

Figure 1. Recommended Immunization Schedule for Persons Ages 0 through 6 Years, U.S., 2011
 For those who fall behind or start late, see the catch-up schedule (Table 1).

Vaccine ▼	Age ►	Birth	1 mo	2 mo	4 mo	6 mo	12 mo	15 mo	18 mo	19–23 mo	2–3 yrs	4–6 yrs
Hepatitis B ¹	HepB		HepB			HepB						
Rotavirus ²				RV	RV	RV ²						
Diphtheria, Tetanus, Pertussis ³				DTaP	DTaP	DTaP	See footnote 3	DTaP				DTaP
<i>Haemophilus influenzae</i> type b ⁴				Hib	Hib	Hib ⁴		Hib				
Pneumococcal ⁵				PCV	PCV	PCV		PCV			PPSV	
Inactivated Poliovirus ⁶				IPV	IPV		IPV					IPV
Influenza ⁷							Influenza (Yearly)					
Measles, Mumps, Rubella ⁸							MMR		See footnote 8			MMR
Varicella ⁹							Varicella		See footnote 9			Varicella
Hepatitis A ¹⁰								HepA (2 doses)			HepA Series	
Meningococcal ¹¹											MCV4	

Range of recommended ages for all children

Range of recommended ages for certain high-risk groups

This schedule includes recommendations in effect as of December 21, 2010. Any dose not given at the recommended age should be given 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. Providers should consult the relevant Advisory Committee on Immunization Practices statement for detailed recommendations: www.cdc.gov/vaccines/pubs/acip-list.htm. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or by telephone, 800-822-7967.

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

At birth:

- Give monovalent HepB to all newborns before hospital discharge.
- If mother is hepatitis B surface antigen (HBsAg)-positive, give newborn HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
- If mother's HBsAg status is unknown, give newborn HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if HBsAg-positive, give newborn HBIG (no later than age 1 week).

Doses following the birth dose:

- The second dose should be given at age 1 or 2 months. Monovalent HepB should be used for doses given before age 6 weeks.
- Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg 1 to 2 months after completion of at least 3 doses of the HepB series, at age 9 through 18 months (generally at the next well-child visit).
- Administration of 4 doses of HepB to infants is permissible when a combination vaccine containing HepB is given after the birth dose.
- Infants who did not receive a birth dose should receive 3 doses of HepB on a schedule of 0, 1, and 6 months.
- The final (3rd or 4th) dose in the HepB series should be given no earlier than age 24 weeks.

2. Rotavirus vaccine (RV). (Minimum age: 6 weeks)

- Give the first dose at age 6 through 14 weeks (maximum age: 14 weeks 6 days). Vaccination should not be initiated for infants age 15 weeks 0 days or older.
- The maximum age for the final dose in the series is 8 months 0 days.
- If Rotarix is given at ages 2 and 4 months, a dose at 6 months is not indicated.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). (Minimum age: 6 weeks)

- The fourth dose may be given as early as age 12 months, provided at least 6 months have elapsed since the third dose.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib). (Minimum age: 6 weeks)

- If PRP-OMP (PedvaxHIB or Comvax [HepB-Hib]) is given at ages 2 and 4 months, a dose at age 6 months is not indicated.
- Hiberix should not be used for doses at ages 2, 4, or 6 months for the primary series but can be used as the final dose in children ages 12 months through 4 years.

5. Pneumococcal vaccine. (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])

- PCV is recommended for all children younger than age 5 years. Give 1 dose of PCV to all healthy children ages 24 through 59 months who are not completely vaccinated for their age.
- A PCV series begun with 7-valent PCV (PCV7) should be completed with 13-valent PCV (PCV13).
- A single supplemental dose of PCV13 is recommended for all children ages 14 through 59 months who have received an age-appropriate series of PCV7.
- A single supplemental dose of PCV13 is recommended for all children ages 60 through 71 months with underlying medical conditions who have received an age-appropriate series of PCV7.
- The supplemental dose of PCV13 should be given at least 8 weeks after the previous dose of PCV7. See *MMWR* 2010;59(No. RR-11).

- Give PPSV at least 8 weeks after last dose of PCV to children age 2 years or older with certain underlying medical conditions, including a cochlear implant.

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

- If 4 or more doses are given prior to age 4 years, an additional dose should be given at age 4 through 6 years.
- The final dose in the series should be given on or after the fourth birthday and at least 6 months following the previous dose.

7. Influenza vaccine (seasonal). (Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])

- For healthy children age 2 years and older (i.e., those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used, except LAIV should not be given to children ages 2 through 4 years who have had wheezing in the past 12 months.
- Give 2 doses (separated by at least 4 weeks) to children ages 6 months through 8 years who are receiving seasonal influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but received only 1 dose.
- Children ages 6 months through 8 years who received no doses of monovalent 2009 H1N1 vaccine should receive 2 doses of 2010–11 seasonal influenza vaccine. See *MMWR* 2010;59(RR-8):33–34.

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

- The second dose may be given before age 4 years, provided at least 4 weeks have elapsed since the first dose.

9. Varicella vaccine. (Minimum age: 12 months)

- The second dose may be given before age 4 years, provided at least 3 months have elapsed since the first dose.
- For children ages 12 months through 12 years, the recommended minimum interval between doses is 3 months. However, if the second dose was given at least 4 weeks after the first dose, it can be accepted as valid.

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

- Give 2 doses at least 6 months apart.
- HepA is recommended for children older than age 23 months who live in areas where vaccination programs target older children, or who are at increased risk for infection, or for whom immunity against hepatitis A is desired.

11. Meningococcal conjugate vaccine, quadrivalent (MCV4). (Minimum age: 2 years)

- Give 2 doses of MCV4 at least 8 weeks apart to children ages 2 through 10 years with persistent complement component deficiency and anatomic or functional asplenia, and 1 dose every 5 years thereafter.
- Persons with human immunodeficiency virus (HIV) infection who are vaccinated with MCV4 should receive 2 doses at least 8 weeks apart.
- Give 1 dose of MCV4 to children ages 2 through 10 years who travel to countries with highly endemic or epidemic disease and during outbreaks caused by a vaccine serogroup.
- Give MCV4 to children at continued risk of meningococcal disease who were previously vaccinated with MCV4 or meningococcal polysaccharide vaccine after 3 years if first dose given at age 2 through 6 years.