

OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

THE 2012 CHILD AND ADOLESCENT IMMUNIZATION SCHEDULES

**Table 1 Recommended Immunization Schedule for Persons Aged 0 Through 6 Years  
United States, 2012**

Vaccine ↓	Age ⇨	Birth	1 month	2 months	4 months	6 months	9 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B <sup>1</sup>	HepB	HepB	HepB		HepB								
Rotavirus <sup>2</sup>				RV	RV	RV <sup>2</sup>							
Diphtheria, tetanus, pertussis <sup>3</sup>				DTaP	DTaP	DTaP		see footnote <sup>3</sup>	DTaP				DTaP
<i>Haemophilus influenzae</i> type b <sup>4</sup>				Hib	Hib	Hib <sup>4</sup>		Hib					
Pneumococcal <sup>5</sup>				PCV	PCV	PCV		PCV				PPSV	
Inactivated poliovirus <sup>6</sup>				IPV	IPV	IPV						IPV	
Influenza <sup>7</sup>				Influenza (Yearly)									
Measles, mumps, rubella <sup>8</sup>								MMR			see footnote <sup>8</sup>		MMR
Varicella <sup>9</sup>								Varicella			see footnote <sup>9</sup>		Varicella
Hepatitis A <sup>10</sup>								Dose 1 <sup>10</sup>				HepA Series	
Meningococcal <sup>11</sup>								MCV4 (see footnote <sup>11</sup> )					

Range of recommended ages

Certain high-risk groups

**Table 2 Recommended Immunization Schedule for Persons Aged 7 Through 18 Years  
United States, 2012**

Vaccine ↓	Age ⇨	7–10 years	11–12 years	13–18 years
Tetanus, diphtheria, pertussis <sup>1</sup>		1 dose if indicated	1 dose	1 dose if indicated
Human papillomavirus <sup>2</sup>		See footnote <sup>2</sup>	3 doses	Complete 3-dose series
Meningococcal <sup>3</sup>		See footnote <sup>3</sup>	Dose 1	MCV4 Booster at 16 years old
Influenza <sup>4</sup>		Influenza (yearly)		
Pneumococcal <sup>5</sup>		See footnote <sup>5</sup>		
Hepatitis A <sup>6</sup>		Complete 2-dose series		
Hepatitis B <sup>7</sup>		Complete 3-dose series		
Inactivated poliovirus <sup>8</sup>		Complete 3-dose series		
Measles, mumps, rubella <sup>9</sup>		Complete 2-dose series		
Varicella <sup>10</sup>		Complete 2-dose series		

Range of recommended ages

Range of recommended ages for catch-up immunization

Certain high-risk groups

## UPDATES FOR THE 2012 CHILD AND ADOLESCENT IMMUNIZATION SCHEDULES

Each year, CDC's Advisory Committee on Immunization Practices (ACIP) updates its schedule of recommended immunizations.<sup>1</sup> This issue of the *CD Summary* presents the 2012 schedules in all their microscopically footnoted glory. Briefly, the changes from last year's schedules are as follows.

### CHILDREN ≤6 YEARS OF AGE

- Quadrivalent meningococcal conjugate vaccines (MCV4): Menactra® is approved for children as young as 9 months of age; Menveo® is approved down to 2 years of age. MCV4 is recommended for all adolescents, but in younger children it is reserved for those at high risk. A 2-dose primary series is needed for children 9–23 months of age and for persons with HIV infection, terminal complement component deficiency or asplenia (either anatomic or functional). See footnote #11 for spacing of doses.<sup>2</sup>
- Hepatitis A: footnote #10 now highlights administration of the 2nd vaccine dose 6–18 months after the first dose. The schedule's new shaded bar indicates that, after age 2, this vaccine is recommended only for persons at particularly high risk.

