Child and Adolescent Immunization Schedule Update, 2015

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2015 Childhood Immunization Schedules:
Changes:
0 through 18 years
Catch-up
Footnotes
Job Aids
Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2015. (For those who fall behind or start late, see the catch-up schedule [Figure 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.

<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>16-18 yrs</th>
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<tbody>
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<td>Hepatitis B (HepB)</td>
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<tr>
<td>Pneumococcal conjugate&lt;sup&gt;a&lt;/sup&gt; (PCV13)</td>
<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td>Pneumococcal polysaccharide&lt;sup&gt;a&lt;/sup&gt; (PPSV23)</td>
<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td>Inactivated poliovirus&lt;sup&gt;b&lt;/sup&gt; (IPV; &lt; 18 yrs)</td>
<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td>Meningococcal&lt;sup&gt;c&lt;/sup&gt; (Hib-MenCY ≥ 6 weeks; MenACWY-D ≥ 9 mos; MenACWY-CRM ≥ 2 mos)</td>
<td>1st dose</td>
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<td>Measles, mumps, rubella&lt;sup&gt;d&lt;/sup&gt; (MMR)</td>
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<tr>
<td>Varicella&lt;sup&gt;e&lt;/sup&gt; (VAR)</td>
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<tr>
<td>Hepatitis A&lt;sup&gt;f&lt;/sup&gt; (HepA)</td>
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<tr>
<td>Human papillomavirus&lt;sup&gt;g&lt;/sup&gt; (HPV; females only: HPV4; males and females)</td>
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</tbody>
</table>

Annual vaccination (8N only) 1 or 2 doses
Annual vaccination (LAIV or IV) 1 or 2 doses
Annual vaccination (LAIV or IV) 1 dose only

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](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://vaers.hhs.gov](http://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/contraindication.html](http://www.cdc.gov/vaccines/recs/vac-admin/contraindication.html)) or by telephone (800-CDC-INFOD [800-232-4636]).

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

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 through 18 years who start late or who are more than 1 month behind—United States, 2015.

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child’s age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum Age for Dose 1</th>
<th>Dose 1 to Dose 2</th>
<th>Dose 2 to Dose 3</th>
<th>Dose 3 to Dose 4</th>
<th>Dose 4 to Dose 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B†</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‡</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphtheria, tetanus, and acetyl pertussis†</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>6 months</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Hemophrophus influenzae type B†</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td>Pneumococcal†</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus†</td>
<td>6 weeks</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>6 months</td>
<td>(minimum age 4 years for final dose).</td>
</tr>
<tr>
<td>Meningococcal†</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella†</td>
<td>12 months</td>
<td>4 weeks</td>
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</tr>
<tr>
<td>Varicella†</td>
<td>12 months</td>
<td>3 months</td>
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</tr>
<tr>
<td>Hepatitis A†</td>
<td>12 months</td>
<td>6 months</td>
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</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>Dose 2 to Dose 3</th>
<th>Dose 3 to Dose 4</th>
<th>Dose 4 to Dose 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus, diphtheria, tetanus, pertussis</td>
<td>7 years</td>
<td>4 weeks</td>
<td>6 weeks if first dose of DTaP/DT was administered before the 1st birthday.</td>
<td></td>
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</tr>
<tr>
<td>Human papillomavirus†</td>
<td>9 years</td>
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<td></td>
<td>Routine dosing intervals are recommended.†</td>
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<tr>
<td>Hepatitis A†</td>
<td>Not applicable (N/A)</td>
<td>6 months</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hepatitis B†</td>
<td>N/A</td>
<td>6 weeks</td>
<td>8 weeks and at least 16 weeks after first dose.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inactivated poliovirus†</td>
<td>N/A</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Meningococcal†</td>
<td>N/A</td>
<td>8 weeks</td>
<td></td>
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</tr>
<tr>
<td>Measles, mumps, rubella†</td>
<td>N/A</td>
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</tr>
<tr>
<td>Varicella†</td>
<td>N/A</td>
<td>3 months if younger than age 13 years, 4 weeks if age 13 years or older.</td>
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</tbody>
</table>

**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/acf-reces/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 ACRP statement available online at http://www.cdc.gov/vaccines/hcp/acf-reces/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)

   Route of 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 less than 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 preferred 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 1 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 [Rotarix] and RV5 [RotaTeq])

   Route of 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.

     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 months, 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)

   Route of vaccination:

   • Administer a 3-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.

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

   • 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)

   Route of 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.

   • Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

   • For 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-OPT [PevdaxHIB or COMVAX], 12 months for PRP-T [Hibrix])

   Route of vaccination:

   • Administer a 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 PevdaxHIB 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(IR01):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:
  - If dose 1 was administered at ages 12 through 15 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 (Pediaflex-HIB 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, whichever is later.
  - 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 dose 1 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.

