

# RECOMMENDED IMMUNIZATION SCHEDULE FOR AGES 0–6 YEARS • 2010\*

This schedule includes recommendations in effect as of December 15, 2009. 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 except certain high-risk groups								Certain high-risk groups		
		Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B <sup>1</sup>		HepB	HepB			HepB						
Rotavirus <sup>2</sup>				RV	RV	RV <sup>2</sup>						
Diphtheria, Tetanus, Pertussis <sup>3</sup>				DTaP	DTaP	DTaP	<small>see footnote 3</small>	DTaP				DTaP
Haemophilus influenzae type b <sup>4</sup>				Hib	Hib	Hib <sup>4</sup>	Hib					
Pneumococcal <sup>5</sup>				PCV	PCV	PCV	PCV					PPSV
Inactivated Poliovirus <sup>6</sup>				IPV	IPV	IPV					IPV	
Influenza <sup>7</sup>						Influenza (yearly)						
Measles, Mumps, Rubella <sup>8</sup>						MMR			<small>see footnote 3</small>			MMR
Varicella <sup>9</sup>						Varicella			<small>see footnote 3</small>			Varicella
Hepatitis A <sup>10</sup>						HepA (2 doses)					HepA Series	
Meningococcal <sup>11</sup>												MCV

- Hepatitis B vaccine (HepB).** (*Minimum age: birth*)  
**At birth:**
  - Administer monovalent HepB to all newborns before hospital discharge.
  - If mother is hepatitis B surface antigen (HBsAg)-positive, administer HepB and 0.5mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
  - If mother's HBsAg status is unknown, administer HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if HBsAg-positive, administer HBIG (no later than age 1 week).**After the birth dose:**
  - The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. 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. The final dose should be administered no earlier than age 24 weeks.
  - Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg 1–2 months after completion of at least 3 doses of the HepB series, at age 9–18 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 administered after the birth dose. The fourth dose should be administered no earlier than age 24 weeks.
- Rotavirus vaccine (RV).** (*Minimum age: 6 weeks*)
  - Administer the first dose at age 6–14 weeks (maximum age: 14 weeks 6 days). Vaccination should not be initiated for infants  $\geq 15$  weeks or older.
  - The maximum age for the final dose in the series is 8 months 0 days.
  - If Rotarix<sup>®</sup> is administered at ages 2 and 4 months, a dose at 6 months is not indicated.
- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).** (*Minimum age: 6 weeks*)
  - The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.
  - Administer the final dose in the series at age 4–6 years.
- Haemophilus influenzae type b conjugate vaccine (Hib).** (*Minimum age: 6 weeks*)
  - If PRP-OMP (PedvaxHIB<sup>®</sup> or Comvax<sup>®</sup> [HepB-Hib]) is administered at ages 2 and 4 months, a dose at age 6 months is not indicated.
  - TriHIBit<sup>®</sup> (DTaP/Hib) and Hiberix (PRP-T) 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 aged 12 months through 4 years.
- Pneumococcal vaccine.** (*Minimum age: 6 weeks for Pneumococcal Conjugate Vaccine [PCV]; 2 years for Pneumococcal Polysaccharide Vaccine [PPSV]*)
  - PCV is recommended for all children aged <5 years. Administer 1 dose of PCV to all healthy children aged 24–59 months who are not completely vaccinated for their age.
  - Administer PPSV 2 or more months after last dose of PCV to children aged  $\geq 2$  years with certain underlying medical conditions, including a cochlear implant See MMWR 2009;49[No. RR-9].

- Inactivated poliovirus vaccine (IPV).** (*Minimum age: 6 weeks*)
  - The final dose in the series should be administered on or after the fourth birthday and at least 6 months following the previous dose.
  - If 4 doses are administered prior to age 4 years a fifth dose should be administered at age 4 through 6 years. See MMWR 2009;58(30):829–30.
- Influenza vaccine.** (*Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV]*)
  - Administer annually to children aged 6 months through 18 years.
  - For healthy children aged 2–6 years (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 aged 2–4 years who have had wheezing in the past 12 months.
  - Children receiving TIV should receive 0.25 mL if aged 6–35 months or 0.5 mL if aged 3 years or older.
  - Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
  - For recommendations for use of influenza A (H1N1) 2009 monovalent vaccine see MMWR 2009;58[No. RR-10].
- Measles, mumps, and rubella vaccine (MMR).** (*Minimum age: 12 months*)
  - Administer the second dose routinely at age 4–6 years. However, the second dose may be administered before age 4, provided  $\geq 28$  days have elapsed since the first dose.
- Varicella vaccine.** (*Minimum age: 12 months*)
  - Administer the second dose routinely at age 4–6 years. However, the second dose may be administered before age 4, provided at least 3 months have elapsed since the first dose.
  - For children aged 12 months through 12 years the minimum interval between doses is 3 months. However, if the second dose was administered at least 28 days after the first dose, it can be accepted as valid.
- Hepatitis A vaccine (HepA).** (*Minimum age: 12 months*)
  - Administer to all children aged 1 year (ie, aged 12–23 months).
  - Administer 2 doses at least 6 months apart.
  - Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.
  - HepA also is recommended for older children who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A is desired.
- Meningococcal vaccine.** (*Minimum age: 2 years for Meningococcal Conjugate Vaccine [MCV4] and for Meningococcal Polysaccharide Vaccine [MPSV4]*)
  - Administer MCV4 to children aged 2–10 years with persistent complement component deficiency, anatomic or functional asplenia, and certain other conditions placing them at high risk.
  - Administer MCV4 to children previously vaccinated with MCV4 or MPSV4 after 3 years if first dose administered at age 2 through 6 years. See MMWR 2009; 58:1042–3.

