Clinical Preventive Services Guidelines for Adolescents up to age 18: Risk Factors and Recommended Screening Tests (CPSG-ADOL)

UCSF Division of Adolescent and Young Adult Medicine

Guidelines as of April 8th, 2020, subject to change.

The United States Preventive Services Task Force (USPSTF) conducts scientific evidence reviews of a broad range of clinical preventive health care services and develops recommendations for primary care clinicians and health systems. These reviews are conducted periodically and published in the form of Recommendation Statements. This document serves as a broad overview of the relevant recommendations for the adolescents up to age 18 and is not meant to be all encompassing. There may be special considerations for certain subpopulations within the young adult age group, such as pregnant women. For information on screening, please visit the <u>USPSTF website</u>. For information on immunizations, please visit the <u>CDC website</u>.

Area	Recommendation	Risk Factors (defined by USPSTF unless	USPSTF Recommended Screening
		otherwise noted)	Tests
Nutrition, Exercise, Obesity	Source: *(2013, October). Blood Pressure in Children and Adolescents (Hypertension): Screening. Retrieved from https://www.uspreventiveservicestask force.org/Page/Document/UpdateSummaryFinal/blood-pressure-in-children-and-adolescents-hypertension-screening *USPSTF update in progress		The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for primary hypertension in asymptomatic children and adolescents to prevent subsequent cardiovascular disease in childhood or adulthood.
Nutrition, Exercise, Obesity	Source: (2017, June). Obesity in Children and Adolescents: Screening. Retrieved from https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/obesity-in-children-and-adolescents-screening1	Although all children and adolescents are at risk for obesity and should be screened, there are several specific risk factors, including: Parental obesity Poor nutrition Low levels of physical activity Inadequate sleep Sedentary behaviors Low family income	The USPSTF recommends that clinicians screen children aged 6 years and older for obesity and offer them or refer them to comprehensive, intensive behavioral intervention to promote improvement in weight status. This recommendation applies to children and adolescents aged 6 to 18 years. The USPSTF is using the following terms to define categories of increased BMI: overweight is defined as an age- and

Anna	Decommondation	Dight Fractors (from NIII DI)	gender- specific BMI between the 85th and 95th percentiles, and obesity is defined as an age- and gender-specific BMI at ≥95th percentile. The USPSTF did not find sufficient evidence for screening children younger than 6 years. In 2005, the USPSTF found adequate evidence that BMI was an acceptable measure for identifying children and adolescents with excess weight. BMI is calculated from the measured weight and height of an individual.
Area	Recommendation	Risk Factors (from NHLBI)	NHLBI Recommended Screening Tests
Nutrition, Exercise, Obesity	Healthy Diet and Physical Activity Source: (2012, October). Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: Summary Report – Nutrition and Diet, Physical Activity. Retrieved from https://www.nhlbi.nih.gov/node/80308	This recommendation from NHLBI applies to children and adolescents. The USPSTF does not have recommendations for healthy diet and physical activity in adolescents as of December 2019. USPSTF risk factors for obesity are:	Healthy Diet: NHLBI recommends that young people ages 11-21 years old receive 25-30% of daily calories from fat. High dietary fiber intake should be encouraged and cholesterol intake should be limited to less than 300 mg/day. Further, NHLBI recommends that young people limit sugar sweetened beverages and drink water and fat-free unflavored milk. Clinicians can take the following actions to support healthy diet: Teach portions based on Estimated Energy Requirements (EER) for age/sex/activity Encourage moderately increased energy intake during periods of rapid growth and/or regular moderate to vigorous physical activity Advocate dietary fiber: Goal of 14 g/1,000 kcal Limit naturally sweetened juice (no added sugar) to 4-6 oz/day Limit sodium intake

	 Encourage healthy eating habits: Breakfast every day, eating meals as a family, limiting fast food meals. Support Dietary Approaches to Stop Hypertension (DASH)-style eating plan
	Physical Activity: Adolescents and young adults ages 11-21 years old should participate in moderate to vigorous physical activity every day, for example jogging or playing basketball. Leisure TV/video/computer use should be limited.
	Clinicians can take the following actions to support physical activity: • Encourage adolescents to aim for 1 hour/day of moderate to vigorous daily activity, with vigorous intense physical activity on 3 days/week • Encourage no TV in bedroom • Limit total media time to no more
	 than 1-2 hours of quality programming per day Match activity recommendations with energy intake Take activity and screen time history from adolescent at health supervision visits Encourage involvement in year-
	 Encourage involvement in year-round, physical activities Support continued family activity once a week and/or family support of adolescent's physical activity program Endorse appropriate safety equipment relative to each sport

