

**Recommended and Minimum Ages and Intervals
Between Doses of Routinely Recommended Vaccines^{1,2,3,4}**

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 ⁵	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 ⁶	6 months ⁶
DTaP-4	15-18 months	15 months ⁶	3 years	6 months
DTaP-5 ⁷	4-6 years	4 years	—	—
<i>Haemophilus influenzae</i> type b (Hib)-1 ⁸	2 months	6 weeks	8 weeks	4 weeks
Hib-2	4 months	10 weeks	8 weeks	4 weeks
Hib-3 ⁹	6 months	14 weeks	6-9 months	8 weeks
Hib-4	12-15 months	12 months	—	—
Hepatitis A (HepA)-1 ⁵	12-23 months	12 months	6-18 months	6 months
HepA-2	≥18 months	18 months	—	—
Hepatitis B (HepB)-1 ¹⁰	Birth	Birth	4 weeks-4 months	4 weeks
HepB-2	1-2 months	4 weeks	8 weeks-17 months	8 weeks
HepB-3 ¹¹	6-18 months	24 weeks	—	—
Herpes zoster Live (ZVL) ¹²	≥60 years	60 years ¹³	—	—
Herpes zoster Recombinant (RZV)-1	≥50 years	50 years ¹⁴	2-6 months	4 weeks
RZV-2	≥50 years (+2-6 months)	50 years	—	—
Human papillomavirus (HPV) – Two-Dose Series ¹⁵				
HPV-1	11-12 years	9 years	6 months	5 months
HPV-2	11-12 years (+ 6 months)	9 years (+ 5 months) ¹⁶	—	—
Human papillomavirus (HPV) – Three-Dose Series				
HPV-1 ¹⁷	11-12 years	9 years	1-2 months	4 weeks
HPV-2	11-12 years (+ 1-2 months)	9 years (+ 4 weeks)	4 months	12 weeks ¹⁵
HPV-3 ¹⁷	11-12 years (+ 6 months)	9 years (+5 months)	—	—
Influenza, inactivated (IIV) ¹⁸	≥6 months	6 months ¹⁹	4 weeks	4 weeks
Influenza, live attenuated (LAIV) ¹⁸	2-49 years	2 years	4 weeks	4 weeks
Measles-mumps-rubella (MMR)-1 ²⁰	12-15 months	12 months	3-5 years	4 weeks
MMR-2 ²⁰	4-6 years	13 months	—	—
Meningococcal conjugate (MenACWY)-1 ²¹	11-12 years	2 months ²²	4-5 years	8 weeks
MenACWY-2	16 years	11 years (+ 8 weeks) ²³	—	—
Meningococcal B (<i>Healthy Adolescents</i>)				
MenB-1	16-23 years	16 years	Bexsero: 4 weeks Trumenba: 6 months ³	Bexsero: 4 weeks Trumenba: 6 months ³
MenB-2	16-23 years (+1 month)	16 years (+1 month)	—	—
Meningococcal B (<i>Persons at Increased Risk</i>)				
MenB-1	≥10 years	10 years	Bexsero: 4 weeks Trumenba: 1-2 months ³	Bexsero: 4 weeks Trumenba: 1 month
MenB-2	≥10 years (+1 month)	10 years (+1 month)	Bexsero: N/A Trumenba: 4-5 months ³	Bexsero: N/A Trumenba: 4 months ³
MenB-3 ²⁴	≥10 years (+6 months) ³	10 years (+6 months) ³	—	—
Pneumococcal conjugate (PCV13)-1 ⁸	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 ²⁵	—	7 years	—	—
Poliovirus, Inactivated (IPV)-1 ⁵	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 ²⁶	4-6 years	4 years	—	—
Rotavirus (RV)-1 ²⁷	2 months	6 weeks	8 weeks	4 weeks
RV-2	4 months	10 weeks	8 weeks	4 weeks
RV-3 ²⁷	6 months	14 weeks	—	—
Tetanus-diphtheria (Td)	11-12 years	7 years	10 years	5 years
Tetanus-diphtheria-acellular pertussis (Tdap) ²⁸	≥11 years	7 years	—	—
Varicella (Var)-1 ²⁰	12-15 months	12 months	3-5 years	12 weeks ²⁹
Var-2 ²⁰	4-6 years	15 months ³⁰	—	—

- 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 <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 (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).
- 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 necessary. 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 If a dose of Zostavax is administered to someone 50-59 years of age, the dose does not need to be repeated. A 4-day grace period can be added to the absolute minimum age of 50 years when evaluating records retrospectively.
- 14 If the first dose of recombinant zoster vaccine (Shingrix) is administered to someone 18-49 years of age, the dose does not need to be repeated. A 4-day grace period can be added to the absolute minimum age of 18 years when evaluating records retrospectively.
- 15 A two-dose series of HPV vaccine is recommended for most persons who begin the series at 9 through 14 years of age. See HPV-specific recommendations for details. <https://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf>
- 16 If a patient is eligible for a 2-dose HPV series and the 2nd dose is given too early, it is an invalid dose.

Prospectively:

 - If the 2nd dose was given less than 4 weeks after the 1st dose, give an additional dose 6-12 months after the 1st dose.
 - If the 2nd dose was given more than 4 weeks but less than 5 months after the 1st dose, give an additional dose at least 12 weeks after the 2nd dose and at least 6-12 months after the 1st dose. The 4-day grace period may be used in either case.

Retrospectively:

 - If this additional dose was given before December 16, 2016, and was given 12 weeks after the 2nd dose and 16 weeks after the 1st dose, it may be counted as valid.
 - If it was given on or after December 16, 2016, and was given 12 weeks after the 2nd dose and 5 months after the 1st dose, it may be counted as valid. The 4-day grace period may be used in either case.

- 17 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.
 - If the 3rd dose was given before December 16, 2016 and was given 12 weeks after the 2nd dose and 16 weeks after the 1st dose, it may be counted as valid.
 - If the 3rd dose was given on or after December 16, 2016 and was given 12 weeks after the 2nd dose and 5 months after the 1st dose, it may be counted as valid. The 4-day grace period may be used in either case.
- 18 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.
- 19 The minimum age for inactivated influenza vaccine varies by vaccine manufacturer. See package inserts for vaccine-specific minimum ages.
- 20 Combination MMRV vaccine can be used for children 12 months through 12 years of age. See www.cdc.gov/mmwr/pdf/rr/rr5903.pdf for details.
- 21 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 for details.
- 22 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.
- 23 For routine, non-high risk adolescent vaccination, the minimum age for the booster dose is 16 years.
- 24 This dose is not necessary of Bexsero is correctly administered, or if Trumenba is correctly administered to healthy adolescents.
- 25 A second dose of PPSV23 5 years after the first dose is recommended for persons ≤ 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 for details.
- 26 A fourth dose is not needed if the third dose was administered on or after the 4th birthday and at least 6 months after the previous dose.
- 27 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.
- 28 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.
- 29 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.
- 30 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.

Grace Period

Vaccine doses administered up to 4 days before the recommended age or interval are considered valid.
However, local or state mandates might supersede this 4-day guideline.