

Colorado Immunization Manual

SECTION 11 Minimum Intervals (Table)



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SECTION 11

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Recommended and minimum ages and intervals between vaccine 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-1 [†]	Birth-2 months	Birth	1-4 months	4 weeks
Hepatitis B-2	1-4 months	4 weeks	2-17 months	8 weeks
Hepatitis B-3 [§]	6-18 months	24 weeks	–	–
Diphtheria and tetanus toxoids and acellular pertussis (DTaP)-1	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 ^{¶**}
DTaP-4	15-18 months	12 months	3 years	6 months [†]
DTaP-5	4-6 years	4 years	–	–
<i>Haemophilus influenzae</i> type b (Hib)-1 ^{† ††}	2 months	6 weeks	2 months	4 weeks
Hib-2	4 months	10 weeks	2 months	4 weeks
Hib-3	6 months	14 weeks	6-9 months	8 weeks
Hib-4	12-15 months	12 months	–	–
Inactivated poliovirus vaccine (IPV)-1	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	4 weeks
IPV-4	4-6 years	18 weeks	–	–
Pneumococcal conjugate vaccine (PCV)-1	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, and rubella (MMR)-1	12-15 months ^{¶¶}	12 months	3-5 years	4 weeks
MMR-2	4-6 years	13 months	–	–
Varicella ^{***}	12-18 months	12 months	4 weeks ^{***}	4 weeks ^{***}
Hepatitis A-1	≥2 years	2 years	6-18 months [†]	6 months [†]
Hepatitis A-2	≥30 months	30 months	–	–
Trivalent Inactivated Influenza Vaccine (TIV) ^{†††}	6-23 months	6 months	1 month	4 weeks
Live Attenuated Influenza Vaccine (LAIV) ^{†††}	–	5 years	6-10 weeks	6 weeks
Pneumococcal polysaccharide vaccine (PPV)-1	–	2 years	5 years	5 years
PPV-2	–	7 years ^{§§§}	–	–

* Combination vaccines are available. Using licensed combination vaccines is preferred over separate injections of their equivalent component vaccines (Source: 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]: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 antigens.

† A combination hepatitis B-Hib vaccine is available (Comvax®, manufactured by Merck Vaccine Division). This vaccine should not be administered to infants aged <6 weeks because of the Hib component.

§ Hepatitis B-3 should be administered ≥8 weeks after Hepatitis B-2 and 16 weeks after Hepatitis B-1, and it should not be administered before age 24 weeks.

¶ Calendar months.

** The minimum interval between DTaP-3 and DTaP-4 is recommended to be ≥6 months. However, DTaP-4 does not need to be repeated if administered ≥4 months after DTaP-3.

†† For Hib and PCV, children receiving the first dose of vaccine at age ≥7 months require fewer doses to complete the series (see CDC. *Haemophilus b* conjugate vaccines for prevention of *Haemophilus influenzae*, type b disease among infants and children two months of age and older: recommendations of the ACIP. *MMWR* 1991; 40[No. RR-1]:1-7, and CDC. Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices [ACIP]. *MMWR* 2000; 49[No. RR-9]:1-35).

§§ For a regimen of only polyribosylribitol phosphate-meningococcal outer membrane protein (PRP-OMP, Pedvax-Hib®, manufactured by Merck), a dose administered at age 6 months is not required.

¶¶ During a measles outbreak, if cases are occurring among infants aged <12 months, measles vaccination of infants aged ≥6 months can be undertaken as an outbreak control measure. However, doses administered at age <12 months should not be counted as part of the series. (Source: CDC. Measles, mumps, and rubella – vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps: recommendations of the Advisory Committee on Immunization Practices [ACIP]. *MMWR* 1998;47[No. RR-8]:1-57).

*** Children aged 12 months - 12 years require only one dose of varicella vaccine. Persons aged ≥13 years should receive two doses separated by ≥4 weeks.

