Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services are federally-mandated services intended to provide preventive health care to children and young adults (under the age of 21) at periodic intervals which are based on the recommendations of the American Academy of Pediatrics (AAP) and the Centers for Disease Control and Prevention (CDC). All primary care providers (PCPs) who provide services to Members under the age of twenty-one (21) are required to provide comprehensive health care, screenings, and preventive services. GHP Family requires Participating PCPs to provide all EPSDT services in compliance with federal and state regulations and periodicity schedules.

EPSDT screens for any new Member under the age of twenty-one (21) must be scheduled within forty-five (45) days from the effective date of Enrollment unless the child is already under the care of a PCP and the child is current with screens and immunizations. Members with suspected developmental delays under the age of five (5) are required to be referred by their PCP to local Early Intervention Program services through the CONNECT Helpline at (800) 692-7288.

GHP Family will make quarterly lists available to each PCP that identify Members who have not had an encounter during the first six (6) months of enrollment or Members who have not complied with EPSDT periodicity and immunization schedules for children. It is the PCP’s responsibility to contact all Members who have not had an Encounter during the previous twelve (12) months or within the MA appointment time frames. These EPSDT Member lists are also available upon request from GHP Family.

These screenings offer a unique opportunity to perform a comprehensive evaluation of a child’s health and provide appropriate and timely follow-up diagnostic and treatment services. To encourage providers to perform complete EPSDT screens, support the additional time needed to perform such screens, and increase the number of screens performed, EPSDT rates have been established.

To be considered a complete visit, all required components listed on the Department of Human Services (DHS) Periodicity Schedule must be completed. See page 3 of this document (Exhibit A) for the complete DHS Periodicity Schedule.

If the visit is considered incomplete, the provider will receive the incomplete visit rate. Incomplete EPSDT screens are office visits during which the provider did not complete all of the required components listed on the Periodicity Schedule for the child’s screening period. This may include the use of applicable modifiers, diagnosis codes, and required referral codes.

**Reporting EPSDT Services**

**EP Modifier**
The EP modifier is required on all portions of the EPSDT bundle of services. However, the assessment code will be the only line to receive payment. Failure to use the EP modifier on all applicable lines may cause the claim to deny or to price per component instead of at the complete screening fee schedule rate.
Example
The following is an example of how to report an EPSDT Screen using the CMS 1500 claim form:
A 3-year old child comes into the office/hospital clinic for an EPSDT Screen. As per the Periodicity Schedule, the required components for a 3-year EPSDT Screen are:
- A periodic preventative medicine evaluation (new patient – Procedure Code 99382) or reevaluation (established patient – Procedure Code 99392);
- Visual acuity screen (Procedure Code 99173)
- Hearing – Audio Screen or Pure tone-air only (Procedure Codes 92551 or 92552)
- Referral to a dental provider.

All required components of the EPSDT Screen, which were performed.
For example:
- Claim Line 1, Block 24d – Enter 99392 EP
- Claim Line 2, Block 24d – Enter 99173 EP
- Claim Line 3, Block 24d – Enter 92551 EP
- Block 10d, YD referral code

Immunizations
During these visits, vaccines recommended by the Childhood and Adolescent Immunization Schedule are administered.
- The Recommended Immunization Schedule for Persons Aged 0 Through 18 Years can be found on page 6 of this document (Exhibit B).
- The Catch-up Immunization Schedule for Persons Aged 4 Months Through 18 Years Who Start Late or Who Are More Than 1 Month Behind can be found on page 10 of this document (Exhibit C).

If a vaccine is given during the visit, the provider is reimbursed for the administration of the vaccine. When reporting the administration of preventive pediatric immunizations, the providers should report the appropriate CPT that represents the immunization given.

When reporting immunizations for Members not included in the Vaccine for Kids program, as defined by DHS, providers should report both the applicable immunization and administration code without the use of the EP modifier and will receive separate reimbursement for both codes. NDC codes for vaccines and drugs should also be present on all claims for 19 and 20 year olds not included in the Vaccine for Kids program.

Please Note:
Providers should report applicable modifiers in the second modifier position to identify when referrals are made to an outside laboratory and/or when they are not able to complete a component of the EPSDT screening.
Pennsylvania’s Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program
Periodicity Schedule and Coding Matrix
(Effective June 14, 2010)

<table>
<thead>
<tr>
<th>Services</th>
<th>Newborn (Inpatient)</th>
<th>By 1 Mo</th>
<th>2-3 Mo</th>
<th>4-5 Mo</th>
<th>6-8 Mo</th>
<th>9-11 Mo</th>
<th>12 Mo</th>
<th>15 Mo</th>
<th>18 Mo</th>
<th>24 Mo</th>
<th>30 Mo</th>
<th>3 y</th>
<th>4 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment: 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental Surveillance 12</td>
<td></td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>Psychosocial/Behavioral Assessment</td>
<td></td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>Alcohol and Drug Use Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental Screening</td>
<td></td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
<td>96110</td>
</tr>
<tr>
<td>Autism Screening</td>
<td>99173</td>
<td></td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
</tr>
<tr>
<td>Vision 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual acuity screen</td>
<td>92551</td>
<td></td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
</tr>
<tr>
<td>Hearing 3</td>
<td></td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
<td>y or EP</td>
</tr>
<tr>
<td>Pure tone-air only</td>
<td></td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
</tr>
<tr>
<td>Dental 6, 13</td>
<td></td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
</tr>
<tr>
<td>Anemia 3, 4</td>
<td>85013</td>
<td></td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
<td>85013</td>
</tr>
<tr>
<td>Venous Lead 3, 4</td>
<td>83655</td>
<td></td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
</tr>
<tr>
<td>Tuberculin Test 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sickle Cell</td>
<td>85018</td>
<td></td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
<td>85018</td>
</tr>
<tr>
<td>Sexually Transmitted Infections 8</td>
<td></td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
<td>83655</td>
</tr>
<tr>
<td>Dyslipidemia 3, 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Immunizations

Administer immunizations according to the ACIP schedule. For children 18 years and younger, these immunization codes are collected for administration purposes to document antigens given. Because the PA Department of Health provides vaccines free of charge to providers through the Vaccines for Children Program (see MA Bulletins 01-00-10, 10-00-03, 11-00-05, 26-00-04), only a vaccine administration fee will be reimbursed.

