

## Recommended and Minimum Ages and Intervals Between Doses of Routinely Recommended Vaccines<sup>1</sup>

Vaccine and dose number	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Hepatitis B (HepB)-1 <sup>2</sup>	Birth	Birth	1-4 months	4 weeks
HepB-2	1-2 months	4 weeks	2-17 months	8 weeks
HepB-3 <sup>3</sup>	6-18 months	24 weeks	–	–
Diphtheria-tetanus-acellular pertussis (DTaP)-1 <sup>2</sup>	2 months	6 weeks	2 months	4 weeks
DTaP-2	4 months	10 weeks	2 months	4 weeks
DTaP-3	6 months	14 weeks	6-12 months <sup>4</sup>	6 months <sup>4,5</sup>
DTaP-4	15-18 months	12 months	3 years	6 months <sup>4</sup>
DTaP-5	4-6 years	4 years	–	–
<i>Haemophilus influenzae</i> type b (Hib)-1 <sup>2,6</sup>	2 months	6 weeks	2 months	4 weeks
Hib-2	4 months	10 weeks	2 months	4 weeks
Hib-3 <sup>7</sup>	6 months	14 weeks	6-9 months <sup>4</sup>	8 weeks
Hib-4	12-15 months	12 months	–	–
Inactivated poliovirus (IPV)-1 <sup>2</sup>	2 months	6 weeks	2 months	4 weeks
IPV-2	4 months	10 weeks	2-14 months	4 weeks
IPV-3	6-18 months	14 weeks	3-5 years	6 months
IPV-4	4-6 years	4 years	–	–
Pneumococcal conjugate (PCV)-1 <sup>6</sup>	2 months	6 weeks	2 months	4 weeks
PCV-2	4 months	10 weeks	2 months	4 weeks
PCV-3	6 months	14 weeks	6 months	8 weeks
PCV-4	12-15 months	12 months	–	–
Measles-mumps-rubella (MMR)-1 <sup>8</sup>	12-15 months	12 months	3-5 years	4 weeks
MMR-2 <sup>8</sup>	4-6 years	13 months	–	–
Varicella (Var)-1 <sup>8</sup>	12-15 months	12 months	3-5 years	12 weeks <sup>9</sup>
Var-2 <sup>8</sup>	4-6 years	15 months	–	–
Hepatitis A (HepA)-1 <sup>2</sup>	12-23 months	12 months	6-18 months <sup>4</sup>	6 months <sup>4</sup>
HepA-2	18-41 months	18 months	–	–
Influenza, Inactivated (TIV) <sup>10</sup>	6-59 months	6 months <sup>11</sup>	1 month	4 weeks
Influenza, Live attenuated (LAIV) <sup>10</sup>	–	2 years	1 month	4 weeks
Meningococcal Conjugate (MCV)	11-12 years	2 years	–	–
Meningococcal Polysaccharide (MPSV)-1	–	2 years	5 years <sup>12</sup>	5 years <sup>12</sup>
MPSV-2 <sup>13</sup>	–	7 years	–	–
Tetanus-diphtheria (Td)	11-12 years	7 years	10 years	5 years
Tetanus-diphtheria-acellular pertussis (Tdap) <sup>14</sup>	≥11 years	10 years	–	–
Pneumococcal polysaccharide (PPSV)-1	–	2 years	5 years	5 years
PPSV-2 <sup>15</sup>	–	7 years	–	–

Vaccine and dose number	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Human papillomavirus (HPV)-1 <sup>16</sup>	11-12 years	9 years	2 months	4 weeks
HPV-2	11-12 years (+2 months)	109 months	4 months	12 weeks
HPV-3 <sup>17</sup>	11-12 years (+6 months)	114 months	–	–
Rotavirus (RV)-1 <sup>18</sup>	2 months	6 weeks	2 months	4 weeks
RV-2	4 months	10 weeks	2 months	4 weeks
RV-3 <sup>19</sup>	6 months	14 weeks	–	–
Zoster <sup>20</sup>	60 years	60 years	–	–

