



Preventive Guidelines Update, April 2020 Adults and Pregnant Women

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 asymptomatic healthy adults and pregnant women, the Alliance follows the current U.S. Preventive Services Task Force (USPSTF) A and B Recommendations for providing clinical preventive services. To view current recommendations, please visit www.uspreventiveservicestaskforce.org/uspstf/recommendation-topics/uspstf-and-b-recommendations.

TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Abdominal Aortic Aneurysm: Screening: men aged 65 to 75 years who have ever smoked	The USPSTF recommends 1-time screening for abdominal aortic aneurysm (AAA) with ultrasonography in men aged 65 to 75 years who have ever smoked.	B	December 2019 *
Abnormal Blood Glucose and Type 2 Diabetes Mellitus: Screening: adults aged 40 to 70 years who are overweight or obese	The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.	B	October 2015 *
Aspirin Use to Prevent Cardiovascular Disease (CVD) and Colorectal Cancer (CRC): Preventive Medication: adults aged 50 to 59 years with a ≥10% 10-year CVD risk	The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.	B	April 2016 *

Topics highlighted in **gray** indicate changes made between March 2019 to April 2020.

*Previous recommendation was an "A" or "B."

TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Asymptomatic Bacteriuria in Adults: Screening: pregnant persons	The USPSTF recommends screening for asymptomatic bacteriuria using urine culture in pregnant persons.	B	September 2019 *
BRCA-Related Cancer: Risk Assessment, Genetic Counseling, and Genetic Testing: women with a personal or family history of breast, ovarian, tubal, or peritoneal cancer or an ancestry associated with BRCA1/2 gene mutation	The USPSTF recommends that primary care clinicians assess women with a personal or family history of breast, ovarian, tubal, or peritoneal cancer or who have an ancestry associated with breast cancer susceptibility 1 and 2 (BRCA1/2) gene mutations with an appropriate brief familial risk assessment tool. Women with a positive result on the risk assessment tool should receive genetic counseling and, if indicated after counseling, genetic testing.	B	August 2019 *
Breast Cancer: Medication Use to Reduce Risk: women at increased risk for breast cancer	The USPSTF recommends that clinicians offer to prescribe risk-reducing medications, such as tamoxifen, raloxifene, or aromatase inhibitors, to women who are at increased risk for breast cancer and at low risk for adverse medication effects.	B	September 2019 *
Breast Cancer: Screening: women aged 50 to 74 years	The USPSTF recommends biennial screening mammography for women aged 50 to 74 years.	B	January 2016 *
Breastfeeding: Primary Care Interventions: pregnant women, new mothers, and their children	The USPSTF recommends providing interventions during pregnancy and after birth to support breastfeeding.	B	October 2016 *
Cervical Cancer: Screening: women aged 21 to 65 years	The USPSTF recommends screening for cervical cancer every 3 years with cervical cytology alone in women aged 21 to 29 years. For women aged 30 to 65 years, the USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with high-risk human papillomavirus (hrHPV) testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting). See the Clinical Considerations section for the relative benefits and harms of alternative screening strategies for women 21 years or older.	A	August 2018 *

†The Department of Health and Human Services, under the standards set out in revised Section 2713(a)(5) of the Public Health Service Act and Section 9(h)(v)(229) of the 2015 Consolidated Appropriations Act, utilizes the 2002 recommendation on breast cancer screening of the U.S. Preventive Services Task Force. To see the USPSTF 2016 recommendation on breast cancer screening, go to www.uspreventiveservicestaskforce.org/uspstf/recommendation/breast-cancer-screening1.

