

# Summary of ACIP/AAP/AAFP Pediatric Immunization Recommendations

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

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

Vaccines<sup>1</sup> are listed under routinely recommended ages. [Bars] indicate range of recommended ages for immunization. Any dose not given at the recommended age should be given as a "catch-up" immunization at any subsequent visit when indicated and feasible. (Ovals) indicate vaccines to be given if previously recommended doses were missed or given earlier than the recommended minimum age.

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Vaccine ▼	Age ►	Birth	1 Month	2 Months	4 Months	6 Months	12 Months	15 Months	18 Months	24 Months	4-6 Years	11-12 Years	13-18 Years	
Hepatitis B <sup>2</sup>		Hep B #1								Hep B series				
Diphtheria, Tetanus, Pertussis <sup>3</sup>			Hep B #2			Hep B #3					DTaP	Td		
<i>H. influenzae</i> type b <sup>4</sup>				DTaP	DTaP	DTaP	see note 3	DTaP <sup>3</sup>						
Polio				Hib	Hib	Hib	Hib				IPV	MMR <sup>5</sup>	MMR <sup>5</sup>	
Measles, Mumps, Rubella <sup>5</sup>				IPV	IPV	IPV	MMR							
Varicella <sup>6</sup>							Var				Var <sup>6</sup>			
Pneumococcal <sup>7</sup>				PCV	PCV	PCV	PCV	PCV			PCV	PPV		
Hepatitis A <sup>8</sup>		Vaccines below this line are for selected populations												Hep A <sup>8</sup>
Influenza <sup>9</sup>						Influenza (yearly) <sup>9</sup>							see note 9	

### Accelerated Schedule For Infants And Children Under 7 Years Old Who Start The Series Late

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

- Immunologically normal children age 5 years and older 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 1st dose. Give 2nd (and last) dose at least 2 months later. **If child starts at age 15 months to 4 years**, give just one dose.
- Immunologically normal children age 5 years and older 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 one dose. (See *MMWR* Oct. 6, 2000/49(RR-9);1-35).
- The USPHS and the AAP consider DTaP #5 and Polio #4 necessary unless the DTaP #4 and Polio #3 were given after the 4th birthday.
- ACIP recommends annual influenza vaccination for ALL children ages 6-23 months, unless contraindications are present.

### Children Beginning Immunization At Age 7 Years Or Older

Visit	Vaccine doses
1st visit	Hep B #1, Td #1, IPV #1, MMR #1, Var #1, Hep A #1
4-8 weeks after 1st visit	Hep B #2, Td #2, IPV #2, MMR #2, Var #2 (if ≥ 13 years)
6 months after 1st visit	Hep B #3, Hep A #2, IPV #3
6 months after 2nd visit	Td #3
10 years after 3rd Td	Td

### Minimum Intervals Between Vaccine Doses

Vaccine	Dose 1-2	Dose 2-3	Dose 3-4	Vaccine	Dose 1-2	Dose 2-3	Dose 3-4
Hep B	4 Weeks	8 Weeks*		IPV	4 Weeks	4 Weeks	4 Weeks
DTaP (DT)	4 Weeks	4 Weeks	6 Months	PCV	4 Weeks***	4 Weeks	8 Weeks***
Hib				***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.			
HbOC	4 Weeks	4 Weeks	**	MMR	4 Weeks		
PRP-T	4 Weeks	4 Weeks	**	Varicella	4 Weeks		
PRP-OMP	4 Weeks	**		Hep A	6 Months		

\*This final dose is recommended at least 4 months after the first dose and no earlier than 6 months of age.

\*\*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.

The above table shows the **minimum** intervals acceptable between doses of vaccine. All vaccines should be administered as close to the recommended schedule as possible in order to maximize the protection from vaccine. **It is not necessary to restart the series of any vaccine due to extended intervals between doses.**

## NOTES

Some of the following notes have sentences which are in bold italics indicating they have been added by the Colorado Department of Public Health and Environment, Immunization Program. These additions have been added as a result of their importance to Colorado and are consistent with recommendations by the Advisory Committee on Immunization Practices.

