

Recommended Childhood Immunization Schedule United States, January - December 2000

Vaccines¹ are listed under routinely recommended ages. **Bars** indicate range of recommended ages for immunization. Any dose not given at the recommended age should be given as a "catch-up" immunization at any subsequent visit when indicated and feasible. **Ovals** indicate vaccines to be given if previously recommended doses were missed or given earlier than the recommended minimum age.

Age ► Vaccine ▼	Birth	1 mo	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	24 mos	4-6 yrs	11-12 yrs	14-16 yrs
Hepatitis B ²	Hep B		Hep B		Hep B			Hep B		Hep B		
Diphtheria, Tetanus, Pertussis ³			DTaP	DTaP	DTaP		DTaP ³			DTaP	Td	
<i>H. influenzae</i> type b ⁴			Hib	Hib	Hib	Hib						
Polio ⁵			IPV	IPV	IPV ⁵					IPV ⁵		
Measles, Mumps, Rubella ⁶						MMR				MMR ⁶	MMR ⁶	
Varicella ⁷						Var					Var ⁷	
Hepatitis A ⁸									Hep A ⁸ -in selected areas			

Approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).

On October 22, 1999, the Advisory Committee on Immunization Practices (ACIP) recommended that Rotashield® (RRV-TV), the only U.S.-licensed rotavirus vaccine, no longer be used in the United States (MMWR, Volume 48, Number 43, Nov. 5, 1999). Parents should be reassured that their children who received rotavirus vaccine before July are not at increased risk for intussusception now.

¹This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines as of 11/1/99. 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 its other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

²**Infants born to HBsAg-negative mothers** should receive the 1st dose of hepatitis B (Hep B) vaccine by age 2 months. The 2nd dose should be at least one month after the 1st dose. The 3rd dose should be administered at least 4 months after the 1st dose and at least 2 months after the 2nd dose, but not before 6 months of age for infants.

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 2nd dose is recommended at 1-2 months of age and the 3rd dose at 6 months of age.

Infants born to mothers whose HBsAg status is unknown should receive hepatitis B vaccine 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 1 week of age).

All children and adolescents (through 18 years of age) who have not been immunized against hepatitis B may begin the series during any visit. Special efforts should be made to immunize children who were born in or whose parents were born in areas of the world with moderate or high endemicity of hepatitis B virus infection.

³The 4th dose of DTaP (diphtheria and tetanus toxoids and acellular pertussis vaccine) may be administered as early as 12 months of age, provided 6 months have elapsed since the 3rd dose and the child is unlikely to return at age 15-18 months. Td (tetanus and diphtheria toxoids) is recommended at 11-12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP or DT. Subsequent routine Td boosters are recommended every 10 years.

⁴Three Haemophilus influenzae type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at 2 and 4 months of age, a dose at 6 months is not required. Because clinical studies in infants have demonstrated that using some combination products may induce a lower immune response to the Hib vaccine component, DTaP/Hib combination products should not be used for primary immunization in infants at 2, 4 or 6 months of age, unless FDA-approved for these ages.

⁵To eliminate the risk of vaccine-associated paralytic polio (VAPP), an all-IPV schedule is now recommended for routine childhood polio vaccination in the United States. All children should receive four doses of IPV at 2 months, 4 months, 6-18 months, and 4-6 years. OPV (if available) may be used only for the following special circumstances:

1. Mass vaccination campaigns to control outbreaks of paralytic polio.
2. Unvaccinated children who will be traveling in <4 weeks to areas where polio is endemic or epidemic.
3. Children of parents who do not accept the recommended number of vaccine injections. These children may receive OPV only for the third or fourth dose or both; in this situation, health-care providers should administer OPV only after discussing the risk for VAPP with parents or caregivers.
4. During the transition to an all-IPV schedule, recommendations for the use of remaining OPV supplies in physicians' offices and clinics have been issued by the American Academy of Pediatrics (see Pediatrics, December 1999).

⁶The 2nd dose of measles, mumps, and rubella (MMR) vaccine is recommended routinely at 4-6 years of age but may be administered during any visit, provided at least 4 weeks have elapsed since receipt of the 1st dose and that both doses are administered beginning at or after 12 months of age. Those who have not previously received the second dose should complete the schedule by the 11-12 year old visit.

⁷Varicella (Var) vaccine is recommended at any visit on or after the first birthday for susceptible children, i.e. those who lack a reliable history of chickenpox (as judged by a health care provider) and who have not been immunized. Susceptible persons 13 years of age or older should receive 2 doses, given at least 4 weeks apart.

⁸Hepatitis A (Hep A) is shaded to indicate its recommended use in selected states and/or regions; consult your local public health authority. (Also see MMWR Oct. 01, 1999/48(RR12); 1-37).