

RECOMMENDED IMMUNIZATION SCHEDULE FOR AGES 0 TO 18 YEARS • 2013*

This schedule includes recommendations in effect as of January 1, 2013. 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. Considerations should include provider assessment, patient preference, and the potential for adverse events. Consult full product labeling for detailed recommendations.

VACCINE	AGE	Range of recommended ages for all children		Range of recommended ages for catch-up immunization					Range of recommended ages during which catch-up is encouraged and for certain high-risk groups											
		Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19-23 mos	2-3 yrs	4-6 yrs	7-10 yrs	11-12 yrs	13-15 yrs	16-18 yrs			
Hepatitis B ¹ (HepB)		1 st dose	2 nd dose		3 rd dose															
Rotavirus ² (RV) RV-1 (2-dose series); RV-5 (3-dose series)			1 st dose	2 nd dose	see footnote 2															
Diphtheria, tetanus, & acellular pertussis ³ (DTaP: <7yrs)			1 st dose	2 nd dose	3 rd dose	4 th dose			5 th dose											
Tetanus, diphtheria, & acellular pertussis ⁴ (Tdap: ≥7yrs)													(Tdap)							
Haemophilus influenzae type b ⁵ (Hib)			1 st dose	2 nd dose	see footnote 5	3 rd or 4 th dose			see footnote 5											
Pneumococcal conjugate ^{6a,c} (PCV13)			1 st dose	2 nd dose	3 rd dose	4 th dose														
Pneumococcal polysaccharide ^{6b,c} (PPSV23)																				
Inactivated poliovirus ⁷ (IPV) (<18yrs)			1 st dose	2 nd dose	3 rd dose			4 th dose												
Influenza ⁸ (IIV; LAIV) 2 doses for some: see footnote 8		Annual vaccination (IIV only)											Annual vaccination (IIV or LAIV)							
Measles, mumps, rubella ⁹ (MMR)							1 st dose			2 nd dose										
Varicella ¹⁰ (VAR)							1 st dose			2 nd dose										
Hepatitis A ¹¹ (HepA)		2 dose series											see footnote 11							
Human papillomavirus ¹² (HPV2: females only; HPV4: males & females)													(3 dose series)							
Meningococcal ¹³ (Hib-MenCY ≥6wks; MCV4-D ≥9mos; MCV4-CRM ≥2yrs)		see footnote 13											1 st dose					booster		

- Hepatitis B (HepB) vaccine.** (Minimum age: birth)
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 0.5mL 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 to all infants regardless of birth weight. For infants weighing <2,000 grams, administer HBIG in addition to HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if she is HBsAg-positive, also administer HBIG for infants weighing ≥2,000 grams (no later than age 1 week).**Doses after 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 do 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.
 - The minimum interval between dose 1 and dose 2 is 4 weeks and between dose 2 and 3 is 8 weeks. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks, and at least 16 weeks after the first dose.
- Rotavirus (RV) vaccine.** (Minimum age: 6 weeks for both RV-1 [Rotarix] and RV-5 [RotaTeq])
 - Administer a series of RV vaccine to all infants as follows:
 - If RV-1 is used, administer a 2-dose series at 2 and 4 months of age.
 - If RV-5 is used, administer a 3-dose series at ages 2, 4, and 6 months.
 - If any dose in series was RV-5 or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.
- Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine.** (Minimum age: 6 weeks)
 - Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15-18 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.
- Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine.** (Minimum age: 10 years for Boostrix, 11 years for Adacel)
 - Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
 - Tdap can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
 - Administer one dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferred during 27 through 36 weeks gestation) regardless of number of years from prior Td or Tdap vaccination.

For information on individual vaccines, see the product entries in this section, contact the manufacturer, or call the National Immunization Hotline at (800) 232-4636. *From: Recommended Immunization Schedule for Persons Age 0 Through 18 Years, United States 2013; <http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>. (continued)

5. Haemophilus influenzae type b (Hib) conjugate vaccine.

(Minimum age: 6 weeks)

- Administer a Hib vaccine primary series and a booster dose to all infants. The primary series doses should be administered at 2, 4, and 6 months of age; however, if PRP-OMP (PedvaxHib or Comvax) is administered at 2 and 4 months of age, a dose at age 6 months is not indicated. One booster dose should be administered at age 12 through 15 months.
- Hiberix (PRP-T) should only be used for the booster (final dose in children aged 12 months through 4 years, who have received at least 1 dose of Hib).

Vaccination of persons with high-risk conditions:

- Hib vaccine is not routinely recommended for persons older than 5 years of age. However one dose of Hib vaccine should be administered to unvaccinated or partially vaccinated persons aged 5 years or older who have leukemia, malignant neoplasms, anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, or other immunocompromising conditions.

6a. Pneumococcal conjugate vaccine (PCV). (Minimum age: 6 weeks)

- Administer a series of PCV13 vaccine at ages 2, 4, 6 months with a booster at age 12 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).

Vaccination of persons with high-risk conditions:

- For children aged 24 through 71 months with certain underlying medical conditions (see footnote 6c), administer 1 dose of PCV13 if 3 doses of PCV were received previously, or administer 2 doses of PCV13 at least 8 weeks apart if fewer than 3 doses of PCV were received previously.
- A single dose of PCV13 may be administered to previously unvaccinated children aged 6 through 18 years who have anatomic or functional asplenia (including sickle cell disease), HIV infection or an immunocompromising condition, cochlear implant or cerebrospinal fluid leak. See MMWR 2010;59 (No. RR-11), available at <http://www.cdc.gov/mmwr/pdf/rr/rf5911.pdf>.
- Administer PPSV23 at least 8 weeks after the last dose of PCV to children aged 2 years or older with certain underlying medical conditions (see footnotes 6b and 6c).

6b. Pneumococcal polysaccharide vaccine (PPSV23).

(Minimum age: 2 years)

Vaccination of persons with high-risk conditions:

- Administer PPSV23 at least 8 weeks after the last dose of PCV to children aged 2 years or older with certain underlying medical conditions (see footnote 6c). A single revaccination with PPSV should be administered after 5 years to children with anatomic or functional asplenia (including sickle cell disease) or an immunocompromising condition.

6c. Medical conditions for which PPSV23 is indicated in children aged 2 years and older and for which use of PCV13 is indicated in children aged 24 through 71 months:

- Immunocompetent children 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; cerebrospinal fluid leaks; or cochlear implant.
- Children with anatomic or functional asplenia (including sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, or splenic dysfunction);
- Children with immunocompromising conditions: HIV infection, chronic renal failure and nephrotic syndrome, diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas and Hodgkin disease; or solid organ transplantation, congenital immunodeficiency.

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

- Administer a series of IPV at ages 2, 4, 6-18 months, with a booster at age 4-6 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.

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

- 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 persons, including 1) those with asthma, 2) children 2 through 4 years who had wheezing in the past 12 months, or 3) those who have any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV see MMWR 2010; 59 (No. RR-8), available at <http://www.cdc.gov/mmwr/pdf/rr/rf5908.pdf>.
- Administer 1 dose to persons aged 9 years and older.

For children aged 6 months through 8 years:

- For the 2012-13 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving influenza vaccine for the first time. For additional guidance, follow dosing guidelines in the 2012 ACIP influenza vaccine recommendations, MMWR 2012; 61: 613-618, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6132.pdf>.
- For the 2013-14 season, follow dosing guidelines in the 2013 ACIP influenza vaccine recommendations.

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

- Administer the first dose of MMR vaccine at age 12 through 15 months, and the second dose at age 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.

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

- Administer the first dose of VAR vaccine at age 12 through 15 months, and the second dose at age 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.

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

- Initiate the 2-dose HepA vaccine series for children aged 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.

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

- Administer a 3-dose series of HPV vaccine on a schedule of 0, 1-2, and 6 months to all adolescents aged 11-12 years. Either HPV4 or HPV2 may be used for females, and only HPV4 may be used for males.
- The vaccine series can be started beginning at age 9 years.
- Administer the second dose 1 to 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).

13. Meningococcal conjugate vaccines (MCV). (Minimum age: 6 weeks for Hib-MenCY, 9 months for Menactra [MCV4-D], 2 years for Menveo [MCV4-CRM])

- Administer MCV4 vaccine at age 11-12 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 MCV4, with at least 8 weeks between doses. See MMWR 2011; 60:1018-1019 available at <http://www.cdc.gov/mmwr/pdf/wk/mm6030.pdf>.
- For children aged 9 months through 10 years with high-risk conditions, see below.

Vaccination of persons with high-risk conditions:

- For children younger than 19 months of age with anatomic or functional asplenia (including sickle cell disease), administer an infant series of Hib-MenCY at 2, 4, 6, and 12-15 months.
- For children aged 2 through 18 months with persistent complement component deficiency, administer either an infant series of Hib-MenCY at 2, 4, 6, and 12 through 15 months or a 2-dose primary series of MCV4-D starting at 9 months, with at least 8 weeks between doses. For children aged 19 through 23 months with persistent complement component deficiency who have not received a complete series of Hib-MenCY or MCV4-D, administer 2 primary doses of MCV4-D at least 8 weeks apart.
- For children aged 24 months and older with persistent complement component deficiency or anatomic or functional asplenia (including sickle cell disease), who have not received a complete series of Hib-MenCY or MCV4-D, administer 2 primary doses of either MCV4-D or MCV4-CRM. If MCV4-D (Menactra) is administered to a child with asplenia (including sickle cell disease), do not administer MCV4-D until 2 years of age and at least 4 weeks after the completion of all PCV13 doses. See MMWR 2011;60:1391-2, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6040.pdf>.
- For children aged 9 months and older who are residents of or travelers to countries in the African meningitis belt or to the Hajj, administer an age appropriate formulation and series of MCV4 for protection against serogroups A and W-135. Prior receipt of Hib-MenCY is not sufficient for children traveling to the meningitis belt or the Hajj. See MMWR 2011;60:1391-2, available at <http://www.cdc.gov/mmwr/pdf/wk/mm6040.pdf>.
- For children who are present during outbreaks caused by a vaccine serogroup, administer or complete an age and formulation-appropriate series of Hib-MenCY or MCV4.
- For booster doses among persons with high-risk conditions refer to <http://www.cdc.gov/vaccines/pubs/acip-list.htm#mening>.

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Changes in the Schedule Since Last Release

- **“Recommended immunization schedule for persons aged 0 through 18 years”** replaces the separate “Recommended immunization schedule for persons aged 0 through 6 years” and “Recommended immunization schedule for persons aged 7 through 18 years” tables. Wording was added to bars to represent the respective vaccine dose numbers in the series.
 - o MCV4 purple bar was extended to age 6 weeks, to reflect licensure of Hib-MenCY vaccine.
 - o HepA vaccine yellow bar was extended to better reflect routine age recommendations for use of HepA vaccine. New green and purple bars were added to reflect hepatitis A vaccine recommendations for older children.
 - o Abbreviations for influenza vaccine were updated with the anticipation of quadrivalent vaccine for the 2013–14 influenza season.
- o Pneumococcal polysaccharide vaccine (PPSV23) was added to the chart.
- Footnotes were combined and standardized formatting was used to provide recommendations for each vaccine related to routine vaccination, catch-up vaccination, and vaccination of persons with high-risk medical conditions or under special circumstances.
 - o MCV4 footnotes were updated to reflect recent recommendations.
 - o Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine footnotes were updated to reflect recent recommendations.
 - o Influenza vaccine footnotes were updated to provide dosing guidance for children aged 6 months through 8 years for the 2012–13 and 2013–14 influenza seasons.
- MCV4 vaccine minimum ages and intervals were updated in, “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, 2013,” to reflect licensure of Hib-MenCY vaccine.

(Rev. 2/2013)