

Preventive Guidelines Update, April 2020 Children and Adolescents

At Alameda Alliance for Health (Alliance) we value our community of dedicated provider partners. We have an important notice that we would like to share with you.

The Alliance requires that all network and delegate providers follow the most current Preventive Care Guidelines.

Preventive Care

For Alliance members 21 years of age and under, the Alliance adheres to the most recent Bright Futures/American Academy of Pediatrics (AAP) Recommendations for Preventive Pediatric Health Care. This is a schedule of screenings and assessments recommended at each well-child visit from infancy through adolescence.

To view the full periodicity schedule, please visit **www.aap.org/periodicityschedule**.

Summary of changes made to the 2020 Recommendations:

MATERNAL DEPRESSION

• Footnote 16 has been updated to read as follows: Screening should occur per 'Incorporating Recognition and Management of Perinatal Depression into Pediatric Practice'. (pediatrics.aappublications.org/content/143/1/e20183259)

Immunizations

Child and Adolescent Immunization Schedule (18 years of age or younger)

The Alliance covers immunizations according to the immunization schedule recommended by the Advisory Committee on Immunization Practices (ACIP) and approved by the Centers for Disease Control and Prevention (CDC), American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), and American College of Obstetricians and Gynecologists (ACOG).

For the complete schedule of childhood immunizations, please visit www.cdc.gov/vaccines/schedules/hcp/imz/childadolescent.html.

Changes in the immunization schedule for 2020 include:

HAEMOPHILUS INFLUENZA BYP B: The **Hib note** was revised to indicate that catch-up vaccination is not recommended for previously unvaccinated children 5 years (60 months) or older who are not at high risk.

HEPATITIS A: The **HepA** note was revised to include the recommendation that all children and adolescents 2 through 18 years of age who have not previously received hepatitis A vaccine should receive catch-up vaccination and complete a 2-dose series.

HEPATITIS B: The "special situations" section of the **HepB note** contains information regarding populations for whom revaccination may be recommended.

MENINGOCOCCAL ACWY: Guidance regarding adolescent vaccination for children who received MenACWY prior to age 10 years has been added to the MenACWY note

MENINGOCOCCAL B: MenB booster doses are now recommended for persons aged ≥ 10 years with complement deficiency, those who use complement inhibitors, persons with asplenia, persons who are microbiologists, and persons determined by public health officials to be at increased risk during an outbreak. The MenB note has been updated to include a link to the detailed recommendations.

POLIO: Within the **poliovirus vaccination note**, detailed information has been added regarding which OPV doses may be counted toward the U.S. vaccination requirements.

TDAP: The **Tdap note** has been updated to allow either Td or Tdap, as an option for decennial tetanus booster doses and catch-up series doses in persons who have previously received Tdap. Additionally, the note has been edited to reflect recent updates to the clinical guidance for children 7 through 18 years of age who received doses of Tdap or DTaP at age 7 through 10 years. A dose of Tdap or DTaP administered at 10 years of age may now be counted as the adolescent Tdap booster. A dose of Tdap or DTaP administered at 7 through 9 years of age should not be counted as the adolescent dose, and Tdap should be administered at 11–12 years of age. The DTaP note has been updated to note that dose 5 is not necessary if dose 4 was administered at age 4 years or older AND at least 6 months after dose 3.

Please see attached table for a schedule summary.

Questions? Please call Alliance Health Programs Monday – Friday, 9 am – 5 pm Phone Number: **1.510.747.4510** www.alamedaalliance.org

American Academy of Pediatrics



Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in a satisfactory fashion. Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits. Additional visits also may become necessary if circumstances suggest variations from normal.

These recommendations represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

updated annually

Refer to the specific guidance by age as listed in the Bright Futures Guidelines (Hagan JF, Shaw JS, Duncan PM, eds. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017).

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INFANCY							EARLY CHILDHOOD				MIDDLE CHILDHOOD					ADOLESCENCE																
AGE1	Prenatal ²	Newborn ³	3-5 d⁴	By 1 mo	2 mo	4 mo	6 mo	9 mo	12 mo	15 mo	18 mo	24 mo	30 mo	3 у	4 y	5 y	б у	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y
HISTORY Initial/Interval	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MEASUREMENTS																																
Length/Height and Weight		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Head Circumference		•	•	•	•	•	•	•	•	•	•	•																				
Weight for Length		•	•	•	•	•	•	•	•	•	•																					
Body Mass Index⁵												•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Blood Pressure ⁶		*	*	*	*	*	*	*	*	*	*	*	*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SENSORY SCREENING																																
Vision ⁷		*	*	*	*	*	*	*	*	*	*	*	*	•	•	•	•	*	•	*	•	*	•	*	*	•	*	*	*	*	*	*
Hearing		●8	• ⁹ -			*	*	*	*	*	*	*	*	*	•	•	•	*	•	*	•	┥ ◆		<u> </u>	→	←	— • —		-	<u> </u>	-•-	
DEVELOPMENTAL/BEHAVIORAL HEALTH																																
Developmental Screening ¹¹								•			•		•																			
Autism Spectrum Disorder Screening ¹²											•	•																				
Developmental Surveillance		•	•	•	•	•	•		•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Psychosocial/Behavioral Assessment ¹³		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tobacco, Alcohol, or Drug Use Assessment ¹⁴																						*	*	*	*	*	*	*	*	*	*	*
Depression Screening ¹⁵																							•	•	•	•	•	•	•	•	•	•
Maternal Depression Screening ¹⁶				•	•	•	•																									
PHYSICAL EXAMINATION ¹⁷		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROCEDURES ¹⁸																																
Newborn Blood		●19	●20 -		→																											
Newborn Bilirubin ²¹		•																														
Critical Congenital Heart Defect ²²		•																														
Immunization ²³		•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Anemia ²⁴						*			•	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lead ²⁵							*	*	● or ★ ²⁶		*	● or ★ ²⁶		*	*	*	*															
Tuberculosis ²⁷				*			*		*			*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Dyslipidemia ²⁸												*			*		*		*	←	— • —	→	*	*	*	*	*	-			- • -	\rightarrow
Sexually Transmitted Infections ²⁹																						*	*	*	*	*	*	*	*	*	*	*
HIV ³⁰																						*	*	*	*	▲		- •	→	*	*	*
Cervical Dysplasia ³¹																														4		•
ORAL HEALTH ³²							•33	•33	*		*	*	*	*	*	*	*															4
Fluoride Varnish ³⁴							-				•-					->																
Fluoride Supplementation ³⁵							*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
ANTICIPATORY GUIDANCE	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	

1. If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested age, the schedule should be brought up-to-date at the earliest possible time.

