Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, UNITED STATES, 2018

- Consult relevant ACIP statements for detailed recommendations (www.cdc.gov/vaccines/hcp/acip-recs/index.html).
- When a vaccine is not administered at the recommended age, administer at a subsequent visit.
- Use combination vaccines instead of separate injections when appropriate.
- Report clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) online (www.vaers.hhs.gov) or by telephone (800-822-7967).
- Report suspected cases of reportable vaccine-preventable diseases to your state or local health department.
- For information about precautions and contraindications, see www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

Approved by the

Advisory Committee on Immunization Practices
(www.cdc.gov/vaccines/acip)

American Academy of Pediatrics
(www.aap.org)

American Academy of Family Physicians
(www.aafp.org)

American College of Obstetricians and Gynecologists
(www.acog.org)

This schedule includes recommendations in effect as of January 1, 2018.
Changes in the Immunization Schedule Effective February 8, 2018

For Child, Adolescent, & “Catch-Up”

Changes to the 2018 schedule from the previous schedule:

- Mention of MenHiberix (Hib-MenCY) vaccine has been removed from Figure 1 and Figure 2 and the relevant footnotes (Hib and meningococcal A,C,W,Y). Manufacturing of MenHiberix has been discontinued in the United States and all available doses have expired.

Changes to Cover Page:

- A table was added outlining vaccine type, abbreviation, and brand names for vaccines discussed in the child/adolescent immunization schedule.

Changes to the 2018 figure from the 2017 schedule:

- The maximum ages for the first and last doses in the rotavirus vaccination series were added to the rotavirus vaccine row.
- The inactivated poliovirus vaccine rows were edited to clarify the catch-up recommendations for children 4 years of age and older.
- A reference was added to the HIV column of the figure. There reference provides additional information regarding HIV laboratory parameters and use of live vaccines.
- Within pneumococcal conjugate row, stippling was added to heart disease/chronic lung disease, chronic liver disease, and diabetes columns to clarify that, in some situations, an additional dose of vaccine might be recommended for children with these conditions.

Changes to the Footnotes from the previous schedule:

- The footnotes are presented in a new simplified format. The goal was to remove unnecessary test, preserve all pertinent information, and maintain clarity. This was accomplished by a transition from complete sentences to bullets, removal of unnecessary or redundant language, and formatting changes. In addition to this overall simplification, content changes were made as follows:
- The Hepatitis B vaccine (Hep B footnote was revised to include information regarding vaccination of <2,000-g infants born to Hepatitis B virus surface antigen (HBsAg)-negative mothers.
• The poliovirus vaccine footnote was revised to include updated guidance for persons who received oral poliovirus vaccine as part of their vaccination series.

• The influenza vaccine footnote has been updated to indicate that live attenuated influenza vaccine (LAIV) should not be used during the 2017-2018 influenza season. A reference link to the 2017-2018 season influenza recommendations have been added.

• The measles, mumps, and rubella vaccine (MMR) footnote was updated to include guidance regarding the use of a third dose of mumps virus-containing vaccine during a mumps outbreak. The meningococcal vaccine footnote has been edited to create separate footnotes for MenACWY and MenB vaccines.
Figure 1. Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger—United States, 2018.

Note: These recommendations must be read along with the footnotes of this schedule.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 mo</th>
<th>2 mos</th>
<th>4 mos</th>
<th>6 mos</th>
<th>9 mos</th>
<th>12 mos</th>
<th>15 mos</th>
<th>18 mos</th>
<th>19-23 mos</th>
<th>2-3 yrs</th>
<th>4-6 yrs</th>
<th>7-10 yrs</th>
<th>11-12 yrs</th>
<th>13-15 yrs</th>
<th>16 yrs</th>
<th>17-18 yrs</th>
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<td>Hepatitis B (HepB)</td>
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<td>Rotavirus (RV)1, (RV)1/1 (2-dose series); RSV (3-dose series)</td>
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<td>Diphtheria, tetanus, &amp; acellular pertussis (Tdap-7 yrs)</td>
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<td>3rd or 4th dose</td>
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<td>Pneumococcal conjugate (PCV13)</td>
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<td>Annual vaccination (IV) 1 or 2 doses</td>
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<td>Meningococcal (MenACWY-D ≥ 9 mos; MenACWY-CRM ≥ 2 mos)</td>
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<td>Pneumococcal polysaccharide (PPSV23)</td>
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NOTE: The above recommendations must be read along with the footnotes of this schedule.
FIGURE 2. Catch-up immunization schedule for persons aged 4 months–18 years who start late or who are more than 1 month behind—United States, 2018.

The figure 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 Figure 1 and the footnotes that follow.

### Children age 4 months through 6 years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>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>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Birth</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose. Minimum age for the final dose is 24 weeks.</td>
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<tr>
<td><strong>Rotavirus</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;2&lt;/sup&gt;</td>
<td>4 weeks&lt;sup&gt;2&lt;/sup&gt; Maximum age for final dose is 8 months, 0 days.</td>
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<tr>
<td><strong>Diphtheria, tetanus, and acellular pertussis</strong>&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
<td>6 months</td>
<td>6 months</td>
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<tr>
<td><strong>Haemophilus influenzae type B</strong>&lt;sup&gt;4&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt; if first dose was administered before the 1st birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months. No further doses needed if first dose was administered at age 15 months or older.</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt; if current age is younger than 12 months and first dose was administered at age younger than 7 months, and at least 1 previous dose was PRP-OMP (ActHib, Pentacel, Hibrix) or unknown. 8 weeks and age 12 through 59 months (as final dose)&lt;sup&gt;5&lt;/sup&gt; if current age is younger than 12 months and first dose was administered at age 7 through 11 months. OR if current age is 12 through 59 months and first dose was administered before the 1st birthday, and second dose administered at younger than 15 months; OR if both doses were PRP-OMP (PedvaxHib, Comvax) and were administered before the 1st birthday. No further doses needed if previous dose was administered at age 15 months or older.</td>
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<td><strong>Pneumococcal conjugate</strong>&lt;sup&gt;5&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt; if first dose was administered before the 1st birthday. 8 weeks (as final dose for healthy children) if first dose was administered at the 1st birthday or after. No further doses needed for healthy children if first dose was administered at age 24 months or older.</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt; if current age is younger than 12 months and previous dose given at &lt;7 months old. 8 weeks (as final dose for healthy children) if previous dose given between 7-11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was given before age 12 months. No further doses needed for healthy children if previous dose administered at age 24 months or older.</td>
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<tr>
<td><strong>Inactivated poliovirus</strong>&lt;sup&gt;6&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt; if current age is &lt; 4 years 6 months (as final dose) if current age is 4 years or older</td>
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<td>6 months&lt;sup&gt;6&lt;/sup&gt; (minimum age 4 years for final dose).</td>
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<tr>
<td><strong>Measles, mumps, rubella</strong>&lt;sup&gt;9&lt;/sup&gt;</td>
<td>12 months</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt;</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt; if current age is &lt;4 years 6 months (as final dose) if current age is 4 years or older</td>
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<tr>
<td><strong>Varicella</strong>&lt;sup&gt;6&lt;/sup&gt;</td>
<td>12 months</td>
<td>3 months</td>
<td>4 weeks&lt;sup&gt;6&lt;/sup&gt; if current age is &lt;4 years 6 months (as final dose) if current age is 4 years or older</td>
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<tr>
<td><strong>Hepatitis A</strong>&lt;sup&gt;10&lt;/sup&gt;</td>
<td>12 months</td>
<td>6 months</td>
<td>6 months&lt;sup&gt;6&lt;/sup&gt; if current age is &lt;4 years 6 months (as final dose) if current age is 4 years or older</td>
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<tr>
<td><strong>Meningococcal (MenACWY-D) ≥9 mos; MenACWY-CRM ≥2 mos</strong>&lt;sup&gt;11&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>8 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
<td>See footnote 11</td>
<td>See footnote 11</td>
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</tbody>
</table>