- Hepatitis B: No change to recommendations for routine vaccination against hepatitis B (3 doses), beginning at birth; but footnote #1 clarifies guidance for administering hepatitis B immune globulin (HBIG) for newborns, based on birth weight relative to 2,000 grams; and for the follow-up doses of hepatitis B vaccine.
- Influenza: the updated footnote #7 cites contraindications to the use of live, attenuated influenza vaccine (LAIV); and clarifies dosing for children 6 months – 8 years of age for the 2011–2012 season.<sup>3</sup>
- *Haemophilus influenzae* type b (Hib): footnote #4 emphasizes that Hiberix® should be used only for the booster (final) dose in children 12 months – 4 years of age. In the catch-up schedule, footnote #2 adds guidance for high-risk children ≥5 years of age.
- Measles, mumps, rubella (MMR): footnote #8 now discusses vaccination of infants 6–11 months of age who will travel outside of the United States.

### CHILDREN AND ADOLESCENTS 7–18 YEARS OF AGE

- Tetanus, diphtheria, acellular pertussis (DTaP & Tdap): The schedule incorporates the (off-label) ACIP recommendation for a single dose of Tdap for children 7–10 years of age who lack documentation of a complete DTaP series.<sup>4</sup> The catch-

up schedule reminds us that Td should be used if additional doses are needed to complete the series. If Tdap is given at 7–10 years of age, skip the dose typically recommended Tdap dose at 11 – 12 years of age. At least for now.

- Human papillomavirus (HPV): footnote #2 incorporates the new recommendation for routine vaccination of males 11–12 years of age with a 3-dose series of the quadrivalent HPV vaccine (HPV4) Gardasil®. (The bivalent vaccine [HPV2] Cervarix® has not been recommended for males.) HPV4 can be started as early as 9 years of age; and catch-up is recommended for unvaccinated males through 21 years of age. (Catch-up is recommended for unvaccinated females through age 26.)

### REFERENCES:

1. CDC. 2012 Child and Adolescent Immunization Schedules. Available at [www.cdc.gov/vaccines/recs/schedules/child-schedule.htm](http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm).
2. CDC. Recommendations of the Advisory Committee on Immunization Practices (ACIP) for use of quadrivalent meningococcal vaccine among children aged 9 through 23 months at increased risk for invasive meningococcal disease. *MMWR* 2011;60:1391–2.
3. CDC. Prevention and control of influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practice (ACIP), 2011. Available at [www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm).
4. CDC. Updated recommendation for use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccine from the Advisory Committee on Immunization Practices (ACIP), 2010. *MMWR* 2011;60:13–5.

### Footnotes to Table 1 (verso)

#### 1. Hepatitis B vaccine (HepB). (Minimum age: birth) At birth:

- Administer monovalent HepB vaccine to all newborns before hospital discharge.
- For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB 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) 1 to 2 months after receiving the last dose of the series.
- If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine for infants weighing ≥2,000 grams, and HepB vaccine plus HBIG for infants weighing <2,000 grams. Determine mother's HBsAg status as soon as possible and, if she is HBsAg-positive, administer HBIG for infants weighing ≥2,000 grams (no later than age 1 week).

#### Doses following the birth dose:

- The second dose should be administered at age 1 to 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
- Administration of a total of 4 doses of HepB vaccine is permissible when a combination vaccine containing HepB is administered after the birth dose.
- Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine starting as soon as feasible (Table 3).
- The minimum interval between dose 1 and dose 2 is 4 weeks, and between doses 2 and 3 is 8 weeks. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks and at least 16 weeks after the first dose.

#### 2. Rotavirus vaccine (RV). (Minimum age: 6 weeks for both RV-1 [Rotarix®] and RV-5 [RotaTeq®] weeks)

- The maximum age for the first dose in the series is 14 weeks, 6 days; and 8 months, 0 days for the final dose in the series. Vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
- If RV-1 (Rotarix®) is administered at ages 2 and 4 months, a dose at 6 months is not indicated.

#### 3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). (Minimum age: 6 weeks)

- The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.

#### 4. Haemophilus influenzae type b conjugate vaccine (Hib). (Minimum age: 6 weeks)

- If PRP-OMP (PedvaxHIB® or Comvax® [HepB-Hib]) is administered at ages 2 and 4 months, a dose at age 6 months is not indicated.
- Hiberix® should only be used for the booster (final) dose in children aged 12 months through 4 years.