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 Ages 0–6 Years, United States 2010; www.cdc.gov/vaccines/recs/schedules/child-schedule.htm. (continued)

# RECOMMENDED IMMUNIZATION SCHEDULE FOR AGES 7–18 YEARS • 2010\*

This schedule includes recommendations in effect as of December 15, 2009. 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.

	Recommended ages except certain high-risk groups	Catch-up immunization	Certain high-risk groups
VACCINE	AGE	7–10 years	11–12 years
Tetanus, Diphtheria, Pertussis <sup>1</sup>			<b>Tdap</b>
Human Papillomavirus <sup>2</sup>	<small>see footnote 2</small>		<b>HPV (3 doses)</b>
Meningococcal <sup>3</sup>	<b>MCV</b>		<b>MCV</b>
Influenza <sup>4</sup>			<b>Influenza (Yearly)</b>
Pneumococcal <sup>5</sup>			<b>PPSV</b>
Hepatitis A <sup>6</sup>			<b>HepA Series</b>
Hepatitis B <sup>7</sup>			<b>HepB Series</b>
Inactivated polio <sup>8</sup>			<b>IPV Series</b>
Measles, Mumps, Rubella <sup>9</sup>			<b>MMR Series</b>
Varicella <sup>10</sup>			<b>Varicella Series</b>

- Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap).**  
(Minimum age: 10 years for BOOSTRIX® and 11 years for ADACEL®)
  - Administer at age 11 or 12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoid (Td) booster dose.
  - Persons aged 13–18 years who have not received Tdap should receive a dose.
  - A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.
- Human papillomavirus vaccine (HPV).**  
(Minimum age: 9 years)
  - Two HPV vaccines are licensed: a quadrivalent vaccine (HPV4) for the prevention of cervical, vaginal and vulvar cancers (in females) and genital warts (in females and males), and a bivalent vaccine (HPV2) for the prevention of cervical cancers in females.
  - HPV vaccines are most effective for both males and females when given before exposure to HPV through sexual contact.
  - HPV4 or HPV2 is recommended for the prevention of cervical precancers and cancers in females.
  - HPV4 is recommended for the prevention of cervical, vaginal and vulvar precancers and cancers and genital warts in females.
  - Administer the first dose to females at age 11 or 12 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).
  - Administer the series to females at age 13 through 18 years if not previously vaccinated.
  - HPV4 may be administered in a 3-dose series to males aged 9 through 18 years to reduce their likelihood of acquiring genital warts.
- Meningococcal conjugate vaccine (MCV4).**
  - Administer at age 11 or 12 years, or at age 13–18 years if not previously vaccinated.
  - Administer to previously unvaccinated college freshmen living in a dormitory.
  - Administer MCV4 to children aged 2 through 10 years with persistent complement component deficiency, anatomic or functional asplenia, or certain other conditions placing them at high risk.
  - Administer to children previously vaccinated with MCV4 or MPSV4 who remain at increased risk after 3 years (if first dose administered at age 2 through 6 years) or after 5 years (if first dose administered at age 7 years or older). Persons whose only risk factor is living in on-campus housing are not recommended to receive an additional dose. See *MMWR* 2009;58:1042–3.

- Influenza vaccine (seasonal).**
  - Administer annually to children aged 6 months through 18 years.
  - For healthy nonpregnant persons aged 7–18 years (ie, those who do not have underlying medical conditions that predispose them to influenza complications), either LAIV or TIV may be used.
  - Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
  - For recommendations for use of influenza A (H1N1) 2009 monovalent vaccine. See *MMWR* 2009;58(No. RR-10).
- Pneumococcal polysaccharide vaccine (PPSV).**
  - Administer to children with certain underlying medical conditions, including a cochlear implant. A single revaccination should be administered after 5 years to children with functional or anatomic asplenia or other immunocompromising condition. See *MMWR* 1997;46(No. RR-8)
- Hepatitis A vaccine (HepA).**
  - Administer 2 doses at least 6 months apart.
  - HepA is recommended for children >23 months who live in areas where vaccination programs target older children, who are at increased risk of infection, or for whom immunity against hepatitis A is desired. See *MMWR* 2006;55(No. RR-7).
- Hepatitis B vaccine (HepB).**
  - Administer the 3-dose series to those not previously vaccinated.
  - A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB® is licensed for children aged 11–15 years.
- Inactivated poliovirus vaccine (IPV).**
  - The final dose in the series should be administered on or after the fourth birthday and at least 6 months following 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.
- Measles, mumps, and rubella vaccine (MMR).**
  - If not previously vaccinated, administer 2 doses or the second dose for those who have received only 1 dose, with at least 28 days between doses.
- Varicella vaccine.**
  - For persons aged 7–18 years without evidence of immunity (see *MMWR* 2007;56(No. RR-4)), administer 2 doses if not previously vaccinated or the second dose if only 1 dose has been administered.
  - For persons aged 7–12 years, the minimum interval between doses is 3 months. However, if the second dose was administered at least 28 days after the first dose, it can be accepted as valid.
  - For persons aged ≥13 years, the minimum interval between doses is 28 days.

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