- 2. A prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a conference. The prenatal visit should include anticipatory guidance, pertinent medical history, and a discussion of benefits of breastfeeding and planned method of feeding, per "The Prenatal Visit" (http://pediatrics.aappublications.org/ content/124/4/1227.full)
- 3. Newborns should have an evaluation after birth, and breastfeeding should be encouraged (and instruction and support should be offered).
- 4. Newborns should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital to include evaluation for feeding and jaundice. Breastfeeding newborns should receive formal breastfeeding evaluation, and their mothers should receive encouragement and instruction, as recommended in "Breastfeeding and the Use of Human Milk" (http://pediatrics.aappublications.org/content/129/3/e827.full). Newborns discharged less than 48 hours after delivery must be examined within 48 hours of discharge, per "Hospital Stay for Healthy Term Newborns" (http://pediatrics.aappublications.org/content/125/2/405.full).
- 5. Screen, per "Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report" (http://pediatrics.aappublications.org/content/120/ Supplement_4/S164.full).

- 6. Screening should occur per "Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents" (http://pediatrics.aappublications.org/content/140/3/e20171904). Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.
- 7. A visual acuity screen is recommended at ages 4 and 5 years, as well as in cooperative 3-year-olds. Instrument-based screening may be used to assess risk at ages 12 and 24 months, in addition to the well visits at 3 through 5 years of age. See "Visual System Assessment in Infants, Children, and Young Adults by Pediatricians" (http://pediatrics.aappublications. org/content/137/1/e20153596) and "Procedures for the Evaluation of the Visual System by Pediatricians" (http://pediatrics.aappublications.org/content/137/1/e20153597).
- 8. Confirm initial screen was completed, verify results, and follow up, as appropriate. Newborns should be screened, per "Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (http://pediatrics.aappublications.org/content/120/4/898.full).
- 9. Verify results as soon as possible, and follow up, as appropriate.
- 10. Screen with audiometry including 6,000 and 8,000 Hz high frequencies once between 11 and 14 years, once between 15 and 17 years, and once between 18 and 21 years. See "The Sensitivity of Adolescent Hearing Screens Significantly Improves by Adding High Frequencies" (https://www.sciencedirect.com/science/article/abs/pii/S1054139X16000483)
- 11. See "Identifying Infants and Young Children With Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening" (http://pediatrics.aappublications.org/content/118/1/405.full)



The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

The Bright Futures/American Academy of Pediatrics Recommendations for Preventive Pediatric Health Care are

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12. Screening should occur per "Identification and Evaluation of Children With Autism Spectrum Disorders" (http://pediatrics.aappublications.org/content/120/5/1183.full).

13. This assessment should be family centered and may include an assessment of child social-emotional health, caregiver depression, and social determinants of health. See "Promoting Optimal Development: Screening for Behavioral and Emotional Problems" (http://pediatrics.aappublications.org/content/135/2/384) and "Poverty and Child Health in the United States" (http://pediatrics.aappublications.org/content/137/4/e20160339).

14. A recommended assessment tool is available at http://crafft.org.

15. Recommended screening using the Patient Health Questionnaire (PHQ)-2 or other tools available in the GLAD-PC toolkit and at (https://downloads.aap.org/AAP/PDF/Mental_Health_Tools_for_Pediatrics.pdf).

16. Screening should occur per "Incorporating Recognition and Management of Perinatal Depression Into Pediatric Practice" (https://pediatrics.aappublications.org/content/143/1/e20183259).

17. At each visit, age-appropriate physical examination is essential, with infant totally unclothed and older children undressed and suitably draped. See "Use of Chaperones During the Physical Examination of the Pediatric Patient" (http://pediatrics.aappublications.org/content/127/5/991.full)

18. These may be modified, depending on entry point into schedule and individual need.

(continued)

(continued)

- 19. Confirm initial screen was accomplished, verify results, and follow up, as appropriate. The Recommended Uniform Screening Panel (<u>https://www.hrsa.gov/advisory-committees/heritable-disorders/rusp/index.html</u>), as determined by The Secretary's Advisory Committee on Heritable Disorders in Newborns and Children, and state newborn screening laws/regulations (<u>https://www.babysfirsttest.org/newborn-screening/states</u>) establish the criteria for and coverage of newborn screening procedures and programs.
- 20. Verify results as soon as possible, and follow up, as appropriate.
- Confirm initial screening was accomplished, verify results, and follow up, as appropriate. See "Hyperbilirubinemia in the Newborn Infant ≥35 Weeks' Gestation: An Update With Clarifications" (<u>http://pediatrics.aappublications.org/</u> content/124/4/1193).
- 22. Screening for critical congenital heart disease using pulse oximetry should be performed in newborns, after 24 hours of age, before discharge from the hospital, per "Endorsement of Health and Human Services Recommendation for Pulse Oximetry Screening for Critical Congenital Heart Disease" (<u>http://pediatrics.aappublications.org/content/129/1/190.full</u>).
- 23. Schedules, per the AAP Committee on Infectious Diseases, are available at <u>https://redbook.solutions.aap.org/SS/immunization_Schedules.aspx</u>. Every visit should be an opportunity to update and complete a child's immunizations.
- 24. Perform risk assessment or screening, as appropriate, per recommendations in the current edition of the AAP *Pediatric Nutrition: Policy of the American Academy of Pediatrics* (Iron chapter).
- 25. For children at risk of lead exposure, see "Prevention of Childhood Lead Toxicity" (<u>http://pediatrics.aappublications.org/content/138/1/e20161493</u>) and "Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention" (http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf).
- 26. Perform risk assessments or screenings as appropriate, based on universal screening requirements for patients with Medicaid or in high prevalence areas.
- 27. Tuberculosis testing per recommendations of the AAP Committee on Infectious Diseases, published in the current edition of the AAP *Red Book: Report of the Committee on Infectious Diseases.* Testing should be performed on recognition of high-risk factors.
- See "Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents" (http://www.nhlbi.nih.gov/guidelines/cvd_ped/index.htm).

- 29. Adolescents should be screened for sexually transmitted infections (STIs) per recommendations in the current edition of the AAP *Red Book: Report of the Committee on Infectious Diseases.*
- 30. Adolescents should be screened for HIV according to the USPSTF recommendations (<u>https://www.uspreventiveservicestaskforce.org/Page/Document/</u><u>UpdateSummaryFinal/human-immunodeficiency-virus-hiv-infection-screening1</u>) once between the ages of 15 and 18, making every effort to preserve confidentiality of the adolescent. Those at increased risk of HIV infection, including those who are sexually active, participate in injection drug use, or are being tested for other STIs, should be tested for HIV and reassessed annually.
- 31. See USPSTF recommendations (<u>https://www.uspreventiveservicestaskforce.org/</u> <u>Page/Document/UpdateSummaryFinal/cervical-cancer-screening2</u>). Indications for pelvic examinations prior to age 21 are noted in "Gynecologic Examination for Adolescents in the Pediatric Office Setting" (http://pediatrics.aappublications.org/content/126/3/583.full).
- 32. Assess whether the child has a dental home. If no dental home is identified, perform a risk assessment (https://www.aap.org/en-us/advocacy-and-policy/aap-healthinitiatives/Oral-Health/Pages/Oral-Health-Practice-Tools.aspx) and refer to a dental home. Recommend brushing with fluoride toothpaste in the proper dosage for age. See "Maintaining and Improving the Oral Health of Young Children" (http:// pediatrics.aappublications.org/content/134/6/1224).
- Perform a risk assessment (https://www.aap.org/en-us/advocacy-and-policy/aaphealth-initiatives/Oral-Health/Pages/Oral-Health-Practice-Tools.aspx).
 See "Maintaining and Improving the Oral Health of Young Children" (http:// pediatrics.aappublications.org/content/134/6/1224).
- 34. See USPSTF recommendations (https://www.uspreventiveservicestaskforce.org/ Page/Document/UpdateSummaryFinal/dental-caries-in-children-from-birththrough-age-5-years-screening). Once teeth are present, fluoride varnish may be applied to all children every 3-6 months in the primary care or dental office. Indications for fluoride use are noted in "Fluoride Use in Caries Prevention in the Primary Care Setting" (http://pediatrics.aappublications.org/content/134/3/626).
- 35. If primary water source is deficient in fluoride, consider oral fluoride supplementation. See "Fluoride Use in Caries Prevention in the Primary Care Setting" (<u>http://pediatrics.aappublications.org/content/134/3/626</u>).

Summary of Changes Made to the Bright Futures/AAP Recommendations for Preventive Pediatric Health Care

(Periodicity Schedule)

This schedule reflects changes approved in October 2019 and published in March 2020. For updates and a list of previous changes made, visit www.aap.org/periodicityschedule.

CHANGES MADE IN OCTOBER 2019

MATERNAL DEPRESSION

• Footnote 16 has been updated to read as follows: "Screening should occur per 'Incorporating Recognition and Management of Perinatal Depression Into Pediatric Practice' (https://pediatrics.aappublications.org/content/143/1/e20183259)."

CHANGES MADE IN DECEMBER 2018

BLOOD PRESSURE

 Footnote 6 has been updated to read as follows: "Screening should occur per 'Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents' (<u>http://pediatrics.aappublications.org/content/140/3/e20171904</u>). Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years."

ANEMIA

• Footnote 24 has been updated to read as follows: "Perform risk assessment or screening, as appropriate, per recommendations in the current edition of the AAP *Pediatric Nutrition: Policy of the American Academy of Pediatrics* (Iron chapter)."

LEAD

 Footnote 25 has been updated to read as follows: "For children at risk of lead exposure, see 'Prevention of Childhood Lead Toxicity' (<u>http://pediatrics.aappublications.org/content/138/1/e20161493</u>) and 'Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention' (<u>https://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf</u>)."



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Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger

Vaccines in the Child and Adolescent Immunization Schedule*

Vaccines	Abbreviations	Trade names
Diphtheria, tetanus, and acellular pertussis vaccine	DTaP	Daptacel [®] Infanrix [®]
Diphtheria, tetanus vaccine	DT	No trade name
Haemophilus influenzae type b vaccine	Hib (PRP-T) Hib (PRP-OMP)	ActHIB® Hiberix® PedvaxHIB®
Hepatitis A vaccine	НерА	Havrix® Vaqta®
Hepatitis B vaccine	НерВ	Engerix-B® Recombivax HB®
Human papillomavirus vaccine	HPV	Gardasil 9®
Influenza vaccine (inactivated)	IIV	Multiple
Influenza vaccine (live, attenuated)	LAIV	FluMist® Quadrivalent
Measles, mumps, and rubella vaccine	MMR	M-M-R [⊛] II
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-D	Menactra®
	MenACWY-CRM	Menveo®
Meningococcal serogroup B vaccine	MenB-4C	Bexsero®
	MenB-FHbp	Trumenba®
Pneumococcal 13-valent conjugate vaccine	PCV13	Prevnar 13®
Pneumococcal 23-valent polysaccharide vaccine	PPSV23	Pneumovax [®] 23
Poliovirus vaccine (inactivated)	IPV	IPOL®
Rotavirus vaccine	RV1 RV5	Rotarix® RotaTeq®
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel® Boostrix®
Tetanus and diphtheria vaccine	Td	Tenivac® Tdvax™
Varicella vaccine	VAR	Varivax®
Combination vaccines (use combination vaccines instead of separate injections	when appropriate)
DTaP, hepatitis B, and inactivated poliovirus vaccine	DTaP-HepB-IPV	Pediarix®
DTaP, inactivated poliovirus, and Haemophilus influenzae type b vaccine	DTaP-IPV/Hib	Pentacel®
DTaP and inactivated poliovirus vaccine	DTaP-IPV	Kinrix [®] Quadracel [®]
Measles, mumps, rubella, and varicella vaccine	MMRV	ProQuad®

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

How to use the child/adolescent immunization schedule

1	2	3	4
Determine	Determine	Assess need	Review
recommended	recommended	for additional	vaccine types,
vaccine by age	interval for	recommended	frequencies,
(Table 1)	catch-up	vaccines	intervals, and
	vaccination	by medical	considerations
	(Table 2)	condition and	for special
		other indications	situations
		(Table 3)	(Notes)

UNITED STATES

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), and American College of Nurse-Midwives (www.midwife.org).

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to your state or local health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or 800-822-7967
 - Download the CDC Vaccine Schedules App for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.

Helpful information

- Complete ACIP recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Outbreak information (including case identification and outbreak response), see Manual for the Surveillance of Vaccine-Preventable Diseases: www.cdc.gov/vaccines/pubs/surv-manual



U.S. Department of Health and Human Services Centers for Disease Control and Prevention

Table 1Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger,
United States, 2020

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



Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who are More Table 2

than 1 month Behind, United States, 2020 The table 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 Table 1 and the notes that follow.

Children age 4 months through 6 years											
Vaccine	Minimum Age for		Minimum Interval Between Doses								
	Dose 1	Dose 1 to Dose 2	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. Minimum age for the final dose is 24 weeks.								
Rotavirus	6 weeks Maximum age for first dose is 14 weeks, 6 days	4 weeks	4 weeks Maximum age for final dose is 8 months, 0 days.								
Diphtheria, tetanus, and acellular pertussis	6 weeks	4 weeks	4 weeks	6 months	6 months						
Haemophilus influenzae type b	6 weeks	No further doses needed if first dose was administered at age 15 months or older. 4 weeks if first dose was administered before the 1 st birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months.	No further doses needed if previous dose was administered at age 15 months or older. 4 weeks if current age is younger than 12 months and first dose was administered at younger than age 7 months and at least 1 previous dose was PRP-T (ActHib, Pentacel, Hiberix) or unknown. 8 weeks and age 12 through 59 months (as final dose) if current age is younger than 12 months and first dose was administered at age 7 through 11 months; OR if current age is 12 through 59 months and first dose was administered before the 1 st birthday and second dose administered at younger than 15 months; OR if both doses were PRP-OMP (PedvaxHIB, Comvax) and were administered before the 1 st birthday.	8 weeks (as final dose) This dose only necessary for children age 12 through 59 months who received 3 doses before the 1 st birthday.							
Pneumococcal conjugate	6 weeks	No further doses needed for healthy children if first dose was administered at age 24 months or older. 4 weeks if first dose was administered before the 1 st birthday. 8 weeks (as final dose for healthy children) if first dose was administered at the 1 st birthday or after.	No further doses needed for healthy children if previous dose administered at age 24 months or older. 4 weeks if current age is younger than 12 months and previous dose was administered at <7 months old. 8 weeks (as final dose for healthy children) if previous dose was administered between 7–11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was given before age 12 months.	8 weeks (as final dose) This dose only necessary for children age 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	6 weeks	4 weeks	4 weeks if current age is < 4 years. 6 months (as final dose) if current age is 4 years or older.	6 months (minimum age 4 years for final dose).							
Measles, mumps, rubella	12 months	4 weeks									
Varicella	12 months	3 months									
Hepatitis A	12 months	6 months									
Meningococcal ACWY	2 months MenACWY- CRM 9 months MenACWY-D	8 weeks	See Notes	See Notes							
			Children and adolescents age 7 through 18 years								
Meningococcal ACWY	Not applicable (N/A)	8 weeks									
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis	7 years	4 weeks	4 weeks if first dose of DTaP/DT was administered before the 1 st birthday. 6 months (as final dose) if first dose of DTaP/DT or Tdap/Td was administered at or after the 1 st birthday.	6 months if first dose of DTaP/ DT was administered before the 1 st birthday.							
Human papillomavirus	9 years	Routine dosing intervals are recomme	nded.								
Hepatitis A	N/A	6 months									
Hepatitis B	N/A	4 weeks	8 weeks and at least 16 weeks after first dose.								
Inactivated poliovirus	N/A	4 weeks	6 months 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.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years or if the third dose was administered <6 months after the second dose.							
Measles, mumps, rubella	N/A	4 weeks									
Varicella	N/A	3 months if younger than age 13 years. 4 weeks if age 13 years or older.									

Table 3Recommended Child and Adolescent Immunization Schedule by Medical Indication,
United States, 2020

Always use this table in conjunction with Table 1 and the notes that follow.

	INDICATION										
			HIV infection	CD4+ count ¹			ŀ	Asplenia or			
		Immunocom- promised status	<15% and total CD4	≥15% and total CD4	Kidney failure, end-stage renal		CSF leaks or	persistent complement	Chronic		
VACCINE	Pregnancy	(excluding HIV infection)	cell count of <200/mm3	cell count of ≥200/mm3	disease, or on hemodialysis	Heart disease or chronic lung disease	cochlear implants	component deficiencies	liver disease	Diabetes	
Hepatitis B											
Rotavirus		SCID ²									
Diphtheria, tetanus, & acellular pertussis (DTaP)											
<i>Haemophilus influenzae</i> type b											
Pneumococcal conjugate											
Inactivated poliovirus											
Influenza (IIV)											
Influenza (LAIV)						Asthma, wheezing: 2–4yrs ³					
Measles, mumps, rubella											
Varicella											
Hepatitis A											
Tetanus, diphtheria, & acellular pertussis (Tdap)											
Human papillomavirus											
Meningococcal ACWY											
Meningococcal B											
Pneumococcal polysaccharide											
Vaccination according to the routine schedule recommended	Recommend persons with additional ris for which the would be inc	led for an an sk factor n e vaccine co	accination is recor nd additional dose ecessary based or ondition. See Note	mmended, es may be n medical es.	Not recommende contraindicated— should not be adr	d/ -vaccine ninistered adverse r	n—vaccine indicated if f protection ns risk of eaction	Delay vaccination until after pregnancy if vaccine indicated	No reco not a	mmendation/ applicable	

1 For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, "Altered Immunocompetence," at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote D) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

2 Severe Combined Immunodeficiency

3 LAIV contraindicated for children 2-4 years of age with asthma or wheezing during the preceding 12 months.

Notes Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2020

For vaccine recommendations for persons 19 years of age or older, see the Recommended Adult Immunization Schedule.

Additional information

- Consult relevant ACIP statements for detailed recommendations at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For information on contraindications and precautions for the use of a vaccine, consult the General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/generalrecs/contraindications.html and relevant ACIP statements at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For calculating intervals between doses, 4 weeks = 28 days. Intervals of ≥4 months are determined by calendar months.
- Within a number range (e.g., 12–18), a dash (–) should be read as "through."
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum age or minimum interval should not be counted as valid and should be repeated as ageappropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see Table 3-1, Recommended and minimum ages and intervals between vaccine doses, in General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/generalrecs/timing.html.
- Information on travel vaccine requirements and recommendations is available at www.cdc.gov/travel/.
- For vaccination of persons with immunodeficiencies, see Table 8-1, Vaccination of persons with primary and secondary immunodeficiencies, in General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/generalrecs/immunocompetence.html, and Immunization in Special Clinical Circumstances (In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases.* 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:67–111).
- For information regarding vaccination in the setting of a vaccinepreventable disease outbreak, contact your state or local health department.
- The National Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the traditional legal system for resolving vaccine injury claims. All routine child and adolescent vaccines are covered by VICP except for pneumococcal polysaccharide vaccine (PPSV23). For more information, see www.hrsa.gov/ vaccinecompensation/index.html.

Diphtheria, tetanus, and pertussis (DTaP) vaccination (minimum age: 6 weeks [4 years for Kinrix or Quadracel])

Routine vaccination

- 5-dose series at 2, 4, 6, 15–18 months, 4–6 years
- **Prospectively:** Dose 4 may be administered as early as age 12 months if at least 6 months have elapsed since dose 3.
- **Retrospectively:** A 4th dose that was inadvertently administered as early as 12 months may be counted if at least 4 months have elapsed since dose 3.

Catch-up vaccination

- Dose 5 is not necessary if dose 4 was administered at age 4 years or older and at least 6 months after dose 3.
- For other catch-up guidance, see Table 2.

Haemophilus influenzae type b vaccination (minimum age: 6 weeks)

Routine vaccination

- ActHIB, Hiberix, or Pentacel: 4-dose series at 2, 4, 6, 12– 15 months
- PedvaxHIB: 3-dose series at 2, 4, 12–15 months

Catch-up vaccination

- **Dose 1 at 7–11 months:** Administer dose 2 at least 4 weeks later and dose 3 (final dose) at 12–15 months or 8 weeks after dose 2 (whichever is later).
- **Dose 1 at 12–14 months:** Administer dose 2 (final dose) at least 8 weeks after dose 1.
- **Dose 1 before 12 months and dose 2 before 15 months:** Administer dose 3 (final dose) 8 weeks after dose 2.
- 2 doses of PedvaxHIB before 12 months: Administer dose 3 (final dose) at 12–59 months and at least 8 weeks after dose 2.
 Unvaccinated at 15–59 months: 1 dose
- Previously unvaccinated children age 60 months or older who are not considered high risk do not require catch-up vaccination.
- For other catch-up guidance, see Table 2.

Special situations

- Chemotherapy or radiation treatment:
- 12-59 months
- Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
- 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

Doses administered within 14 days of starting therapy or during therapy should be repeated at least 3 months after therapy completion.

- Hematopoietic stem cell transplant (HSCT):
- 3-dose series 4 weeks apart starting 6 to 12 months after successful transplant, regardless of Hib vaccination history
- Anatomic or functional asplenia (including sickle cell disease):

12-59 months

- Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
- 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose
- Unvaccinated* persons age 5 years or older
- 1 dose

• Elective splenectomy:

Unvaccinated* persons age 15 months or older

- 1 dose (preferably at least 14 days before procedure)

HIV infection:

<u>12-59 months</u>

- Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
- 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

Unvaccinated* persons age 5-18 years

- 1 dose

Immunoglobulin deficiency, early component complement deficiency:

12-59 months

- Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
- 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

*Unvaccinated = Less than routine series (through 14 months) OR no doses (15 months or older)

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2020

Hepatitis A vaccination

(minimum age: 12 months for routine vaccination)

Routine vaccination

• 2-dose series (minimum interval: 6 months) beginning at age 12 months

Catch-up vaccination

- Unvaccinated persons through 18 years should complete a 2-dose series (minimum interval: 6 months).
- Persons who previously received 1 dose at age 12 months or older should receive dose 2 at least 6 months after dose 1.
- Adolescents 18 years and older may receive the combined HepA and HepB vaccine, **Twinrix**[®], as a 3-dose series (0, 1, and 6 months) or 4-dose series (0, 7, and 21–30 days, followed by a dose at 12 months).

International travel

- Persons traveling to or working in countries with high or intermediate endemic hepatitis A (www.cdc.gov/travel/):
- Infants age 6–11 months: 1 dose before departure; revaccinate with 2 doses, separated by at least 6 months, between 12 and 23 months of age
- Unvaccinated age 12 months and older: Administer dose 1 as soon as travel is considered.

Hepatitis B vaccination (minimum age: birth)

Birth dose (monovalent HepB vaccine only)

- Mother is HBsAg-negative: 1 dose within 24 hours of birth for all medically stable infants ≥2,000 grams. Infants <2,000 grams: Administer 1 dose at chronological age 1 month or hospital discharge.
- Mother is HBsAg-positive:
- Administer HepB vaccine and hepatitis B immune globulin (HBIG) (in separate limbs) within 12 hours of birth, regardless of birth weight. For infants <2,000 grams, administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.
 Test for HBsAg and anti-HBs at age 9–12 months. If HepB series
- is delayed, test 1–2 months after final dose.

• Mother's HBsAg status is unknown:

- Administer **HepB vaccine** within 12 hours of birth, regardless of birth weight.
- For infants <2,000 grams, administer HBIG in addition to HepB vaccine (in separate limbs) within 12 hours of birth. Administer 3 additional doses of vaccine (total of 4 doses) beginning at age 1 month.
- Determine mother's HBsAg status as soon as possible. If mother is HBsAg-positive, administer **HBIG** to infants \geq 2,000 grams as soon as possible, but no later than 7 days of age.

Routine series

• 3-dose series at 0, 1–2, 6–18 months (use monovalent HepB vaccine for doses administered before age 6 weeks)

- Infants who did not receive a birth dose should begin the series as soon as feasible (see Table 2).
- Administration of **4 doses** is permitted when a combination vaccine containing HepB is used after the birth dose.
- Minimum age for the final (3rd or 4th) dose: 24 weeks
- Minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 8 weeks / dose 1 to dose 3: 16 weeks (when 4 doses are administered, substitute "dose 4" for "dose 3" in these calculations)

Catch-up vaccination

- Unvaccinated persons should complete a 3-dose series at 0, 1–2, 6 months.
- Adolescents age 11–15 years may use an alternative 2-dose schedule with at least 4 months between doses (adult formulation **Recombivax HB** only).
- Adolescents 18 years and older may receive a 2-dose series of HepB (Heplisav-B[®]) at least 4 weeks apart.
- Adolescents 18 years and older may receive the combined HepA and HepB vaccine, **Twinrix**, as a 3-dose series (0, 1, and 6 months) or 4-dose series (0, 7, and 21–30 days, followed by a dose at 12 months).
- For other catch-up guidance, see Table 2.

Special situations

- Revaccination is not generally recommended for persons with a normal immune status who were vaccinated as infants, children, adolescents, or adults.
- **Revaccination** may be recommended for certain populations, including:
- Infants born to HBsAg-positive mothers - Hemodialysis patients
- nemodialysis patients
- Other immunocompromised persons
 For detailed revaccination recommendations, see www.cdc.gov/
- vaccines/hcp/acip-recs/vacc-specific/hepb.html.

Human papillomavirus vaccination (minimum age: 9 years)

Routine and catch-up vaccination

- HPV vaccination routinely recommended at age 11–12 years (can start at age 9 years) and catch-up HPV vaccination recommended for all persons through age 18 years if not adequately vaccinated
- 2- or 3-dose series depending on age at initial vaccination:
- Age 9 through 14 years at initial vaccination: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon)
- Age 15 years or older at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
- If completed valid vaccination series with any HPV vaccine, no additional doses needed

Special situations

- Immunocompromising conditions, including HIV infection: 3-dose series as above
- History of sexual abuse or assault: Start at age 9 years.
- **Pregnancy:** HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant; pregnancy testing not needed before vaccination

Influenza vaccination

(minimum age: 6 months [IIV], 2 years [LAIV], 18 years [recombinant influenza vaccine, RIV])

Routine vaccination

- Use any influenza vaccine appropriate for age and health status annually:
- 2 doses, separated by at least 4 weeks, for children age 6 months-8 years who have received fewer than 2 influenza vaccine doses before July 1, 2019, or whose influenza vaccination history is unknown (administer dose 2 even if the child turns 9 between receipt of dose 1 and dose 2)
- 1 dose for **children age 6 months-8 years** who have received at least 2 influenza vaccine doses before July 1, 2019
- 1 dose for all persons age 9 years and older
- For the 2020–21 season, see the 2020–21 ACIP influenza vaccine recommendations.

Special situations

- Egg allergy, hives only: Any influenza vaccine appropriate for age and health status annually
- Egg allergy with symptoms other than hives (e.g., angioedema, respiratory distress, need for emergency medical services or epinephrine): Any influenza vaccine appropriate for age and health status annually in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions
- LAIV should not be used in persons with the following conditions or situations:
- History of severe allergic reaction to a previous dose of any influenza vaccine or to any vaccine component (excluding egg, see details above)
- Receiving aspirin or salicylate-containing medications
- Age 2-4 years with history of asthma or wheezing
- Immunocompromised due to any cause (including medications and HIV infection)
- Anatomic or functional asplenia
- Cochlear implant
- Cerebrospinal fluid-oropharyngeal communication
- Close contacts or caregivers of severely immunosuppressed persons who require a protected environment
- Pregnancy
- Received influenza antiviral medications within the previous 48 hours

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2020

Measles, mumps, and rubella vaccination (minimum age: 12 months for routine vaccination)

Routine vaccination

- 2-dose series at 12–15 months, 4–6 years
- Dose 2 may be administered as early as 4 weeks after dose 1.

