACWY) MenACWY-CRM (Mencevo) MenACWTT-T (MenQuadfl) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• For MenACWY-CRM only: severe allergic reaction to any diphtheria toxoid—or CRM197—containing vaccine  
• For MenACWTT-T only: severe allergic reaction to a tetanus toxoid-containing vaccine | • For MenACWY-CRM only: Premature birth if less than 9 months  
• Moderate or severe acute illness with or without fever |
| Meningococcal B (MenB) MenB-4C (Bexsero) MenB-4C (Trumenba) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Moderate or severe acute illness with or without fever |
| Meningococcal ABCWY (MenACWTT-T, MenB-4C) (Penbraya) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• Severe reactive arthritis to a toxoid-containing vaccine | • Severe acute illness with or without fever |
| Mipox (Jynnesso) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent | • Moderate or severe acute illness with or without fever |
| Pneumococcal conjugate (PCV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• Severe allergic reaction (e.g., anaphylaxis) to any diphtheria–toxoid-containing vaccine or its component¹ | • Moderate or severe acute illness with or without fever |
| Pneumococcal polysaccharide (PPSV23) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Moderate or severe acute illness with or without fever |
| Poliovirus vaccine, inactivated (IPV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Pregnancy  
• Moderate or severe acute illness with or without fever |
| RSV monoclonal antibody (RSV-mAb) Respiratory syncytial virus vaccine (RSV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹ | • Moderate or severe acute illness with or without fever |
| Rotavirus (RV) (Rotarix) (RV) (RotaTeq) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• Severe immunodeficiency (SCID)  
• History of intussusception | • Altered immunocompetence other than SCID  
• Chronic gastrointestinal disease  
• RV1 only: Spina bifida or bladder exstrophy  
• Moderate or severe acute illness with or without fever  
• If using MMRV, see MMR/MMRV for additional precautions |
| Tetanus, diphtheria, and acellular pertussis (Tdap) Tetanus, diphtheria (Td) | • For Tdap 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 | • Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus-toxoid–containing vaccine  
• 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  
• 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  
• Moderate or severe acute illness with or without fever |
| Varicella (VAR) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component¹  
• 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)  
• Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent | • Recent (≤11 months) receipt of antibody–containing blood product (specific interval depends on product)  
• Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination)  
• Use of aspirin or aspirin-containing products  
• Moderate or severe acute illness with or without fever  
• If using MMRV, see MMR/MMRV for additional precautions |

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.htm

3 Vaccine 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 heplisavbregistry.com or www.prehevbrio.com/#safety.

5 Full prescribing information for BEYFORTUS (nirsevimab-alip) www.accessdata.fda.gov/drugsatfda_docs/label/2023/761328s000lbl.pdf
In addition to the recommendations presented in the previous sections of this immunization schedule, ACIP has approved the following recommendations by majority vote since October 26, 2023. The following recommendations have been adopted by the CDC Director and are now official. Links are provided if these recommendations have been published in *Morbidity and Mortality Weekly Report (MMWR).*

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Recommendations</th>
<th>Effective Date of Recommendation*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No new vaccines or vaccine recommendations to report</td>
<td></td>
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</tbody>
</table>