††† Two doses of influenza vaccine are recommended for children aged <9 years who are receiving the vaccine for the first time. Children aged <9 years who have previously received influenza vaccine and persons aged ≥9 years require only one dose per influenza season.

§§§ Second doses of PPV are 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 aged <10 years at the time of revaccination. (See CDC. Prevention of pneumococcal disease: recommendations of the Advisory Committee on Immunization Practices [ACIP]. *MMWR* 1997;46[No. RR-8]:1-24).

Suggested intervals between administration of immune globulin preparations for different indications and measles-containing vaccine and varicella vaccine*

Product/Indication	Dose, including mg immunoglobulin G (IgG)/kg body weight*	Suggested Interval before Measles or Varicella Vaccination
RSV monoclonal antibody (Synagis™)§	15 mg/kg intramuscularly (IM)	None
Tetanus (TIG)	250 units (10 mg IgG/kg) IM	3 months
Hepatitis A (IG)		
Contact prophylaxis	0.02 mL/kg (3.3 mg IgG/kg) IM	3 months
International travel	0.06 mL/kg (10 mg IgG/kg) IM	3 months
Hepatitis B IG	0.06 mL/kg (10 mg IgG/kg) IM	3 months
Rabies IG	20 IU/kg (22 mg IgG/kg) IM	4 months
Varicella IG	125 units/10kg (20-40 mg IgG/kg) IM (maximum 625 units)	5 months
Measles prophylaxis IG		
Standard (i.e., nonimmunocompromised contact)	0.25 mL/kg (40 mg IgG/kg) IM	5 months
Immunocompromised contact	0.50 mL/kg (80 mg IgG/kg) IM	6 months
Blood transfusion		
Red blood cells (RBCs), washed	10 mL/kg negligible IgG/kg intravenously (IV)	None
RBCs, adenine-saline added	10 mL/kg (10 mg IgG/kg) IV	3 months
Packed RBCs (Hct 65%)†	10 mL/kg (60 mg IgG/kg) IV	6 months
Whole blood (Hct 35-50%)†	10 mL/kg (80-100 mg IgG/kg) IV	6 months
Plasma/platelet products	10 mL/kg (160 mg IgG/kg) IV	7 months
Cytomegalovirus intravenous immune globulin (IGIV)	150 mg/kg maximum	6 months
Respiratory syncytial virus prophylaxis IGIV	750 mg/kg	9 months
IGIV		
Replacement therapy for immune deficiencies†	300-400 mg/kg IV†	8 months
Immune thrombocytopenic purpura	400 mg/kg IV	8 months
Immune thrombocytopenic purpura	1000 mg/kg IV	10 months
Kawasaki disease	2 grams/kg IV	11 months

*This table is not intended for determining the correct indications and dosage for using immune globulin products. Unvaccinated persons might not be fully protected against measles during the entire recommended interval, and additional doses of immune globulin and/or measles vaccine might be indicated after measles exposure. Concentrations of measles antibody in an immune globulin preparation can vary by manufacturer's lot. Rates of antibody clearance after receipt of an immune globulin preparation might vary also. Recommended intervals are extrapolated from an estimated half-life of 30 days for passively acquired antibody and an observed interference with the immune response to measles vaccine for 5 months after a dose of 80 mg IgG/kg. (Source: Mason W, Takahashi M, Schneider T. Persisting passively acquired measles antibody following gamma globulin therapy for Kawasaki disease and response to live virus vaccination [Abstract 311]. Presented at the 32nd meeting of the Interscience Conference on Antimicrobial Agents and Chemotherapy, Los Angeles, California, October, 1992.)

§Contains antibody only to respiratory syncytial virus (RSV)

†Assumes a serum IgG concentration of 16 mg/mL.

¶Measles and varicella vaccination is recommended for children with asymptomatic or mildly symptomatic human immunodeficiency virus (HIV) infection but is contraindicated for persons with severe immunosuppression from HIV or any other immunosuppressive disorder.