

2014 Immunization Schedules for Children 0 through 18 Years of Age

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ACIP Meeting
October 23, 2013

Childhood/Adolescent Immunization Schedule Work Group 2013

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Reason Topic is Being Presented to ACIP

- ❑ ACIP approval of the proposed schedules necessary prior to publication in MMWR Jan 2014**
- ❑ AAP, AAFP and ACOG also approve the proposed schedules prior to the Jan 2014 publications.**
- ❑ New policy is not established in the proposed schedules.**
 - Annual schedules reflect recommendations already approved by ACIP.**

BACKGROUND

General Approach to the 2014 Schedules 0 Through 18 Years of Age

- **Edits to the 2013 schedule made by *MMWR* were incorporated into the first draft of the 2014 schedules**
- **Numerous wording changes to improve clarity and readability were made by the Work Group (WG) Jan– October 2013**

Outline

- ❑ Work Group Recommendations: Specific Footnote and Catch-up Table Changes**
- ❑ Discussion and Vote**

Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – 2014.

(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are in bold.

Vaccines	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23mos	2-3 yrs	4-6 yrs	7-10 yrs	11-12 yrs	13–15 yrs	16–18 yrs
Hepatitis B ¹ (HepB)	1 st dose	← 2 nd dose →			← 3 rd dose →											
Rotavirus ² (RV) RV-1 (2-dose series); RV-5 (3-dose series)			1 st dose	2 nd dose	See footnote 2											
Diphtheria, tetanus, & acellular pertussis ³ (DTaP: <7 yrs)			1 st dose	2 nd dose	3 rd dose				← 4 th dose →			5 th dose				
Tetanus, diphtheria, & acellular pertussis ⁴ (Tdap: ≥7 yrs)														(Tdap)		
<i>Haemophilus influenzae</i> type b ⁵ (Hib)			1 st dose	2 nd dose	See footnote 5			← 3 rd or 4 th dose, see footnote 5 →								
Pneumococcal conjugate ^{6a,c} (PCV13)			1 st dose	2 nd dose	3 rd dose			← 4 th dose →								
Pneumococcal polysaccharide ^{6b,c} (PPSV23)																
Inactivated Poliovirus ⁷ (IPV) (<18yrs)			1 st dose	2 nd dose	← 3 rd dose →						4 th dose					
Influenza ⁸ (IIV; LAIV) 2 doses for some: see footnote 8					Annual vaccination (IIV only)						Annual vaccination (IIV or LAIV)					
Measles, mumps, rubella ⁹ (MMR)							← 1 st dose →					2 nd dose				
Varicella ¹⁰ (VAR)							← 1 st dose →					2 nd dose				
Hepatitis A ¹¹ (HepA)							← 2 dose series, see footnote 11 →									
Human papillomavirus ¹² (HPV2: females only; HPV4: males and females)															(3-dose series)	
Meningococcal ¹³ (Hib-MenCY ≥ 6 weeks; MCV4-D ≥ 9 mos; MCV4-CRM ≥ 2 mos)			see footnote 13											1 st dose		booster

Range of recommended ages for all children
Range of recommended ages for catch-up immunization
Range of recommended ages for certain high-risk groups
Range of recommended ages during which catch-up is encouraged and for certain high-risk groups
Not routinely recommended

This schedule includes recommendations in effect as of January 1, 2014. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip/index.html>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

NOTE: The above recommendations must be read along with the footnotes of this schedule.

FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind —United States, 2014

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4	Dose 4 to dose 5
Hepatitis B ¹	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks		
Rotavirus ²	6 weeks	4 weeks	4 weeks ²		
Diphtheria, tetanus, pertussis ³	6 weeks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁵	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose) if first dose administered at age 12–14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁵ if current age at second dose is younger than 12 months → and first dose administered at < 7 months old 8 weeks or age 12–15 months, whichever is later (as final dose) ⁵ if current age at second dose is younger than 12 months and first dose given between 7–11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose); if current age at second dose is 12 to 14 months and first dose administered at younger than age 12 months; or first 2 doses were PRP-OMP and administered ≤11 months No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 2 (PRP-OMP) or 3 (PRP-T) doses before age 12 month and started the primary series before age 7 months	
Pneumococcal ⁶	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age at second dose is younger than 12 months → 8 weeks (as final dose for healthy children) if current age at second dose is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) and minimum age of 12 months This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks	6 months ⁷ minimum age 4 years for final dose	
Meningococcal ¹³	6 weeks	8 weeks ¹³	see footnote 13	see footnote 13	
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months			
Hepatitis A ¹¹	12 months	6 months			
Persons aged 7 through 18 years					
Tetanus, diphtheria; tetanus, diphtheria, pertussis ⁴	7 years ⁴	4 weeks →	4 weeks if first dose of DTaP/DT administered at younger than age 12 months 6 months if first dose of DTaP/DT administered at age 12 months or older. (No further doses needed)	6 months if first dose of DTaP/DT administered at younger than age 12 months	
Human papillomavirus ¹²	9 years	Routine dosing intervals are recommended ¹²			
Hepatitis A ¹¹	12 months	6 months			
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks ⁷	6 months ⁷	
Meningococcal ¹³	6 weeks	8 weeks ¹³			
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months if person is younger than age 13 years 4 weeks if person is aged 13 years or older			

NOTE: The above recommendations must be read along with the footnotes of this schedule.

HepB Vaccine Footnotes

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

Routine vaccination:

At birth

- **If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine regardless of birth weight. For infants weighing <2,000 grams, administer HBIG in addition to HepB within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if mother is HBsAg - positive, also administer HBIG for infants weighing $\geq 2,000$ grams **as soon as possible, but no later than age 7 days.****

Rotavirus Vaccine Footnotes

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [RotaTeq]).

Routine vaccination:

- Administer a series of RV vaccine to all infants as follows:

1. If ~~RV-1~~ **Rotarix** is used, administer a 2-dose series at 2 and 4 months of age.

2. If ~~RV-5~~ **RotaTeq** is used, administer a 3-dose series at ages 2, 4, and 6 months.

3. If any dose in series was ~~RV5~~ **RotaTeq** or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Tdap Vaccine Footnotes (1)

4. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for Boostrix, 11 years for Adacel).

Catch-up vaccination:

- Persons aged **7 years and older** who are not fully immunized with the childhood DTaP vaccine series, should receive Tdap vaccine **as one (preferably the first) dose** in the catch-up series; if **additional doses are needed at this age or older, use Td vaccine instead of Tdap. For children 7 through 10 years who receive a dose of Tdap as part of the catch-up series, an adolescent Tdap vaccine dose at age 11 through 12 years should not be administered. Td should be administered instead 10 years after the Tdap dose.**

Tdap Vaccine Footnotes (2)

- Persons aged **11 years and older** who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter. **Repeat doses of Tdap are not recommended except for the pregnant adolescent, during every pregnancy.**
- An inadvertent dose of DTaP vaccine administered to children aged 7 through 10 years may count as part of the catch-up series. This dose may count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11 through 12 years. **If pediatric DTaP is inadvertently administered to an adolescent aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.**

Tdap Vaccine Catch-up Table

FIGURE 2. Catch-up Immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind —United States, 2014

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years				
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses		
		Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4
Hepatitis B ¹	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks	
Rotavirus ²	6 weeks	4 weeks	4 weeks ²	
Diphtheria, tetanus, pertussis ³	6 weeks	4 weeks	4 weeks	6 months
				6 months ³
<i>Haemophilus influenzae</i> type b ⁵	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose) if first dose administered at age 12–14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁵ if current age at second dose is younger than 12 months and first dose administered at <7 months old 8 weeks or age 12–15 months, whichever is later (as final dose) ⁵ if current age at second dose is younger than 12 months and first dose given between 7–11 months (regardless of Hib vaccine (PRP-1 or PRP-OMP) used for first dose); if current age at second dose is 12 to 14 months and first dose administered at younger than age 12 months; or first 2 doses were PRP-OMP and administered ≤11 months No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 2 (PRP-OMP) or 3 (PRP-1) doses before age 12 month and started the primary series before age 7 months
Pneumococcal ⁶	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age at second dose is younger than 12 months → 8 weeks (as final dose for healthy children) if current age at second dose is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) and minimum age of 12 months This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks	6 months ⁷ minimum age 4 years for final dose
Meningococcal ¹³	6 weeks	8 weeks ¹³	see footnote 13	see footnote 13
Measles, mumps, rubella ⁹	12 months	4 weeks		
Varicella ¹⁰	12 months	3 months		
Hepatitis A ¹¹	12 months	6 months		
Persons aged 7 through 18 years				
Tetanus, diphtheria; tetanus, diphtheria, pertussis ⁴	7 years ⁴	4 weeks →	4 weeks if first dose of DTaP/DT administered at younger than age 12 months 6 months if first dose of DTaP/DT administered at age 12 months or older. (No further doses needed)	6 months if first dose of DTaP/DT administered at younger than age 12 months
Human papillomavirus ¹²	9 years	Routine dosing intervals are recommended ¹²		
Hepatitis A ¹¹	12 months	6 months		
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)	
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks ⁷	6 months ⁷
Meningococcal ¹³	6 weeks	8 weeks ¹³		
Measles, mumps, rubella ⁹	12 months	4 weeks		
Varicella ¹⁰	12 months	3 months if person is younger than age 13 years 4 weeks if person is aged 13 years or older		

