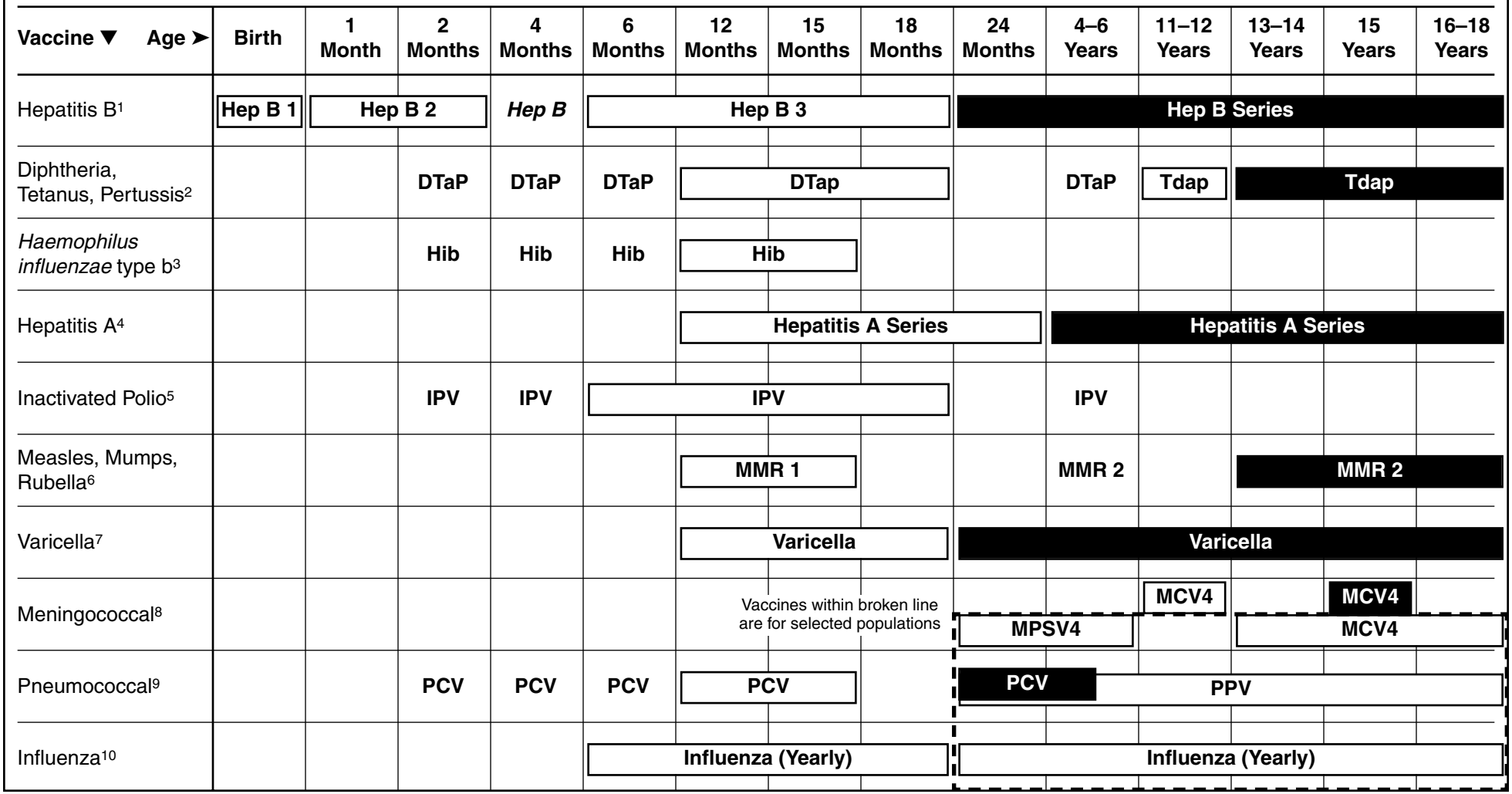
2006 Summary of ACIP/AAP/AAFP Childhood and Adolescent Immunization Recommendations

Colorado Department of Public Health and Environment/Colorado Clinical Guidelines Collaborative

Children Beginning Immunization In Infancy (please see notes on back)

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of January 1, 2006, for children through age 18 years. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations. Light bars indicate range of recommended ages for immunization. Any dose not given at the recommended age should be administered at any subsequent visit when indicated and feasible. Dark bars indicate age groups that warrant special effort to administer those vaccines not previously administered.



