

# Recommended Childhood Immunization Schedule United States, 2002

Vaccine	Age	range of recommended ages				catch-up vaccination				preadolescent assessment			
		Birth	1 mo	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	24 mos	4-6 yrs	11-12 yrs	13-18 yrs
Hepatitis B <sup>1</sup>		Hep B #1 <small>only if mother HBsAg (-)</small>								Hep B series			
			Hep B #2		Hep B #3								
Diphtheria, Tetanus, Pertussis <sup>2</sup>			DTaP	DTaP	DTaP		DTaP			DTaP		Td	
<i>Haemophilus influenzae</i> Type b <sup>3</sup>			Hib	Hib	Hib		Hib						
Inactivated Polio <sup>4</sup>			IPV	IPV	IPV					IPV			
Measles, Mumps, Rubella <sup>5</sup>						MMR #1				MMR #2		MMR #2	
Varicella <sup>6</sup>						Varicella				Varicella			
Pneumococcal <sup>7</sup>			PCV	PCV	PCV	PCV			PCV		PPV		
Vaccines below this line are for selected populations													
Hepatitis A <sup>8</sup>										Hepatitis A series			
Influenza <sup>9</sup>					Influenza (yearly)								

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2001, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. Indicates age groups that warrant special effort to administer those vaccines not previously given. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

**1. Hepatitis B vaccine (Hep B).** All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is HBsAg-negative. Only monovalent hepatitis B vaccine can be used for the birth dose. Monovalent or combination vaccine containing Hep B may be used to complete the series; four doses of vaccine may be administered if combination vaccine is used. The second dose should be given at least 4 weeks after the first dose, except for Hib-containing vaccine which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 6 months.

Infants born to HBsAg-positive mothers should receive hepatitis B vaccine and 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The second dose is recommended at age 1-2 months and the vaccination series should be completed (third or fourth dose) at age 6 months.

Infants born to mothers whose HBsAg status is unknown should receive the first dose of the hepatitis B vaccine series within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week).

**2. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).** The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15-18 months. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11-12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.

**3. *Haemophilus influenzae* type b (Hib) conjugate vaccine.** Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at age 2, 4 or 6 months, but can be used as boosters following any Hib vaccine.

**4. Inactivated poliovirus vaccine (IPV).** An all-IPV schedule is recommended for routine childhood poliovirus vaccination in the United States. All children should receive four doses of IPV at age 2 months, 4 months, 6-18 months, and 4-6 years.

**5. Measles, mumps, and rubella vaccine (MMR).** The second dose of MMR is recommended routinely at age 4-6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and that both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by the visit at 11-12 years.

**6. Varicella vaccine.** Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children (i.e. those who lack a reliable history of chickenpox). Susceptible persons aged  $\geq 13$  years should receive two doses, given at least 4 weeks apart.

**7. Pneumococcal vaccine.** The heptavalent pneumococcal conjugate vaccine (PCV) is recommended for all children aged 2-23 months and for certain children aged 24-59 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9);1-37.

**8. Hepatitis A vaccine.** Hepatitis A vaccine is recommended for use in selected states and regions, and for certain high-risk groups; consult your local public health authority. See *MMWR* 1999;48(RR-12);1-37.

**9. Influenza vaccine.** Influenza vaccine is recommended annually for children age  $\geq 6$  months with certain risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, HIV, and diabetes; see *MMWR* 2001;50(RR-4);1-44), and can be administered to all others wishing to obtain immunity. Children aged  $\leq 12$  years should receive vaccine in a dosage appropriate for their age (0.25 mL if age 6-35 months or 0.5 mL if aged  $\geq 3$  years). Children aged  $\leq 8$  years who are receiving influenza vaccine for the first time should receive two doses separated by at least 4 weeks.

For additional information about vaccines, vaccine supply, and contraindications for immunization, please visit the National Immunization Program Website at [www.cdc.gov/nip](http://www.cdc.gov/nip) or call the National Immunization Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Approved by the Advisory Committee on Immunization Practices ([www.cdc.gov/nip/acip](http://www.cdc.gov/nip/acip)), the American Academy of Pediatrics ([www.aap.org](http://www.aap.org)), and the American Academy of Family Physicians ([www.aafp.org](http://www.aafp.org)).