### Children and adolescents age 7 through 18 years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Not Applicable (N/A)</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>Meningococcal (MenACWY-D) ≥9 mos; MenACWY-CRM ≥2 mos</strong>&lt;sup&gt;11&lt;/sup&gt;</td>
<td>Not Applicable (N/A)</td>
<td>8 weeks&lt;sup&gt;11&lt;/sup&gt;</td>
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<tr>
<td><strong>Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis</strong>&lt;sup&gt;12&lt;/sup&gt;</td>
<td>7 years&lt;sup&gt;13&lt;/sup&gt;</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>6 months if first dose of DTaP/DT was administered before the 1st birthday.</td>
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<td><strong>Human papillomavirus</strong>&lt;sup&gt;14&lt;/sup&gt;</td>
<td>9 years&lt;sup&gt;13&lt;/sup&gt;</td>
<td>6 months</td>
<td>Routine dosing intervals are recommended.&lt;sup&gt;14&lt;/sup&gt;</td>
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<tr>
<td><strong>Hepatitis A</strong>&lt;sup&gt;10&lt;/sup&gt;</td>
<td>N/A</td>
<td>6 months</td>
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<tr>
<td><strong>Hepatitis B</strong>&lt;sup&gt;10&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
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<tr>
<td><strong>Inactivated poliovirus</strong>&lt;sup&gt;6&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td>6 months&lt;sup&gt;6&lt;/sup&gt; if current age is 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 &lt;4 years or if the third dose was administered &lt;5 months after the second dose.</td>
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<tr>
<td><strong>Measles, mumps, rubella</strong>&lt;sup&gt;9&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
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<tr>
<td><strong>Varicella</strong>&lt;sup&gt;6&lt;/sup&gt;</td>
<td>N/A</td>
<td>3 months if younger than age 13 years. 4 weeks if age 13 years or older.</td>
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NOTE: The above recommendations must be read along with the footnotes of this schedule.
Figure 3. Vaccines that might be indicated for children and adolescents aged 18 years or younger based on medical indications

<table>
<thead>
<tr>
<th>VACCINE ▼</th>
<th>INDICATION ▷</th>
<th>Pregnancy</th>
<th>Immunocompromised status (excluding HIV infection)</th>
<th>HIV infection CD4+ count†</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart disease, chronic lung disease</th>
<th>CSF leaks/cochlear implants</th>
<th>Asplenia and persistent complement deficiencies</th>
<th>Chronic liver disease</th>
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- **Vaccination according to the routine schedule recommended**
- **Recommended for persons with an additional risk factor for which the vaccine would be indicated**
- **Vaccination is recommended, and additional doses may be necessary based on medical condition. See footnotes.**

*Severe Combined Immunodeficiency
²For additional information regarding HIV laboratory parameters and use of live vaccines; see the General Best Practice Guidelines for Immunization "Altered Immunocompetence" at: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html; and Table 4-1 (footnote D) at: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes — Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, UNITED STATES, 2018

For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional information

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

1. Hepatitis B (HepB) vaccine. (minimum age: birth)

   Birth Dose (Monovalent HepB vaccine only):
   - Mother is HBsAg-Negative: 1 dose within 24 hours of birth for medically stable infants ≥2,000 grams. Infants <2,000 grams administer 1 dose at chronological age 1 month or hospital discharge.
   - Mother is HBsAg-Positive:
     o Give HepB vaccine and 0.5 mL of HIG (at separate anatomic sites) within 12 hours of birth, regardless of birth weight.
     o Test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose.
   - Mother's HBsAg status is unknown:
     o Give HepB vaccine within 12 hours of birth, regardless of birth weight.
     o For infants <2,000 grams, give 0.5 mL of HBIG in addition to HepB vaccine within 12 hours of birth.
     o Determine mother’s HBsAg status as soon as possible. If mother is HBsAg-positive, give 0.5 mL of HBIG to infants ≥2,000 grams as soon as possible, but no later than 7 days of age.

Routine Series:
   - A complete series is 3 doses at 0, 1–2, and 6–18 months. (Monovalent HepB vaccine should be used for doses given before age 6 weeks.)
   - Infants who did not receive a birth dose should begin the series as soon as feasible (see Figure 2).
   - Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose.
   - Minimum age for the final (3rd or 4th) dose: 24 weeks.
   - Minimum Intervals: Dose 1 to Dose 2: 4 weeks / Dose 2 to Dose 3: 8 weeks / Dose 1 to Dose 3: 16 weeks. (When 4 doses are given, substitute "Dose 4" for "Dose 3" in these calculations.)

   Catch-up vaccination:
   - Unvaccinated persons should complete a 3-dose series at 0, 1–2, and 6 months.
   - Adolescents 11–15 years of age may use an alternative 2-dose schedule, with at least 4 months between doses (adult formulation Recombivax HB only).
   - For other catch-up guidance, see Figure 2.

2. Rotavirus vaccines. (minimum age: 6 weeks)

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

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

3. Diphtheria, tetanus, and acellular pertussis (DTaP) vaccine. (minimum age: 6 weeks [4 years for Kinrix or Quadracel])

   Routine vaccination:
   - 5-dose series at 2, 4, 6, and 15–18 months, and 4–6 years.
     - Prospectively: A 4th dose may be given as early as age 12 months if at least 6 months have elapsed since the 3rd dose.
     - Retrospectively: A 4th dose that was inadvertently given as early as 12 months may be counted if at least 4 months have elapsed since the 3rd dose.

   Catch-up vaccination:
   - The 5th dose is not necessary if the 4th dose was administered at 4 years or older.
   - For other catch-up guidance, see Figure 2.
4. *Haemophilus influenzae* type b (Hib) vaccine.  
(minimum age: 6 weeks)

Routine vaccination:
- *ActHIB*, *Hiberix*, or *Pentacel*: 4-dose series at 2, 4, 6, and 12–15 months.
- *PedvaxHIB*: 3-dose series at 2, 4, and 12–15 months.

Catch-up vaccination:
- 1st dose at 7–11 months: Give 2nd dose at least 4 weeks later and 3rd (final) dose at 12–15 months or 8 weeks after 2nd dose (whichever is later).
- 1st dose at 12–14 months: Give 2nd (final) dose at least 8 weeks after 1st dose.
- 1st dose before 12 months and 2nd dose before 15 months: Give 3rd (final) dose 8 weeks after 2nd dose.
- 2 doses of *PedvaxHIB* before 12 months: Give 3rd (final) dose at 12–59 months and at least 8 weeks after 2nd dose.
- Unvaccinated at 15–59 months: 1 dose.
- For other catch-up guidance, see Figure 2.

Special Situations:
- Chemotherapy or radiation treatment 12–59 months
  - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
  - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

Doses given within 14 days of starting therapy or during therapy should be repeated at least 3 months after therapy completion.

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

- Anatomic or functional asplenia (including sickle cell disease)
  - 12–59 months
    - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

Unimmunized* persons 5 years or older
  - Give 1 dose

- Elective splenectomy
  - Unimmunized* persons 15 months or older
    - Give 1 dose (preferably at least 14 days before procedure).

- HIV infection
  - 12–59 months
    - Unvaccinated or only 1 dose before 12 months: Give 2 doses 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

Unimmunized* persons 5–18 years
  - Give 1 dose

- Immunoglobulin deficiency, early component complement deficiency
  - 12–59 months
    - Unvaccinated or only 1 dose before 12 months: Give 2 doses, 8 weeks apart.
    - 2 or more doses before 12 months: Give 1 dose, at least 8 weeks after previous dose.

Unimmunized = Less than routine series (through 14 months) OR no doses (14 months or older)

5. Pneumococcal vaccines. (minimum age: 6 weeks [PCV13], 2 years [PPSV23])

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

Catch-up vaccination with PCV13:
- 1 dose for healthy children aged 24–59 months with any incomplete* PCV13 schedule.
- For other catch-up guidance, see Figure 2.

Special situations: High-risk conditions: Administer PCV13 doses before PPSV23 if possible.

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

Age 2–5 years:
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 (at least 8 weeks after any prior PCV13 dose).
  - <3 PCV13 doses: 2 doses of PCV13, 8 weeks after the most recent dose and given 8 weeks apart.

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

Age 6–18 years:
- No history of either PCV13 or PPSV23: 1 dose of PCV13, 1 dose of PPSV23 at least 8 weeks later.
- Any PCV13 but no PPSV23: 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
- PPSV23 but no PCV13: 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.

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

Age 2–5 years:
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 (at least 8 weeks after any prior PCV13 dose).
  - <3 PCV13 doses: 2 doses of PCV13, 8 weeks after the most recent dose and given 8 weeks apart.

- No history of PPSV23: 1 dose of PPSV23 (at least 8 weeks after any prior PCV13 dose) and a 2nd dose of PPSV23 5 years later.