NOTE: The above recommendations must be read along with the footnotes of this schedule.

Tdap Vaccine Catch-up Table

Dose 2 to Dose 3

4 weeks if first dose of DTaP/DT administered at younger than age 12 months
6 months if first dose of DTaP/DT administered at age 12 months or older. (No further doses needed)

6 months if first dose of DTaP/DT administered at younger than age 12 months

Hib Vaccine Footnotes(1)

5. *Haemophilus influenzae* type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACT-Hib, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PedvaxHIB or Comvax]). Minimum age: 12 months for PRP-T [Hiberix])

Routine vaccination:

- Administer a 2 or 3 dose Hib vaccine primary series and a booster dose (dose 3 or 4 depending on vaccine used in primary series) at age 12 through 15 months to all infants to complete a full Hib vaccine series.
- The primary series with ActHIB, MenHibrix or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PedvaxHIB or Comvax consists of 2 doses and should be administered at 2 and 4 months of age; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4 depending on vaccine used in primary series) of any-Hib vaccine should be administered at age 12 through 15 months. An exception is Hiberix vaccine. Hiberix should only be used for the booster (final) dose, in children aged 12 months through 4 years, who have received at least 1 prior dose of Hib.

Hib Vaccine Footnotes (2)

Catch-up vaccination:

- If dose 1 was administered at ages **12 through** 14 months, administer a **second (and final)** dose at least 8 weeks after dose 1.
- 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 third (and final)** dose at age 12 through 15 months, regardless of Hib vaccine (PRP-T or PRP-OMP) used for first dose.
- For unvaccinated children aged 15 months or older, administer only 1 dose.
- For other catch-up issues, see Figure 2. **For catch-up issues related to MenHibrix, please see meningococcal vaccine footnotes and also MMWR March 22, 2013 / 62(RR02);1-22 , available at <http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf>.**

ACIP Vote Feb 2013

Guidance for High-Risk Groups

High-risk group*	Hib Vaccine Guidance
Patient <12 months of age	Follow routine Hib vaccination recommendations
Patients 12 through 59 months of age	If unimmunized or received 0 or 1 dose before age 12 months: 2 doses 2 months apart
	If received 2 or more doses before age 12 months: 1 dose If completed a primary series and received a booster dose at age 12 months or older: no additional doses

ACIP Vote Feb 2013

Guidance for High-Risk Groups

High-risk group*	Hib Vaccine Guidance
Patients undergoing chemotherapy or radiation therapy, age <59 months	<p>If routine Hib doses given 14 or more days before starting therapy: revaccination not required</p> <p>If dose given within 14 days of starting therapy or given during therapy: repeat doses starting at least 3 months following therapy completion</p>
Patients undergoing elective splenectomy, age \geq 15 months	If unimmunized: 1 dose prior to procedure
Asplenic patients >59 months of age and adults	If unimmunized: 1 dose
HIV-infected children >59 months of age	If unimmunized: 1 dose
HIV-infected adults	Hib vaccination is not recommended
Recipients of hematopoietic stem cell transplant, all ages	Regardless of Hib vaccination history: 3 doses (at least 1 month apart) beginning 6-12 months after transplant

Hib Vaccine Footnotes (3)

Vaccination of persons with high-risk conditions:

- **Children aged 12 through 59 months who are at increased risk for Hib disease including those with: *anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, early component complement deficiency, or chemotherapy recipients*, who have received either no doses or only one dose of Hib vaccine before 12 months of age should receive two additional doses of Hib vaccine 8 weeks apart; children who received two or more doses of Hib vaccine before 12 months of age should receive one additional dose.**

Hib Vaccine Footnotes (4)

Vaccination of persons with high-risk conditions:

- **Recipients of hematopoietic stem cell transplant (HSCT) should be revaccinated with a 3-dose regimen of Hib vaccine starting 6 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 weeks apart.**

- **For patients <60 months of age undergoing chemotherapy or radiation treatment who received Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.**

Hib Vaccine Footnotes (5)

Vaccination of persons with high-risk conditions:

- A single dose of any licensed Hib conjugate vaccine should be administered to unimmunized* older children (≥ 15 months) and adolescents undergoing an elective splenectomy; vaccine should be administered at least 14 days before procedure.**
- Hib vaccine is not routinely recommended for patients older than 5 years of age. However one dose of Hib vaccine should be administered to unimmunized* persons aged 5 years or older who have anatomic or functional asplenia (including sickle cell disease) and unvaccinated persons 5 through 18 years of age with human immunodeficiency virus (HIV) infection.**

** Patients who have not received a primary series and booster dose or at least 1 dose of Hib vaccine after 14 months of age are considered unimmunized.*

Hib Vaccine Catch-up Table

FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind—United States, 2013

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4	Dose 4 to dose 5
Hepatitis B ¹	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks		
Rotavirus ²	6 weeks	4 weeks	4 weeks ²		
Diphtheria, tetanus, pertussis ³	6 weeks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁵	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose) if first dose administered at age 12–14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁵ if current age at second dose is younger than 12 months → and first dose administered at < 7 months old 8 weeks or age 12–15 months, whichever is later (as final dose) ⁵ if current age at second dose is younger than 12 months and first dose given between 7–11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose); if current age at second dose is 12 to 14 months and first dose administered at younger than age 12 months; or first 2 doses were PRP-OMP and administered ≤11 months No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 2 (PRP-OMP) or 3 (PRP-T) doses before age 12 month and started the primary series before age 7 months	
Pneumococcal ⁶	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age at second dose is younger than 12 months → 8 weeks (as final dose for healthy children) if current age at second dose is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) and minimum age of 12 months This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks	6 months ⁷ minimum age 4 years for final dose	
Meningococcal ¹³	6 weeks	8 weeks ¹³	see footnote 13	see footnote 13	
Measles, mumps, rubella ⁹	12 months	4 weeks			

Hib Vaccine Catch-up Table

Dose 2 to Dose 3

Dose 3 to Dose 4

4 weeks⁵ if current age at second dose is younger than 12 months ----->
and first dose administered at < 7 months old

8 weeks or age 12-15 months, whichever is later (as final dose)⁵ if current age at second dose is younger than 12 months and first dose given between 7-11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose);
if current age at second dose is 12 to 14 months and first dose administered at younger than age 12 months; or first 2 doses were PRP-OMP and administered ≤11 months

No further doses needed if previous dose administered at age 15 months or older

8 weeks (as final dose)

This dose only necessary for children aged 12 through 59 months who received 2 (PRP-OMP) or 3 (PRP-T) doses before age 12 month and started the primary series before age 7 months

Pneumococcal Vaccine Footnotes (1)

6. Pneumococcal Vaccines (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)

Routine vaccination with PCV13

- **Administer a 4-dose series of PCV13 at ages 2, 4, and 6 months, and, at age 12 through 15 months.**
- **For children aged 14 through 59 months who have received an age-appropriate series of 7-valent PCV (PCV7), administer a single supplemental dose of 13-valent PCV (PCV13).**

Catch-up vaccination with PCV13:

- **Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.**
- **For other catch-up issues, see Figure 2.**

Pneumococcal Vaccine Footnotes (2)

Vaccination of persons with high-risk conditions with PCV13 and PPSV23 (Minimum age: 2 years):

- **All recommended PCV13 doses should be administered prior to 23-valent Pneumococcal Polysaccharide Vaccine (PPSV23) if possible.**
- **For children aged 24 through 71 months with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; HIV infection, chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas and Hodgkin disease; solid organ transplantation; or congenital immunodeficiency:**

Pneumococcal Vaccine Footnotes (2)

- i. Administer 1 dose of PCV13 if 3 doses of PCV (PCV7 and/or PCV13) were received previously.**
- ii. Administer 2 doses of PCV13 at least 8 weeks apart if fewer than 3 doses of PCV (PCV7 and/or PCV13) were received previously.**
- iii. Administer 1 supplemental dose of PCV13 if 4 doses of PCV7 or other age-appropriate complete PCV7 schedule were received previously. (from 2010 recs, table 11).**
- iv. The minimum interval between doses of PCV (PCV7 or PCV13) is 8 weeks.**
- v. For children previously unvaccinated with PPSV23, administer PPSV23 at least 8 weeks after the most recent dose of PCV13.**

Pneumococcal Vaccine Footnotes (3)

- For children aged 6 through 18 years who have cerebrospinal fluid leak; cochlear implant; sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma**

Pneumococcal Vaccine Footnotes (4)

- For children aged 6 through 18 years who have chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with high-dose oral corticosteroid therapy); diabetes mellitus; alcoholism, chronic liver disease; or ~~cigarette smoking~~ (corrected post meeting) who have not received PPSV23, administer 1 dose of PPSV23. If PCV13 has been received previously, administer PPSV23 at least 8 weeks after the most recent dose of PCV13.
- A single revaccination with PPSV23 should be administered after 5 years to children with sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiencies; HIV infection; chronic renal failure; nephrotic syndrome; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas and Hodgkin disease; generalized malignancy; solid organ transplantation; or multiple myeloma.

Pneumococcal Vaccine - Catch-Up Table

FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind —United States, 2013

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
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Rotavirus ²	6 weeks	4 weeks	4 weeks ²		
Diphtheria, tetanus, pertussis ³	6 weeks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁴	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose) if first dose administered at age 12–14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁵ if current age at second dose is younger than 12 months and first dose administered at < 7 months old → 8 weeks or age 12–15 months, whichever is later (as final dose) ⁵ if current age at second dose is younger than 12 months and first dose given between 7–11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose); if current age at second dose is 12 to 14 months and first dose administered at younger than age 12 months; or first 2 doses were PRP-OMP and administered ≤11 months No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 2 (PRP-OMP) or 3 (PRP-T) doses before age 12 month and started the primary series before age 7 months	
Pneumococcal ⁶	6 weeks	4 weeks if first dose administered at younger than age 12 months → 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older or current age 24 through 59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age at second dose is younger than 12 months → 8 weeks (as final dose for healthy children) if current age at second dose is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) and minimum age of 12 months This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks	6 months ⁷ minimum age 4 years for final dose	
Meningococcal ⁸	6 weeks	8 weeks ⁸	see footnote 13	see footnote 13	
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months			
Hepatitis A ¹¹	12 months	6 months			

Persons aged 7 through 18 years

Pneumococcal Vaccine Catch-up Table

Dose 2 to Dose 3

Dose 3 to Dose 4

4 weeks if current age at second dose is younger than 12 months ----->
8 weeks (as final dose for healthy children) if current age at second dose is 12 months or older
No further doses needed for healthy children if previous dose administered at age 24 months or older

8 weeks (as final dose) and minimum age of 12 months
This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age

Influenza Vaccine Footnotes

Routine vaccination:

- Administer influenza vaccine annually to all children beginning at age 6 months. For most healthy, nonpregnant persons aged 2 through 49 years, either LAIV or IIV may be used. However, LAIV should NOT be administered to some persons, including 1) those with asthma, 2) children 2 through 4 years who had wheezing in the past 12 months, or 3) those who have any other underlying medical conditions that predispose them to influenza complications. For all other contraindications to use of LAIV see MMWR 2013; 62 (No. RR-7):1-43, available at <http://www.cdc.gov/mmwr/pdf/rr/rr6207.pdf>.
- Administer 1 dose to persons aged 9 years and older.

For children aged 6 months through 8 years:

- For the 2013–14 season, administer 2 doses (separated by at least 4 weeks) to children who are receiving influenza vaccine for the first time. For additional guidance, follow dosing guidelines in the 2013 ACIP influenza vaccine recommendations, see MMWR 2013; 62 (No. RR-7):1-43, available at <http://www.cdc.gov/mmwr/pdf/rr/rr6207.pdf>.
- **For the 2014–15 season**, follow dosing guidelines in the **2014** ACIP influenza vaccine recommendations.