For updated information on new pediatric vaccines, visit the CCGC website at www.coloradoguidelines.org or the CDPHE website at www.cdphe.state.co.us/dc/immunization.

NOTES

[1] **Hepatitis B vaccine (Hep B):** Hospitals should implement standing orders to assure that all infants receive monovalent Hep B soon after birth and before discharge. **Infants born to mothers who are HBsAg-positive** should receive both the vaccine and 0.5 mL of Hepatitis B Immune Globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9–15 months. **Infants born to mothers whose HBsAg status is unknown** should receive Hep B within 12 hours of birth. The mother should have maternal blood drawn as soon as possible to determine her status; if HBsAg-positive, the infant should receive HBIG as soon as possible (no later than age 1 week). All infants should receive a second dose at age 1–2 months (given at least 4 weeks after the first dose, except for combination vaccines, which should not be given before age 6 weeks) and a final dose at least 16 weeks after the first dose, at least 8 weeks after the second dose, and not before age 24 weeks. Monovalent or combination vaccine containing Hep B may be used for all remaining doses in the series. It is permissible and may be necessary to administer >3 doses of Hep B vaccine (e.g., when combination vaccines containing Hep B are given following the birth dose). In rare circumstances, the birth dose may be delayed if the physician writes an order to withhold the vaccine and includes it and a copy of the mother's HBsAg-negative laboratory report in the infant's medical record.

[2] **Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP):** The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15–18 months. The final dose in the series should be given at age ≥4 years.

Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap—preadolescent/adolescent preparation) is recommended at age 11–12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a Td booster dose. Adolescents 13–18 years who missed the 11–12-year Td/Tdap booster dose should also receive a single dose of Tdap if they have completed the recommended childhood DTP/DTaP vaccination series. Subsequent tetanus and diphtheria toxoids (Td) are recommended every 10 years.

[3] ***Haemophilus influenzae*** **type b conjugate vaccines (Hib):** Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4, or 6 months (unless FDA-approved for these ages) but can be used as boosters after any Hib vaccine. The final dose in the series should be administered at age ≥12 months.

[4] **Hepatitis A vaccine (Hep A):** All children should receive the Hep A series starting at age 12 months (i.e., between age 12–23 months). Children who are not vaccinated by age 24 months can be vaccinated at subsequent visits. The 2 doses in the series should be administered at least 6 months apart.

[5] **Polio vaccine (IPV):** The fourth dose of polio vaccine is recommended routinely at age 4–6 years but may be administered during any visit provided at least 4 weeks have elapsed since the third dose.

[6] **Measles, mumps, and rubella vaccine (MMR):** The second dose of MMR vaccine is recommended routinely at age 4–6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by age 11–12 years.

[7] **Varicella vaccine (Var):** Var is recommended at any visit at or after age 12 months for susceptible children (i.e., those who lack a reliable history of chickenpox). Susceptible persons aged ≥13 years should receive 2 doses administered at least 4 weeks apart.

[8] **Meningococcal vaccine:** Vaccination with meningococcal conjugate vaccine (MCV4) is recommended for all 11–12 year olds as well as adolescents at high school entry or 15 years of age, whichever comes first. All college freshmen living in dormitories should also be vaccinated, preferably with MCV4, although meningococcal polysaccharide vaccine (MPSV4) is an acceptable alternative. Vaccination against invasive meningococcal disease is recommended for children and adolescents aged ≥2 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high risk groups (see *MMWR 2005;54 [RR-7]:1-21*); use MPSV4 for children aged 2–10 years and MCV4 for older children, although MPSV4 is an acceptable alternative.