Age 6–18 years:
- No history of either PCV13 or PPSV23: 1 dose of PCV13, 2 doses of PPSV23 (1st dose of PPSV23 administered 8 weeks after PCV13 and 2nd dose of PPSV23 administered at least 5 years after the 1st dose of PPSV23).
- Any PCV13 but no PPSV23: 2 doses of PPSV23 (1st dose of PPSV23 to be given 8 weeks after the most recent dose of PCV13 and 2nd dose of PPSV23 administered at least 5 years after the 1st dose of PPSV23).

Cerebrospinal fluid leak; cochlear implant:

Age 2–5 years:
- Any incomplete* schedules with:
  - 3 PCV13 doses: 1 dose of PCV13 (at least 8 weeks after any prior PCV13 dose).
  - <3 PCV13 doses: 2 doses of PCV13, 8 weeks after the most recent dose and given 8 weeks apart.

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

Age 6–18 years:
- No history of either PCV13 or PPSV23: 1 dose of PCV13, 1 dose of PPSV23 at least 8 weeks later.
- Any PCV13 but no PPSV23: 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
- PPSV23 but no PCV13: 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

- PPSV23 but no PCV13: 1 dose of PCV13 at least 8 weeks after the most recent PPSV23 dose and a 2nd dose of PPSV23 to be given 5 years after the 1st dose of PPSV23 and at least 8 weeks after a dose of PCV13.

**Chronic liver disease, alcoholism:**

**Age 6–18 years:**
- No history of PPSV23: 1 dose of PPSV23 (at least 8 weeks after any prior PCV13 dose).
- *Incomplete schedules are any schedules where PCV13 doses have not been completed according to ACIP recommended catch-up schedules. The total number and timing of doses for complete PCV13 series are dictated by the age at first vaccination. See Tables 8 and 9 in the ACIP pneumococcal vaccine recommendations (www.cdc.gov/mmwr/pdf/rr/ rr5911.pdf) for complete schedule details.

6. Inactivated poliovirus vaccine (IPV). (minimum age: 6 weeks)

**Routine vaccination:**
- 4-dose series at ages 2, 4, 6–18 months, and 4–6 years. Administer the final dose on or after the 4th birthday 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.
- If 4 or more doses were given before the 4th birthday, give 1 more dose at age 4–6 years and at least 6 months after the previous dose.
- A 4th dose is not necessary if the 3rd dose was given on or after the 4th birthday and at least 6 months after the previous dose.
- IPV is not routinely recommended for U.S. residents 18 years and older.

**Series Containing Oral Polio Vaccine (OPV), either mixed OPV/IPV or OPV-only series:**
- Total number of doses needed to complete the series is the same as that recommended for the U.S. IPV schedule. See www.cdc.gov/mmwr/volumes/66/wr/mm6601a6.htm?s_cid=mm6601a6_w.
- Only trivalent OPV (TOPV) counts toward the U.S. vaccination requirements. For guidance to assess doses documented as “OPV” see www.cdc.gov/mmwr/volumes/66/wr/mm6606a7.htm?s_cid=mm6606a7_w.
- For other catch-up guidance, see Figure 2.

7. Influenza vaccines. (minimum age: 6 months)

**Routine vaccination:**
- Administer an age-appropriate formulation and dose of influenza vaccine annually.
  - **Children 6 months–8 years** who did not receive at least 2 doses of influenza vaccine before July 1, 2017 should receive 2 doses separated by at least 4 weeks.
  - **Persons 9 years and older** 1 dose
- Live attenuated influenza vaccine (LAIV) not recommended for the 2017–18 season.
- For additional guidance, see the 2017–18 ACIP influenza vaccine recommendations (MMWR August 25, 2017,66(2):1-20: www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6602.pdf). (For the 2018–19 season, see the 2018–19 ACIP influenza vaccine recommendations.)

8. Measles, mumps, and rubella (MMR) vaccine. (minimum age: 12 months for routine vaccination)

**Routine vaccination:**
- 2-dose series at 12–15 months and 4–6 years.
- The 2nd dose may be given as early as 4 weeks after the 1st dose.

**Catch-up vaccination:**
- Unvaccinated children and adolescents: 2 doses at least 4 weeks apart.

**International travel:**
- **Infants 6–11 months:** 1 dose before departure. Revaccinate with 2 doses at 12–15 months (12 months for children in high-risk areas) and 2nd dose as early as 4 weeks later.
- **Unvaccinated children 12 months and older:** 2 doses at least 4 weeks apart before departure.

**Mumps outbreak:**
- Persons ≥12 months who previously received ≥2 doses of mumps-containing vaccine and are identified by public health authorities to be at increased risk during a mumps outbreak should receive a dose of mumps-virus containing vaccine.

9. Varicella (VAR) vaccine. (minimum age: 12 months)

**Routine vaccination:**
- 2-dose series: 12–15 months and 4–6 years.
- The 2nd dose may be given as early as 3 months after the 1st dose (a dose given after a 4-week interval may be counted).

**Catch-up vaccination:**
- Ensure persons 7–18 years without evidence of immunity (see MMWR 2007;56[No. RR-4], at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have 2 doses of varicella vaccine.
  - **Ages 7–12:** routine interval 3 months (minimum interval: 4 weeks).
  - **Ages 13 and older:** minimum interval 4 weeks.

10. Hepatitis A (HepA) vaccine. (minimum age: 12 months)

**Routine vaccination:**
- 2 doses, separated by 6–18 months, between the 1st and 2nd birthdays. (A series begun before the 2nd birthday should be completed even if the child turns 2 before the second dose is given.)

**Catch-up vaccination:**
- Anyone 2 years of age or older may receive HepA vaccine if desired. Minimum interval between doses is 6 months.

**Special populations:**
- Previously unvaccinated persons who should be vaccinated:
  - Persons traveling to or working in countries with high or intermediate endemicity
  - Men who have sex with men
  - Users of injection and non-injection drugs
  - Persons who work with hepatitis A virus in a research laboratory or with non-human primates
  - Persons with clotting-factor disorders
  - Persons with chronic liver disease
  - Persons who anticipate close, personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with high or intermediate endemicity (administer the 1st dose as soon as the adoption is planned—ideally at least 2 weeks before the adoptee’s arrival).

11. Serogroup A, C, W, Y meningococcal vaccines. (Minimum age: 2 months [Menveo], 9 months [Menactra].)

**Routine:**
- 2-dose series: 11-12 years and 16 years.

**Catch-Up:**
- Age 13-15 years: 1 dose now and booster at age 16-18 years. Minimum interval 8 weeks.
- Age 16-18 years: 1 dose.
For further guidance on the use of the vaccines mentioned below, see: www.cdc.gov/vaccines/hcp/acip-recs/index.html.

**Special populations and situations:**

- Anatomic or functional asplenia, sickle cell disease, HIV infection, persistent complement component deficiency (including eculizumab use):
  - **Menveo**
    - 1st dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months.
    - 1st dose at 7–23 months: 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday).
    - 1st dose at 24 months or older: 2 doses at least 8 weeks apart.
  - **Menactra**
    - Persistent complement component deficiency:
      - 9–23 months: 2 doses at least 12 weeks apart
      - 24 months or older: 2 doses at least 8 weeks apart
    - Anatomic or functional asplenia, sickle cell disease, or HIV infection:
      - 24 months or older: 2 doses at least 8 weeks apart.
    - **Menactra** must be administered at least 4 weeks after completion of PCV13 series.

**Children who travel to or live in countries where meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or during the Hajj, or exposure to an outbreak attributable to a vaccine serogroup:***

- Children <24 months of age:
  - **Menveo (2-23 months):**
    - 1st dose at 8 weeks: 4-dose series at 2, 4, 6, and 12 months.
    - 1st dose at 7–23 months: 2 doses (2nd dose at least 12 weeks after the 1st dose and after the 1st birthday).
  - **Menactra (9-23 months):**
    - 2 doses (2nd dose at least 12 weeks after the 1st dose. 2nd dose may be administered as early as 8 weeks after the 1st dose in travelers).
  - Children 2 years or older: 1 dose of **Menveo** or **Menactra**.

**Note: Menactra should be given either before or at the same time as DTaP. For MenACWY booster dose recommendations for groups listed under “Special populations and situations” above, and additional meningococcal vaccination information, see meningococcal MMWR publications at: www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.**

**12. Serogroup B meningococcal vaccines (minimum age: 10 years [Bexsero, Trumenba].**

Clinical discretion: Adolescents not at increased risk for meningococcal B infection who want MenB vaccine.