A completed screen requires a code from each service required for that age.

Report only one CPT code if multiple CPT codes are listed per service, except for immunizations.

Exhibit A

Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.
<table>
<thead>
<tr>
<th>Services</th>
<th>5 y</th>
<th>6 y</th>
<th>7 y</th>
<th>8 y</th>
<th>9 y</th>
<th>10 y</th>
<th>11 y</th>
<th>12 y</th>
<th>13 y</th>
<th>14 y</th>
<th>15 y</th>
<th>16 y</th>
<th>17 y</th>
<th>18 y</th>
<th>19 y</th>
<th>20 y</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Developmental Surveillance(^__)</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>• Psychosocial/Behavioral Assessment</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>• Alcohol and Drug Use Assessment</td>
<td>Through risk assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Developmental Screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Autism Screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Visual acuity screen</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td>99173</td>
<td></td>
</tr>
<tr>
<td><strong>Hearing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Audio Screen</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td>92551</td>
<td></td>
</tr>
<tr>
<td>• Pure tone-air only</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td>92552</td>
<td></td>
</tr>
<tr>
<td><strong>Dental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Anemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hematocrit (spun)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hemoglobin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Venous Lead (^__)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Immunizations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tuberculin Test (^__)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sickle Cell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sexually Transmitted Infections (^__)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dyslipidemia (^__)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.**
EPSDT Program Periodicity Schedule and Coding Matrix

LEGEND

1 Included in the assessment: a comprehensive history and physical examination; counseling/anticipatory guidance/risk factor reduction interventions; age-appropriate nutritional counseling; the calculation of Body Mass Index (BMI); newborn metabolic/hemoglobin screening and follow-up; growth measurements and head circumference; an oral dental exam; blood lead (BL) risk assessment; blood pressure risk assessment; developmental and autism screenings; developmental surveillance; psychosocial/behavioral assessments; alcohol and drug use assessment; and the ordering of appropriate laboratory/diagnostic procedures as recommended by the current AAP guidelines.

2 Newborn metabolic and hemoglobinopathy screenings should be done according to state law. According to AAP recommendations, Newborn metabolic and hemoglobinopathy screenings should take place between newborn and 2 months of age.

3 Use CPT modifier -52 EPSDT Screening Services/Components Not Completed plus CPT code for standard testing method for objective vision/hearing testing, anemia, dyslipidemia, lead and tuberculin testing not completed. If a screening service/component is reported with modifier 52, the provider must complete the screening service/component during the next screening opportunity according to the Periodicity Schedule.

4 Use CPT modifier -90 Reference Outside Lab plus CPT code when laboratory procedures are performed by a party other than the treating or reporting physician.

5 y indicates referral to a dental home, E indicates administer oral health risk assessment. Assess need for fluoride supplementation. Determine whether the patient has a dental home. If the patient does not have a dental home, a referral should be made to one.

6 Dental Periodicity Schedule: Per the American Academy of Pediatric Dentistry, the first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age. Repeat every 6 months or as indicated by the child’s risk status/susceptibility to disease.


7 Initial measurement of hemoglobin or hematocrit is recommended between 9 and 12 months of age.

8 All sexually active patients should be screened for sexually transmitted infections (STI). All sexually active girls should have screening for cervical dysplasia as part of a pelvic examination beginning within 3 years of onset of sexual activity or age 21 (which ever comes first).

9 Procedure code 99460 and modifier EP are to be used for a newborn screen performed in the hospital, but not on the same day as hospital discharge.

10 Procedure code 99463 and modifier EP are to be used for a newborn screen performed in the hospital on the same day as hospital discharge.

11 Provide at times noted, unless done previously.

12 Developmental Surveillance is required for all periods, except when developmental screenings are required.

13 All referrals to a dental home must be reported using the YD referral code.
These recommendations must be read along with the footnotes of this schedule.

This schedule includes recommendations in effect as of January 1, 2015. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (http://www.vaers.hhs.gov) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (http://www.cdc.gov/vaccines/acip), the American Academy of Pediatrics (http://www.aap.org), the American Academy of Family Physicians (http://www.aafp.org), and the American College of Obstetricians and Gynecologists (http://www.acog.org).

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes—Recommended immunization schedule for persons aged 0 through 18 years—United States, 2015

For further guidance on the use of the vaccines mentioned below, see: http://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 contraindications and precautions to use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the relevant ACIP statement available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered 4 days or less before the minimum 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 doses 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 MMWR, General Recommendations on Immunization and Reports / Vol. 60 / No. 2; Table 1. Recommended and minimum ages and intervals between vaccine doses available online at http://www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
- Information on travel vaccine requirements and recommendations is available at http://wwwnc.cdc.gov/travel/destinations/list.