<sup>1</sup>This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of 1/1/04 for children through 18 years of age. 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 its other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

<sup>2</sup>**Hepatitis B vaccine (HepB).** All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is HBsAg-negative. Only monovalent HepB can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series. Four doses of vaccine may be administered when a birth dose is given. The second dose should be given at least 4 weeks after the first dose, except for combination vaccines which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 6 months.

**Infants born to HBsAg-positive mothers** should receive hepatitis B vaccine and 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The 2nd dose is recommended at 1–2 months of age and the 3rd dose at 6 months of age.

**Infants born to mothers whose HBsAg status is unknown or others at high risk (e.g. Alaskan Native and Asian-Pacific Islander children and children born to first-generation immigrants from HBV-endemic areas)** should receive hepatitis B vaccine within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than 1 week of age).

**All children and adolescents** who have not been immunized against hepatitis B may begin the series during any visit. Special efforts should be made to immunize children who were born in or whose parents were born in areas of the world with moderate or high endemicity of hepatitis B virus infection.

<sup>3</sup>**The 4th dose of DTaP (diphtheria and tetanus toxoids and acellular pertussis vaccine) may be administered as early as 12 months of age, provided 6 months have elapsed since the 3rd dose and the child is unlikely to return at age 15–18 months.** Td (tetanus and diphtheria toxoids) is recommended at 11–12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP or DT. Subsequent routine Td boosters are recommended every 10 years.

<sup>4</sup>Three *Haemophilus influenzae* type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at 2 and 4 months of age, a dose at 6 months is not required. Because clinical studies in infants have demonstrated that using some combination products may induce a lower immune response to the Hib vaccine component, DTaP/Hib combination products should not be used for primary immunization in infants at 2, 4 or 6 months of age, unless FDA-approved for these ages.

<sup>5</sup>The 2nd dose of measles, mumps, and rubella (MMR) vaccine is recommended routinely at 4–6 years of age but may be administered during any visit, provided at least 4 weeks have elapsed since receipt of the 1st dose and that both doses are administered beginning at or after 12 months of age. Those who have not previously received the second dose should complete the schedule by the 11–12 year old visit.

<sup>6</sup>Varicella (Var) vaccine is recommended at any visit on or after the first birthday for susceptible children, i.e. those who lack a reliable history of chickenpox (as judged by a health care provider) and who have not been immunized. Susceptible persons 13 years of age or older should receive 2 doses, given at least 4 weeks apart.

<sup>7</sup>The heptavalent conjugate pneumococcal vaccine (PCV) is recommended for all children 2–23 months of age. It also is recommended for certain children 24–59 months of age. (See *MMWR* Oct. 6, 2000/49(RR-9);1–35). Pneumococcal polysaccharide vaccine (PPV) is also recommended in addition to PCV for certain high-risk groups.

<sup>8</sup>Hepatitis A (Hep A) is shaded to indicate its recommended use in selected states and/or regions, and for certain high risk groups; consult your local public health authority. ***Colorado is considered a state with intermediate risk for the disease. Vaccination should be considered for all children ≥2 years of age.*** (See *MMWR* Oct. 01, 1999/48(RR12);1–37).

<sup>9</sup>ACIP recommends healthy children age 6–23 months receive influenza vaccine, unless contraindications are present. Influenza vaccine is also recommended annually for children age ≥ 6 months with certain high risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, HIV, diabetes, and household contacts of persons in groups at high risk; see *MMWR* 2002;51(RR3);1–31), and can be administered to all other wishing to obtain immunity. Children should receive vaccine in a dosage appropriate for their age (0.25 mL if age 6–35 months or 0.5 mL if aged ≥ 3 years). Children aged ≤ 8 years who are receiving influenza vaccine for the first time should receive two doses separated by at least 4 weeks.

## Immunization Program Resources



Colorado Department  
of Public Health  
and Environment

**General Immunization Questions:** (303) 692-2363

**Inquiries regarding vaccine orders and supplies:**  
(303) 692-2650 or  
(303) 692-2363

**VFC Questions:** (303) 692-2798

**Hepatitis B Project:** (303) 692-2673

**Disease Reports:** 1-800-866-2759

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

**Website:** <http://www.cdph.state.co.us/dc/immunization/immhom.asp>

## 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.*