MenB vaccines may be given at clinical discretion to adolescents 16–23 years (preferred age 16–18 years) who are not at increased risk.

- **Bexsero**: 2 doses at least 1 month apart.
- **Trumenba**: 2 doses at least 6 months apart. If the 2nd dose is given earlier than 6 months, give a 3rd dose at least 4 months after the 2nd.

**Special populations and situations:**

- Anatomic or functional asplenia, sickle cell disease, persistent complement component deficiency (including eculizumab use), serogroup B meningococcal disease outbreak
- **Bexsero**: 2-dose series at least 1 month apart.
- **Trumenba**: 3-dose series at 0, 1-2, and 6 months.

**Note:** **Bexsero** and **Trumenba** are not interchangeable.

For additional meningococcal vaccination information, see meningococcal MMWR publications at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

**13. Tetanus, diphtheria, and acellular pertussis (Tdap) vaccine. (minimum age: 11 years for routine vaccinations, 7 years for catch-up vaccination)**

**Routine vaccination:**

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

**Catch-up vaccination:**

- **Adolescents 13–18 who have not received Tdap:** 1 dose, followed by a Td booster every 10 years.
- **Persons aged 7–18 years not fully immunized with DTaP:** 1 dose of Tdap as part of the catch-up series (preferably the first dose). If additional doses are needed, use Td.

- **Children 7–10 years** who receive Tdap inadvertently or as part of the catch-up series may receive the routine Tdap dose at 11–12 years.
- **DTaP inadvertently given after the 7th birthday:**
  - **Child 7–10**: DTaP may count as part of catch-up series. Routine Tdap dose at 11–12 may be given.
  - **Adolescent 11–18**: Count dose of DTaP as the adolescent Tdap booster.
  - For other catch-up guidance, see Figure 2.

**14. Human papillomavirus (HPV) vaccine (minimum age: 9 years)**

**Routine and catch-up vaccination:**

- Routine vaccination for all adolescents at 11–12 years (can start at age 9) and through age 18 if not previously adequately vaccinated. Number of doses dependent on age at initial vaccination:
  - **Age 9–14 years at initiation:** 2-dose series at 0 and 6–12 months. Minimum interval: 5 months (repeat a dose given too soon at least 12 weeks after the invalid dose and at least 5 months after the 1st dose).
  - **Age 15 years or older at initiation:** 3-dose series at 0, 1–2 months, and 6 months. Minimum intervals: 4 weeks between 1st and 2nd dose, 12 weeks between 2nd and 3rd dose; 5 months between 1st and 3rd dose (repeat dose(s) given too soon at or after the minimum interval since the most recent dose).
- Persons who have completed a valid series with any HPV vaccine do not need any additional doses.

**Special situations:**

- **History of sexual abuse or assault:** Begin series at age 9 years.
- **Immunocompromised* (including HIV)** aged 9–26 years: 3-dose series at 0, 1–2 months, and 6 months.
- **Pregnancy:** Vaccination not recommended, but there is no evidence the vaccine is harmful. No intervention is needed for women who inadvertently received a dose of HPV vaccine while pregnant. Delay remaining doses until after pregnancy. Pregnancy testing not needed before vaccination.

*See MMWR, December 16, 2016;65(49):1405–1408, at www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf.
10. Confirm initial screen was accomplished, verify results, and follow up as appropriate.

11. Contact patients' health homes, primary care providers, or agencies to ensure that follow up is accomplished, verify results, and follow up as appropriate.

12. Use Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents (http://pediatrics.aappublications.org/content/137/5/944) to inform the clinical decision-making regarding the benefits and risks of testing and treatment for depression.

13. Verify results as soon as possible, and follow up as appropriate.

14. If the adolescent was not seen by a health care provider in the past 12 months, prior to receiving the follow-up counseling, and if the adolescent is at risk for depression, contact the primary care provider to ensure that an appointment is scheduled.


16. Adolescents should be screened for HIV according to the USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/Page/Name/usp-stf-recommendations). Adolescents who are high risk for HIV infection should be tested for HIV, as well as those who are at low or moderate risk if the adolescent is at high risk for HIV or if the adolescents are at risk for other sexually transmitted infections.

17. See USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/Page/Name/usp-stf-recommendations). Indicators for pelvic examination prior to age 25 are noted in “Psychosocial Examinations for Adolescents in the Pediatric Office Setting.”


19. Adolescent should be screened for suicide risk and other mental health conditions (http://www.uspreventiveservicestaskforce.org/Page/Name/usp-stf-recommendations) as well as those who are at risk for other sexually transmitted infections.

20. See “Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents” for information on counseling, treatment, and follow-up for depression.


DEPRESSION SCREENING

Adult depression screening begins routinely at 12 years of age (to be consistent with recommendations of the US Preventive Services Task Force (USPSTF)).

MATERNAL DEPRESSION SCREENING

Screening for maternal depression at 1, 2, 4, and 6-month visits has been added.

Footnote 16 was added to read as follows: “Screening should occur prior to Incorporating Recognition and Management of Perinatal and Postpartum Depression into Pediatric Practice (http://pediatrics.aappublications.org/content/126/5/1032)”.

NEWBORN BLOOD

Timing and follow-up of the newborn blood screening recommendations have been delineated.

Footnote 19 has been updated to read as follows: “Confirm initial screen was accomplished, verify results, and follow up as appropriate. The Recommended Uniform Newborn Screening Panel (http://www.hrsa.gov/advisorycommittees/mchb/pregnancy/ftd/bloodscreen/recommendationsandcriteria.html) and the Newborn Screening Collaborative (http://genetics.rutgers.edu/newbornscreening/) establish the criteria for and coverage of newborn screening procedures and programs.”

Footnote 20 has been added to read as follows: “Verify results as soon as possible, and follow up as appropriate.”

NEWBORN BILIRUBIN

Screening for bilirubin concentration at the newborn visit has been added.

Footnote 21 has been added to read as follows: “Confirm initial screen was accomplished, verify results, and follow up as appropriate. See Hyperbilirubinemia in the Newborn Infant 3.5 Weeks’ Gestation: An Update With Clarifications (http://pediatrics.aappublications.org/content/134/4/1193).”

DYSPLASMIA

Screening for dysplasemia has been updated to occur once between 9 and 11 years of age, and once between 17 and 21 years of age (to be consistent with guidelines of the National Heart, Lung, and Blood Institute).

SEXUALLY TRANSMITTED INFECTIONS

Footnote 29 has been added to read as follows: “Adolescents should be screened for sexually transmitted infections (STIs) per recommendations in the current edition of the AAP Red Book Report of the Committee on Infectious Diseases.”

HIV

A subheading has been added for the HIV universal recommendation to avoid confusion with STIs selective screening recommendations.

Screening for HIV has been updated to occur once between 15 and 18 years of age (to be consistent with recommendations of the USPSTF).

Footnote 30 has been added to read as follows: “Adolescents should be screened for HIV according to the USPSTF recommendations (http://www.uspreventiveservicestaskforce.org/Page/Name/usp-stf-recommendations) once between the ages of 15 and 18, making every effort to preserve confidentiality of the adolescent. Adolescents with increased risk of HIV infection, including those who are actively or passively, participating in drug use, or are being tested for other STIs, should be tested in a confidential manner.”

ORAL HEALTH

Assessing for a dental health has been updated to occur at the 12 month and 18-month through 6-year visits. A subheading has been added for fluoride supplementation, with a recommendation from the 8-month through 12-month and 18-month through 16-year visits.

Footnote 32 has been updated to read as follows: “Assess whether the child has a dental home. If no dental home is identified, perform a risk assessment (https://www.aap.org/en-us/policy-and-advocacy/child-health-policy/child-and-adolescent-health-policy/Policies/ch03_13_5605.aspx) and refer to a dental home. Recommend brushing with fluoride toothpaste in the proper dosage for age. See ‘Maintaining and Improving the Oral Health of Young Children’ (http://pediatrics.aappublications.org/content/134/4/1234).”

Footnote 33 has been added to read as follows: “Perform a risk assessment (https://www.aap.org/en-us/policy-and-advocacy/child-health-policy/child-and-adolescent-health-policy/Policies/ch03_13_5605.aspx) and refer to a dental home. Recommend brushing with fluoride toothpaste in the proper dosage for age. See ‘Maintaining and Improving the Oral Health of Young Children’ (http://pediatrics.aappublications.org/content/134/4/1234).”