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

Routine vaccination:
- At birth:
  - Administer monovalent HepB vaccine to all newborns before hospital discharge.
- For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) 1 to 2 months after completion of the HepB series at age 9 through 18 months (preferably at the next well-child visit).
- If mother’s HBsAg status is unknown, within 12 hours of birth administer HepB vaccine regardless of birth weight. For infants weighing <2.000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother’s HBsAg status as soon as possible and, if mother is HBsAg-positive, also administer HBIG for infants weighing ≥2.000 grams or more as soon as possible, but no later than age 7 days.

Doses following the birth dose:
- The second dose should be administered at age 1 or 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
- Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 1, 2, and 6 months starting as soon as feasible. See Figure 2.
- Administer the second dose to 2 months after the first dose (minimum interval of 4 weeks), administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 4 weeks.
- Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:
- Unvaccinated persons should complete a 3-dose series.
- A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
- For other catch-up guidance, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RVS [RotaTeq])

Routine vaccination:
- Administer a series of RV vaccine to all infants as follows:
  1. If Rotarix is used, administer a 2-dose series at 2 and 4 months of age.
  2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
- If any dose in the series was RotaTeq or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:
- The maximum age for the first dose in the series is 14 weeks, 6 days; vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
- The maximum age for the final dose in the series is 8 weeks, 0 days.

For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinrix]; 4 years)

Routine vaccination:
- Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose. However, the fourth dose of DTaP need not be repeated if it was administered at least 4 months after the third dose of DTaP.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine (cont’d)

Catch-up vaccination:
- The fifth dose of DTaP vaccine is not necessary if the fourth dose was administered at age 4 years or older.
- For other catch-up guidance, see Figure 2.

4. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for both Boostrix and Adacel)

Routine vaccination:
- Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
- Tdap may 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 (preferred during 27 through 36 weeks’ gestation) regardless of time since prior Td or Tdap vaccination.

Catch-up vaccination:
- Persons aged 7 years or older who are not fully immunized with DTaP vaccine should receive Tdap vaccine as 1 dose (preferably the first) in the catch-up series; if additional doses are needed, use Td vaccine. For children 7 through 10 years who receive a dose of Tdap as part of the catch-up series, an adolescent Tdap vaccine dose at age 11 through 12 years should NOT be administered. Td should be administered instead 10 years after the Tdap dose.
- Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoid (Td) booster doses every 10 years thereafter.
- Inadvertent doses of DTaP vaccine:
  - If administered inadvertently to a child aged 7 through 10 years may count as part of the catch-up series. This dose may count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11 through 12 years.
  - If administered inadvertently to an adolescent aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.
- For other catch-up guidance, see Figure 2.

5. Haemophilus influenzae type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACTHIB, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PevdxHIB or COMVAX], 12 months for PRP-T [Hibercix])

Routine vaccination:
- Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4 depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
- The primary series with ActHIB, MenHibrix, or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PevdxHib or COMVAX consists of 2 doses and should be administered at 2 and 4 months of age; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4 depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months. An exception is Hibercix vaccine. Hibercix should only be used for the booster (final) dose in children aged 12 months through 4 years who have received at least 1 prior dose of Hib-containing vaccine.
- For recommendations on the use of MenHibrix in patients at increased risk for meningococcal disease, please refer to the meningococcal vaccine footnotes and also to MMWR February 28, 2014 / 63(RR01);1-13, available at http://www.cdc.gov/mmwr/pdf/rrrr6301.pdf.
5. *Haemophilus influenzae* type b (Hib) conjugate vaccine (cont’d)

Catch-up vaccination:
- If dose 1 was administered at ages 12 through 14 months, administer a second (final) dose at least 8 weeks after dose 1, regardless of Hib vaccine used in the primary series.
- If both doses were PRP-OMP (PedvaxHib or COMVAX), and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 59 months and at least 8 weeks after the second dose.
- If the first dose was administered at age 7 through 11 months, administer the second dose at least 4 weeks later and a third (and final) dose at age 12 through 15 months or 8 weeks after second dose, whichever is later.
- If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be given 8 weeks later.
- For unvaccinated children aged 15 months or older, administer only 1 dose.
- For other catch-up guidance, see Figure 2. For catch-up guidance related to MenHibrix, please see the meningococcal vaccine footnotes and also MMWR February 28, 2014 / 63(RR01);1-13, available at http://www.cdc.gov/mmwr/pdf/wk/mm6332.pdf.

Vaccination of persons with high-risk conditions:
- Children aged 12 through 59 months who are at increased risk for Hib disease, including chemotherapy recipients and those with anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, or early component complement deficiency, who have received either no doses or only 1 dose of Hib vaccine before 12 months of age, should receive 2 additional doses of Hib vaccine 8 weeks apart; children who received 2 or more doses of Hib vaccine before 12 months of age should receive 1 additional dose.
- For patients younger than 5 years of age undergoing chemotherapy or radiation treatment who received a Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.
- Recipients of hematopoietic stem cell transplant (HSCT) should be revaccinated with a 3-dose regimen of Hib vaccine starting 6 to 12 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 weeks apart.
- A single dose of any Hib-containing vaccine should be administered to unimmunized* children and adolescents 6 months of age and older undergoing an elective splenectomy; if possible, vaccine should be administered at least 14 days before procedure.
- Hib vaccine is not routinely recommended for patients 5 years or older. However, 1 dose of Hib vaccine should be administered to unimmunized* persons aged 5 years or older who have anatomic or functional asplenia (including sickle cell disease) and unvaccinated persons 5 through 18 years of age with human immunodeficiency virus (HIV) infection.

*Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months of age are considered unimmunized.

6. Pneumococcal vaccines. (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)

Routine vaccination with PCV13:
- Administer a 4-dose series of PCV13 vaccine at ages 2, 4, 6, and 12 months and at age 18 through 15 months.
- For children aged 14 through 59 months who have received an age-appropriate series of 7-valent PCV (PCV7), administer a single supplemental dose of 13-valent PCV (PCV13).

Catch-up vaccination with PCV13:
- Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
- For other catch-up guidance, see Figure 2.

Vaccination of persons with high-risk conditions with PCV13 and PPSV23:
- All recommended PCV13 doses should be administered prior to PPSV23 vaccination if possible.
- For children 2 through 5 years of age with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; cerebrospinal fluid leak; coarctation of the aorta; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin’s disease; generalized malignancy; solid organ transplantation; or multiple myeloma:
  1. If neither PCV13 nor PPSV23 has been received previously, administer 1 dose of PCV13 now and 1 dose of PPSV23 at least 8 weeks after.
  2. If PCV13 has been received previously but PPSV23 has not, administer 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
  3. If PPSV23 has been received but PCV13 has not, administer 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
  4. For children aged 6 through 18 years with chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure, chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy), diabetes mellitus, alcoholism, or chronic liver disease, who have not received PCV13, administer 1 dose of PPSV23. If PCV13 has been received previously, then PPSV23 should be administered at least 8 weeks after any prior PCV13 dose.
  5. A single revaccination with PPSV23 should be administered 5 years after the first dose to children with sickle cell disease or other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin’s disease; generalized malignancy; solid organ transplantation; or multiple myeloma.

7. Inactivated poliovirus vaccine (IPV). (Minimum age: 6 weeks)

Routine vaccination:
- Administer a 4-dose series of IPV at ages 2, 4, 6 through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

Catch-up vaccination:
- In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk of imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).
- If age 4 years or older, an additional dose should be administered at age 4 through 6 years and at least 6 months after the previous dose.
- A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered.
- Regardless of the child’s current age, IPV is not routinely recommended for U.S. residents aged 10 years or older.
- For other catch-up guidance, see Figure 2.

8. Influenza vaccines. (Minimum age: 6 months for inactivated influenza vaccine [IIV], 2 years for live, attenuated influenza vaccine [LAIV])

Routine vaccination:
- Administer influenza vaccine annually to all children beginning at age 6 months. For most healthy, nonpregnant persons aged 2 through 49 years, either LAIV or IIV may be used. However, LAIV should NOT be administered to some persons, including 1) persons who have experienced severe allergic reactions to LAIV, any of its components, or to a previous dose of any other influenza vaccine; 2) children 2 through 17 years receiving aspirin or aspirin-containing products; 3) persons who are allergic to eggs; 4) pregnant women; 5) immunosuppressed persons; 6) children 2 through 4 years of age with asthma or who had wheezing in the past 12 months; or 7) persons who have taken influenza antiviral medications in the previous 48 hours. For all other contraindications and precautions to use of LAIV, see MMWR August 15, 2014 / 63(32);691-697 [40 pages] available at http://www.cdc.gov/mmwr/pdf/wk/mm6332.pdf.

For children aged 6 months through 8 years:
- For the 2015–16 season, follow dosing guidelines in the 2015 ACIP influenza vaccine recommendations.
- For persons aged 9 years and older:
  1. Administer 1 dose.
For further guidance on the use of the vaccines mentioned below, see: [http://www.cdc.gov/vaccines/hcp/acip-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html).

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

   Routine vaccination:
   - Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.
   - Administer 1 dose of MMR vaccine to infants aged 6 through 11 months before departure from the United States for international travel. These children should be revaccinated with 2 doses of MMR vaccine, the first at age 12 through 15 months (12 months if the child remains in an area where disease risk is high), and the second dose at least 4 weeks later.
   - Administer 2 doses of MMR vaccine to children aged 12 months and older before departure from the United States for international travel. The first dose should be administered on or after age 12 months and the second dose at least 4 weeks later.

   Catch-up vaccination:
   - Ensure that all school-aged children and adolescents have had 2 doses of MMR vaccine; the minimum interval between the 2 doses is 4 weeks.

10. Varicella (VAR) vaccine. (Minimum age: 12 months)

    Routine vaccination:
    - Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

    Catch-up vaccination:
    - Ensure that all persons aged 7 through 18 years without evidence of immunity (see MMWR 2007 / 56 [No. RR-4], available at [http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf)) have 2 doses of varicella vaccine. For children aged 7 through 12 years, the recommended minimum interval between doses is 3 months (if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid); for persons aged 13 years and older, the minimum interval between doses is 4 weeks.

11. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

    Routine vaccination:
    - Initiate the 2-dose HepA vaccine series at 12 through 23 months; separate the 2 doses by 6 to 18 months.
    - Children who have received 1 dose of HepA vaccine before age 24 months should receive a second dose 6 to 18 months after the first dose.
    - For any person aged 2 years and older who has not already received the HepA vaccine series, 2 doses of HepA vaccine separated by 6 to 18 months may be administered if immunity against hepatitis A virus infection is desired.

    Catch-up vaccination:
    - The minimum interval between the two doses is 6 months.