#### 5. Pneumococcal vaccine. (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])

- Administer 1 dose of PCV to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
- For children who have received an age-appropriate series of 7-valent PCV (PCV7), a single supplemental dose of 13-valent PCV (PCV13) is recommended for:  
--All children aged 14 through 59 months  
--Children aged 60 through 71 months with underlying medical conditions.
- Administer PPSV at least 8 weeks after last dose of PCV to children aged 2 years or older with certain underlying medical conditions, including a cochlear implant. See *MMWR* 2010;59(No. RR-11), available at [www.cdc.gov/mmwr/pdf/rr/rr5911.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf).

#### 6. Inactivated poliovirus vaccine (IPV) (Minimum age: 6 weeks)

- If 4 or more doses are administered before age 4 years, an additional dose should be administered at age 4 through 6 years.
- The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

#### 7. Influenza vaccines. (Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])

- For most healthy children aged 2 years and older, either LAIV or TIV may be used. However, LAIV should not be administered to some children, including 1) children with asthma, 2) children 2 through 4 years who had wheezing in the past 12 months, or 3) children who have any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV, see *MMWR* 2010;59(No. RR-8), available at [www.cdc.gov/mmwr/pdf/rr/rr5908.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5908.pdf).
- For children aged 6 months through 8 years:
  - For the 2011–12 season, administer 2 doses (separated by at least 4 weeks) to those who did not receive at least 1 dose of the 2010–11 vaccine. Those who received at least 1 dose of the 2010–11 vaccine require 1 dose for the 2011–12 season.
  - For the 2012–13 season, follow dosing guidelines in the 2012 ACIP influenza vaccine recommendations.

#### 8. Measles, mumps, and rubella vaccine (MMR). (Minimum age: 12 months)

- The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.
- Administer MMR vaccine to infants aged 6 through 11 months who are traveling internationally. These children should be revaccinated with 2 doses of MMR vaccine, the first at ages 12 through 15 months and at least 4 weeks after the previous dose, and the second at ages 4 through 6 years.

#### 9. Varicella vaccine (VAR). (Minimum age: 12 months)

- The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose.
- For children aged 12 months through 12 years, the recommended minimum interval between doses is 3 months. However, if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

### 10. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

- Administer the second (final) dose 6 to 18 months after the first.
- Unvaccinated children 24 months and older at high risk should be vaccinated. See MMWR 2006;55(No. RR-7), available at [www.cdc.gov/mmwr/pdf/rr/rr5507.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5507.pdf).
- A 2-dose HepA vaccine series is recommended for anyone aged 24 months and older, previously unvaccinated, for whom immunity against hepatitis A virus infection is desired.

### 11. Meningococcal conjugate vaccine, quadrivalent (MCV4). (Minimum age: 9 months for Menactra® [MCV4-D], 2 years for Menveo® [MCV4-CRM])

- For children aged 9 through 23 months 1) with persistent complement deficiency; 2) who are residents of or travelers to countries with hyperendemic or epidemic disease; or 3) who are present during outbreaks caused by a vaccine serogroup, administer 2 primary doses of MCV4-D, ideally at ages 9 months and 12 months or at least 8 weeks apart.
- For children aged 24 months and older with 1) persistent complement deficiency who have not been previously vaccinated; or 2) anatomic/functional asplenia, administer 2 primary doses of either MCV4 at least 8 weeks apart.
- For children with anatomic/functional asplenia, if MCV4-D (Menactra®) is used, administer at a minimum age of 2 years and at least 4 weeks after completion of all PCV doses.
- See MMWR 2011;60:72–6, available at [www.cdc.gov/mmwr/pdf/wk/mm6003.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf), and Vaccines for Children Program resolution No. 6/11-1, available at [www.cdc.gov/vaccines/programs/ofc/downloads/resolutions/06-11mening-mcv.pdf](http://www.cdc.gov/vaccines/programs/ofc/downloads/resolutions/06-11mening-mcv.pdf), and MMWR 2011;60:1391–2, available at [www.cdc.gov/mmwr/pdf/wk/mm6040.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6040.pdf), for further guidance, including revaccination guidelines.