Footnote 35 has been added to read as follows: “If primary water source is deficient in fluoride, consider oral fluoride supplementation. See ‘Fluoride Use in Caries Prevention in the Primary Care Setting’ (http://pediatrics.aappublications.org/content/134/3/826).”

Summary of Changes Made to the Bright Futures/AAP Recommendations for Preventive Pediatric Health Care (Periodicity Schedule)

This schedule reflects changes approved in February 2017 and published in April 2017. For updates, visit www.aap.org/periodic shedule.

For further information, see the Bright Futures Guidelines, 4th Edition, Evidence and Rationale chapter (https://brightfutures.aap.org/Bright%20Futures%20Documents/4%20Evidence%20Rationale.pdf).

CHANGES MADE IN FEBRUARY 2017

HEARING

- Timing and follow-up of the screening recommendations for hearing during the infancy dives have been delineated. Adolescent risk assessment has changed to screening once during each time period.

- Footnote 8 has been updated to read as follows: “Confirm initial screen was completed, verify results, and follow up as appropriate. Newborns should be screened, per ‘Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Program’ (http://pediatrics.aappublications.org/content/124/4/843), at 6 weeks of age.”

- Footnote 9 has been added to read as follows: “Verify results as soon as possible, and follow up as appropriate.”

- Footnote 10 has been added to read as follows: “Screen with audiometry including 6,000 and 8,000 Hz frequencies once between 11 and 14 years, once between 15 and 17 years, and once between 18 and 21 years. See The Sensitivity of Adolescent Hearing Screens Significantly Improves by Adding High Frequencies’ (http://www.jahansheikhjournal.com/article-10.1556-1391.160046.0483.1[56]).”

PSYCHOSOCIAL/BEHAVIORAL ASSESSMENT

- Footnote 13 has been added to read as follows: “This assessment should be family centered and may include an assessment of child social-emotional health, caregiver depression, and social determinants of health. See ‘Promoting Optimal Development: Screening for Behavioral and Emotional Problems’ (http://pediatrics.aappublications.org/content/135/2/394) and Poverty and Child Health in the United States’ (http://pediatrics.aappublications.org/content/137/e20160339).

TOBACCO, ALCOHOL, OR DRUG USE ASSESSMENT

- The Nudge was updated to be consistent with recommendations.
### Recommendations for Preventive Pediatric Healthcare

#### Bright Futures/American Academy of Pediatrics (AAP)

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Healthcare are designed for the care of children who are receiving competent parenting. There are no universal guidelines for any important health problems, and they are evolving and developing in a satisfactory fashion. Developmental, emotional, and physical growth varies; and these guidelines should not be considered inflexible. It is the responsibility of the health professional to ensure that each child receives appropriate and current care.

The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate. The recommendations in this table are based on evidence from the best available research. These recommendations are meant to guide care and are not a substitute for clinical judgment. The guidelines are intended to be used in conjunction with the AAP's "Clinical Practice Guidelines for Primary Health Care of Children and Adolescents" (published in October 2009) and are updated as new evidence becomes available.

---

### Table: Preventive Pediatric Healthcare

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Laboratory Tests</th>
<th>Immunizations</th>
<th>History and Physical Examination</th>
<th>Counseling and Health Education</th>
<th>Nutrition and Diet</th>
<th>Mental Health</th>
<th>Oral Health</th>
<th>Developmental/Behavioral Health</th>
<th>Injury Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood</td>
<td><strong>HISTORY</strong></td>
<td><strong>LABORATORY</strong></td>
<td><strong>EXAMINATION</strong></td>
<td><strong>BEHAVIOR</strong></td>
<td><strong>EDUCATION</strong></td>
<td><strong>NUTRITION</strong></td>
<td><strong>MENTAL</strong></td>
<td><strong>ORAL</strong></td>
<td><strong>DEVELOPMENT</strong></td>
</tr>
<tr>
<td>0-2 y</td>
<td>Birth History</td>
<td>Blood Pressure</td>
<td>Birth History</td>
<td>Birth History</td>
<td>Birth History</td>
<td>Birth History</td>
<td>Birth History</td>
<td>Birth History</td>
<td>Birth History</td>
</tr>
<tr>
<td>2-3 y</td>
<td>Past Illness</td>
<td>Eye/Ear Check</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
<td>Physical Exam</td>
</tr>
<tr>
<td>3-5 y</td>
<td>Family History</td>
<td>Blood Pressure</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
<tr>
<td>5-10 y</td>
<td>Present Illness</td>
<td>Cognitive Skills</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
<td>Neurological Exam</td>
</tr>
<tr>
<td>10-12 y</td>
<td>Medications</td>
<td>Vision/Hearing</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
<tr>
<td>12-15 y</td>
<td>Growth</td>
<td>Growth</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
<tr>
<td>15-18 y</td>
<td>Development</td>
<td>Development</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
<tr>
<td><strong>ADOLESCENCE</strong></td>
<td><strong>HISTORY</strong></td>
<td><strong>LABORATORY</strong></td>
<td><strong>EXAMINATION</strong></td>
<td><strong>BEHAVIOR</strong></td>
<td><strong>EDUCATION</strong></td>
<td><strong>NUTRITION</strong></td>
<td><strong>MENTAL</strong></td>
<td><strong>ORAL</strong></td>
<td><strong>DEVELOPMENT</strong></td>
</tr>
<tr>
<td>18-21 y</td>
<td>Education</td>
<td>Blood Pressure</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
<tr>
<td>21-25 y</td>
<td>Employment</td>
<td>Eye/Ear Check</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
<td>Full Physical Exam</td>
</tr>
</tbody>
</table>

**Key:**
- **HISTORY**
- **LABORATORY**
- **EXAMINATION**
- **BEHAVIOR**
- **EDUCATION**
- **NUTRITION**
- **MENTAL**
- **ORAL**
- **DEVELOPMENT**
- **INJURY**
Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2018

In February 2018, the Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2018 became effective, as recommended by the Advisory Committee on Immunization Practices (ACIP) and approved by the Centers for Disease Control and Prevention (CDC). The adult immunization schedule was also approved by the American College of Physicians, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the American College of Nurse-Midwives.

CDC announced the availability of the 2018 adult immunization schedule in the Morbidity and Mortality Weekly Report (MMWR). The schedule is published in its entirety in the Annals of Internal Medicine.

The adult immunization schedule consists of figures that summarize routinely recommended vaccines for adults by age groups and medical conditions and other indications, footnotes for the figures, and a table of vaccine contra indications and precautions. Note the following when reviewing the adult immunization schedule:

- The figures in the adult immunization schedule should be reviewed with the accompanying footnotes.
- The figures and footnotes display indications for which vaccines, if not previously administered, should be administered unless noted otherwise.
- The table of contraindications and precautions identifies populations and situations for which vaccines should not be used or should be used with caution.
- When indicated, administer recommended vaccines to adults whose vaccination history is incomplete or unknown.
- Increased interval between doses of a multidose vaccine series does not diminish vaccine effectiveness; it is not necessary to restart the vaccine series or add doses to the series because of an extended interval between doses.
- Combination vaccines may be used when any component of the combination is indicated and when the other components of the combination are not contraindicated.
- The use of trade names in the adult immunization schedule is for identification purposes only and does not imply endorsement by the ACIP or CDC.

Special populations that need additional considerations include:

- Pregnant women. Pregnant women should receive the tetanus, diphtheria, and a cellular pertussis vaccine (Tdap) during pregnancy and the influenza vaccine during or before pregnancy. Live vaccines (e.g., measles, mumps, and rubella vaccine [MMR]) are contraindicated.
- Asplenia. Adults with asplenia have specific vaccination recommendations because of their increased risk for infection by encapsulated bacteria. Anatomical or functional asplenia includes congenital or acquired asplenia, splenic dysfunction, sickle cell disease and other hemoglobinopathies, and splenectomy.
- Immunocompromising conditions. Adults with immunosuppression should generally avoid live vaccines. Inactivated vaccines (e.g., pneumococcal vaccines) are generally acceptable. High-level immunosuppression includes HIV infection with a CD4 cell count < 200 cells/μl, receipt of daily corticosteroid therapy with ≥ 20 mg of prednisone or equivalent for ≥ 14 days, primary immunodeficiency disorder (e.g., severe combined immunodeficiency or complement component deficiency), and receipt of cancer chemotherapy. Other immunocompromising conditions and immunosuppressive medications to consider when vaccinating adults can be found in IDSA Clinical Practice Guideline for Vaccination of the Immunocompromised. Additional information on vaccinating immunocompromised adults is in General Best Practice Guidelines for Immunization.