6. **Pneumococcal vaccines (cont’d)**

- 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 using 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 should be administered on or after the fourth birthday and at least 6 months after the previous dose.

   **Catch-up vaccination:**
   - In the 1st 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 6 or more months have elapsed before age 4 years, 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 IPV and OPV 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 18 years or older.

8. **Influenza vaccines. (Minimum age: 6 months for inactivated influenza vaccine [IV], 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 IV may be used. However, LAIV should NOT be administered to persons including 1) persons who have egg allergy or any other allergy specific 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; or 6) persons who had whooping in the past 12 months; or 7) persons who have taken influenza antiviral medications in the past 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/preview/mmwrhtml/mm6332a1.pdf.

   **For children aged 6 months through 8 years:**
   - For the 2014-15 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving influenza vaccine for the first time. Some children in this age group who have been vaccinated previously will also need 2 doses. For additional guidance, for following guidelines in the 2014-15 ACIP influenza vaccine recommendations, MMWR August 15, 2014 / 63(32):691-697 [40 pages] available at [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a1.pdf](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a1.pdf).
   - For the 2015-16 season, following guidelines in the 2015 ACIP influenza vaccine recommendations.
   - For persons aged 9 years and older:
     - 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 3-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/dr/rr5604.pdf](http://www.cdc.gov/mmwr/pdf/dr/rr5604.pdf)) have 2 doses of varicella vaccine. For children aged 12 through 15 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 HA-infected primates or with HIV in a laboratory setting; 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 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, and 2 months to all adolescents aged 11 through 12 years. Either HPV2 or HPV4 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 12 weeks after the first dose and 24 weeks after the second dose (minimum interval of 12 weeks).
    - Catch-up vaccination:
      - Administer the vaccine 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 15 years who had 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 guidelines, 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):
        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 2 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.
      - 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.
      - Children with persistent complement component deficiency:
        - 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 HAI, 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 HAI 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, Menacwyn, 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(RR02);1-22, available at [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm).
To improve childhood and adolescent immunization schedules, CDC and partner organizations developed job aids to use with the current catch-up schedule.

CDC interviewed practicing providers about:

- Current usage of the catch-up schedule
- Ease of use
- How to improve the catch-up schedule to be more user-friendly for complex vaccine recommendations

www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#job-aids
Job Aids - 2

- Job aids for three vaccine groups were created, tested, and completed:
  - *Haemophilus influenzae* type b (Hib)
  - Pneumococcal conjugate (PCV13)
  - Diphtheria, tetanus, and acellular pertussis (DTaP); tetanus, diphtheria, and acellular pertussis (Tdap); tetanus and diphtheria (Td)

- Drafts were tested with healthcare providers to assess ease of use, comprehensibility, manner of use, and how they can be improved.

www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#job-aids
### Job Aids - 3

<table>
<thead>
<tr>
<th>IF current age is</th>
<th>AND # of previous doses is</th>
<th>AND</th>
<th>AND</th>
<th>THEN</th>
<th>NEXT DOSE DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-23 months</td>
<td>0</td>
<td>➔</td>
<td>➔</td>
<td>Give Dose 1 today</td>
<td>Give Dose 2 at least 8 weeks after Dose 1 (Final Dose)</td>
</tr>
<tr>
<td></td>
<td>Dose 1 was given before 12 months of age</td>
<td>➔</td>
<td>It has been at least 4 weeks since Dose 1</td>
<td>Give Dose 2 today</td>
<td>Give Dose 3 at least 8 weeks after Dose 2 (Final Dose)</td>
</tr>
<tr>
<td></td>
<td>Dose 1 was given at 12 months of age or older</td>
<td>➔</td>
<td>It has not been 8 weeks since Dose 1</td>
<td>No dose today</td>
<td>Give Dose 2 at least 4 weeks after Dose 1</td>
</tr>
<tr>
<td></td>
<td>Both doses were given before 12 months of age</td>
<td>➔</td>
<td>It has been at least 8 weeks since Dose 2</td>
<td>Give Dose 2 today (Final Dose)</td>
<td>No additional doses needed</td>
</tr>
<tr>
<td></td>
<td>At least one dose was given at 12 months or older</td>
<td>➔</td>
<td>It has not been 8 weeks since Dose 2</td>
<td>No dose today</td>
<td>Give Dose 3 at least 8 weeks after Dose 2 (Final Dose)</td>
</tr>
<tr>
<td></td>
<td>All doses were given before 12 months of age</td>
<td>➔</td>
<td>It has been at least 8 weeks since Dose 3</td>
<td>Give Dose 4 today (Final Dose)</td>
<td>No additional doses needed</td>
</tr>
<tr>
<td></td>
<td>1 or more doses was given at 12 months of age or older</td>
<td>➔</td>
<td>It has not been 8 weeks since Dose 3</td>
<td>No dose today</td>
<td>Give Dose 4 at least 8 weeks after Dose 3 (Final Dose)</td>
</tr>
</tbody>
</table>