Hep A Vaccine Footnotes

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

Special populations:

- **Administer 2 doses of Hep A vaccine at least 6 months apart to previously unvaccinated persons who live in areas where vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of Infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HAV-infected primates or with HAV in a research laboratory setting; persons with clotting-factor disorders; persons with chronic liver disease.**

HPV Vaccine Footnotes

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

Routine vaccination:

- **Administer a 3-dose series of HPV vaccine on a schedule of 0, 1-2, and 6 months to all adolescents aged 11-12 years. Either HPV4 or HPV2 may be used for females, and only HPV4 may be used for males.**
- **The vaccine series may be started at age 9 years**
- **Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks), **administer the third dose at least 12 weeks after the second dose AND at least 24 weeks after the 1st dose.****

Catch-up vaccination:

- **Administer the vaccine series to females (either HPV2 or HPV4) and males (HPV4) at age 13 through 18 years if not previously vaccinated.**
- **Use recommended routine dosing intervals (see above) for vaccine series catch-up.**

MENINGOCOCCAL VACCINE FOOTNOTES

Meningococcal Vaccine Footnotes (2)

Vaccination of persons with high-risk conditions and of other persons at increased risk of disease.

Children with anatomic or functional asplenia (including sickle cell disease):

- i. For children younger than 19 months of age, administer a 4-dose infant series of MenHibrix or Menveo at 2, 4, 6, and 12 through 15 months of age.**
- ii. For children aged 19 through 23 months who have not completed a series of MenHibrix or Menveo, administer 2 primary doses of Menveo at least 3 months apart.**
- iii. For children aged 24 months and older who have not received a complete series of MenHibrix or Menveo or Menactra, administer 2 primary doses of either Menactra or Menveo. If Menactra is administered to a child with asplenia (including sickle cell disease), do not administer Menactra until 2 years of age and at least 4 weeks after the completion of all PCV13 doses.**

Meningococcal Vaccine Footnotes (3)

Children with persistent complement component deficiency:

- i. For children younger than 19 months of age, administer a 4-dose infant series of either MenHibrix or Menveo at 2, 4, 6, and 12 through 15 months of age.**
- ii. For children 7 through 23 months with persistent complement component deficiency who have not initiated vaccination, 2 options exist depending on age and vaccine brand:**
 - a. For children who initiate vaccination at 7 months through 23 months of age, using Menveo, a two dose series should be administered with the second dose in the second year of life and at least 3 months after the first dose.**
 - b. For children who initiate vaccination at 9 months through 23 months of age, using Menactra, a two dose series of Menactra should be administered at least 3 months apart.**
- For children aged 24 months and older, who have not received a complete series of MenHibrix, Menveo or Menactra, administer 2 primary doses of either Menactra or Menveo.**

Meningococcal Vaccine Footnotes (4)

For children who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic, including countries in the African meningitis belt or to the Hajj, administer an age appropriate formulation and series of Menactra or Menveo for protection against serogroups A and W. Prior receipt of MenHibrix is not sufficient for children traveling to the meningitis belt or the Hajj. See MMWR 2013 62(RR02);1-22, available at

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm>.

For children at risk during a community outbreak attributable to a vaccine serogroup administer or complete an age and formulation-appropriate series of MenHibrix, Menactra or Menveo.

- For booster doses among persons with high-risk conditions refer to MMWR 2013 62(RR02);1-22, available at

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm>

Meningococcal Vaccine Footnotes (5)

Catch-up recommendations in persons with high-risk conditions:

- **If MenHibrix is administered, all 4 doses should be administered to achieve protection against Meningococcal disease.**
- **If the first dose of MenHibrix is given at or after 12 months of life, 2 doses should be given at least 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.**
- **For other catch-up recommendations in these persons, refer to MMWR 2013 62(RR02);1-22, available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm>.**
- **For complete information on use of meningococcal vaccines, including issues related to vaccination of persons at increased risk of infection, see MMWR March 22, 2013 / 62(RR02);1-22, available at <http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf>.**

2014 Childhood Immunization Schedules, Next Steps

- **Revisions as necessary from ACIP, CDC**
- **Submission of cleared, edited copy to AAP
AAFP and ACOG by January 1, 2014**
- **Publication by CDC on website January,
2014**
- **Publication in Pediatrics and American
Family Physician in February 2014**

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