[9] **Pneumococcal vaccines: Heptavalent pneumococcal conjugate vaccine (PCV)** is recommended for all children aged 2–23 months and for certain children aged 24–59 months. The final dose in the series should be given at age ≥12 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups (see *MMWR 2000:49(RR-9);1–35*).

[10] **Influenza vaccine:** Influenza vaccine is recommended annually for children aged ≥6 months with certain risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, human immunodeficiency virus [HIV], and diabetes), healthcare workers, and other persons (including household members) in close contact with persons in groups at high risk (see *MMWR 2004;53[RR-6]:1-40*). In addition, healthy children aged 6–23 months and close contacts of healthy children aged 0–23 months are recommended to receive influenza vaccine because they are at substantially increased risk for influenza-related hospitalizations. For healthy persons aged 5–49 years, the intranasally administered, live, attenuated influenza vaccine (LAIV) is an acceptable alternative to the intramuscular trivalent inactivated influenza vaccine (TIV) (see *MMWR 2004;53(RR-6):1-40*). Children receiving TIV should be administered a dosage appropriate for their age (0.25 mL if 6–35 months or 0.5 mL if ≥3 years). Children aged ≤8 years who are receiving influenza vaccine for the first time should receive 2 doses (separated by at least 4 weeks for TIV and at least 6 weeks for LAIV).

Accelerated Schedule For Children And Adolescents Aged <7 Years Who Start The Series Late Or Are More Than 1 Month Behind

Visit	Vaccine doses
1st visit (at least 4 months of age)	Hep B #1, DTaP #1, Hib[a], IPV #1, PCV[b], MMR and Var (as soon as child is 12 months), Hep A (as soon as child is 24 months), Influenza (≥6–23 months)
4–8 weeks after 1st visit	Hep B #2, DTaP #2, Hib[a], IPV #2, PCV[b]
4–8 weeks after 2nd visit	DTaP #3, Hib[a], IPV #3, PCV[b]
6 months after 1st visit	Hep B #3, Hep A #2
6 months after 3rd visit	DTaP #4, Hib[a]
Age 4–6 years (before school entry)	DTaP #5[c], IPV #4[c], MMR #2 (at least 4 weeks after MMR #1)
Age 11–16 years	Tdap

a. Immunologically normal children aged ≥5 years do not need Hib vaccine. **If infant starts series at age 7–11 months,** give 2 doses 2 months apart and booster dose at 12–15 months. **If infant starts at age 12–14 months,** give first dose. Give second (and last) dose at least 2 months later. **If child starts at age 15 months to 4 years,** give just 1 dose.

b. Immunologically normal children aged ≥5 years do not need PCV vaccine. **If infant starts series at age 2-6 months,** give 3 doses, 2 months apart and booster dose at 12–15 months. **If infant starts series at 7–11 months,** give 2 doses, 2 months apart and booster dose at 12–15 months. **If infant starts at 12–23 months,** give 2 doses, 2 months apart. **If healthy child starts series at age 24–59 months,** give just 1 dose. (See *MMWR Oct. 6, 2000/49(RR-9);1–35.*)

c. The US Public Health Service and the AAP consider DTaP #5 and IPV #4 necessary unless the DTaP #4 and IPV #3 were given after the fourth birthday. If OPV and IPV were administered as part of a series, a total of 4 doses should be given regardless of the child's current age. If the vaccines are administered according to their licensed indication for minimum ages and intervals between doses, 4 doses of IPV in any combination by age 4–6 years is considered a complete series regardless of age at time of the third dose. (See *MMWR May 19, 2000/49(RR-5); 12–13.*)

Accelerated Schedule For Children And Adolescents Aged ≥7 Years Who Start The Series Late

Visit	Vaccine doses
1st visit	Hep B #1, Td/Tdap[a] #1, IPV #1[b], MMR #1, Var #1, Hep A #1, MCV4 (if 11–12 years old)
4–8 weeks after 1st visit	Hep B #2, Td/Tdap[a] #2, IPV #2[b], MMR #2, Var #2 (if ≥13 years)
6 months after 1st visit	Hep B #3, Hep A #2, IPV #3[b]
6 months after 2nd visit	Td/Tdap[a] #3
10 years after 3rd Td	Td/Tdap[a]

a. Tdap should be given for 1 dose of Td/Tdap series.
b. Vaccine is not generally recommended for those aged ≥18 years.