Additional resources for health care providers include:

- Details on vaccines recommended for adults and complete ACIP statements at www.cdc.gov/vaccines/hcp/acip-recs/index.html
- Vaccine Information Statements that explain benefits and risks of vaccines at www.cdc.gov/vaccines/hcp/vis/index.html
- Information and resources on vaccinating pregnant women at www.cdc.gov/vaccines/adults/rec-vac/pregnant.html
- Information on travel vaccine requirements and recommendations at www.cdc.gov/travel/destinations/list
- CDC Vaccine Schedules App for immunization service providers to download at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html
- Adult Vaccination Quiz for self-assessment of vaccination needs based on age, health conditions, and other indications at www2.cdc.gov/nip/adultimsched/default.asp
- Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger at www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html

Report suspected cases of reportable vaccine-preventable diseases to the local or state health department, and report all clinically significant postvaccination events to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or by telephone, 800-822-7967. All vaccines included in the adult immunization schedule except 23-valent pneumococcal polysaccharide and zoster vaccines are covered by the Vaccine Injury Compensation Program. Information on how to file a vaccine injury claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. Submit questions and comments to CDC through www.cdc.gov/cdc-info or by telephone, 800-CDC-INFO (800-232-4636), in English and Spanish, 8:00am–8:00pm ET, Monday–Friday, excluding holidays.

The following abbreviations are used for vaccines in the adult immunization schedule (in the order of their appearance):

- IV: inactivated influenza vaccine
- RIV: recombinant influenza vaccine
- Tdap: tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine
- Td: tetanus and diphtheria toxoids
- MMR: measles, mumps, and rubella vaccine
- VAR: varicella vaccine
- RZV: recombinant zoster vaccine
- ZVL: zoster vaccine live
- HPV vaccine: human papillomavirus vaccine
- PCV13: 13-valent pneumococcal conjugate vaccine
- PPSV23: 23-valent pneumococcal polysaccharide vaccine
- HepA: hepatitis A vaccine
- HepA-HepB: hepatitis A vaccine and hepatitis B vaccine
- HepB: hepatitis B vaccine
- MenACWY: serogroups A, C, W, and Y meningococcal vaccine
- MenB: serogroup B meningococcal vaccine
- Hib: Haemophilus influenzae type b vaccine

4. ACIP. Available at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html.
Figure 1. Recommended immunization schedule for adults aged 19 years or older by age group, United States, 2018

This figure should be reviewed with the accompanying footnotes. This figure and the footnotes describe indications for which vaccines, if not previously administered, should be administered unless noted otherwise.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza¹</td>
<td></td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tdap² or Td²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMR³</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAR⁴</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 doses</td>
</tr>
<tr>
<td>RZV⁵ (preferred)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 doses RZV (preferred)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>or</td>
</tr>
<tr>
<td>ZVL⁶</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 dose ZVL</td>
</tr>
<tr>
<td>HPV–Female⁶</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on age at series initiation</td>
</tr>
<tr>
<td>HPV–Male⁶</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on age at series initiation</td>
</tr>
<tr>
<td>PCV13⁷</td>
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<td></td>
<td>1 dose</td>
</tr>
<tr>
<td>PPSV23⁷</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
</tr>
<tr>
<td>HepA⁸</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
</tr>
<tr>
<td>HepB⁹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 doses</td>
</tr>
<tr>
<td>MenACWY¹⁰</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication, then booster every 5 yrs if risk remains</td>
</tr>
<tr>
<td>MenB¹⁰</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
</tr>
<tr>
<td>Hib¹¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 or 3 doses depending on indication</td>
</tr>
</tbody>
</table>

- **Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection**
- **Recommended for adults with other indications**
- **No recommendation**
Figure 2. Recommended immunization schedule for adults aged 19 years or older by medical condition and other indications, United States, 2018

This figure should be reviewed with the accompanying footnotes. This figure and the footnotes describe indications for which vaccines, if not previously administered, should be administered unless noted otherwise.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cells/μL)</th>
<th>Asplenia, complement deficiencies</th>
<th>End-stage renal disease, on hemodialysis</th>
<th>Heart or lung disease, alcoholism</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Health care personnel</th>
<th>Men who have sex with men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td></td>
<td></td>
<td>&lt;200</td>
<td>≥200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tdap or Td</td>
<td>1 dose Tdap each pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMR</td>
<td>contraindicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>contraindicated</td>
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<td></td>
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<tr>
<td>RZV (preferred)</td>
<td>2 doses RZV at age ≥50 yrs (preferred)</td>
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<td>or ZVL</td>
<td>1 dose ZVL at age ≥60 yrs</td>
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</tr>
<tr>
<td>HPV–Female</td>
<td>3 doses through age 26 yrs</td>
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</tr>
<tr>
<td>HPV–Male</td>
<td>3 doses through age 26 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCV13</td>
<td>1 dose</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PPSV23</td>
<td>1, 2, or 3 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HepA</td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>HepB</td>
<td>3 doses</td>
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<tr>
<td>MenACWY</td>
<td>1 or 2 doses depending on indication, then booster every 5 yrs if risk remains</td>
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<tr>
<td>MenB</td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib</td>
<td>3 doses HSCT recipients only</td>
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</tbody>
</table>

Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended for adults with other indications

Contraindicated

No recommendation
1. Influenza vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html

   General information
   - Administer 1 dose of age-appropriate inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV) annually
   - Live attenuated influenza vaccine (LAIV) is not recommended for the 2017–2018 influenza season
   - A list of currently available influenza vaccines is available at www.cdc.gov/flu/protect/vaccine/vaccines.htm

   Special populations
   - Administer age-appropriate IIV or RIV to:
     - Pregnant women
     - Adults with HIV/AIDS only egg allergy
     - Adults with egg allergy other than HIV/AIDS (e.g., angioedema or respiratory distress): Administer IIV or RIV in a medical setting under supervision of a healthcare provider who can recognize and manage a severe allergic reaction

2. Tetanus, diphtheria, and pertussis vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/tdap-td.html

   General information
   - Administer to adults who previously did not receive a dose of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine (Tdap) as an adult or child (preferably at age 11–12 years), not later than age 27 years
   - Information on the use of Tdap or Td as tetanus prophylaxis in wound management is available at www.cdc.gov/mmwr/preview/mmwrhtml/rr5517a1.htm

   Special populations
   - Pregnant women: Administer 1 dose of Tdap during each pregnancy, preferably in the early part of gestational weeks 27–28

3. Measles, mumps, and rubella vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html

   General information
   - Administer 1 dose of measles, mumps, and rubella vaccine (MMR) to adults with no evidence of immunity to measles, mumps, or rubella
   - Evidence of immunity is:
     - Born before 1980 (except for pregnant women and healthcare personnel, see below)
     - Documentation of receipt of MMR
     - Laboratory evidence of immunity
   - Documentation of a health care provider-diagnosed disease without laboratory confirmation is not considered evidence of immunity

   Special populations
   - Pregnant women and nonpregnant women of childbearing age with no evidence of immunity to rubella: Administer 1 dose of MMR (if pregnant, administer MMR after pregnancy and before discharge from healthcare facility)

4. Varicella vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/varicella.html

   General information
   - Administer to adults without evidence of immunity to varicella 2 doses of varicella vaccine (VAR) 4–8 weeks apart if previously received no varicella-containing vaccine (if previously received 1 dose of varicella-containing vaccine, administer 1 dose of VAR at least 4 weeks after the first dose)
   - Evidence of immunity to varicella is:
     - U.S.-born before 1980 (except for pregnant women and healthcare personnel, see below)
     - Documentation of receipt of 2 doses of varicella or varicella-containing vaccine at least 4 weeks apart
     - Diagnosis or verification of history of varicella or herpes zoster by a healthcare provider
     - Laboratory evidence of immunity

   Special populations
   - Pregnant women with evidence of immunity
     - Administer the first of the 2 doses or the second dose after pregnancy and before discharge from healthcare facility

5. Zoster vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/shingles.html

   General information
   - Administer 2 doses of recombinant zoster vaccine (RZV) 2–6 months apart to adults aged 50 years or older regardless of past episode of herpes zoster or receipt of zoster vaccine live (ZVL)

6. Human papillomavirus vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hpv.html

   General information
   - Administer human papillomavirus (HPV) vaccine to females through age 26 years and males through age 21 years (males aged 22 through 26 years may be vaccinated based on individual clinical decision)
   - The number of doses of HPV vaccine to be administered depends on age at initial HPV vaccination
     - No previous dose of HPV vaccine: Administer 3-dose series at 0, 1–2, and 6 months (minimum intervals: 4 weeks between doses 1 and 2, 12 weeks between doses 2 and 3, and 5 months between doses 1 and 3; repeat doses if given too soon)
     - Ages 9–14 years at HPV vaccine series initiation and received 1 dose or 2 doses less than 5 months apart: Administer 1 dose
     - Ages 9–14 years at HPV vaccine series initiation and received 2 doses at least 5 months apart: No additional dose is needed

   Special populations
   - Adults with immunocompromising conditions (including HIV infection) through age 26 years: Administer 3-dose series at 0, 1–2, and 6 months
   - Men who have sex with men through age 26 years: Administer 2- or 3-dose series depending on age at initial vaccination (see above); no history of HPV vaccine, administer 3-dose series at 0, 1–2, and 6 months
   - Pregnant women through age 26 years: HPV vaccination is not recommended during pregnancy, but there is no evidence that the vaccine is harmful and no intervention needed for women who inadvertently receive HPV vaccine while pregnant; delay remaining doses until after pregnancy; pregnancy testing is not needed before vaccination

7. Pneumococcal vaccination
   www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumonia.html

   General information
   - Administer to immunocompetent adults aged 65 years or older 1 dose of 13-valent pneumococcal conjugate vaccine (PCV13), if no previously administered, followed by 1 dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) at least 1 year after PCV13; if PPSV23 was previously administered but not PCV13, administer PCV13 at least 1 year after PPSV23
   - When both PCV13 and PPSV23 are indicated, administer PCV13 first (PCV13 and PPSV23 should not be administered during the same visit); additional information on vaccination timing is available at www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf
8. Hepatitis A vaccination
www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hepa.html

General information
- Administer to adults who have a specific risk (see below), or lack a risk factor but want protection, 2-dose series of single antigen hepatitis A vaccine (HepA; Havrix at 0 and 6–12 months or Vaqta at 0 and 6–18 months; minimum interval: 6 months) or a 3-dose series of combined hepatitis A and hepatitis B vaccine (HepA-HeplB) at 0, 1, and 6 months; minimum intervals: 4 weeks between first and second doses, 5 months between second and third doses

Special populations
- Administer HepA or HepA-HeplB to adults with the following indications:
  - Travel to or work in countries with high or intermediate hepatitis A endemicity
  - Men with sex with men
  - Injection or noninjection drug use
  - Work with hepatitis A virus in a research laboratory or with nonhuman primates infected with hepatitis A virus
  - Clotting factor disorders
  - Chronic liver disease
- Close, personal contact with an international adoptee (e.g., household or regular babysitting) during the first 60 days after arrival in the United States from a country with high or intermediate endemicity (administer the first dose as soon as the adoption is planned)
- Healthy adults through age 40 years who have recently been exposed to hepatitis A virus; adults older than age 40 years may receive HepA if hepatitis A immunoglobulin cannot be obtained

9. Hepatitis B vaccination
www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hepb.html

General information
- Administer to adults who have a specific risk (see below), or lack a risk factor but want protection, 3-dose series of single antigen hepatitis B vaccine (HepB) or combined hepatitis A and hepatitis B vaccine (HepA-HeplB) at 0, 1, and 6 months (minimum intervals: 4 weeks between doses 1 and 2 for HepB and HepA-HeplB, between doses 2 and 3, 8 weeks for HepB and 5 months for HepA-HeplB)

Special populations
- Administer HepB or HepA-HeplB to adults with the following indications:
  - Chronic liver disease (e.g., hepatitis C infection, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
  - HIV infection
  - Percutaneous or mucosal risk of exposure to blood (e.g., household contacts of hepatitis B surface antigen [HBsAg]-positive persons; adults younger than age 60 years with diabetes mellitus or aged 60 years or older with diabetes mellitus based on individual clinical decision; adults in predialysis care or receiving hemodialysis or peritoneal dialysis; recent or current injection drug users; health care and public safety workers at risk for exposure to blood or blood-contaminated body fluids)
  - Sexual exposure risk (e.g., sex partners of HBsAg-positive persons; sexually active persons not in a mutually monogamous relationship; persons seeking evaluation or treatment for a sexually transmitted infection; and men who have sex with men [MSM])
  - Travel to or work in countries with high or intermediate hepatitis B endemicity

10. Meningococcal vaccination
www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html

Special populations: Serogroups A, C, W, and Y meningococcal vaccine (MenACWY)
- Administer 2 doses of MenACWY at least 8 weeks apart and revaccinate with 1 dose of MenACWY every 5 years, if the risk remains, to adults with the following indications:
  - Anatomical or functional asplenia (including sickle cell disease and other hemoglobinopathies)
  - HIV infection
  - Persistent complement component deficiency
  - Eculizumab use
- Administer 1 dose of MenACWY and revaccinate with 1 dose of MenACWY every 5 years, if the risk remains, to adults with the following indications:
  - Travel to or live in countries where meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or during the Hajj
  - At risk from a meningococcal disease outbreak attributed to serogroup A, C, W, or Y
  - Microbiologists routinely exposed to Neisseria meningitidis
  - Military recruits
  - First-year college students who live in residential housing (if they did not receive MenACWY at age 16 years or older)

General Information: Serogroup B meningococcal vaccine (MenB)
- May administer, based on individual clinical decision, to young adults and adolescents aged 16–23 years (preferred age is 16–18 years) who are not at increased risk 2-dose series of MenB-4C (Bexsero) at least 1 month apart or 2-dose series of MenB-FHbp (Trumenba) at least 6 months apart
- MenB-4C and MenB-FHbp are not interchangeable

Special populations: MenB
- Administer 2-dose series of MenB-4C at least 1 month apart or 3-dose series of MenB-FHbp at 0, 1–2, and 6 months to adults with the following indications:
  - Anatomical or functional asplenia (including sickle cell disease)
  - Persistent complement component deficiency
  - Eculizumab use
  - At risk from a meningococcal disease outbreak attributed to serogroup B
  - Microbiologists routinely exposed to Neisseria meningitidis

11. Haemophilus influenzae type b vaccination
www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hib.html

Special populations
- Administer Haemophilus influenzae type b vaccine (Hib) to adults with the following indications:
  - Anatomical or functional asplenia (including sickle cell disease) or undergoing elective splenectomy: Administer 1 dose if not previously vaccinated (preferably at least 14 days before elective splenectomy)
  - Hematopoietic stem cell transplant (HSCT): Administer 3-dose series with doses 4 weeks apart starting 6 to 12 months after successful transplant regardless of Hib vaccination history
Table. Contraindications and precautions for vaccines recommended for adults aged 19 years or older*

The Advisory Committee on Immunization Practices (ACIP) recommendations and package inserts for vaccines provide information on contraindications and precautions related to vaccines. Contraindications are conditions that increase the chances of a serious adverse reaction in vaccine recipients and the vaccine should not be administered when a contraindication is present. Precautions should be reviewed for potential risks and benefits for vaccine recipients.

<table>
<thead>
<tr>
<th>Vaccine(s)</th>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All vaccines routinely recommended for adults</td>
<td>Severe reaction, e.g., anaphylaxis, after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
</tbody>
</table>

Additional contraindications and precautions for vaccines routinely recommended for adults

<table>
<thead>
<tr>
<th>Vaccine(s)</th>
<th>Additional Contraindications</th>
<th>Additional Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV†</td>
<td></td>
<td>History of Guillain-Barré syndrome within 6 weeks after previous influenza vaccination</td>
</tr>
<tr>
<td>RIV†</td>
<td></td>
<td>History of Guillain-Barré syndrome within 6 weeks after previous influenza vaccination</td>
</tr>
<tr>
<td>Tdap, Td</td>
<td>For pertussis-containing vaccines: encephalopathy, e.g., coma, decreased level of consciousness, or prolonged seizures, not attributable to another identifiable cause within 7 days of administration of a previous dose of a vaccine containing tetanus or diphtheria toxoid or acellular pertussis</td>
<td>Guillain-Barré syndrome within 6 weeks after a previous dose of tetanus toxoid-containing vaccine</td>
</tr>
<tr>
<td>MMR‡</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, human immunodeficiency virus (HIV) infection with severe immunocompromise, Pregnancy</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)*</td>
</tr>
<tr>
<td>VAR‡</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, HIV infection with severe immunocompromise, Pregnancy</td>
<td>Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)*</td>
</tr>
<tr>
<td>ZVL‡</td>
<td>Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy, HIV infection with severe immunocompromise, Pregnancy</td>
<td>Recent receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination)</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td></td>
<td>Pregnancy</td>
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</tbody>
</table>

PCV13       | Severe allergic reaction to any vaccine containing diphtheria toxoid |

2. MMR may be administered together with VAR or ZVL on the same day. If not administered on the same day, separate live vaccines by at least 28 days.
3. Immunosuppressive steroid dose is considered to be daily receipt of 20 mg or more prednisone or equivalent for 2 or more weeks. Vaccination should be deferred for at least 1 month after discontinuation of immunosuppressive steroid therapy. Providers should consult ACIP recommendations for complete information on the use of specific live vaccines among persons on immune-suppressing medications or with immune suppression because of other reasons.
4. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered. See: Best practices guidance of the Advisory Committee on Immunization Practices (ACIP). Available at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html.
5. Measles vaccination may temporarily suppress tuberculin reactivity. Measles-containing vaccine may be administered on the same day as tuberculin skin testing, or should be postponed for at least 4 weeks after vaccination.


Abbreviations of vaccines

<table>
<thead>
<tr>
<th>Vaccine(s)</th>
<th>Inactivated influenza vaccine</th>
<th>VAR</th>
<th>Varicella vaccine</th>
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<tbody>
<tr>
<td>RIV</td>
<td>Recombinant influenza vaccine</td>
<td>RZV</td>
<td>Recombinant zoster vaccine</td>
</tr>
<tr>
<td>Tdap</td>
<td>Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine</td>
<td>ZVL</td>
<td>Human papillomavirus vaccine</td>
</tr>
<tr>
<td>Td</td>
<td>Tetanus and diphtheria toxoids</td>
<td>HPV</td>
<td>13-valent pneumococcal conjugate vaccine</td>
</tr>
<tr>
<td>MMR</td>
<td>Measles, mumps, and rubella vaccine</td>
<td>PCV13</td>
<td>23-valent pneumococcal polysaccharide vaccine</td>
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<td>PPSV23</td>
<td>23-valent pneumococcal polysaccharide vaccine</td>
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<td></td>
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<td>HepA</td>
<td>Hepatitis A vaccine</td>
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<td></td>
<td>HepA-HepB</td>
<td>Hepatitis A and hepatitis B vaccines</td>
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<td>HepB</td>
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<td>MenACWY</td>
<td>Serogroups A, C, W, and Y meningococcal vaccine</td>
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<td></td>
<td></td>
<td>Hib</td>
<td>Haemophilus influenzae type b vaccine</td>
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# The Health Plan

## Guidelines for Adult Preventive Health Services

**2018**

<table>
<thead>
<tr>
<th>SERVICES</th>
<th>RECOMMENDATIONS</th>
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</thead>
</table>
| Periodic Health Examination           | • Annually for ages 19+  
  Weight, Height, BMI, Blood pressure, Medical History, Breast Examination, Health Risk Assessment/Lifestyle Inventory Recommended                                                                                                                                 |
| Colorectal & Rectum Cancer Screening  | • Screening without risk factors for age 50+  
  • A digital rectal examination and three specimens for FOBT are recommended annually beginning at age 50.  
  • A flexible sigmoidoscopy is recommended every 5 years or  
  • Double contrast Barium enema every 5 years or  
  • Colonoscopy every 10 years or  
  • CT Colonoscopy every 5 years  |
| Aspirin Preventive Medication         | • Initiating low-dose aspirin use for the primary prevention of cardiovascular disease and colorectal cancer in adults aged 50-59 who have a 10% or greater 10-year cardiovascular risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years and are willing to take low-dose aspirin daily for at least 10 years per physician discretion. |
| Cholesterol/Lipid Screening           | • Age 19+ dependent upon risk factors every 4-6 years per physician discretion                                                                                                                                       |
| Gynecological Screening               | **PAP Tests**  
  • PAP test age 21-29 every 3 years  
  • Ages 30-65 CO testing with cervical cytology and high risk HPV testing every 5 years is the preferred approach with cervical cytology every 3 years as an acceptable screening strategy.  
  **Chlamydia**  
  • Age 24 and younger and for older women who are at increased risk. Repeat screening in 3rd trimester with jurisdiction with elevated risk  |
# The Health Plan
## Guidelines for Adult Preventive Health Services
### 2018

| Breast Cancer Screening | • <40 based on risk/benefit per MD  
|  | • 40-44 every 1-2 years based on risk/benefit per MD  
|  | • 45-65 annually  
|  | • 66 or greater every 2 years or more frequently based upon physician discretion  
| Statin Therapy Preventative Medication | • Adults with history of CVD use a low to moderate dose statin for the prevention of CVD events and mortality when all of the following criteria are met:  
|  | 1. Ages of 40-75  
|  | 2. They have 1 or more CVD risk factors  
|  | 3. They have calculated 10-year risk of cardiovascular event of 10% or greater  
|  | • Identification of dyslipidemia and calculation of 10-year CVD event risk requires universal lipid screening in adults ages 40-75  
| Tobacco Use | • Screening and counseling for all adults  
| Obesity | • Screening and counseling for all adults  
| Alcohol/Substance Abuse/Recreational Drug Use | • Screening and counseling  
| Lung Cancer Screening | • Recommend annual screening with low-dose computed tomography in adults ages 55-77 who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years.  
|  | • Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery  

Revised 4/12/18
# The Health Plan
Guidelines for Adult Preventive Health Services
2018

| Hepatitis C Screening (HCV) | • Adults born from 1945-1965 should be tested once  
<table>
<thead>
<tr>
<th></th>
<th>• Screen persons at high risk for infection</th>
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<tbody>
<tr>
<td>Abdominal Aortic Aneurysm Screening</td>
<td>• One time screening by ultrasound in men age 65-75 who have ever smoked</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>• Screen women 65 years and older and in younger women whose fracture risk is equal to or greater than that of a 65 year old white woman who has no additional risk factors.</td>
</tr>
</tbody>
</table>
| Assessing and Screening for Diabetes | Testing for diabetes in asymptomatic, undiagnosed individuals  
|                               | • Test at age 45, repeat every 3 years for patients 45 years of age or older without risk factors  
|                               | • Test before age 45 years, repeat more often than every 3 years if patient has any one or more of the following risk factors:  
|                               | 1. Overweight or obese (BMI>25 or >23 in Asian Americans)  
|                               | 2. First degree relative with diabetes  
|                               | 3. High risk race/ethnicity (African-American, Latino, Native American, Asian American, Pacific Islander)  
|                               | 4. History of CVD  
|                               | 5. HTN (>140/90 or on therapy for HTN)  
|                               | 6. HDL cholesterol level ≤35mg/dL and/or triglyceride level ≥250mg/dL  
|                               | 7. Women with polycystic ovary syndrome  
|                               | 8. Physical inactivity  
|                               | 9. Other clinical conditions associated with insulin resistance  
|                               | • Patients with pre diabetes (A1C>5.7, IGT or IFG) should be tested yearly  
|                               | • Women who were diagnosed with GDM should have lifelong testing at least every 3 years |

Revised 4/12/18
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<td>2018</td>
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</tbody>
</table>

| HIV Screening   | - Screen all adolescents and adults aged 15 to 65 years  
|                | - Younger adolescents and older adults who are at increased risk should also be screened  
|                | - All pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown  
|                | - Repeat screening in 3rd trimester with jurisdiction with elevated risk  |
| Depression Screening | - Screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow up.  |
| Skin Cancer Behavioral Counseling | - Recommend counseling young adults, adolescents, children and parents of young children about minimizing exposure to ultraviolet radiation for persons ages 6 months to 24 years with fair skin types to reduce their risk of skin cancer.  |

Revised 4/12/18