## Footnotes to Table 2 (page 1)

### 1. Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap). (Minimum age: 10 years for Boostrix® and 11 years for Adace®)

- Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter.
- Tdap vaccine should be substituted for a single dose of Td in the catch-up series for children aged 7 through 10 years. Refer to the catch-up schedule if additional doses of tetanus and diphtheria toxoid-containing vaccine are needed.
- Tdap vaccine can be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.

### 2. Human papillomavirus (HPV) vaccines (HPV4 [Gardasil®] and HPV2 [Cervarix®]). (Minimum age: 9 years)

- Either HPV4 or HPV2 is recommended in a 3-dose series for females aged 11 or 12 years. HPV4 is recommended in a 3-dose series for males aged 11 or 12 years.
- The vaccine series can be started beginning at age 9 years.
- Administer the second dose 1 to 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).
- See MMWR 2010;59:626–32, available at [www.cdc.gov/mmwr/pdf/wk/mm5920.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm5920.pdf).

### 3. Meningococcal conjugate vaccines, quadrivalent (MCV4).

- Administer MCV4 at age 11 through 12 years with a booster dose at age 16 years.
- Administer MCV4 at age 13 through 18 years if patient is not previously vaccinated.
- If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years with a minimum interval of at least 8 weeks after the preceding dose.
- If the first dose is administered at age 16 years or older, a booster dose is not needed.

- Administer 2 primary doses at least 8 weeks apart to previously unvaccinated persons with persistent complement deficiency or anatomic/functional asplenia, and 1 dose every 5 years thereafter.
- Adolescents aged 11 through 18 years with human immunodeficiency virus (HIV) infection should receive a 2-dose primary series of MCV4, at least 8 weeks apart.
- See MMWR 2011;60:72–76, available at [www.cdc.gov/mmwr/pdf/wk/mm6003.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf), and Vaccines for Children Program resolution No. 6/11-1, available at [www.cdc.gov/vaccines/programs/ofc/downloads/resolutions/06-11mening-mcv.pdf](http://www.cdc.gov/vaccines/programs/ofc/downloads/resolutions/06-11mening-mcv.pdf), for further guidelines.

### 4. Influenza vaccines (trivalent inactivated influenza vaccine [TIV] and live, attenuated influenza vaccine [LAIV]).

- For most healthy, nonpregnant persons, either LAIV or TIV may be used, except LAIV should not be used for some persons, including those with asthma or any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV, see MMWR 2010;59(No. RR-8), available at [www.cdc.gov/mmwr/pdf/rr/rr5908.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5908.pdf).
- Administer 1 dose to persons aged 9 years and older.
- For children aged 6 months through 8 years:
  - For the 2011–12 season, administer 2 doses (separated by at least 4 weeks) to those who did not receive at least 1 dose of the 2010–11 vaccine. Those who received at least 1 dose of the 2010–11 vaccine require 1 dose for the 2011–12 season.
  - For the 2012–13 season, follow dosing guidelines in the 2012 ACIP influenza vaccine recommendations.

### 5. Pneumococcal vaccines (pneumococcal conjugate vaccine [PCV] and pneumococcal polysaccharide vaccine [PPSV]).

- A single dose of PCV may be administered to children aged 6 through 18 years who have anatomic/functional asplenia, HIV infection or other immunocompromising condition, cochlear implant, or cerebral spinal fluid leak. See MMWR 2010;59(No. RR-11), available at [www.cdc.gov/mmwr/pdf/rr/rr5911.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf).
- Administer PPSV at least 8 weeks after the last dose of PCV to children aged 2 years or older with certain underlying medical conditions, including a cochlear implant. A single revaccination should be administered after 5 years to children with anatomic/functional asplenia or an immunocompromising condition.

### 6. Hepatitis A (HepA) vaccine.

- HepA vaccine is recommended for children older than 23 months who live in areas where vaccination programs target older children, who are at increased risk for infection, or for whom immunity against hepatitis A virus infection is desired. See MMWR 2006;55(No. RR-7), available at [www.cdc.gov/mmwr/pdf/rr/rr5507.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5507.pdf).
- Administer 2 doses at least 6 months apart to unvaccinated persons.