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Colorectal Cancer: Screening: adults aged 50 to 75 years	The USPSTF recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years. The risks and benefits of different screening methods vary. See the Clinical Considerations section and the Table for details about screening strategies.	A	June 2016 *
Dental Caries in Children from Birth Through Age 5 Years: Screening: children from birth through age 5 years	The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride.	B	September 2014 *
Dental Caries in Children from Birth Through Age 5 Years: Screening: children from birth through age 5 years	The USPSTF recommends that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption.	B	September 2014 *
Depression in Adults: Screening: general adult population, including pregnant and postpartum women	The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B	January 2016 *
Depression in Children and Adolescents: Screening: adolescents aged 12 to 18 years	The USPSTF recommends screening for major depressive disorder (MDD) in adolescents aged 12 to 18 years. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B	February 2016 *
Falls Prevention in Community-Dwelling Older Adults: Interventions: adults 65 years or older	The USPSTF recommends exercise interventions to prevent falls in community-dwelling adults 65 years or older who are at increased risk for falls.	B	April 2018 *
Folic Acid for the Prevention of Neural Tube Defects: Preventive Medication: women who are planning or capable of pregnancy	The USPSTF recommends that all women who are planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid.	A	January 2017 *
Gestational Diabetes Mellitus, Screening: asymptomatic pregnant women, after 24 weeks of gestation	The USPSTF recommends screening for gestational diabetes mellitus (GDM) in asymptomatic pregnant women after 24 weeks of gestation.	B	September 2014

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Chlamydia and Gonorrhea: Screening: sexually active women	The USPSTF recommends screening for gonorrhea in sexually active women age 24 years and younger and in older women who are at increased risk for infection.	B	September 2014 *
Chlamydia and Gonorrhea: Screening: sexually active women	The USPSTF recommends screening for chlamydia in sexually active women age 24 years and younger and in older women who are at increased risk for infection.	B	September 2014 *
Healthful Diet and Physical Activity for Cardiovascular Disease (CVD) Prevention in Adults With Cardiovascular Risk Factors: Behavioral Counseling: adults who are overweight or obese and have additional CVD risk factors	The USPSTF recommends offering or referring adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention.	B	September 2014
Hepatitis B Virus Infection in Pregnant Women: Screening: pregnant women	The USPSTF recommends screening for hepatitis B virus (HBV) infection in pregnant women at their first prenatal visit	A	July 2019 *
Hepatitis B Virus Infection: Screening, 2014: persons at high risk for infection	The USPSTF recommends screening for hepatitis B virus (HBV) infection in persons at high risk for infection.	B	September 2014
Hepatitis C Virus Infection in Adolescents and Adults: Screening: adults aged 18 to 79 years	The USPSTF recommends screening for hepatitis C virus (HCV) infection in adults aged 18 to 79 years.	B	March 2020 *
Human Immunodeficiency Virus (HIV) Infection: Screening: pregnant persons	The USPSTF recommends that clinicians screen for HIV infection in all pregnant persons, including those who present in labor or at delivery whose HIV status is unknown.	A	June 2019 *
Human Immunodeficiency Virus (HIV) Infection: Screening: adolescents and adults aged 15 to 65 years	The USPSTF recommends that clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk of infection should also be screened. See the Clinical Considerations section for more information about assessment of risk, screening intervals, and rescreening in pregnancy.	A	June 2019 *

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
High Blood Pressure in Adults: Screening: adults aged 18 years or older	The USPSTF recommends screening for high blood pressure in adults aged 18 years or older. The USPSTF recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment (see the Clinical Considerations section).	A	October 2015 *
Intimate Partner Violence, Elder Abuse, and Abuse of Vulnerable Adults: Screening: women of reproductive age	The USPSTF recommends that clinicians screen for intimate partner violence (IPV) in women of reproductive age and provide or refer women who screen positive to ongoing support services. See the Clinical Considerations section for more information on effective ongoing support services for IPV and for information on IPV in men.	B	October 2018 *
Latent Tuberculosis Infection: Screening: asymptomatic adults at increased risk for infection	The USPSTF recommends screening for latent tuberculosis infection (LTBI) in populations at increased risk.	B	September 2016 *
Low-Dose Aspirin Use for the Prevention of Morbidity and Mortality From Preeclampsia: Preventive Medication: pregnant women who are at high risk for preeclampsia	The USPSTF recommends the use of low-dose aspirin (81 mg/d) as preventive medication after 12 weeks of gestation in women who are at high risk for preeclampsia.	B	September 2014
Lung Cancer: Screening: adults aged 55-80, with a history of smoking	The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.	B	September 2014
Obesity in Children and Adolescents: Screening: children and adolescents 6 years and older	The USPSTF recommends that clinicians screen for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status.	B	June 2017 *
Ocular Prophylaxis for Gonococcal Ophthalmia Neonatorum: Preventive Medication: newborns	The USPSTF recommends prophylactic ocular topical medication for all newborns to prevent gonococcal ophthalmia neonatorum.	A	January 2019 *