[www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#job-aids](www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#job-aids)
CHILD AND ADOLESCENT IMMUNIZATION COVERAGE
### Estimated Coverage of Vaccines Among Children Aged 19-35 Months, NIS, U.S., 2013

<table>
<thead>
<tr>
<th>State/Area</th>
<th>Vaccine Series*</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4:3:1:4:3:1:4</td>
<td>70.4%</td>
</tr>
</tbody>
</table>

*Includes >4 doses DTaP/DT/DTP, > 3 doses polio, > 1 dose MMR, > 3 doses Hep B, > 3 or >4 doses Hib, > 1 varicella, and > 4 PCV.

*MMWR* August 29, 2014 / 63(34):741-748
Upon reviewing stakeholder concerns and scientific literature regarding the entire childhood immunization schedule, the IOM committee finds no evidence that the schedule is unsafe.

www.cdc.gov/vaccinesafety/Concerns/childhood_immunization_iomstudies.html
Vaccine Safety

Monitoring health problems after vaccination is essential to ensure the United States continues to have the safest, most effective vaccine supply in history. CDC’s Immunization Safety Office identifies possible vaccine side effects and conducts studies to determine whether a health problem is caused by a specific vaccine.

About Vaccine Safety

**Vaccines Safety Basics**
Vaccines: Hib, HPV, MMR, MMRV, Rotavirus...

**How Vaccines are Monitored**
How Vaccines are Tested. Vaccine Monitoring Activities in the U.S. and Common Questions, etc...

**Addressing Common Concerns**
Autism, GBS, SIDS, Fainting (Syncope), MS, Thimerosal, FAQs...

**Activities**
About CISA Network, Emergency Preparedness, VAERS, VAU, VSD...

**Special Populations**
Information for Healthcare Providers, Parents, Researchers...

**Resource Library**
Articles, Fact Sheets, FAQs, Research...

Quick Links

- FDA News: Rotarix Label Update
- VSD study on RV5 vaccine
- ISO Scientific Agenda
- Seasonal Influenza
- Immunization Schedules
- Traveler’s Health/International
- CDC en Español: Immunización

Contact Us:
Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333
800-CDC-INFO (800-232-4636)
TTY: (888) 232-6348
Contact CDC-INFO

www.cdc.gov/vaccinesafety/index.html
Talking to Parents about Vaccines

Talking with Parents about Vaccines for Infants

For health care professionals

Offers communication strategies for successful vaccine conversations with parents and caregivers.

- Color for office printing [657KB, 4 pages]
  NOTE: Color, PDF is Sacon 508-compatible.
- Black & white for office printing [251 KB, 4 pages]

Printed size: 8-1/2” x 11”, 4 pages
Commercial printer files available upon request

If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities

For parents and caregivers

Outlines possible risks for parents who choose to delay or decline a vaccine; offers steps for parents to take to protect their child, family and others.

- Color for office printing [547 KB, 2 pages]
- Black & white for office printing [655 KB, 2 pages]
  NOTE: B&W (black & white), PDF is Section 508-compatible.
How to Have a Successful Dialogue with Parents

- Take time to listen
- Solicit and welcome questions
- Keep the conversation going
- Balance science with anecdotal information
- Acknowledge benefits and risks
How to Have a Successful Dialogue with Parents

- Respect parents’ authority
- Reduce the stress of shots
- Document parents’ questions and concerns
- Follow up
- Don’t give up
Cost-Effectiveness of Childhood Vaccination

- Compared to no vaccination, Zhou et al demonstrated routine childhood vaccines used in 2009
  - Prevent
    - ~42,000 early deaths
    - 20 million cases of disease
  - Save
    - $13.5 billion in direct medical costs
    - $68.8 billion in total societal costs

Pediatrics 2014;133:1–9
CDC Vaccines and Immunization Contact Information

- Telephone and general email:
  800-CDC-INFO (800-232-4636)
  www.cdc.gov/info (for patients/parents)

- Email for providers: nipinfo@cdc.gov

- Website: www.cdc.gov/vaccines/

- Twitter: @CDCيزlearn

- Vaccine Safety: www.cdc.gov/vaccinesafety/