- 1 Use of licensed combination vaccines is preferred over separate injections of their equivalent component vaccines. (CDC. Combination vaccines for childhood immunization: recommendations of the Advisory Committee on Immunization Practices [ACIP], the American Academy of Pediatrics [AAP], and the American Academy of Family Physicians [AAFP]. *MMWR* 1999;48[No. RR-5]). When administering combination vaccines, the minimum age for administration is the oldest age for any of the individual components; the minimum interval between doses is equal to the greatest interval of any of the individual components.
- 2 Combination vaccines containing the Hepatitis B component are available (HepB-Hib, DTaP-HepB-IPV, HepA-HepB). These vaccines should not be administered to infants younger than 6 weeks of age because of the other components (i.e., Hib, DTaP, IPV, and HepA).
- 3 HepB-3 should be administered at least 8 weeks after HepB-2 and at least 16 weeks after HepB-1, and it should not be administered before age 24 weeks.
- 4 Calendar months.
- 5 The minimum recommended interval between DTaP-3 and DTaP-4 is 6 months. However, DTaP-4 need not be repeated if administered at least 4 months after DTaP-3.
- 6 For Hib and PCV, children receiving the first dose of vaccine at age 7 months of age or older require fewer doses to complete the series (CDC. Recommended childhood and adolescent immunization schedule – United States, 2006. *MMWR* 2005; 54 [Nos. 51 & 52]:Q1-Q4).
- 7 If PRP-OMP (Pedvax-Hib®, Merck Vaccine Division), was administered at 2 and 4 months of age a dose at 6 months of age is not required.
- 8 Combination measles-mumps-rubella-varicella (MMRV) vaccine can be used for children 12 months through 12 years of age. Also see footnote 9.
- 9 The minimum interval from Var-1 to Var-2 for persons beginning the series at 13 years or older is 4 weeks.
- 10 One dose of influenza vaccine per season is recommended for most people. Children younger than 9 years of age who are receiving influenza vaccine for the first time, or received only 1 dose the previous season (if it was their first vaccination season) should receive 2 doses this season.
- 11 The minimum age for inactivated influenza vaccine varies by vaccine manufacturer. Only Fluzone (manufactured by sanofi pasteur) is approved for children 6-35 months of age. The minimum age for Fluvirin (manufactured by Novartis) is 4 years. For Fluarix and FluLaval (manufactured by GlaxoSmithKline) and Afluria (manufactured by CSL Ltd), the minimum age is 18 years.
- 12 Some experts recommend a second dose of MPSV-3 years after the first dose for people at increased risk for meningococcal disease.
- 13 A second dose of meningococcal vaccine is recommended for people previously vaccinated with MPSV who remain at high risk for meningococcal disease. MCV is preferred when revaccinating persons aged 2-55 years, but a second dose of MPSV is acceptable. (CDC. Prevention and Control of Meningococcal Disease Recommendations of the Advisory Committee on Immunization Practices [ACIP]. *MMWR* 2005; 54: No. RR-7.)
- 14 Only one dose of Tdap is recommended. Subsequent doses should be administered as Td. If vaccination to prevent tetanus and/or diphtheria disease is required for children 7 through 9 years of age, Td should be administered (minimum age for Td is 7 years). For one brand of Tdap the minimum age is 11 years. The preferred interval between Tdap and a previous dose of Td is 5 years. In persons who have received a primary series of tetanus-toxoid containing vaccine, for management of a tetanus-prone wound, the minimum interval after a previous dose of any tetanus-containing vaccine is 5 years.
- 15 A second dose of PPSV is recommended for persons at highest risk for serious pneumococcal infection and those who are likely to have a rapid decline in pneumococcal antibody concentration. Revaccination 3 years after the previous dose can be considered for children at highest risk for severe pneumococcal infection who would be younger than 10 years of age at the time of revaccination. (CDC. Prevention of pneumococcal disease: recommendations of the Advisory Committee on Immunization Practices [ACIP]. *MMWR* 1997;46[No. RR-8]).
- 16 HPV is approved only for females 9-26 years of age.
- 17 HPV-3 should be administered at least 12 weeks after HPV-2 and at least 24 weeks after HPV-1, and it should not be administered before 114 months of age.
- 18 The first dose of RV must be administered at 6-14 weeks of age. The vaccine series should not be started after a child has reached 15 weeks of age. RV may be administered on the day a child reaches his or her 8 month birthday but not later, regardless of the number of doses administered previously.
- 19 If Rotarix (RV1) is administered as age appropriate, a third dose is not necessary.
- 20 Herpes zoster vaccine is approved as a single dose for persons 60 years and older with a history of varicella.