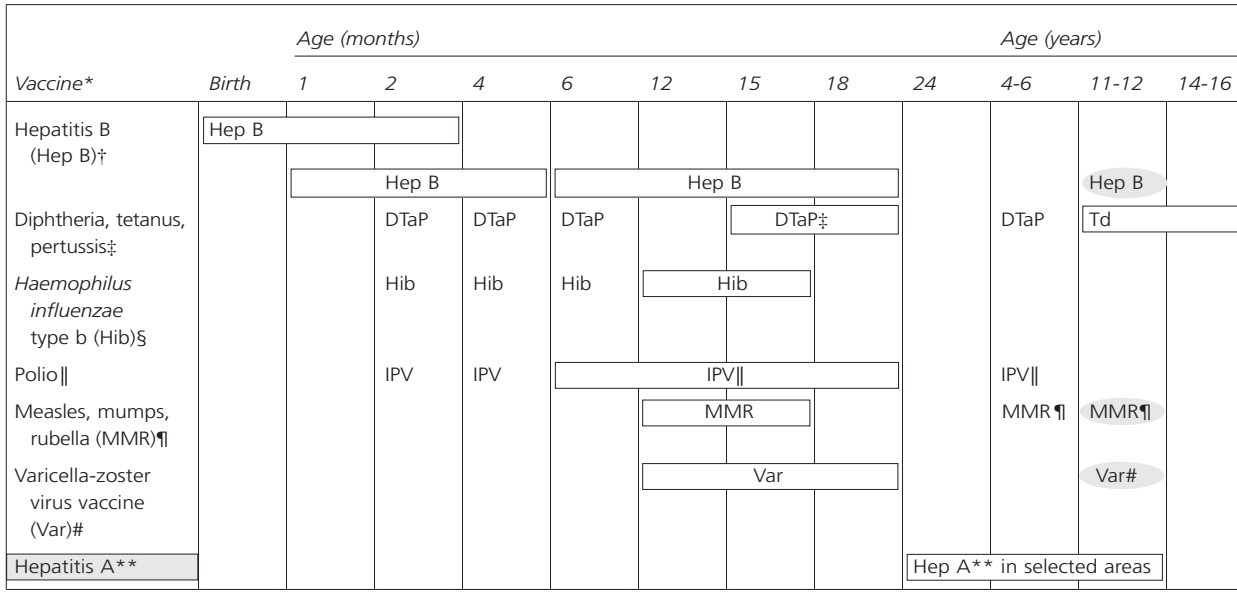
Recommended Childhood Immunization Schedule, United States—January 2000 to December 2000



NOTE: *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, November 5, 1999). Parents should be reassured that their children who received rotavirus vaccine before July are not at increased risk for intussusception now.*

This schedule has been approved by the ACIP, the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP). It indicates the recommended ages for routine administration of currently licensed childhood vaccines as of November 1, 1999. 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.

*—Vaccines are listed under routinely recommended ages. Clear 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. Shaded ovals indicate vaccines to be given if previously recommended doses were missed or given earlier than the recommended minimum age.

†—Infants born to hepatitis B surface antigen (HBsAg)-negative mothers should receive the first dose of hepatitis B (Hep B) vaccine by age two months. The second dose should be given at least one month after the first dose. The third dose should be administered at least four months after the first dose and at least two months after the second dose, but not before six 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 second dose is recommended at one to two months of age and the third dose at six 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 one 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.

‡—The fourth dose of diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) may be administered as early as 12 months of age, provided six months has elapsed since the third dose and if the child is unlikely to return at age 15 to 18 months. Tetanus and diphtheria toxoids (Td) immunization is recommended at 11 to 12 years of age if at least five years has elapsed since the last dose of DTP, DTaP or DT. Subsequent routine Td boosters are recommended every 10 years.

§—Three *Haemophilus influenza* type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB and COMVAX) is administered at two and four months of age, a dose at six 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 two, four or six months of age, unless it is approved by the U.S. Food and Drug Administration for these ages.

‖—To eliminate the risk of vaccine-associated paralytic polio (VAPP), an all-inactivated poliovirus vaccine (IPV) schedule is now recommended for routine childhood polio vaccination in the United States. All children should receive four doses of IPV at two months, four months, six to 18 months, and four to six years. Oral poliovirus vaccine (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 less than four 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 AAP (see *Pediatrics,* December 1999).

¶—The second dose of measles-mumps-rubella (MMR) vaccine is recommended routinely at four to six years of age but may be administered during any visit, provided at least four weeks has elapsed since receipt of the first 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- to 12-year-old visit.

#—Varicella (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 two doses, given at least four weeks apart.

**—Hepatitis 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 October 1, 1999;48(RR-12):1-37.)

This schedule is provided by the American Academy of Family Physicians only as an assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.