

**Recommended and Minimum Ages and Intervals  
Between Doses of Routinely Recommended Vaccines<sup>1,2,3,4</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
Diphtheria-tetanus-acellular pertussis (DTaP)-1 <sup>5</sup>	2 months	6 weeks	8 weeks	4 weeks
DTaP-2	4 months	10 weeks	8 weeks	4 weeks
DTaP-3	6 months	14 weeks	6-12 months <sup>6</sup>	6 months <sup>6</sup>
DTaP-4	15-18 months	15 months <sup>6</sup>	3 years	6 months
DTaP-5 <sup>7</sup>	4-6 years	4 years	—	—
<i>Haemophilus influenzae</i> type b (Hib)-1 <sup>8</sup>	2 months	6 weeks	8 weeks	4 weeks
Hib-2	4 months	10 weeks	8 weeks	4 weeks
Hib-3 <sup>9</sup>	6 months	14 weeks	6-9 months	8 weeks
Hib-4	12-15 months	12 months	—	—
Hepatitis A (HepA)-1 <sup>5</sup>	12-23 months	12 months	6-18 months	6 months
HepA-2	≥18 months	18 months	—	—
Hepatitis B (HepB)-1 <sup>10</sup>	Birth	Birth	4 weeks-4 months	4 weeks
HepB-2	1-2 months	4 weeks	8 weeks-17 months	8 weeks
HepB-3 <sup>11</sup>	6-18 months	24 weeks	—	—
Herpes zoster Live (ZVL) <sup>12</sup>	≥60 years	60 years	—	—
Herpes zoster Recombinant (RZV)-1	≥50 years	18 years	2-6 months	4 weeks
RZV-2	≥50 years (+2-6 months)	50 years	—	—
Human papillomavirus (HPV)-1 <sup>13</sup>	11-12 years	9 years	8 weeks	4 weeks
HPV-2	11-12 years (+ 2 months)	9 years (+ 4 weeks)	4 months	12 weeks <sup>13</sup>
HPV-3 <sup>13,14</sup>	11-12 years (+ 6 months)	9 years (+5 months)	—	—
Influenza, inactivated (IIV) <sup>15</sup>	≥6 months	6 months <sup>16</sup>	4 weeks	4 weeks
Influenza, live attenuated (LAIV) <sup>15</sup>	2-49 years	2 years	4 weeks	4 weeks
Measles-mumps-rubella (MMR)-1 <sup>17</sup>	12-15 months	12 months	3-5 years	4 weeks
MMR-2 <sup>17</sup>	4-6 years	13 months	—	—
Meningococcal conjugate (MenACWY)-1 <sup>18</sup>	11-12 years	6 weeks <sup>19</sup>	4-5 years	8 weeks
MenACWY-2	16 years	11 years <sup>20</sup> (+ 8 weeks)	—	—
Pneumococcal conjugate (PCV13)-1 <sup>8</sup>	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	—	—
Pneumococcal polysaccharide (PPSV)-1	—	2 years	5 years	5 years
PPSV-2 <sup>21</sup>	—	7 years	—	—
Poliovirus, Inactivated (IPV)-1 <sup>5</sup>	2 months	6 weeks	8 weeks	4 weeks
IPV-2	4 months	10 weeks	8 weeks-14 months	4 weeks
IPV-3	6-18 months	14 weeks	3-5 years	6 months
IPV-4 <sup>22</sup>	4-6 years	4 years	—	—
Rotavirus (RV)-1 <sup>23</sup>	2 months	6 weeks	8 weeks	4 weeks
RV-2	4 months	10 weeks	8 weeks	4 weeks
RV-3 <sup>23</sup>	6 months	14 weeks	—	—
Tetanus-diphtheria (Td)	11-12 years	7 years	10 years	5 years
Tetanus-diphtheria-acellular pertussis (Tdap) <sup>24</sup>	≥11 years	7 years	—	—
Varicella (Var)-1 <sup>17</sup>	12-15 months	12 months	3-5 years	12 weeks <sup>25</sup>
Var-2 <sup>17</sup>	4-6 years	15 months <sup>26</sup>	—	—

- 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](http://www.cdc.gov/travel). Information on other vaccines that are licensed in the US but not distributed, including anthrax and smallpox, is available at <https://emergency.cdc.gov/bioterrorism/>.
- 3 "Months" refers to calendar months.
- 4 A hyphen used to express a range (as in "12-15 months") means "through."
- 5 Combination vaccines containing a hepatitis B component (Pediatrix 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).
- 6 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. This is a special grace period of 2 months, which can be used when evaluating records retrospectively. An additional 4 days should not be added to this grace period prospectively, but can be added retrospectively.
- 7 If a fourth dose of DTaP is given on or after the fourth birthday, a fifth dose is not needed.
- 8 Children receiving the first dose of Hib or PCV13 vaccine at age 7 months or older require fewer doses to complete the series.
- 9 If PedvaxHib is administered at ages 2 and 4 months, a dose at age 6 months is not required. The minimum age for the final dose is 12 months.
- 10 Adjuvanted Hepatitis B vaccine (HepLisav-B) can be administered to adults 18 years old and older on a two-dose schedule, the first and second doses separated by 4 weeks.
- 11 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 24 weeks of age.
- 12 Herpes zoster live vaccine (Zostavax) is recommended as a single dose for persons 60 years of age and older.
- 13 Gardasil and Gardasil 9 are approved for males and females 9 through 26 years of age. The minimum age for HPV-3 is based on the baseline minimum age for the first dose (i.e., 9 years) and the minimum interval of 5 months between the first and third dose. Dose 3 need not be repeated if it is administered at least 5 months after the first dose, and if the intervals between doses 1 and 2, and doses 2 and 3, are 4 weeks and 12 weeks, respectively.
- 14 A two-dose HPV vaccine schedule is recommended for most persons who begin the series before the 15<sup>th</sup> birthday. See [www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf](http://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf) for details.
- 15 One dose of influenza vaccine per season is recommended for most people. Some children younger than 9 years of age should receive 2 doses in a single season. See current influenza recommendations for details.
- 16 The minimum age for inactivated influenza vaccine varies by vaccine manufacturer. See package inserts for vaccine-specific minimum ages.
- 17 Combination MMRV vaccine can be used for children 12 months through 12 years of age. See [www.cdc.gov/mmwr/pdf/rr/rr5903.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5903.pdf) for details.
- 18 Revaccination with meningococcal vaccine is recommended for previously vaccinated persons who remain at high risk for meningococcal disease. See [www.cdc.gov/mmwr/pdf/rr/rr6202.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf) for details.
- 19 High-risk children can receive Menactra as young as 9 months and Menveo as young as 2 months. MenHibrix is given as a four-dose series at 2, 4, 6, and 12-18 months. It can be given as young as 6 weeks for high-risk children.
- 20 For routine, non-high risk adolescent vaccination, the minimum age for the booster dose is 16 years.
- 21 A second dose of PPSV23 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 [www.cdc.gov/mmwr/PDF/rr/rr4608.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr4608.pdf) for details.
- 22 A fourth dose is not needed if the third dose was administered on or after the 4<sup>th</sup> birthday and at least 6 months after the previous dose.
- 23 The first dose of rotavirus must be administered no earlier than 6 weeks and no later than 14 weeks 6 days. The vaccine series should not be started for infants 15 weeks 0 days or older. Rotavirus vaccine should not be administered to children older than 8 months 0 days, regardless of the number of doses received before that age. If two doses of Rotarix are administered as age appropriate, a third dose is not necessary.
- 24 Only one dose of Tdap is recommended. Subsequent doses should be given as Td. For management of a tetanus-prone wound in a person who has received a primary series of a tetanus-toxoid containing vaccine, the minimum interval after a previous dose of any tetanus-containing vaccine is 5 years.
- 25 A special grace period of 2 months, based on expert opinion, can be applied to the minimum interval of 3 months, when evaluating records retrospectively, which results in an acceptable minimum interval of 4 weeks. An additional 4 days should not be added to this grace period.
- 26 A special grace period of 2 months, based on expert opinion, can be applied to the minimum age of 15 months when evaluating records retrospectively, which will result in an acceptable minimum age of 13 months. An additional 4 days should not be added to this grace period.