### 2019 Vaccination Schedule: 0–18 Years of Age (Part 1 of 2)

#### Range of recommended ages for all children

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>1st dose</th>
<th>2nd dose</th>
<th>3rd dose</th>
<th>4th dose</th>
<th>5th dose</th>
<th>6th dose</th>
<th>7th dose</th>
<th>8th dose</th>
<th>9th dose</th>
<th>10th dose</th>
<th>11th dose</th>
<th>12th dose</th>
<th>13th dose</th>
<th>14th dose</th>
<th>15th dose</th>
<th>16th dose</th>
<th>17th dose</th>
<th>18th dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B (HepB)</td>
<td>birth</td>
<td>1 mo</td>
<td>2 mo</td>
<td>4 mo</td>
<td>6 mo</td>
<td>9 mo</td>
<td>12 mo</td>
<td>15 mo</td>
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<td>26 mo</td>
<td>27 mo</td>
<td>28 mo</td>
<td>29 mo</td>
<td>30 mo</td>
</tr>
</tbody>
</table>

#### Range of recommended ages for catch-up immunization

- At birth:
  - Hepatitis B (HepB) vaccine.
- 1st dose:
  - Pneumococcal conjugate (PCV13)
  - Haemophilus influenzae type b (HiB)
- 2nd dose:
  - Diphtheria, tetanus, and acellular pertussis (DTaP) vaccine.
- 3rd dose:
  - Tetanus, diphtheria, & acellular pertussis (Tdap) vaccine.
- 4th dose:
  - Meningococcal vaccine.
- 5th dose:
  - Inactivated poliovirus (IPV).
- 6th dose:
  - Pneumococcal polysaccharide (PPSV23).

#### Range of recommended ages for certain high-risk groups

- Annual vaccination (LAIV)
  - 1 dose only
  - 1 dose only

### 1. Hepatitis B (HepB) Vaccine

**Min age: birth**

- **At birth:**
  - HBsAg-negative mother: administer 1 dose of monovalent HepB vaccine within 24hrs of birth for infants ≥2,000g. For infants <2000g, give 1 dose at chronological age of 1 month or hospital discharge.
  - HBsAg-positive mother: administer 1 dose of monovalent HepB vaccine and 0.5mL of hepatitis B immune globulin (HBIG) within 12hrs of birth, regardless of birth weight.
  - Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine as soon as possible.

- **Doses after the birth dose:**
  - The 2nd dose should be administered at age 1–2mos and the 3rd dose at 6–18mos. Monovalent HepB vaccine should be used for doses administered before age 6mos.
  - Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine as soon as possible.
  - The minimum interval is 4weeks for the 1st and 2nd dose, 8weeks for the 2nd and 3rd dose, and 16weeks for the 1st and 3rd dose (if 4 doses, substitute 4th dose for 3rd dose in these calculations).
  - Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.
  - For catch-up vaccination recommendations, refer to the 2019 Catch-Up Vaccination Schedule: 4 Months–18 years chart.

#### 2. Rotavirus (RV) Vaccine

**Min age: 6weeks**

- **At birth:**
  - Administration of a series of RV vaccine to all infants as follows:
    1. If RV1 is used, administer a 2-dose series at 2 and 4mos of age.
    2. If RV5 is used, administer a 3-dose series at ages 2, 4, and 6mos.
    3. If any dose in series was RV5 or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be given.

- **Diphtheria, tetanus, and acellular pertussis (DTaP) Vaccine**

**Min age: 6weeks**

- Administration of a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15–18mos, and 4–6yrs.
- The 4th dose may be administered as early as age 12mos, provided at least 6mos have elapsed since the 3rd dose. If the 4th dose was inadvertently given as early as 12mos, it may be counted if given ≥4mos after the 3rd dose.
- 5th dose of DTaP vaccine is not needed if 4th dose was given ≥4yrs of age.

#### 4. Haemophilus influenzae type b (HiB) Conglomerate Vaccine

**Min age: 6weeks**

- Administration of a 4-dose series of HiB vaccine at 2, 4, 6, 12–15mos of age.
- For catch-up vaccination recommendations, refer to the 2019 Catch-Up Vaccination Schedule: 4 Months–18 years chart.
- Persons with high-risk conditions: refer to the ACIP 2019 Immunization Schedule footnotes.

#### 5. Pneumococcal Vaccines

**Min age: 6weeks**

- Administration of a 4-dose series of PCV13 vaccine at ages 2, 4, 6mos and at age 12–15mos.
- Persons with high-risk conditions: refer to the ACIP 2019 Immunization Schedule footnotes.
6. Inactivated poliovirus vaccine (IPV). (Min age: 6wks)
- Administer a 4-dose series of IPV at ages 2, 4, 6–18mos and 4–6yrs. The final dose in the series should be administered on or after the 4th birthday and at least 6mos after the previous dose.
- If ≥4 doses of IPV-containing combination vaccine are given before age 4yrs, an additional dose should be given after the 4th birthday and ≥6mos from the previous dose.
- If both OPV (trivalent) and IPV were given as part of a series, a total of 4 doses should be given to complete the series. Doses should be at least 4wks apart, with the final dose given on or after the 4th birthday and at least 6mos after the previous dose. If only OPV were given, and all doses given before ≥4yrs of age, 1 dose of IPV should be given at ≥4yrs, at least 6mos after the last OPV dose.
- IPV is not routinely recommended for U.S. residents aged ≥18yrs.