Area	Recommendation	Risk Factors	USPSTF Recommended Screening Tests
Substance Use	Alcohol: Screening and Counseling Source: (2018, November). Alcohol Misuse: Screening and Behavioral Counseling Interventions in Primary Care. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/unhealthy-alcohol-use-in- adolescents-and-adults-screening-and- behavioral-counseling-interventions	Risky use of alcohol is defined by the NIAAA and USDA as: • More than 7 drinks per week or more than 3 drinks per day for women • More than 14 drinks per week or 4 drinks per day for men	Screening and counseling is recommended beginning at age 18. There is insufficient evidence to assess the benefits and harms to those between 12-17 years of age. Numerous screening instruments can detect alcohol misuse in adults with acceptable sensitivity and specificity. The USPSTF prefers the following tools for alcohol misuse screening in the primary care setting: NIAAA single-question screening, such as asking, "How many times in the past year have you had 5 (for men) or 4 (for women) or more drinks in a day?" The Alcohol Use Disorders Identification Test (AUDIT) is the most studied screening tool for detecting the full spectrum of alcohol-related problems in primary care settings. Also available is the abbreviated AUDIT- Consumption test, or AUDIT-C.
Substance Use	Tobacco: Screening and Counseling Source: *(2013, August). Tobacco Use in Children and Adolescents: Primary Care Interventions. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/tobacco-use-in-children-and- adolescents-primary-care-interventions *USPSTF update in progress	Among adolescent and school-age children, smoking prevalence is higher in male high school students. Two of the strongest factors associated with smoking initiation are: • Parental smoking • Parental nicotine dependence Other factors associated with smoking initiation in children and adolescents are: • Low levels of parental monitoring • Easy access to cigarettes • Perception that peers smoke • Exposure to tobacco promotion	The following 4 interventions are recommended to prevent initiation of tobacco use in school-age children and adolescents: 1. Mobile phone—based interventions for tobacco cessation, as well as community-wide, proactive telephone support (proactive follow-up) combined with patient education materials. 2. Interventions that increase the price of tobacco products, reducing population consumption of tobacco products, and increasing tobacco use cessation.

Area	Recommendation	Risk Factors	3. Mass media campaigns that advocate for tobacco use prevention/cessation. 4. Community mobilization combined with additional interventions (such as stronger local laws directed at retailers, active enforcement of retailer sales laws, and retailer education with reinforcement). USPSTF Recommended Screening Tests
Substance Use	Tobacco: Screening and Counseling for Pregnant Women Source: *(2015, September). Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions. Retrieved from https://www.uspreventiveservices taskforce.org/Page/Document/UpdateSummaryFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions1 * USPSTF update in progress	Smoking prevalence is higher in the following groups (as applicable to female adolescents): • persons with a race or ethnicity category of "other, non-Hispanic" • persons with a GED (vs. graduate-level education) • persons with an annual household income of less than \$20,000 • persons who are lesbian, gay, bisexual, or transgender • persons with mental health conditions	Because many pregnant women who smoke do not report it, using multiple-choice screening questions to assess smoking status in this group may improve disclosure. 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. The USPSTF found convincing evidence that behavioral interventions substantially improve achievement of tobacco smoking abstinence in pregnant women, increase infant birthweight, and reduce risk for preterm birth. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of pharmacotherapy interventions for tobacco cessation in pregnant women.

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Mental Health	Depression Source: (2016, February). Depression in Children and Adolescents: Screening. Retrieved from https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/depression-in-children-and-adolescents-screening1	Several risk factors for Major Depressive Disorder (MDD) in children and adolescents are: Female sex Older age Family (especially maternal) history of depression Prior depressive episode Other mental health/behavioral issues Chronic medical illness Being overweight/obese Some studies have also found Hispanic race/ethnicity to be a risk factor for MDD. Psychosocial risk factors include: Childhood abuse or neglect Exposure to traumatic events (including natural disasters) Loss of a loved one or romantic relationship Family conflict Uncertainty about sexual orientation Low socioeconomic status Poor academic performance	Commonly used MDD screening instruments include the Patient Health Questionnaire for Adolescents (PHQ-A) and the primary care version of the Beck Depression Inventory (BDI). All positive screening results should lead to additional assessment that considers severity of depression and comorbid psychological problems (e.g. anxiety, panic attacks, or substance abuse), alternate diagnoses, and medical conditions. Treatment options for MDD in children and adolescents include pharmacotherapy, psychotherapy, collaborative care, psychosocial support interventions, and complementary and alternative medicine approaches. Fluoxetine is approved by the FDA for treatment of MDD in children aged 8 years or older, and escitalopram is approved for treatment of MDD in adolescents aged 12 to 17 years.

