| Recommended and Minimum Ages and Intervals Between Doses | | | | |
|---|---|---|---|---|
| **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[3] | Birth | Birth | 1-4 months | 4 weeks |
| HepB-2 | 1-2 months | 4 weeks | 2-17 months | 8 weeks |
| HepB-3[4] | 6-18 months | 24 weeks | — | — |
| Diphtheria-tetanus-acellular pertussis (DTaP)-1[3] | 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 | 6 months[5,6] |
| DTaP-4 | 15-18 months | 12 months | 3 years | 6 months[5] |
| DTaP-5 | 4-6 years | 4 years | — | — |
| *Haemophilus influenzae* type b (Hib)-1[3,7] | 2 months | 6 weeks | 2 months | 4 weeks |
| Hib-2 | 4 months | 10 weeks | 2 months | 4 weeks |
| Hib-3[8] | 6 months | 14 weeks | 6-9 months | 8 weeks |
| Hib-4 | 12-15 months | 12 months | — | — |
| Inactivated poliovirus (IPV)-1[3] | 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[9] | 4-6 years | 4 years | — | — |
| Pneumococcal conjugate (PCV)-1[7] | 2 months | 6 weeks | 8 weeks | 4 weeks |
| PCV-2 | 4 months | 10 weeks | 8 weeks | 4 weeks |
| PCV-3 | 6 months | 14 weeks | 6 months | 8 weeks |
| PCV-4 | 12-15 months | 12 months | — | — |
| Measles-mumps-rubella (MMR)-1[10] | 12-15 months | 12 months | 3-5 years | 4 weeks |
| MMR-2[10] | 4-6 years | 13 months | — | — |
| Varicella (Var)-1[10] | 12-15 months | 12 months | 3-5 years | 12 weeks[11] |
| Var-2[10] | 4-6 years | 15 months | — | — |
| Hepatitis A (HepA)-1 | 12-23 months | 12 months | 6-18 months[5] | 6 months[5] |
| HepA-2 | ≥18 months | 18 months | — | — |
| Influenza, inactivated (TIV)[12] | ≥6 months | 6 months[13] | 1 month | 4 weeks |
| Influenza, live attenuated (LAIV)[12] | 2-49 years | 2 years | 1 month | 4 weeks |
| Meningococcal conjugate (MCV4)-1[14] | 11-12 years | 2 years | 4-5 years | 8 weeks |
| MCV4-2 | 16 years | 11 years (+ 8 weeks) | — | — |
| Meningococcal polysaccharide (MPSV4)-1[14] | — | 2 years[15] | 5 years | 5 years |
| MPSV4-2 | — | 7 years | — | — |
| Tetanus-diphtheria (Td) | 11-12 years | 7 years | 10 years | 5 years |
| Tetanus-diphtheria-acellular pertussis (Tdap)[16] | ≥11 years | 7 years | — | — |
| Pneumococcal polysaccharide (PPSV)-1 | — | 2 years | 5 years | 5 years |
| PPSV-2[17] | — | 7 years | — | — |
| Human papillomavirus (HPV)-1[18] | 11-12 years | 9 years | 2 months | 4 weeks |
| HPV-2 | 11-12 years (+ 2 months) | 9 years (+ 4 weeks) | 4 months | 12 weeks[19] |
| HPV-3[19] | 11-12 years (+ 6 months) | 9 years (+24 weeks) | — | — |
| Rotavirus (RV)-1[21] | 2 months | 6 weeks | 2 months | 4 weeks |
| RV-2 | 4 months | 10 weeks | 2 months | 4 weeks |
| RV-3[21] | 6 months | 14 weeks | — | — |
| Herpes zoster[22] | ≥60 years | 60 years | — | — |

1 Combination vaccines are available. Use of licensed combination vaccines is generally preferred to separate injections of their equivalent component vaccines. 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 Information on travel vaccines including typhoid, Japanese encephalitis, and yellow fever, is available at www.cdc.gov/travel. Information on other vaccines that are licensed in the US but not distributed, including anthrax and smallpox, is available at www.bt.cdc.gov.

3 Combination vaccines containing a hepatitis B component (Comvax, Pediarix, and Twinrix) are available. These vaccines should not be administered to infants younger than 6 weeks because of the other components (i.e., Hib, DTaP, HepA, and IPV).

4 HepB-3 should be administered at least 8 weeks after HepB-2 and at least 16 weeks after HepB-1, and should not be administered before age 24 weeks.

5 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.

7 Children receiving the first dose of Hib or PCV vaccine at age 7 months or older require fewer doses to complete the series.

8 If PRP-OMP (Pedvax-Hib) was administered at ages 2 and 4 months, a dose at age 6 months is not required.

9 A fourth dose is not needed if the third dose was administered on or after the 4$^{th}$ birthday and at least 6 months after the previous dose.

10 Combination measles-mumps-rubella-varicella (MMRV) vaccine can be used for children aged 12 months through 12 years. (See CDC. General recommendations on Immunization: recommendations of the ACIP. *MMWR* 2011;60[No. RR-2],7.)

11 For persons beginning the series on or after the 13$^{th}$ birthday, the minimum interval from varicella-1 to varicella-2 is 4 weeks.

12 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 should receive 2 doses this season. See current influenza recommendations for other factors affecting the decision to administer one vs. two doses to children younger than 9 years.

13 The minimum age for inactivated influenza vaccine varies by vaccine manufacturer and formulation. See package inserts for vaccine-specific minimum ages.

14 Revaccination with meningococcal vaccine is recommended for previously vaccinated persons who remain at high risk for meningococcal disease. (See CDC. Updated recommendations from the ACIP for vaccination of persons at prolonged increased risk for meningococcal disease. *MMWR* 2009;58:[1042-3])

15 Menactra may be given as young as 9 months for high-risk children.

16 Only one dose of Tdap is recommended. Subsequent doses should be given as Td. For one brand of Tdap (Adacel), the minimum age is 11 years. For management of a tetanus-prone wound in a person who has received a primary series of a tetanus-toxoid containing vaccine, there is no minimum interval between a previous dose of any tetanus-containing vaccine and Tdap.

17 A second dose of PPSV 5 years after the first dose is recommended for persons $\leq$65 years of age at highest risk for serious pneumococcal infection, and for those who are likely to have a rapid decline in pneumococcal antibody concentration. (See CDC. Prevention of pneumococcal disease: recommendations of the ACIP. *MMWR* 1997;46[No. RR-8].)

18 Bivalent HPV vaccine (Cervarix) is approved for females 10 through 25 years of age. Quadravalent HPV vaccine (Gardasil) is approved for males and females 9 through 26 years of age.

19 The minimum age for HPV-3 is based on the baseline minimum age for the first dose (108 months) and the minimum interval of 24 weeks between the first and third doses. Dose 3 need not be repeated if it is given at least 16 weeks after the first dose (and if the intervals between doses 1 and 2 and doses 2 and 3 are maintained at 4 weeks and 12 weeks, respectively).

20 The first dose of rotavirus must be administered between 6 weeks 0 days and 14 weeks 6 days. The vaccine series should not be started after age 15 weeks 0 days. Rotavirus should not be administered to children older than 8 months 0 days, regardless of the number of doses received before that age.

21 If two doses of Rotarix are administered as age appropriate, a third dose is not necessary.

22 Herpes zoster vaccine is recommended as a single dose for persons 60 years of age and older.