    Special populations:
    - Administer 2 doses of HepA vaccine at least 6 months apart to previously unvaccinated persons who live in areas where vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HIV-infected primates or with HIV in a research laboratory; persons with clotting-factor disorders; persons with chronic liver disease; and 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. The first dose should be administered as soon as the adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

12. Human papillomavirus (HPV) vaccines. (Minimum age: 9 years for HPV2 [Cervarix] and HPV4 [Gardasil])

    Routine vaccination:
    - Administer a 3-dose series of HPV vaccine on a schedule of 0, 1-2, and 6 months to all adolescents aged 11 through 12 years. Either HPV4 or HPV2 may be used for females, and only HPV4 may be used for males.
    - The vaccine series may be started at age 9 years.
    - Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks); administer the third dose 24 weeks after the first dose and 16 weeks after the second dose (minimum interval of 12 weeks).

    Catch-up vaccination:
    - Administer the vaccine series to females (either HPV2 or HPV4) and males (HPV4) at age 13 through 18 years if not previously vaccinated.
    - Use recommended routine dosing intervals (see Routine vaccination above) for vaccine series catch-up.

13. Meningococcal conjugate vaccines. (Minimum age: 6 weeks for Hib-MenCY [MenHibrix], 9 months for MenACWY-D [Menactra], 2 months for MenACWY-CRM [Menvio])

    Routine vaccination:
    - Administer a single dose of Menactra or Menvio vaccine at age 11 through 12 years, with a booster dose at age 16 years.
    - Adolescents aged 11 through 18 years with human immunodeficiency virus (HIV) infection should receive a 2-dose primary series of Menactra or Menvio with at least 8 weeks between doses.
    - For children aged 2 months through 18 years with high-risk conditions, see below.

    Catch-up vaccination:
    - Administer Menactra or Menvio vaccine at age 13 through 18 years if not previously vaccinated.
    - If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years with a minimum interval of at least 8 weeks between doses.
    - If the first dose is administered at age 16 years or older, a booster dose is not needed.

    For other catch-up guidance, see Figure 2.

    Vaccination of persons with high-risk conditions and other persons at increased risk of disease:

    1. Menvio
       - Children who initiate vaccination at 8 weeks through 6 months: Administer doses at 2, 4, 6, and 12 months of age.
       - Unvaccinated children 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
       - Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.

    2. MenHibrix
       - Children 6 weeks through 18 months: Administer doses at 2, 4, 6, and 12 through 15 months of age.
       - If the first dose of MenHibrix is given at or after 12 months of age, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.

    3. Menactra
       - Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart. If Menactra is administered to a child with asplenia (including sickle cell disease), do not administer Menactra until 2 years of age and at least 4 weeks after the completion of all PCV13 doses.

    - Children with persistent complement component deficiency:
      1. Menvio
         - Children who initiate vaccination at 8 weeks through 6 months: Administer doses at 2, 4, 6, and 12 months of age.
         - Unvaccinated children 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
         - Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.

      2. MenHibrix
         - Children 6 weeks through 18 months: Administer doses at 2, 4, 6, and 12 through 15 months of age.
         - If the first dose of MenHibrix is given at or after 12 months of age, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.

      3. Menactra
         - Children 9 through 23 months: Administer 2 primary doses at least 12 weeks apart.
         - Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.

    - For children who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or the Hajj, administer an age-appropriate formulation and series of Menactra or Menvio for protection against serogroups A and W meningococcal disease. Prior receipt of MenHibrix is not sufficient for children traveling to the meningitis belt or the Hajj because it does not contain serogroups A or W.

    - For children at risk during a community outbreak attributable to a vaccine serogroup, administer or complete an age- and formulation-appropriate series of MenHibrix, Menactra, or Menvio.

    For booster doses among persons with high-risk conditions, refer to MMWR 2013 / 62(RR02):1-22, available at [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm).
### 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>Hepatitis B&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>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotavirus&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphtheria, tetanus, and acellular pertussis&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td></td>
<td>6 months</td>
<td>6 months&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Haemophilus influenzae type b&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks if first dose was administered before the 1st birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months. No further doses needed if first dose was administered at age 15 months or older.</td>
<td>if current age is younger than 12 months and first dose was administered at younger than age 7 months, and at least 1 previous dose was PRP-OMP (ActHib, Pentacel) or unknown. 8 weeks and age 12 through 59 months (as final dose)&lt;sup&gt;3&lt;/sup&gt; if current age is younger than 12 months and first dose was administered at age 7 through 11 months; if tooth dose 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>
<td>8 weeks (as final dose) This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.</td>
<td></td>
</tr>
<tr>
<td>Pneumococcal&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks if first dose 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 if current age is younger than 12 months and previous dose given at &lt;7 months old.</td>
<td>4 weeks 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). 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>
<td>8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age.</td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
<td>4 weeks&lt;sup&gt;4&lt;/sup&gt;</td>
<td>6 months&lt;sup&gt;2&lt;/sup&gt;</td>
<td>6 months&lt;sup&gt;2&lt;/sup&gt; (minimum age 4 years for final dose).</td>
</tr>
<tr>
<td>Meningococcal&lt;sup&gt;13&lt;/sup&gt;</td>
<td>6 weeks</td>
<td>8 weeks&lt;sup&gt;13&lt;/sup&gt;</td>
<td>See footnote 13</td>
<td>See footnote 13</td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella&lt;sup&gt;9&lt;/sup&gt;</td>
<td>12 months</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella&lt;sup&gt;10&lt;/sup&gt;</td>
<td>12 months</td>
<td>3 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A&lt;sup&gt;11&lt;/sup&gt;</td>
<td>12 months</td>
<td>6 months</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Children and adolescents age 7 through 18 years