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Osteoporosis to Prevent Fractures: Screening: postmenopausal women younger than 65 years at increased risk of osteoporosis	The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in postmenopausal women younger than 65 years who are at increased risk of osteoporosis, as determined by a formal clinical risk assessment tool. See the Clinical Considerations section for information on risk assessment.	B	June 2018 *
Osteoporosis to Prevent Fractures: Screening: women 65 years and older	The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in women 65 years and older.	B	June 2018 *
Perinatal Depression: Preventive Interventions: pregnant and postpartum persons	The USPSTF recommends that clinicians provide or refer pregnant and postpartum persons who are at increased risk of perinatal depression to counseling interventions.	B	February 2019
Preeclampsia: Screening: pregnant woman	The USPSTF recommends screening for preeclampsia in pregnant women with blood pressure measurements throughout pregnancy.	B	April 2017 *
Prevention of Human Immunodeficiency Virus (HIV) Infection: Preexposure Prophylaxis: persons at high risk of HIV acquisition	The USPSTF recommends that clinicians offer preexposure prophylaxis (PrEP) with effective antiretroviral therapy to persons who are at high risk of HIV acquisition. See the Clinical Considerations section for information about identification of persons at high risk and selection of effective antiretroviral therapy.	A	June 2019
Prevention and Cessation of Tobacco Use in Children and Adolescents: Primary Care Interventions: school-aged children and adolescents	The USPSTF recommends that primary care clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use among school-aged children and adolescents.	B	April 2020 *
Rh(D) Incompatibility: Screening: unsensitized rh(d)-negative pregnant women	The USPSTF recommends repeated Rh(D) antibody testing for all unsensitized Rh(D)-negative women at 24 to 28 weeks' gestation, unless the biological father is known to be Rh(D)-negative.	B	February 2004
Rh(D) Incompatibility: Screening: pregnant women, during the first pregnancy-related care visit	The USPSTF strongly recommends Rh(D) blood typing and antibody testing for all pregnant women during their first visit for pregnancy-related care.	A	February 2004
Sexually Transmitted Infections: Behavioral Counseling: sexually active adolescents and adults	The USPSTF recommends intensive behavioral counseling for all sexually active adolescents and for adults who are at increased risk for sexually transmitted infections (STIs).	B	September 2014 *

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Skin Cancer Prevention: Behavioral Counseling: young adults, adolescents, children, and parents of young children	The USPSTF recommends counseling young adults, adolescents, children, and parents of young children about minimizing exposure to ultraviolet (UV) radiation for persons aged 6 months to 24 years with fair skin types to reduce their risk of skin cancer.	B	March 2018 *
Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication: adults aged 40 to 75 years with no history of CVD, 1 or more CVD risk factors, and a calculated 10-year CVD event risk of 10% or greater	The USPSTF recommends that adults without a history of cardiovascular disease (CVD) (i.e., symptomatic coronary artery disease or ischemic stroke) use a low- to moderate-dose statin for the prevention of CVD events and mortality when all of the following criteria are met: 1) they are aged 40 to 75 years; 2) they have 1 or more CVD risk factors (i.e., dyslipidemia, diabetes, hypertension, or smoking); and 3) they have a calculated 10-year risk of a cardiovascular event of 10% or greater. Identification of dyslipidemia and calculation of 10-year CVD event risk requires universal lipids screening in adults aged 40 to 75 years. See the "Clinical Considerations" section for more information on lipids screening and the assessment of cardiovascular risk.	B	November 2016 *
Syphilis Infection in Nonpregnant Adults and Adolescents: Screening : asymptomatic, nonpregnant adults and adolescents who are at increased risk for syphilis infection	The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection.	A	June 2016 *
Syphilis Infection in Pregnant Women: Screening: pregnant women	The USPSTF recommends early screening for syphilis infection in all pregnant women.	A	September 2018 *
Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions: adults who are not pregnant	The USPSTF recommends that clinicians ask all adults about tobacco use, advise them to stop using tobacco, and provide behavioral interventions and U.S. Food and Drug Administration (FDA)-approved pharmacotherapy for cessation to adults who use tobacco.	A	September 2015 *
Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions: pregnant women	The USPSTF recommends that clinicians ask all pregnant women about tobacco use, advise them to stop using tobacco, and provide behavioral interventions for cessation to pregnant women who use tobacco.	A	September 2015 *