7. Influenza vaccines. (Min age: 6mos for inactivated influenza vaccine [IIV], 2yrs for live attenuated influenza vaccine [LAIV], 18yrs for recombinant influenza vaccine [RIV])
- For the 2018–2019 season, administer 1 dose of any influenza vaccine appropriate for age and health status annually to all children beginning at age 6mos.
- Administer 2 doses at least 4wks apart to children 6mos–8yrs who have not previously received ≥2 doses of influenza vaccine before July 1, 2018.
- Contraindications and precautions for LAIV: refer to the ACIP 2019 Immunization Schedule footnotes on the product labeling.

8. Measles, mumps, and rubella (MMR) vaccine. (Min age: 12mos)
- Administer a 2-dose series of MMR vaccine at ages 12–15mos and 4–6yrs. The 2nd dose may be given as early as 4wks after the 1st dose.
- Administer 1 dose of MMR to infants aged 6–11mos before departure from the U.S. for international travel. These children should be revaccinated with 2 doses, the 1st at age 12–15mos (12mos for children in high-risk areas), and the 2nd dose at least 4wks later. Unvaccinated children ≥12mos should receive 2 doses at least 4wks apart before departure.

9. Varicella (VAR) vaccine. (Min age: 12mos)
- Administer a 2-dose series of VAR vaccine at ages 12–15mos and 4–6yrs. The 2nd dose may be administered as early as 3mos after the 1st dose. If the 2nd dose was given at least 4wks after the 1st dose, it can be accepted as valid.

10. Hepatitis A (HepA) vaccine. (Min age: 12mos)
- Initiate the 2-dose HepA vaccine series, separated by 6–12mos for Havrix or 6–18mos for Vaqta. If the series began before age 2yrs, 2 doses should be completed even if the child turns 2 before the 2nd dose is given.
- Unvaccinated children ≥2yrs may receive the HepA vaccine series, at least 6mos apart, if desired. Adolescents aged ≥18yrs may receive a 3- or 4-dose series of the combined HepA and HepB vaccine (Twinrix).
- Administer 1 dose of HepA vaccine to infants aged 6–11mos before departure to countries with high or intermediate HepA endemicity; revaccinate with 2 doses, 6–18mos apart, between age 12–23mos. Unvaccinated children aged ≥12mos should receive 1 dose as soon as travel is considered.
- High-risk groups that should be vaccinated: refer to the ACIP 2019 Immunization Schedule footnotes.

11. Meningococcal vaccines. (Min age: 9mos for MenACWY-D [Menactra], 2mos for MenACWY-CRM [Menveo], 10yrs for serogroup B meningococcal [MenB] vaccines: MenB-4C [Bexsero] and MenB-FHbp [Trumenba])
- MenACWY vaccination (Menactra, Menveo):
  - Administer a 2-dose series at 11–12yrs and 16yrs.
  - If Menactra is used, give either before or at the same time as DTaP.
- MenB vaccination (Bexsero, Trumenba):
  - Persons 16–23yrs (16–18yrs preferred) not at increased risk may receive, at clinical discretion, 2 doses of Bexsero at least 1 month apart or 2 doses of Trumenba at least 6mos apart (if 2nd Trumenba dose given too soon, administer a 3rd dose at least 4mos after the 2nd dose).
  - The two MenB vaccines are not interchangeable.
- Persons with high-risk conditions or those traveling to or living in countries where meningococcal disease is epidemic or endemic: refer to the ACIP 2019 Immunization Schedule footnotes.

12. Tetanus, diphtheria, and acellular pertussis (Tdap) vaccine. (Min age: 11yrs for routine vaccination, 7yrs for catch-up)
- Give 1 dose of Tdap vaccine to all adolescents aged 11–12yrs.
- Tdap can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Administer 1 dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferably during the early part of gestational weeks 27–36).
- For catch-up vaccination recommendations, refer to the 2019 Catch-Up Vaccination Schedule: 4 Months–18 years chart.

13. Human papillomavirus (HPV) vaccines. (Minimum age: 9yrs for 9HPV [Gardasil 9])
- Adolescents age 11–12yrs (can start at age 9yrs) and through 18yrs (if not previously adequately vaccinated) should receive HPV vaccine series. Number of doses is dependent on age at initial vaccination:
  - Initiated at age 9–14yrs: administer a 2-dose series at 0, 6–12mos. The minimum interval between doses is 5mos; repeat dose if given too soon.
  - Initiated at age ≥15yrs: administer a 3-dose series at 0, 1–2, and 6mos. The 1st and 2nd dose should be at least 4wks apart, the 2nd and 3rd dose at least 12wks apart, and the 1st and 3rd dose at least 5mos apart; repeat dose if given too soon.
- No additional doses are needed for persons who have completed a valid series with any HPV vaccine.
- Administer HPV vaccine beginning at age 9yrs to children with any history of sexual abuse or assault.
- Immunocompromised children should receive a 3-dose series at 0, 1–2, and 6mos, regardless of age at vaccine initiation.
- HPV vaccination is not recommended for pregnancy. However, pregnancy testing is not needed before vaccination. If found to be pregnant after initiating the vaccination series, no intervention is needed; the remainder of the series should be delayed until completion of pregnancy. (Rev. 3/2019)

NOTE: Refer to the ACIP 2019 Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger footnotes for vaccinations of persons with high-risk conditions.

CHANGES IN THE SCHEDULE SINCE LAST RELEASE
- The IPV footnote has been revised to add information regarding the use of combination vaccines containing IPV.
- Live attenuated influenza vaccine (LAIV) is included as an option for influenza vaccination for the 2018–2019 season.
- HepA vaccine recommendation for international travel has been added for travelers 6–11mos and unvaccinated travelers ≥12yrs.

REFERENCES
For information on individual vaccines, please see product monographs at www.eMPR.com, contact company for full labeling, or call the National Immunization Hotline at (800) 232-4636. Source: Advisory Committee on Immunization Practices (ACIP). Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger — United States, 2019. https://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html