

**CENTER FOR DISEASE PREVENTION & EPIDEMIOLOGY • OREGON HEALTH DIVISION**

**RECOMMENDED CHILDHOOD IMMUNIZATION SCHEDULE — UNITED STATES, 2000**

**E**ACH YEAR, CDC's Advisory Committee on Immunization Practices (ACIP) reviews the recommended childhood immunization schedule, taking note of new vaccines and other developments. This report<sup>1</sup> presents the recommended schedule for 2000 and explains what's new. Detailed recommendations are available from the manufacturers' package inserts, ACIP statements on specific vaccines, and the Red Book.<sup>2</sup> ACIP statements for each recommended childhood vaccine can be viewed, downloaded, and printed via CDC's web site, <http://www.cdc.gov/nip/publications/acip-list.htm>.

**Rotavirus Kaput**

Last October, ACIP recommended that Wyeth's Rotashield®, the only U.S. licensed rotavirus vaccine, no longer be used in the U.S.<sup>3</sup> Scientific data presented to ACIP indicated a strong association between Rotashield use and intussusception among infants 1-2 weeks following vaccination. Vaccine use had been suspended in July pending the ACIP data review. Parents should be reassured that children who received the rotavirus vaccine before July are not at increased risk for intussusception now. The manufacturer stopped marketing the vaccine in October.

**IPV for All 4 Doses**

As the global eradication of poliomyelitis continues, the risk for importation of wild-type poliovirus into the United States decreases dramatically. To eliminate the risk for vaccine-associated paralytic poliomyelitis (VAPP), an all-IPV schedule is now recommended for routine childhood vaccination.<sup>4</sup> All children should receive four doses of IPV: at age 2 months, age 4 months, between ages 6 and 18 months, and between ages 4 and 6 years. (NB: in Oregon polio is required [*sic*] before kindergarten enrollment.) Oral poliovirus vaccine (OPV) is now indicated only under special circumstances.

**Recommended Childhood Immunization Schedule for 2000**

Approved by the Advisory Committee on Immunization Practices (ACIP), American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), not to mention the Oregon Health Division (OHD).

age ▼ vaccine	birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	24 months	4-6 years	11-12 years	14-16 years
hepatitis B <sup>1</sup>	hep B	hep B		hep B							hep B	
diphtheria tetanus pertussis <sup>2</sup>			DTaP	DTaP	DTaP		DTaP			DTaP	Td	
<i>H. influenzae</i> type b <sup>3</sup>			Hib	Hib	Hib	Hib						
polio <sup>4</sup>			IPV	IPV	IPV					IPV		
measles mumps rubella <sup>5</sup>						MMR				MMR	MMR	
varicella <sup>6</sup>						Var					Var	
hepatitis A <sup>7</sup>									hep A in selected areas			

- This schedule indicates the recommended age for routine administration of currently licensed childhood vaccines. Some combination vaccines are also available and may be used whenever administration of all components of the vaccine is indicated. Injectors should consult the manufacturers' package inserts for detailed recommendations.
- The grey bars indicate preferred age ranges for certain vaccine doses. Catch-up immunizations should be done during any visit when feasible. Shaded ovals indicate vaccines to be assessed and given if necessary during the early adolescent visit.
- The footnotes, printed on the back, are critical to a full understanding of the beauty of the Grand Immunization Plan.



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The Health Division no longer supplies OPV. ACIP reaffirms its support for the global eradication initiative and use of OPV as the vaccine of choice to eradicate polio in endemic areas.

#### **Acellular Pertussis Vaccine**

Acellular pertussis vaccines are now recommended for all doses of the series. The fourth dose 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 15-18 months.

#### **Hepatitis A**

Hepatitis A vaccine (Hep A) is listed on the schedule for the first time because it is recommended for routine use in some states with historically high incidence (including Oregon, Washington, and

California). Its appearance on the schedule alerts providers to consult with their local public health authority to learn the current recommendations for hepatitis A vaccination in their community. Additional information on the use of Hep A can be found in recently published guidelines.<sup>5</sup>

#### **VACCINE INFORMATION STATEMENTS**

Federal law requires that *all* health-care providers give parents or patients Vaccine Information Statements before administering each dose of the vaccines listed in this schedule. (Well, almost all. The Hep A VIS is not currently mandatory, but it is available.) These forms, developed by CDC, can be obtained from the OHD or via CDC's web site, <http://www.cdc.gov/nip/publications/VIS>.

#### **REFERENCES**

To save work, this article was shamelessly abridged from the first reference.

1. CDC. Recommended childhood immunization schedule—United States, 2000. MMWR 2000;49:35-38,47.
2. American Academy of Pediatrics. Active and passive immunization. In: Peter G, ed. 1997 Red book: report of the Committee on Infectious Diseases. 24th ed. Elk Grove Village, Illinois: American Academy of Pediatrics 1997:1-71.
3. CDC. Withdrawal of rotavirus vaccine recommendation. MMWR 1999;48:1007.
4. CDC. Recommendations of the Advisory Committee on Immunization Practices: revised recommendations for routine poliomyelitis vaccination. MMWR 1999;48:590.
5. CDC. Prevention of hepatitis A through active or passive immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48(no. RR-12).
6. CDC. Recommendations regarding the use of vaccines that contain thimerosal as a preservative. MMWR 1999;48:996-8.

#### **Footnotes for ACIP Immunization Schedule 2000**

This schedule indicates the recommended ages for routine administration of licensed childhood vaccines. Doses not given at the recommended age can be given as a "catch-up" vaccination at any subsequent visit when indicated and feasible. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Consult the manufacturers' package inserts for detailed recommendations.

1. Infants born to HBsAg-negative mothers should receive the first dose of hepatitis B vaccine (Hep B) by age 2 months. The second dose should be administered at least 1 month after the first dose. The third dose should be administered at least 4 months after the first dose and at least 2 months after the second dose, but not before age 6 months. Infants born to HBsAg-positive mothers should receive Hep B 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 third dose at age 6 months. Infants born to mothers whose HBsAg status is unknown should receive Hep B within 12 hours of birth. Maternal blood should be drawn at 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). All children and adolescents (through age 18 years) who have not been vaccinated against hepatitis B may begin the series during any visit. Providers should make special efforts to vaccinate children who were born in or whose parents were born in areas of the world where hepatitis B virus infection is moderately or highly endemic.
2. The fourth dose of diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) can 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 diphtheria and tetanus toxoids and pertussis vaccine (DTP), DTaP, or diphtheria and tetanus toxoids (DT). Subsequent routine Td boosters are recommended every 10 years.

3. Three type b (Hib) conjugate vaccines are licensed for infant use. If Hib conjugate vaccine (PRP-OMP) (PedvaxHIB @or ComVax @ [Merck]) is administered at ages 2 months and 4 months, a dose at age 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 vaccination in infants at ages 2, 4, or 6 months unless approved by the FDA for these ages.
4. To eliminate the risk for vaccine-associated paralytic poliomyelitis (VAPP), an 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 age 2 months, age 4 months, between ages 6 and 18 months, and between ages 4 and 6 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 <4 weeks to areas where polio is endemic or epidemic; and 3) children of parents who do not accept the recommended number of vaccine injections. Children of parents who do not accept the recommended number of vaccine injections 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.
5. The second dose of measles, mumps, and rubella vaccine (MMR) is recommended routinely at age 4-6 years (for kindergarten in Oregon) but may be administered during any visit, provided at least 4 weeks have elapsed since receipt of the first dose and that both doses are administered beginning at or after age 12 months. Those who previously have not received the second dose should complete the schedule no later than the routine visit to a health-care provider at age 11-12 years.
6. 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 vaccinated. Susceptible persons aged ≥13 years should receive two doses given at least 4 weeks apart.
7. Hepatitis A vaccine (Hep A) is recommended for use in selected states and regions.