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TOPIC	DESCRIPTION	GRADE	RELEASE DATE
Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Counseling Interventions: adults 18 years or older, including pregnant women	The USPSTF recommends screening for unhealthy alcohol use in primary care settings in adults 18 years or older, including pregnant women, and providing persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce unhealthy alcohol use.	B	November 2018 *
Vision in Children Ages 6 Months to 5 Years: Screening: children aged 3 to 5 years	The USPSTF recommends vision screening at least once in all children aged 3 to 5 years to detect amblyopia or its risk factors.	B	September 2017 *
Weight Loss to Prevent Obesity-Related Morbidity and Mortality in Adults: Behavioral Interventions: adults	The USPSTF recommends that clinicians offer or refer adults with a body mass index (BMI) of 30 or higher (calculated as weight in kilograms divided by height in meters squared) to intensive, multicomponent behavioral interventions.	B	September 2018 *

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Immunizations

Adult Immunization Schedule (19 years of age and older)

The Alliance provides 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 College of Physicians (ACP), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), and American College of Nurse-Midwives (ACNM).

Changes in the immunization schedule for 2020 include:

HEPATITIS A: The **HepA note** was revised to include minor changes to the chronic liver disease definition, minor changes for the pregnancy indication, addition of the recommendation for vaccination in settings of exposure, and removal of clotting factor disorders as an indication for HepA vaccination.

HEPATITIS B: The **HepB note** was revised to include minor changes to the chronic liver disease definition and minor changes for the pregnancy indication.

HUMAN PAPILLOMAVIRUS: The **HPV note** was revised to indicate that HPV vaccination is recommended for all persons through age 26 years. A shared clinical decision-making subsection was added for persons 27-45 years.

INFLUENZA: The **influenza note** has been updated to include a bulleted list indicating when LAIV should not be used and minor edits to the guidance for persons with a history of Guillain-Barré syndrome.

MEASLES, MUMPS, AND RUBELLA: The **MMR note** was revised to clarify recommendations for health care personnel, with a separate bullet for personnel born in 1957 or later with no evidence of immunity and for health care personnel born before 1957 with no evidence of immunity.

MENINGOCOCCAL: The **MenB note** was revised to include the use of the complement inhibitor ravulizumab as a special situation for MenB administration. A shared clinical decision-making subsection was added that includes a bullet for adolescents and young adults age 16-23 years not at increased risk for meningococcal disease. Under the “Special situations” subsection, the recommendation was added to administer a booster dose of MenB 1 year after the primary series and revaccinate every 2-3 years if the risk remains.

PNEUMOCOCCAL: The **pneumococcal note** has been updated to indicate the updated recommendations for vaccination of immunocompetent (defined in discussion as adults without an immunocompromising condition, CSF leak, or cochlear implants) adults 65 years and older. One dose of PPSV23 is still recommended. Shared clinical decision-making is recommended regarding administration of PCV13 to immunocompetent persons 65 years and older.

TDAP: The **tetanus, diphtheria, and pertussis note** has been updated to indicate that Td or Tdap may be used in situations where only Td vaccine is indicated for the decennial tetanus, diphtheria, and pertussis booster vaccination, tetanus prophylaxis for wound management, and catch-up vaccination.