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Minimum Interval Between Doses</th>
<th>Dose 3 to Dose 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis&lt;sup&gt;1&lt;/sup&gt;</td>
<td>7 years</td>
<td>4 weeks</td>
<td>4 weeks if first dose of DTaPDT was administered before the 1st birthday. 6 months (as final dose) if first dose of DTaPDT was administered at or after the 1st birthday.</td>
<td>6 months if first dose of DTaPDT was administered before the 1st birthday.</td>
</tr>
<tr>
<td>Human papillomavirus&lt;sup&gt;12&lt;/sup&gt;</td>
<td>9 years</td>
<td>Not applicable (N/A)</td>
<td></td>
<td>Routine dosing intervals are recommended&lt;sup&gt;12&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hepatitis A&lt;sup&gt;11&lt;/sup&gt;</td>
<td>N/A</td>
<td>6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B&lt;sup&gt;1&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td>8 weeks and at least 16 weeks after first dose.</td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus&lt;sup&gt;7&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td>4 weeks&lt;sup&gt;7&lt;/sup&gt;</td>
<td>6 months&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Meningococcal&lt;sup&gt;13&lt;/sup&gt;</td>
<td>N/A</td>
<td>8 weeks&lt;sup&gt;13&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella&lt;sup&gt;9&lt;/sup&gt;</td>
<td>N/A</td>
<td>4 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella&lt;sup&gt;10&lt;/sup&gt;</td>
<td>N/A</td>
<td>3 months if younger than age 13 years.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes — Recommended immunization schedule for persons aged 0 through 18 years—United States, 2015

For further guidance on the use of the vaccines mentioned below, see: http://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 contraindications and precautions to use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the relevant ACIP statement available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
• For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
• Vaccine doses administered 4 days or less before the minimum 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 doses and should be spaced as age-appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see MMWR, General Recommendations on Immunization and Reports / Vol. 60 / No. 2; Table 1. Recommended and minimum ages and intervals between vaccine doses available online at http://www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
• Information on travel vaccine requirements and recommendations is available at http://wwwnc.cdc.gov/travel/destinations/list.

1. Hepatitis B (HepB) vaccine. (Minimum age: birth)
Routine vaccination:
At birth:
  • Administer monovalent HepB vaccine to all newborns before hospital discharge.
  • For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) 1 to 2 months after completion of the HepB series at age 9 through 18 months (preferably at the next well-child visit).
  • If mother’s HBsAg status is unknown, within 12 hours of birth administer HepB vaccine regardless of birth weight. Infants weighing < 2,000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother’s HBsAg status as soon as possible and, if mother is HBsAg-positive, also administer HBIG for infants weighing 2,000 grams or more as soon as possible, but no later than age 7 days.

Doses following the birth dose:
• The second dose should be administered at age 1 or 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
• Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months starting as soon as feasible. See Figure 2.
• Administer the second dose to 2 months after the first dose (minimum interval of 4 weeks), administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks.
• Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:
• Unvaccinated persons should complete a 3-dose series.
• A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
• For other catch-up guidance, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [RotaTeq] and RV5 [RotaTeq])
Routine vaccination:
Administer a series of RV vaccine to all infants as follows:
1. If RotaTeq is used, administer a 2-dose series at 2 and 4 months of age.
2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
3. If any dose in the series was RotaTeq or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:
• The maximum age for the first dose in the series is 14 weeks, 6 days; vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
• The maximum age for the final dose in the series is 8 weeks, 0 days.
• For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinrix]; 4 years)
Routine vaccination:
• Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months. Provided at least 6 months have elapsed since the third dose. However, the fourth dose of DTaP need not be repeated if it was administered at least 4 months after the third dose of DTaP.

4. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine (cont’d)
Catch-up vaccination:
• The fifth dose of DTaP vaccine is not necessary if the fourth dose was administered at age 4 years or older.
• For other catch-up guidance, see Figure 2.

5. Haemophilus influenzae type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACTHIB, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PedvaxHIB or COMVAX], 12 months for PRP-T [Hibrix])
Routine vaccination:
• Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4 depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
• The primary series with ActHIB, MenHibrix, or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PedvaxHib or COMVAX consists of 2 doses and should be administered at 2 and 4 months of age; a dose at age 6 months is not indicated.
• One booster dose (dose 3 or 4 depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months. An exception is Hibrix vaccine. Hibrix should only be used for the booster (final) dose in children aged 12 months through 4 years who have received at least 1 prior dose of Hib-containing vaccine.
• For recommendations on the use of MenHibrix in patients at increased risk for meningococcal disease, please refer to the meningococcal vaccine footnotes, and also to MMWR February 28, 2014 / 63(RR01);1-13, available at http://www.cdc.gov/mmwr/pdf/rr/rr6301.pdf.
5. **Haemophilus influenzae** type b (Hib) conjugate vaccine (cont’d)

- **Catch-up vaccination:**
  1. If dose 1 was administered at ages 12 through 14 months, administer a second (final) dose at least 8 weeks after dose 1, regardless of Hib vaccine used in the primary series.
  2. If both doses were PRP-OMP (PedvaxHIB or COMVAX), and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 15 months and at least 8 weeks after the second dose.
  3. If the first dose was administered at age 7 through 11 months, administer the second dose at least 4 weeks later and a third (and final) dose at age 12 through 15 months or 8 weeks after second dose, whichever is later.
  4. If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be given 8 weeks later.
  5. For unvaccinated children aged 15 months or older, administer only 1 dose.