Minimum Intervals Between Vaccine Doses For Children Who Have Delayed Immunizations

Vaccine	Dose 1–2	Dose 2–3	Dose 3–4
Hep B	4 Weeks	8 Weeks*	
*This final dose is recommended at least 4 months after the first dose and no earlier than age 6 months.			
DTaP	4 Weeks	4 Weeks	6 Months
Td/Tdap	4 Weeks	6 Months	**
**6 months if first dose given at age <12 months and current age <11 years. 5 years if first dose given at ≥12 months and third dose given at age <7 years and current age ≥11 years. 10 years if third dose given at age ≥7 years. For children aged 7–10 years, the interval between the third and booster dose is determined by the age when the first dose was administered. For adolescents aged 11–18 years, the interval is determined by the age when the third dose was given.			
MMR	4 Weeks***		
***The second dose of MMR is recommended routinely at age 4–6 years but may be administered earlier if desired.			
Var	4 Weeks		
Hep A	6 Months		

Vaccine	Dose 1–2	Dose 2–3	Dose 3–4
IPV****	4 Weeks	4 Weeks	4 Weeks
****If the vaccines are administered according to their licensed indication for minimum ages and intervals between doses, 4 doses of IPV in any combination by age 4–6 years is considered a complete series regardless of age at time of the third dose. (See *MMWR May 19, 2000/49(RR-5); 12–13.*)			
Hib			
HbOC	4 Weeks	4 Weeks	*****
PRP-T	4 Weeks	4 Weeks	*****
PRP-OMP	4 Weeks	*****	
*****Hib booster dose should be administered no earlier than 12 months of age and at least 2 months after the previous dose of Hib vaccine.			
PCV	4 Weeks******	4 Weeks	8 Weeks******
******For children vaccinated at age <1 year, minimum interval is 4 weeks. Booster dose should be administered ≥8 weeks after primary series is completed. Minimum interval for children receiving doses at age ≥1 year is 8 weeks.			

The above table shows the **minimum** intervals acceptable between doses of vaccine. There is no need to restart a vaccine series regardless of the time that has elapsed between doses.

Immunization Program Resources

Colorado Department of Public Health and Environment

General Immunization Questions: (303) 692-2650

Vaccine Orders: (303) 692-2796

Vaccines for Children (VFC) Program: (303) 692-2798

Hepatitis B Project: (303) 692-2673

Disease Reports: 1-800-866-2759

Vaccine Adverse Event Reporting System (VAERS):
(303) 692-2732, 1-800-822-7967. Clinically significant adverse events that follow immunization should be reported to VAERS. Guidance about how to obtain and complete a VAERS form is also available at http://www.vaers.hhs.gov.

Vaccine Information Statements (VISs): http://www.cdc.gov/nip/publications/vis

Family Healthline (Parent Information): (303) 692-2229 (Denver metro area) or 1-800-688-7777

COLORADO CLINICAL GUIDELINES COLLABORATIVE

Background

The Colorado Clinical Guidelines Collaborative was formed in 1996 to address the challenges for the use and implementation of clinical guidelines across health care systems in Colorado. Current membership represents 50 health care organizations.

Mission Statement

CCGC is a Colorado coalition of healthcare stakeholders (health plans, physicians, hospitals, employers, government agencies, quality improvement organizations and other entities) working collaboratively to implement systems and processes, using evidenced-based clinical guidelines to improve healthcare outcomes in Colorado.