### 7. Hepatitis B (Hep B) vaccine.

- Administer the 3-dose series to those not previously vaccinated.
- For those with incomplete vaccination, follow the catch-up recommendations (Table 3).
- A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax® HB is licensed for use in children aged 11 through 15 years.

### 8. Inactivated poliovirus vaccine (IPV).

- The final dose in the series should be administered at least 6 months after the previous dose.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.
- IPV is not routinely recommended for U.S. residents aged 18 years or older.

### 9. Measles, mumps and rubella (MMR) vaccine.

- The minimum interval between the 2 doses of MMR vaccine is 4 weeks.

### 10. Varicella (VAR) vaccine.

- For persons without evidence of immunity (see MMWR 2007;56[No. RR-4], available at [www.cdc.gov/mmwr/pdf/rr/rr5604.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5604.pdf)), administer 2 doses if not previously vaccinated or the second dose if only 1 dose has been administered.
- For persons aged 7 through 12 years, the recommended minimum interval between doses is 3 months. However, if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.
- For persons aged 13 years and older, the minimum interval between doses is 4 weeks.

## Footnotes to Table 3 (verso)

### 1. Rotavirus (RV) vaccines (RV-1 [Rotarix®] and RV-5 [Rota Teq®]).

- The maximum age for the first dose in the series is 14 weeks, 6 days; and 8 months, 0 days for the final dose in the series. Vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
- If RV-1 was administered for the first and second doses, a third dose is not indicated.

### 2. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).

- The fifth dose is not necessary if the fourth dose was administered at age 4 years or older.

### 3. Haemophilus influenzae type b (Hib) conjugate vaccine.

- Hib vaccine should be considered for unvaccinated persons aged 5 years or older who have sickle cell disease, leukemia, human immunodeficiency virus (HIV) infection, or anatomic/functional asplenia.
- If the first 2 doses were PRP-OMP (PedvaxHIB® or Comvax®) and were administered at age 11 months or younger, the third (and final) dose should be administered at age 12 through 15 months and at least 8 weeks after the second dose.
- If the first dose was administered at age 7 through 11 months, administer the second dose at least 4 weeks later and a final dose at age 12 through 15 months.

### 4. Pneumococcal vaccines. (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV]).

- For children aged 24 through 71 months with underlying medical conditions, administer 1 dose of PCV if 3 doses of PCV were received previously, or administer 2 doses of PCV at least 8 weeks apart if fewer than 3 doses of PCV were received previously.
- A single dose of PCV may be administered to certain children aged 6 through 18 years with underlying medical conditions. See age-specific schedules for details.
- Administer PPSV to children aged 2 years or older with certain underlying medical conditions. See MMWR 2010;59(No. RR-11), available at [www.cdc.gov/mmwr/pdf/rr/rr5911.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5911.pdf).

### 5. Inactivated poliovirus vaccine (IPV).

- A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.
- In the first 6 months of life, minimum age and minimum intervals are only recommended if the person is at risk for imminent exposure to circulating poliovirus (i.e., travel to a polio-endemic region or during an outbreak).
- IPV is not routinely recommended for U.S. residents aged 18 years or older.

### 6. Meningococcal conjugate vaccines, quadrivalent (MCV4). (Minimum age: 9 months for Menactra® [MCV4-D]; 2 years for Menveo® [MCV4-CRM])

- See Table 1 (“Recommended immunization schedule for persons aged 0 through 6 years”) and Table 2 (“Recommended immunization schedule for persons aged 7 through 18 years”) for further guidance.

### 7. Measles, mumps, and rubella (MMR) vaccine.

- Administer the second dose routinely at age 4 through 6 years.