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Reproductive Health	Source: (2019, June). Human Immunodeficiency Virus (HIV): Screening. Retrieved from https://www.uspreventiveservices taskforce.org/Page/Document/Update SummaryFinal/human- immunodeficiency-virus-hiv-infection- screening1	 Men who have sex with men and active injection drug users are at high risk for new HIV infection. Those who have acquired or request testing for other sexually transmitted infections. Behavioral risk factors for HIV infection include: Having unprotected vaginal or anal intercourse, and with more than 1 partner whose HIV status is unknown Having sexual partners who are HIV-infected, bisexual, or injection drug users Exchanging sex for drugs or money The USPSTF recognizes that the above categories are not mutually exclusive, the degree of sexual risk is on a continuum, and individuals may not be aware of their sexual partners' risk factors for HIV infection. 	Screening is recommended for individuals 15-65 years old, younger adolescents at increased risk and all pregnant women. Current CDC guidelines recommend testing for HIV infection with an antigen/antibody immunoassay approved by the US Food and Drug Administration that detects HIV-1 and HIV-2 antibodies and the HIV-1 p24 antigen, with supplemental testing after a reactive assay to differentiate between HIV-1 and HIV-2 antibodies. Rapid HIV antigen/antibody testing is also highly accurate, may use either blood or oral fluid specimens, and can be performed in 5 to 40 minutes, and when offered at the point of care, is useful for screening high-risk patients who do not receive regular medical care (e.g., those seen in emergency departments), as well as women with unknown HIV status who present in active labor. Initial positive results require confirmation with conventional methods.

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Reproductive Health	Source: *(2014, September). Sexually Transmitted Infections: Behavioral Counseling. Retrieved from https://www.uspreventiveservices taskforce.org/Page/Document/ UpdateSummaryFinal/sexually- transmitted-infections-behavioral- counseling1 * USPSTF update in progress	 All sexually active adolescents are at increased risk for STIs and should be counseled. Other risk groups that have been included in counseling studies include adults with current STIs or other infections within the past year, adults who have multiple sex partners, and adults who do not consistently use condoms. Clinicians should be aware of populations with a particularly high prevalence of STIs such as: All African Americans have the highest STI prevalence of any racial/ethnic group, and STI prevalence is higher in American Indians, Alaska Natives, and Latinos than in white persons. Increased STI prevalence rates are also found in: Men who have sex with men (MSM) Persons with low incomes living in urban settings Current or former inmates Military recruits Persons who exchange sex for money or drugs Persons with mental illness or a disability Current or former intravenous drug users Persons with a history of sexual abuse Patients at public STI clinics 	Interventions ranging in intensity from 30 minutes to 2 or more hours of contact time are beneficial. Evidence of benefit increases with intervention intensity. High-intensity counseling interventions (defined in the review as contact time of ≥2 hours) were the most effective. Interventions can be delivered by primary care clinicians or through referral to trained behavioral counselors. Most successful approaches provided basic information about STIs and STI transmission; assessed the person's risk for transmission; and provided training in pertinent skills, such as condom use, communication about safe sex, problem solving, and goal setting. Many successful interventions used a targeted approach to the age, sex, and ethnicity of the participants and also aimed to increase motivation or commitment to safe sex practices. Intervention methods included face-to-face counseling, videos, written materials, and telephone support.

Area	Recommendation	Risk Factors	USPSTF Recommended Screening Tests
Reproductive Health	Syphilis Source: (2016, June). Syphilis Infection in Nonpregnant Adults and Adolescents: Screening. Retrieved from https://www.uspreventiveservices taskforce.org/Page/Document/ UpdateSummaryFinal/syphilis -infection-in-nonpregnant-adults- and-adolescents	 Men who have sex with men Sex work Exchange of sex for drugs Incarceration Men and women with HIV Men younger than 29 	Screening for syphilis infection is a two- step process that involves an initial nontreponemal test (Venereal Disease Research Laboratory or Rapid Plasma Reagin), followed by a confirmatory treponemal test FTA-ABS (fluorescent treponemal antibody absorbed) or TP- PA (T. pallidum particle agglutination).
Reproductive Health	Gonorrhea and Chlamydial Infection Source: *(2014, September). Chlamydia and Gonorrhea: Screening. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/chlamydia-and-gonorrhea- screening *USPSTF update in progress	Those with the highest chlamydial and gonococcal infection rates occur in women aged 20 to 24 years, followed by females aged 15 to 19 years. Chlamydial infections are 10 times more prevalent than gonococcal infections in young adult women. Among men, infection rates are highest in those aged 20 to 24 years. Other risk factors for infection include having: • A new sex partner • More than 1 sex partner • A sex partner with concurrent partners • A sex partner who has an STI • Inconsistent condom use among persons who are not in mutually monogamous relationships • Previous or coexisting STI • Exchanging sex for money or drugs	Chlamydia trachomatis and Neisseria gonorrhoeae infections should be diagnosed by using nucleic acid amplification tests (NAATs) because their sensitivity and specificity are high and they are approved by the U.S. Food and Drug Administration for use on urogenital sites, including male and female urine, as well as clinician-collected endocervical, vaginal, and male urethral specimens. Most NAATs that are approved for use on vaginal swabs are also approved for use on self-collected vaginal specimens in clinical settings. Rectal and pharyngeal swabs can be collected from persons who engage in receptive anal intercourse and oral sex, although these collection sites have not been approved by the U.S. Food and Drug Administration.

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Reproductive Health	Source: (2017, January). Folic Acid for the Prevention of Neural Tube Defects: Preventive Medication. Retrieved from https://www.uspreventiveservices https://www.uspreventiveservices https://www.uspreventiveservices https://www.uspreventiveservices https://www.uspreventiveservices https://www.uspreventive-medication https	Although all women of childbearing age are at risk of having a pregnancy affected by neural tube defects and should take folic acid supplementation, some factors increase their risk. Additional risk factors include: Personal or family history of neural tube defects Use of antiseizure medication Maternal diabetes Obesity Mutations in folate-related enzymes	The current statement 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.
Reproductive Health	Hepatitis C Source: (2020, March). Hepatitis C: Screening. Retrieved from https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-c-screening	The most important risk factor for HCV infection is past or current injection drug use. Another established risk factor for HCV infection is receipt of a blood transfusion before 1992. Additional risk factors include: • Long-term hemodialysis • Being born to an HCV-infected mother • Incarceration • Intranasal drug use • Getting an unregulated tattoo • Other percutaneous exposures (such as in health care workers or from having surgery before the implementation of universal precautions).	Anti–HCV antibody testing followed by polymerase chain reaction testing for viremia is accurate for identifying patients with chronic HCV infection. Various noninvasive tests with good diagnostic accuracy are possible alternatives to liver biopsy for diagnosing fibrosis or cirrhosis.

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Cancer Screening	Cervical Cancer Source: (2018, August). Cervical Cancer: Screening. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/cervical-cancer-screening2	 All women who have a cervix, regardless of sexual history Women with HPV infection HIV infection Compromised immune system In-utero exposure to diethylstilbestrol Previous treatment of a high-grade precancerous lesion or cervical cancer 	Screening of women younger than 21 years is not recommended, with evidence suggesting that screening women under 21 years old may lead to more harm than benefit, including adverse pregnancy outcomes. Women who have had a hysterectomy with removal of the cervix and who do not have a history of a high-grade precancerous lesion or cervical cancer are not at risk for cervical cancer and should not be screened. Current evidence indicates that there are no clinically important differences between liquid-based cytology and conventional cytology.
Cancer Screening	Skin Cancer Source: (2018, March). Skin Cancer Prevention: Behavioral Counseling. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/skin-cancer-counseling2	Individuals with the following characteristics face substantially increased risk of skin cancer: • Fair skin type (pale skin, light hair and eye color, freckles, or those who sunburn easily) • Use of tanning beds • History of sunburns or previous skin cancer Additional risk factors include: • Increased number of nevi (moles) and atypical nevi • HIV infection • History of receiving an organ transplant • Family history of skin cancer	Counseling on minimizing exposure to ultraviolet (UV) radiation is recommended for persons aged 6 months to 24 years with fair skin types in order to reduce their risk of skin cancer. Evidence suggests that the net benefit of counseling all adults older than 24 years is small.

Cancer Screening	Source: (2011, April). Testicular Cancer: Screening. Retrieved from https://www.uspreventiveservicestaskfor ce.org/Page/Document/UpdateSummary Final/testicular-cancer-screening		The United States Preventive Services Task Force recommends against screening for testicular cancer in adolescent or adult males.
Cancer Screening	Source: (2019, August). BRCA-Related Cancer: Risk Assessment, Genetic Counseling, and Genetic Testing. Retrieved from https://www.uspreventiveservicestask force.org/Page/Document/UpdateSum maryFinal/brca-related-cancer-risk- assessment-genetic-counseling-and- genetic-testing1	This recommendation applies to women who are asymptomatic for BRCA-related cancer and have unknown BRCA mutation status, including those have been previously diagnosed with BRCA-related cancer but have completed treatment and are considered cancer free. Women who have the following risk factors should be screened: • Personal history of breast, ovarian, tubal, or peritoneal cancer • Family history of breast, ovarian, tubal, or peritoneal cancer • Ancestry associated with a known potentially harmful mutation in the BRCA1 or BRCA2 genes	For women with a family history of BRCA-related cancers, USPSTF has found the following brief risk assessment tools to be validated and accurate: • the Ontario Family History Assessment Tool (Table 1) • Manchester Scoring System (Table 2) • Referral Screening Tool (Table 3) • Pedigree Assessment Tool (Table 4) • 7-Question Family History Screening Tool (Table 5) • International Breast Cancer Intervention Study instrument (Tyrer-Cuzick) (Table 6) • brief versions of BRCAPRO Genetic counseling should be offered to women with a positive result from screening. Genetic testing should be performed only when an individual with personal or family history is willing to talk with a health professional who is suitably trained to provide genetic counseling and interpret test results, and when test results will aid in decision-making. Routine risk assessment is not recommended for women without personal or family history associated with BRCA1/2 gene mutations.

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Safety/Violence	Family/Partner Violence Source: (2018, October). Intimate Partner Violence, Elder Abuse, and Abuse of Vulnerable Adults: Screening. Retrieved from https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/intimate-partner-violence-and-abuse-of-elderly-and-vulnerable-adults-screening1	Women of child-bearing age are most at risk, however all women are at potential risk for abuse. Factors that elevate risk include: Exposure to violence as a child Young age Unemployment substance abuse marital difficulties economic hardships	Several screening instruments can be used to screen women for IPV. Those with the highest levels of sensitivity and specificity for identifying IPV are Hurt, Insult, Threaten, Scream (HITS) (English and Spanish versions); Ongoing Abuse Screen/Ongoing Violence Assessment Tool (OAS/OVAT); Slapped, Threatened, and Throw (STaT); Humiliation, Afraid, Rape, Kick (HARK); Modified Childhood Trauma Questionnaire—Short Form (CTQ-SF); and Woman Abuse Screen Tool (WAST). The HITS instrument includes 4 questions, can be used in a primary care setting, and is available in both English and Spanish. It can be self- or clinician- administered. HARK is a self-administered 4-item instrument. STaT is a 3-item self-report instrument that was tested in an emergency department setting.

Area			
	Below is a list of vaccinations relevant to the adolescent age group, which the CDC regularly updates. The most current CDC immunizations page can be viewed here.		
	Td/Tdap http://www.cdc.gov/vaccines/hcp/vis/vis-statements/tdap.pdf		
	Human Papillomavirus http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hpv-gardasil-9.pdf		
	Varicella	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/varicella.pdf	
Infectious	Measles, mumps, rubella	MMR Website: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mmr.pdf	
Diseases,	MMRV Website: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mmrv.pdf		
including CDC	Influenza	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu.pdf	
Recommended	Pneumococcal (polysaccharide)	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/ppv.pdf	
Immunizations	Hepatitis A	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-a.pdf	
	Hepatitis B	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-b.pdf	
	Hepatitis C	https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-c-screening	
	Serogroup B Meningococcal (MenB):	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening-serogroup.pdf	
	Quadrivalent Meningococcal	http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.pdf	

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