VARICELLA: The **varicella note** has been updated to indicate that vaccination may be considered for persons with HIV without evidence of varicella immunity who have CD4 counts ≥ 200 cells/ μ L.

For more information, please visit www.cdc.gov/vaccines/schedules/hcp/imz/adult.html.

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

Recommended Adult Immunization Schedule for ages 19 years or older

UNITED STATES
2020

How to use the adult immunization schedule

- 1** Determine recommended vaccinations by age (**Table 1**)
- 2** Assess need for additional recommended vaccinations by medical condition and other indications (**Table 2**)
- 3** Review vaccine types, frequencies, and intervals and considerations for special situations (**Notes**)

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 College of Physicians (www.acponline.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).

Vaccines in the Adult Immunization Schedule*

Vaccines	Abbreviations	Trade names
<i>Haemophilus influenzae</i> type b vaccine	Hib	ActHIB® Hiberix® PedvaxHIB®
Hepatitis A vaccine	HepA	Havrix® Vaqta®
Hepatitis A and hepatitis B vaccine	HepA-HepB	Twinrix®
Hepatitis B vaccine	HepB	Engerix-B® Recombivax HB® Heplisav-B®
Human papillomavirus vaccine	HPV vaccine	Gardasil 9®
Influenza vaccine (inactivated)	IIV	Many brands
Influenza vaccine (live, attenuated)	LAIV	FluMist® Quadrivalent
Influenza vaccine (recombinant)	RIV	Flublok® Quadrivalent
Measles, mumps, and rubella vaccine	MMR	M-M-R® II
Meningococcal serogroups A, C, W, Y vaccine	MenACWY	Menactra® Menveo®
Meningococcal serogroup B vaccine	MenB-4C MenB-FHbp	Bexsero® Trumenba®
Pneumococcal 13-valent conjugate vaccine	PCV13	Prenvar 13®
Pneumococcal 23-valent polysaccharide vaccine	PPSV23	Pneumovax® 23
Tetanus and diphtheria toxoids	Td	Tenivac® Tdvax™
Tetanus and diphtheria toxoids and acellular pertussis vaccine	Tdap	Adacel® Boostrix®
Varicella vaccine	VAR	Varivax®
Zoster vaccine, recombinant	RZV	Shingrix
Zoster vaccine live	ZVL	Zostavax®

*Administer recommended vaccines if vaccination history is incomplete or unknown. Do not restart or add doses to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7967

Injury claims

All vaccines included in the adult immunization schedule except pneumococcal 23-valent polysaccharide (PPSV23) and zoster (RZV, ZVL) vaccines are covered by the Vaccine Injury Compensation Program. Information on how to file a vaccine injury claim is available at www.hrsa.gov/vaccinecompensation.

Questions or comments

Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.



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 (including contraindications and precautions): www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/vaccines/pubs/surv-manual
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2020: www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html



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

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2020

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
Influenza inactivated (IIV) or Influenza recombinant (RIV) ^{or}	1 dose annually			
Influenza live, attenuated (LAIV)				
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV) (preferred) ^{or}				2 doses
Zoster live (ZVL)				1 dose
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal conjugate (PCV13)	1 dose			65 years and older
Pneumococcal polysaccharide (PPSV23)	1 or 2 doses depending on indication			1 dose
Hepatitis A (HepA)	2 or 3 doses depending on vaccine			
Hepatitis B (HepB)	2 or 3 doses depending on vaccine			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
	19 through 23 years			
Haemophilus influenzae type b (Hib)	1 or 3 doses depending on indication			

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision-making

No recommendation/ Not applicable

Table 2

Recommended Adult Immunization Schedule by Medical Condition and Other Indications, United States, 2020