### 8. Varicella (VAR) vaccine.

- Administer the second dose routinely at age 4 through 6 years. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

### 9. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccines.

- For children aged 7 through 10 years who are not fully immunized with the childhood DTaP vaccine series, Tdap vaccine should be substituted for a single dose of Td vaccine in the catch-up series; if additional doses are needed, use Td vaccine. For these children, an adolescent Tdap vaccine dose should not be given.
- An inadvertent dose of DTaP vaccine administered to children aged 7 through 10 years can count as part of the catch-up series. This dose can count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11–12 years.

### 10. Human papillomavirus (HPV) vaccines (HPV4 [Gardasil®] and HPV2 [Cervarix®]).

- Administer the vaccine series to females (either HPV2 or HPV4) and males (HPV4) at age 13 through 18 years if patient is not previously vaccinated.
- Use recommended routine dosing intervals for vaccine series catch-up; see Figure 2 (“Recommended immunization schedule for persons aged 7 through 18 years”).



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**Table 3 Catch-up Immunization Schedule, Ages 4 Months Through 18 Years starting late or more than one month behind—United States, 2012**

PERSONS AGED 4 MONTHS–6 YEARS					
Vaccine	Min. Age for Dose 1	Dose 1 to Dose 2	Minimum Interval Between Doses Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Rotavirus <sup>1</sup>	6 wks	4 weeks	4 weeks <sup>2</sup>		
Diphtheria, tetanus, pertussis <sup>2</sup>	6 wks	4 weeks	4 weeks	6 months	6 months <sup>3</sup>
<i>Haemophilus influenzae</i> type b <sup>3</sup>	6 wks	4 weeks if first dose administered at age <12 months <b>8 weeks (as final dose)</b> if first dose administered at age 12–14 months. <b>No further doses needed</b> if first dose administered at age ≥15 months.	4 weeks <sup>4</sup> if current age <12 months. <b>8 weeks (as final dose)<sup>4</sup></b> if current age ≥12 months and first dose administered at age <12 months and second dose administered at age <15 months. <b>No further doses needed</b> if previous dose administered at age ≥15 months.	<b>8 weeks (as final dose)</b> This dose only necessary for children aged 12–59 months who received 3 doses before age 12 months.	
Pneumococcal <sup>4</sup>	6 wks	4 weeks if first dose administered at age <12 months. <b>8 weeks (as final dose for healthy children)</b> if first dose administered at age ≥12 months or current age 24–59 months. <b>No further doses needed</b> for healthy children if first dose administered at age ≥24 months.	4 weeks if current age <12 months <b>8 weeks (as final dose for healthy children)</b> if current age ≥12 months. <b>No further doses needed</b> for healthy children if previous dose administered at age ≥24 months.	<b>8 weeks (as final dose)</b> This dose only necessary for children aged 12–59 months who received 3 doses age <12 months or high risk children who received 3 doses at any age.	
Inactivated poliovirus <sup>5</sup>	6 wks	4 weeks	4 weeks	6 months <sup>6</sup>	
Meningococcal <sup>6</sup>	9 mos	8 weeks <sup>6</sup>			
Measles, mumps, rubella <sup>7</sup>	12 mos	4 weeks			
Varicella <sup>8</sup>	12 mos	3 months			
Hepatitis A	12 mos	6 months			
PERSONS AGED 7–18 YEARS					
Tetanus, diphtheria/ tetanus, diphtheria, pertussis <sup>9</sup>	7 yrs <sup>10</sup>	4 weeks	4 weeks if first dose administered at age <12 months. <b>6 months</b> if first dose administered at age ≥12 months.	<b>6 months</b> if first dose administered at age <12 months.	
Human papillomavirus <sup>10</sup>	9 yrs		Routine dosing intervals are recommended <sup>10</sup>		
Hepatitis A	12 mos	6 months			
Hepatitis B	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated poliovirus <sup>5</sup>	6 wks	4 weeks	4 weeks <sup>6</sup>	6 months <sup>6</sup>	
Meningococcal <sup>6</sup>	9 mos	8 weeks <sup>6</sup>			
Measles, mumps, rubella <sup>7</sup>	12 mos	4 weeks			
Varicella <sup>8</sup>	12 mos	3 months if first dose administered at age <13 years. 4 weeks if person is aged ≥13 years.			