- **For other catch-up guidance,** see Figure 2. For catch-up guidance related to MenHibrix, please see the meningococcal vaccine footnotes and also MMWR February 28, 2014 / 63(RR01);1-13, available at [http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf).

- **Vaccination of persons with high-risk conditions:**
  1. Children aged 12 through 59 months who are at increased risk for Hib disease, including chemotherapy recipients and those with anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, or early component complement deficiency, who have received either no doses or only 1 dose of Hib vaccine before 12 months of age, should receive 2 additional doses of Hib vaccine 8 weeks apart; children who received 2 or more doses of Hib vaccine before 12 months of age should receive 1 additional dose.
  2. For patients younger than 5 years of age undergoing chemotherapy or radiation treatment who received a Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.
  3. Recipients of hematopoietic stem cell transplant (HSCT) should be revaccinated with a 3-dose regimen of Hib vaccine starting 6 to 12 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 weeks apart.
  4. A single dose of any Hib-containing vaccine should be administered to unimmunized* children and adolescents 5 months of age and older undergoing an elective splenectomy; if possible, vaccine should be administered at least 14 days before procedure.
  5. Hib vaccine is not routinely recommended for patients 5 years or older. However, 1 dose of Hib vaccine should be administered to unimmunized* persons aged 5 years or older who have anatomic or functional asplenia (including sickle cell disease) and unvaccinated persons 5 through 18 years of age with human immunodeficiency virus (HIV) infection.

- *Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months of age are considered unimmunized.

6. **Pneumococcal vaccines.** (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)

- **Routine vaccination with PCV13:**
  1. Administer 4-dose series of PCV13 vaccine at ages 2, 4, 6, and 12 months through 15 months.
  2. For children aged 14 through 59 months who have received an age-appropriate series of 7-valent PCV (PCV7), administer a single supplemental dose of 13-valent PCV (PCV13).

- **Catch-up vaccination with PCV13:**
  1. Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
  2. For other catch-up guidance, see Figure 2.

- **Vaccination of persons with high-risk conditions with PCV13 and PPSV23:**
  1. All recommended PCV13 doses should be administered prior to PPSV23 vaccination if possible.
  2. For children 2 through 5 years of age with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure), chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin’s disease; generalized malignancy; solid organ transplantation; or multiple myeloma:
    - 1. If neither PCV13 nor PPSV23 has been received previously, administer 1 dose of PCV13 now and 1 dose of PPSV23 at least 8 weeks later.
    - 2. If PCV13 has been received previously but PPSV23 has not, administer 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
    - 3. If PPSV23 has been received but PCV13 has not, administer 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
    - 4. If both doses were PRP-OMP (PedvaxHIB or COMVAX), and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 15 months or 8 weeks after second dose, whichever is later.
    - 5. If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be given 8 weeks later.
    - 6. For unvaccinated children aged 15 months or older, administer only 1 dose.

- **For other catch-up guidance,** see Figure 2. For catch-up guidance related to MenHibrix, please see the meningococcal vaccine footnotes and also MMWR February 28, 2014 / 63(RR01);1-13, available at [http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf).

7. **Inactivated poliovirus vaccine (IPV).** (Minimum age: 6 weeks)

- **Routine vaccination:**
  1. Administer 1 dose of IPV at ages 2, 4, 6 through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

- **Catch-up vaccination:**
  1. In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk of imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).
  2. If age 4 years or older, an additional dose should be administered at age 4 through 6 years and at least 6 months after the previous dose.
  3. A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.
  4. If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered.
  5. Regardless of the child’s current age, IPV is not routinely recommended for U.S. residents aged 10 years or older.
  6. For other catch-up guidance, see Figure 2.

8. **Influenza vaccines.** (Minimum age: 6 months for inactivated influenza vaccine [IIV], 2 years for live, attenuated influenza vaccine [LAIV])

- **Routine vaccination:**
  1. For children aged 6 through 18 years who have cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin’s disease; generalized malignancy; solid organ transplantation; or multiple myeloma:
    - 1. If neither PCV13 nor PPSV23 has been received previously, administer 1 dose of PCV13 now and 1 dose of PPSV23 at least 8 weeks later.
    - 2. If PCV13 has been received previously but PPSV23 has not, administer 1 dose of PPSV23 at least 8 weeks after the most recent dose of PCV13.
    - 3. If PPSV23 has been received but PCV13 has not, administer 1 dose of PCV13 at least 8 weeks after the most recent dose of PPSV23.
    - 4. If both doses were PRP-OMP (PedvaxHIB or COMVAX), and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 15 months or 8 weeks after second dose, whichever is later.
    - 5. If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be given 8 weeks later.
    - 6. For unvaccinated children aged 15 months or older, administer only 1 dose.

- **For other catch-up guidance,** see Figure 2.

- **For children aged 6 months through 8 years:**
  1. For the 2015–16 season, follow dosing guidelines in the 2015 ACIP influenza vaccine recommendations.
  2. For the 2014-15 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving chemotherapy, undergo a bone marrow transplant, or have an immunocompromising condition.

- **For other contraindications and precautions to use of LAIV, see [http://www.cdc.gov/mmwr/pdf/ics/ics5203.pdf](http://www.cdc.gov/mmwr/pdf/ics/ics5203.pdf).**
9. Measles, mumps, and rubella (MMR) vaccine. (Minimum age: 12 months for routine vaccination)

Routine vaccination:
- Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.
- Administer 1 dose of MMR vaccine to infants aged 6 through 11 months before departure from the United States for international travel. These children should be revaccinated with 2 doses of MMR vaccine, the first at age 12 through 15 months (12 months if the child remains in an area where disease risk is high), and the second dose at least 4 weeks later.
- Administer 2 doses of MMR vaccine to children aged 12 months and older before departure from the United States for international travel. The first dose should be administered on or after age 12 months and the second dose at least 4 weeks later.