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 count		Asplenia, complement deficiencies	End-stage renal disease; or on hemodialysis	Heart or lung disease, alcoholism ¹	Chronic liver disease	Diabetes	Health care personnel ²	Men who have sex with men			
			<200	≥200										
IIV or RIV or LAIV	1 dose annually													
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years												
MMR	NOT RECOMMENDED			1 or 2 doses depending on indication										
VAR	NOT RECOMMENDED			2 doses										
RZV (preferred) or ZVL	DELAY				2 doses at age ≥50 years							or	1 dose at age ≥60 years	
HPV	DELAY	3 doses through age 26 years			2 or 3 doses through age 26 years									
PCV13		1 dose												
PPSV23		1, 2, or 3 doses depending on age and indication												
HepA								2 or 3 doses depending on vaccine						
HepB								2 or 3 doses depending on vaccine						
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations													
MenB	PRECAUTION	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations												
Hib		3 doses HSCT ³ recipients only			1 dose									

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

 No recommendation/Not applicable

 Recommended vaccination for adults with an additional risk factor or another indication

 Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction

 Delay vaccination until after pregnancy if vaccine is indicated

 Not recommended/contraindicated—vaccine should not be administered

1. Precaution for LAIV does not apply to alcoholism. 2. See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. 3. Hematopoietic stem cell transplant.

Haemophilus influenzae type b vaccination**Special situations**

- **Anatomical or functional asplenia (including sickle cell disease):** 1 dose if previously did not receive Hib; if elective splenectomy, 1 dose, preferably at least 14 days before splenectomy
- **Hematopoietic stem cell transplant (HSCT):** 3-dose series 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history

Hepatitis A vaccination**Routine vaccination**

- **Not at risk but want protection from hepatitis A** (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2/5 months between doses 2 and 3])

Special situations

- **At risk for hepatitis A virus infection:** 2-dose series HepA or 3-dose series HepA-HepB as above
 - **Chronic liver disease** (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
 - **HIV infection**
 - **Men who have sex with men**
 - **Injection or noninjection drug use**
 - **Persons experiencing homelessness**
 - **Work with hepatitis A virus** in research laboratory or with nonhuman primates with hepatitis A virus infection
 - **Travel in countries with high or intermediate endemic hepatitis A**
 - **Close, personal contact with international adoptee** (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee's arrival)

- **Pregnancy** if at risk for infection or severe outcome from infection during pregnancy
- **Settings for exposure, including** health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)

Hepatitis B vaccination**Routine vaccination**

- **Not at risk but want protection from hepatitis B** (identification of risk factor not required): 2- or 3-dose series (2-dose series Heplisav-B at least 4 weeks apart [2-dose series HepB only applies when 2 doses of Heplisav-B are used at least 4 weeks apart] or 3-dose series Engerix-B or Recombivax HB at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2/8 weeks between doses 2 and 3/16 weeks between doses 1 and 3]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2/5 months between doses 2 and 3])

Special situations

- **At risk for hepatitis B virus infection:** 2-dose (Heplisav-B) or 3-dose (Engerix-B, Recombivax HB) series or 3-dose series HepA-HepB (Twinrix) as above
 - **Chronic liver disease** (e.g., persons with hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice upper limit of normal)
 - **HIV infection**
 - **Sexual exposure risk** (e.g., sex partners of hepatitis B surface antigen [HBsAg]-positive persons; sexually active persons not in mutually monogamous relationships; persons seeking evaluation or treatment for a sexually transmitted infection; men who have sex with men)
 - **Current or recent injection drug use**
 - **Percutaneous or mucosal risk for exposure to blood** (e.g., household contacts of HBsAg-positive persons; residents and staff of facilities for developmentally disabled persons; health care and public safety personnel with reasonably anticipated risk for

exposure to blood or blood-contaminated body fluids; hemodialysis, peritoneal dialysis, home dialysis, and predialysis patients; persons with diabetes mellitus age younger than 60 years and, at discretion of treating clinician, those age 60 years or older)

- **Incarcerated persons**
- **Travel in countries with high or intermediate endemic hepatitis B**
- **Pregnancy** if at risk for infection or severe outcome from infection during pregnancy (Heplisav-B not currently recommended due to lack of safety data in pregnant women)

Human papillomavirus vaccination**Routine vaccination**

- **HPV vaccination recommended for all adults through age 26 years:** 2- or 3-dose series depending on age at initial vaccination or condition:
 - **Age 15 years or older at initial vaccination:** 3-dose series at 0, 1–2, 6 months (minimum intervals: 4 weeks between doses 1 and 2/12 weeks between doses 2 and 3/5 months between doses 1 and 3; repeat dose if administered too soon)
 - **Age 9 through 14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:** 1 dose
 - **Age 9 through 14 years at initial vaccination and received 2 doses at least 5 months apart:** HPV vaccination complete, no additional dose needed.
- **If completed valid vaccination series with any HPV vaccine, no additional doses needed**

Shared clinical decision-making

- **Age 27 through 45 years based on shared clinical decision-making:**
 - 2- or 3-dose series as above

Special situations

- **Pregnancy through age 26 years:** HPV vaccination is not recommended until after pregnancy; no intervention needed if vaccinated while pregnant; pregnancy testing not needed before vaccination

Influenza vaccination

Routine vaccination

- **Persons age 6 months or older:** 1 dose any influenza vaccine appropriate for age and health status annually
- For additional guidance, see www.cdc.gov/flu/professionals/index.htm

Special situations

- **Egg allergy, hives only:** 1 dose any influenza vaccine appropriate for age and health status annually
- **Egg allergy more severe than hives** (e.g., angioedema, respiratory distress): 1 dose 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 any vaccine component (excluding egg) or to a previous dose of any influenza vaccine
 - Immunocompromised due to any cause (including medications and HIV infection)
 - Anatomic or functional asplenia
 - Cochlear implant
 - Cerebrospinal fluid-oro-pharyngeal communication
 - Close contacts or caregivers of severely immunosuppressed persons who require a protected environment
 - Pregnancy
 - Received influenza antiviral medications within the previous 48 hours
- **History of Guillain-Barré syndrome within 6 weeks of previous dose of influenza vaccine:** Generally should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza

Measles, mumps, and rubella vaccination

Routine vaccination

- **No evidence of immunity to measles, mumps, or rubella:** 1 dose
 - **Evidence of immunity:** Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity)

Special situations

- **Pregnancy with no evidence of immunity to rubella:** MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- **Nonpregnant women of childbearing age with no evidence of immunity to rubella:** 1 dose
- **HIV infection with CD4 count ≥ 200 cells/ μ L for at least 6 months and no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart; MMR contraindicated in HIV infection with CD4 count < 200 cells/ μ L
- **Severe immunocompromising conditions:** MMR contraindicated
- **Students in postsecondary educational institutions, international travelers, and household or close, personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR
- **Health care personnel:**
 - **Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart for measles or mumps or at least 1 dose for rubella
 - **Born before 1957 with no evidence of immunity to measles, mumps, or rubella:** Consider 2-dose series at least 4 weeks apart for measles or mumps or 1 dose for rubella

Meningococcal vaccination

Special situations for MenACWY

- **Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:** 2-dose series MenACWY (Menactra, Menveo) at least 8 weeks apart and revaccinate every 5 years if risk remains
- **Travel in countries with hyperendemic or epidemic meningococcal disease, microbiologists routinely exposed to *Neisseria meningitidis*:** 1 dose MenACWY (Menactra, Menveo) and revaccinate every 5 years if risk remains
- **First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) and military recruits:** 1 dose MenACWY (Menactra, Menveo)

Shared clinical decision-making for MenB

- **Adolescents and young adults age 16 through 23 years (age 16 through 18 years preferred) not at increased risk for meningococcal disease:** Based on shared clinical decision-making, 2-dose series MenB-4C at least 1 month apart or 2-dose series MenB-FHbp at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series)

Special situations for MenB

- **Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use, microbiologists routinely exposed to *Neisseria meningitidis*:** 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumenba) at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series); 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains
- **Pregnancy:** Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks

Pneumococcal vaccination

Routine vaccination

- **Age 65 years or older** (immunocompetent—see www.cdc.gov/mmwr/volumes/68/wr/mm6846a5.htm?s_cid=mm6846a5_w): 1 dose PPSV23
 - If PPSV23 was administered prior to age 65 years, administer 1 dose PPSV23 at least 5 years after previous dose

Shared clinical decision-making

- **Age 65 years and older** (immunocompetent): 1 dose PCV13 based on **shared clinical decision-making**
 - If both PCV13 and PPSV23 are to be administered, PCV13 should be administered first
 - PCV13 and PPSV23 should be administered at least 1 year apart
 - PCV13 and PPSV23 should not be administered during the same visit

Special situations

- (see www.cdc.gov/mmwr/volumes/68/wr/mm6846a5.htm?s_cid=mm6846a5_w)
- **Age 19 through 64 years with chronic medical conditions (chronic heart [excluding hypertension], lung, or liver disease, diabetes), alcoholism, or cigarette smoking:** 1 dose PPSV23
 - **Age 19 years or older with immunocompromising conditions (congenital or acquired immunodeficiency [including B- and T-lymphocyte deficiency, complement deficiencies, phagocytic disorders, HIV infection], chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, iatrogenic immunosuppression [e.g., drug or radiation therapy], solid organ transplant, multiple myeloma) or anatomical or functional asplenia (including sickle cell disease and other hemoglobinopathies):** 1 dose PCV13 followed by 1 dose PPSV23 at least 8 weeks later, then another dose PPSV23 at least 5 years after previous PPSV23; at age 65 years or older, administer 1 dose PPSV23 at least 5 years after most recent PPSV23 (note: only 1 dose PPSV23 recommended at age 65 years or older)

- **Age 19 years or older with cerebrospinal fluid leak or cochlear implant:** 1 dose PCV13 followed by 1 dose PPSV23 at least 8 weeks later; at age 65 years or older, administer another dose PPSV23 at least 5 years after PPSV23 (note: only 1 dose PPSV23 recommended at age 65 years or older)

Tetanus, diphtheria, and pertussis vaccination

Routine vaccination

- **Previously did not receive Tdap at or after age 11 years:** 1 dose Tdap, then Td or Tdap every 10 years

Special situations

- **Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis:** At least 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks after Tdap and another dose Td or Tdap 6–12 months after last Td or Tdap (Tdap can be substituted for any Td dose, but preferred as first dose); Td or Tdap every 10 years thereafter
- **Pregnancy:** 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- For information on use of Td or Tdap as tetanus prophylaxis in wound management, see www.cdc.gov/mmwr/volumes/67/rr/rr6702a1.htm

Varicella vaccination

Routine vaccination

- **No evidence of immunity to varicella:** 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
 - Evidence of immunity: U.S.-born before 1980 (except for pregnant women and health care personnel [see below]), documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease

Special situations

- **Pregnancy with no evidence of immunity to varicella:** VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility) 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- **Health care personnel with no evidence of immunity to varicella:** 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- **HIV infection with CD4 count ≥ 200 cells/ μ L with no evidence of immunity:** Vaccination may be considered (2 doses, administered 3 months apart); VAR contraindicated in HIV infection with CD4 count < 200 cells/ μ L
- **Severe immunocompromising conditions:** VAR contraindicated

Zoster vaccination

Routine vaccination

- **Age 50 years or older:** 2-dose series RZV (Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of ZVL (Zostavax) vaccination (administer RZV at least 2 months after ZVL)
- **Age 60 years or older:** 2-dose series RZV 2–6 months apart (minimum interval: 4 weeks; repeat if administered too soon) or 1 dose ZVL if not previously vaccinated. RZV preferred over ZVL (if previously received ZVL, administer RZV at least 2 months after ZVL)

Special situations

- **Pregnancy:** ZVL contraindicated; consider delaying RZV until after pregnancy if RZV is otherwise indicated
- **Severe immunocompromising conditions (including HIV infection with CD4 count < 200 cells/ μ L):** ZVL contraindicated; recommended use of RZV under review