Catch-up vaccination

- Unvaccinated children and adolescents: 2-dose series at least 4 weeks apart
- The maximum age for use of MMRV is 12 years.

Special situations

International travel

- Infants age 6–11 months: 1 dose before departure; revaccinate with 2-dose series with dose 1 at 12–15 months (12 months for children in high-risk areas) and dose 2 as early as 4 weeks later.
- Unvaccinated children age 12 months and older: 2-dose series at least 4 weeks apart before departure

Meningococcal serogroup A,C,W,Y vaccination (minimum age: 2 months [MenACWY-CRM, Menveo], 9 months [MenACWY-D, Menactra])

Routine vaccination

• 2-dose series at 11-12 years, 16 years

Catch-up vaccination

- Age 13–15 years: 1 dose now and booster at age 16–18 years (minimum interval: 8 weeks)
- Age 16–18 years: 1 dose

Special situations

Anatomic or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use: • Menveo

- Dose 1 at age 8 weeks: 4-dose series at 2, 4, 6, 12 months
- Dose 1 at age 7–23 months: 2-dose series (dose 2 at least 12 weeks after dose 1 and after age 12 months)
- Dose 1 at age 24 months or older: 2-dose series at least 8 weeks apart

Menactra

Persistent complement component deficiency or complement inhibitor use:

- Age 9–23 months: 2-dose series at least 12 weeks apart
- \cdot Age 24 months or older: 2-dose series at least 8 weeks apart
- Anatomic or functional asplenia, sickle cell disease, or HIV infection:
- · Age 9–23 months: Not recommended
- · Age 24 months or older: 2-dose series at least 8 weeks apart
- Menactra must be administered at least 4 weeks after completion of PCV13 series.

Travel in countries with hyperendemic or epidemic meningococcal disease, including countries in the African meningitis belt or during the Hajj (www.cdc.gov/travel/):

- Children less than age 24 months:
- Menveo (age 2–23 months):
- · Dose 1 at 8 weeks: 4-dose series at 2, 4, 6, 12 months
- Dose 1 at 7–23 months: 2-dose series (dose 2 at least 12 weeks after dose 1 and after age 12 months)
- Menactra (age 9–23 months):
- 2-dose series (dose 2 at least 12 weeks after dose 1; dose 2 may be administered as early as 8 weeks after dose 1 in travelers)

• Children age 2 years or older: 1 dose Menveo or Menactra

First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits:

• 1 dose Menveo or Menactra

Adolescent vaccination of children who received MenACWY prior to age 10 years:

- Children for whom boosters are recommended because of an ongoing increased risk of meningococcal disease (e.g., those with complement deficiency, HIV, or asplenia): Follow the booster schedule for persons at increased risk (see below).
- Children for whom boosters are not recommended (e.g., those who received a single dose for travel to a country where meningococcal disease is endemic): Administer MenACWY according to the recommended adolescent schedule with dose 1 at age 11–12 years and dose 2 at age 16 years.

Note: Menactra should be administered either before or at the same time as DTaP. For MenACWY **booster dose** recommendations for groups listed under "Special situations" and in an outbreak setting and for additional meningococcal vaccination information, see www.cdc.gov/vaccines/hcp/aciprecs/vacc-specific/mening.html.

Meningococcal serogroup B vaccination (minimum age: 10 years [MenB-4C, Bexsero; MenB-FHbp, Trumenba])

Shared clinical decision-making

- Adolescents not at increased risk age 16–23 years (preferred age 16–18 years) based on shared clinical decision-making:
- Bexsero: 2-dose series at least 1 month apart
- **Trumenba:** 2-dose series at least 6 months apart; if dose 2 is administered earlier than 6 months, administer a 3rd dose at least 4 months after dose 2.

Special situations

Anatomic or functional asplenia (including sickle cell disease), persistent complement component deficiency,

complement inhibitor (e.g., eculizumab, ravulizumab) use:

- Bexsero: 2-dose series at least 1 month apart
- Trumenba: 3-dose series at 0, 1–2, 6 months

Bexsero and **Trumenba** are not interchangeable; the same product should be used for all doses in a series. For MenB **booster dose recommendations** for groups listed under "Special situations" and in an outbreak setting and for additional meningococcal vaccination information, see www. cdc.gov/vaccines/acip/recommendations.html and www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html.

Pneumococcal vaccination (minimum age: 6 weeks [PCV13], 2 years [PPSV23])

Routine vaccination with PCV13

• 4-dose series at 2, 4, 6, 12–15 months

Catch-up vaccination with PCV13

- 1 dose for healthy children age 24–59 months with any incomplete* PCV13 series
- For other catch-up guidance, see Table 2.

Special situations

High-risk conditions below: When both PCV13 and PPSV23 are indicated, administer PCV13 first. PCV13 and PPSV23 should not be administered during the same visit.

Chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure), chronic lung disease (including asthma treated with high-dose, oral corticosteroids), diabetes mellitus:

Age 2–5 years

- Any incomplete* series with:
- 3 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
- Less than 3 PCV13 doses: 2 doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose)

<u>Age 6–18 years</u>

 No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose)

Cerebrospinal fluid leak, cochlear implant:

- Age 2–5 years
- Any incomplete* series with:
- 3 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
- Less than 3 PCV13 doses: 2 doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose)

Age 6–18 years

- No history of either PCV13 or PPSV23: 1 dose PCV13, 1 dose PPSV23 at least 8 weeks later
- Any PCV13 but no PPSV23: 1 dose PPSV23 at least 8 weeks after the most recent dose of PCV13
- PPSV23 but no PCV13: 1 dose PCV13 at least 8 weeks after the most recent dose of PPSV23

Notes

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2020

Sickle cell disease and other hemoglobinopathies; anatomic or functional asplenia; congenital or acquired immunodeficiency; HIV infection; chronic renal failure; nephrotic syndrome; malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and other diseases associated with treatment with immunosuppressive drugs or radiation therapy; solid organ transplantation; multiple myeloma:

Age 2–5 years

- Any incomplete* series with:
- 3 PCV13 doses: 1 dose PCV13 (at least 8 weeks after any prior PCV13 dose)
- Less than 3 PCV13 doses: 2 doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose) and a 2nd dose of PPSV23 5 years later
 Age 6–18 years
- No history of either PCV13 or PPSV23: 1 dose PCV13, 2 doses PPSV23 (dose 1 of PPSV23 administered 8 weeks after PCV13 and dose 2 of PPSV23 administered at least 5 years after dose 1 of PPSV23)
- Any PCV13 but no PPSV23: 2 doses PPSV23 (dose 1 of PPSV23 administered 8 weeks after the most recent dose of PCV13 and dose 2 of PPSV23 administered at least 5 years after dose 1 of PPSV23)
- PPSV23 but no PCV13: 1 dose PCV13 at least 8 weeks after the most recent PPSV23 dose and a 2nd dose of PPSV23 administered 5 years after dose 1 of PPSV23 and at least 8 weeks after a dose of PCV13

Chronic liver disease, alcoholism:

- Age 6–18 years
- No history of PPSV23: 1 dose PPSV23 (at least 8 weeks after any prior PCV13 dose)

*Incomplete series = Not having received all doses in either the recommended series or an age-appropriate catch-up series See Tables 8, 9, and 11 in the ACIP pneumococcal vaccine recommendations at www.cdc.gov/mmwr/pdf/rr/rr5911.pdf for complete schedule details.

Poliovirus vaccination (minimum age: 6 weeks)

Routine vaccination

- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose at or after age 4 years and at least 6 months after the previous dose.
- 4 or more doses of IPV can be administered before age 4 years when a combination vaccine containing IPV is used. However, a dose is still recommended at or after age 4 years and at least 6 months after the previous dose.

Catch-up vaccination

- In the first 6 months of life, use minimum ages and intervals only for travel to a polio-endemic region or during an outbreak.
- IPV is not routinely recommended for U.S. residents 18 years and older.

Series containing oral polio vaccine (OPV), either mixed OPV-IPV or OPV-only series:

- Total number of doses needed to complete the series is the same as that recommended for the U.S. IPV schedule. See www.cdc.gov/mmwr/volumes/66/wr/mm6601a6.htm?s_ cid=mm6601a6_w.
- Only trivalent OPV (tOPV) counts toward the U.S. vaccination requirements.
- Doses of OPV administered before April 1, 2016, should be counted (unless specifically noted as administered during a campaign).
- Doses of OPV administered on or after April 1, 2016, should not be counted.
- For guidance to assess doses documented as "OPV," see www.cdc.gov/mmwr/volumes/66/wr/mm6606a7.htm?s_ cid=mm6606a7_w.
- For other catch-up guidance, see Table 2.

Rotavirus vaccination (minimum age: 6 weeks)

Routine vaccination

- Rotarix: 2-dose series at 2 and 4 months
- RotaTeq: 3-dose series at 2, 4, and 6 months
- If any dose in the series is either **RotaTeq** or unknown, default to 3-dose series.

Catch-up vaccination

- Do not start the series on or after age 15 weeks, 0 days.
- The maximum age for the final dose is 8 months, 0 days.
- For other catch-up guidance, see Table 2.

Tetanus, diphtheria, and pertussis (Tdap) vaccination

(minimum age: 11 years for routine vaccination, 7 years for catch-up vaccination)

Routine vaccination

- Adolescents age 11-12 years: 1 dose Tdap
- **Pregnancy:** 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Catch-up vaccination

- Adolescents age 13–18 years who have not received Tdap: 1 dose Tdap, then Td or Tdap booster every 10 years
- Persons age 7–18 years not fully vaccinated* with DTaP: 1 dose Tdap as part of the catch-up series (preferably the first dose); if additional doses are needed, use Td or Tdap.
- Tdap administered at 7–10 years:
- **Children age 7–9 years** who receive Tdap should receive the routine Tdap dose at age 11–12 years.
- **Children age 10 years** who receive Tdap do not need to receive the routine Tdap dose at age 11–12 years.
- DTaP inadvertently administered at or after age 7 years:
 Children age 7–9 years: DTaP may count as part of catchup series. Routine Tdap dose at age 11–12 years should be administered.
- Children age 10–18 years: Count dose of DTaP as the adolescent Tdap booster.
- For other catch-up guidance, see Table 2.
- For information on use of Tdap or Td as tetanus prophylaxis in wound management, see www.cdc.gov/mmwr/volumes/67/rr/ rr6702a1.htm.

*Fully vaccinated = 5 valid doses of DTaP OR 4 valid doses of DTaP if dose 4 was administered at age 4 years or older

Varicella vaccination (minimum age: 12 months)

Routine vaccination

- 2-dose series at 12-15 months, 4-6 years
- Dose 2 may be administered as early as 3 months after dose 1 (a dose administered after a 4-week interval may be counted).

Catch-up vaccination

- Ensure persons age 7–18 years without evidence of immunity (see www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have 2-dose series:
- **Age 7–12 years**: routine interval: 3 months (a dose administered after a 4-week interval may be counted)
- Age 13 years and older: routine interval: 4–8 weeks (minimum interval: 4 weeks)
- The maximum age for use of MMRV is 12 years.