Catch-up vaccination:
- Ensure that all school-aged children and adolescents have had 2 doses of MMR vaccine; the minimum interval between the 2 doses is 4 weeks.

10. Varicella (VAR) vaccine. (Minimum age: 12 months)

Routine vaccination:
- Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

Catch-up vaccination:
- Ensure that all persons aged 7 through 18 years without evidence of immunity (see MMWR 2007 / 56 [No. RR-4], available at http://www.cdc.gov/mmwr/pdf/mmwr/rr5604.pdf ) have 2 doses of varicella vaccine. For children aged 7 through 12 years, the recommended minimum interval between doses is 3 months (if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid); for persons aged 13 years and older, the minimum interval between doses is 4 weeks.

11. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

Routine vaccination:
- Initiate the 2-dose HepA vaccine series at 12 through 23 months; separate the 2 doses by 6 to 18 months.
- Children who have received 1 dose of HepA vaccine before age 24 months should receive a second dose 6 to 18 months after the first dose.
- For any person aged 2 years and older who has not already received the HepA vaccine series, 2 doses of HepA vaccine separated by 6 to 18 months may be administered if immunity against hepatitis A virus infection is desired.

Catch-up vaccination:
- The minimum interval between the two doses is 6 months.

Special populations:
- Administer 2 doses of HepA vaccine at least 6 months apart to previously unvaccinated persons who live in areas where vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HAV-infected primates or with HAV in a research laboratory; persons with clotting-factor disorders; persons with chronic liver disease; and 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. The first dose should be administered as soon as the adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

12. Human papillomavirus (HPV) vaccines. (Minimum age: 9 years for HPV2 [Cervarix] and HPV4 [Gardasil])

Routine vaccination:
- Administer a 3-dose series of HPV vaccine on a schedule of 0, 1-2, and 6 months to all adolescents aged 11 through 12 years. Either HPV4 or HPV2 may be used for females, and only HPV4 may be used for males.
- The vaccine series may be started at age 9 years.
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks); administer the third dose 24 weeks after the first dose and 16 weeks after the second dose (minimum interval of 12 weeks).

Catch-up vaccination:
- Administer the vaccine series to females (either HPV2 or HPV4) and males (HPV4) at age 13 through 18 years if not previously vaccinated.
- Use recommended routine dosing intervals (see Routine vaccination above) for vaccine series catch-up.

13. Meningococcal conjugate vaccines. (Minimum age: 6 weeks for Hib-MenCY [MenHibrix], 9 months for MenACWY-D [Menactra], 2 months for MenACWY-CRM [Menveo])

Routine vaccination:
- Administer a single dose of Menactra or Menveo vaccine at age 11 through 12 years, with a booster dose at age 16 years.
- Adolescents aged 11 through 18 years with human immunodeficiency virus (HIV) infection should receive a 2-dose primary series of Menactra or Menveo with at least 8 weeks between doses.
- For children aged 2 months through 18 years with high-risk conditions, see below.

Catch-up vaccination:
- Administer Menactra or Menveo vaccine at age 13 through 18 years if not previously vaccinated.
- If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years with a minimum interval of at least 8 weeks between doses.
- If the first dose is administered at age 16 years or older, a booster dose is not needed.

For other catch-up guidance, see Figure 2.

Vaccination of persons with high-risk conditions and other persons at increased risk of disease:
- Children with anatomic or functional asplenia (including sickle cell disease): 1. Menveo
  - o Children who initiate vaccination at 8 weeks through 6 months: Administer doses at 2, 4, 6, and 12 months of age.
  - o Unvaccinated children 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
  - o Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.
- MenHibrix
  - o Children 6 weeks through 18 months: Administer doses at 2, 4, 6, and 12 through 15 months of age.
  - o If the first dose of MenHibrix is given at or after 12 months of age, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.
- Menactra
  - o Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.
  - o Menactra is administered to a child with asplenia (including sickle cell disease), do not administer Menactra until 2 years of age and at least 4 weeks after the completion of all PCV13 doses.
- Children with persistent complement component deficiency: 1. Menveo
  - o Children who initiate vaccination at 8 weeks through 6 months: Administer doses at 2, 4, 6, and 12 months of age.
  - o Unvaccinated children 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose AND after the first birthday.
  - o Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.
- MenHibrix
  - o Children 6 weeks through 18 months: Administer doses at 2, 4, 6, and 12 through 15 months of age.
  - o If the first dose of MenHibrix is given at or after 12 months of age, a total of 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.
- Menactra
  - o Children 9 through 23 months: Administer 2 primary doses at least 12 weeks apart.
  - o Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.

For children who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or the Hajj, administer an age-appropriate formulation and series of Menactra or Menveo for protection against serogroups A and W meningococcal disease. Prior receipt of MenHibrix is not sufficient for children traveling to the meningitis belt or the Hajj because it does not contain serogroups A or W.

For children at risk during a community outbreak attributable to a vaccine serogroup, administer or complete an age- and formulation-appropriate series of MenHibrix, Menactra, or Menveo.


For other catch-up recommendations for these persons, and complete information on use of meningococcal vaccines, including guidance related to vaccination of persons at increased risk of infection, see MMWR March 22, 2013 / 62(RR2):1-22, available at http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf.