

Preventive Health Care – Adult/Pediatric – Ambulatory Clinical Practice Guideline

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Executive Summary

Guideline Overview

This guideline contains preventive health recommendations for screening, counseling, education, and interventions in patients ages birth to geriatrics. Specific topics may also include recommendations for patients considered to be high risk or at an increased risk.

Key Revisions (2017 Periodic Review)

1. Removed recommendations for prenatal and postpartum care.
2. Added new topics including aspirin for primary prevention of cardiovascular disease and colorectal cancer, dental caries for pediatrics, hepatitis B screening for patients at increased risk, and tuberculosis screening in adults.
3. Added recommendations related to Illinois state statutes and SwedishAmerican practices.

Companion Documents & Resources

1. [UW Health Preventive Health Care and Health Maintenance](#)
2. [UW Health Immunization Toolkit](#)

Scope

Disease/Condition(s): Preventable diseases or conditions

Clinical Specialty: Family Medicine, Internal Medicine, Geriatrics, Obstetrics and Gynecology, Pediatrics, Preventive Medicine

Intended Users: Physicians, Physician Assistants, Advanced Practice Nurses, Registered Nurses, Medical Assistants, Licensed Practical Nurses, Allied Health Personnel, Health Plans/Managed Care Organizations, and other health care providers.

Objective(s):

- To provide a comprehensive approach to the provision of preventive services; including counseling, education, therapeutic interventions (e.g., vaccination), and disease screening for average risk patients from birth through geriatrics.
- To assist in the prioritization of screening maneuvers, tests, and counseling opportunities.
- To provide guidelines for decision support tools in Health Link such as Health Maintenance (HM) and Best Practice Alerts (BPAs).

Target Population: All patients from birth to geriatrics who are average risk or asymptomatic. This guideline does not include recommendations for prenatal or postpartum care.

NOTE: There are occasional exceptions to the following guidelines for **high risk** populations where noted ([Appendix B](#)). Some sections also include surveillance guidelines following a procedure or personal history of disease/condition. This guidance is intended to educate primary care providers and to direct appropriate referral or expectation from specialty providers. This guideline is not intended to diagnose or treat any condition. Once a health issue or condition has been identified, other clinical practice guidelines will take precedence during any further diagnosis and management.

Methodology

Methods Used to Collect/Select the Evidence:

Electronic database searches (e.g., PUBMED) were conducted by CCKM and workgroup members to collect evidence for review. Expert opinion and clinical experience was also considered during discussions of evidence.

Methods Used to Formulate the Recommendations:

The topic-specific workgroup members agreed to adopt recommendations developed by external organizations and/or arrived at a consensus through discussion of the literature evidence and expert experience. Recommendations developed by each topic-specific group were reviewed and approved by the Preventive Health Care Guideline Steering Committee as well as other UW Health committees as appropriate.

Methods Used to Assess the Quality and Strength of the Evidence:

Recommendations developed by external organizations (such as the U.S. Preventive Services Task Force) maintained the evidence grade assigned within the original source document and were adopted for use at UW Health.

Internally developed recommendations, or those adopted from external sources without an assigned evidence grade, were evaluated by the topic-specific workgroup and Steering Committee members using an algorithm adapted from the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology (see **Figure 1** within [Appendix D](#)).

Rating Schemes for the Strength of the Evidence/Recommendations:

See [Appendix D](#) for the various rating schemes used within this document.

Recognition of Potential Health Care Disparities:

Data from the National Ambulatory Medical Care Survey (2005-2010) found racial and financial healthcare disparities related to cancer screening performed in the primary care setting, which are not significantly impacted by use of an electronic health record or automated electronic reminders.^{1,2} The 2010 Affordable Care Act worked to improve access to preventive services by removing barriers such as cost; however disparities in healthcare delivery and patient compliance still exist. Evidence suggests that many factors can influence a patient's acceptance of and adherence to preventive services, including individual risk factors, race/ethnicity, primary or preferred language, education level, social support, sexual orientation, and socioeconomic status.³⁻⁷ Additional research is needed to identify interventions which will help to reduce these disparities in the provision of and adherence to preventive services. One solution which is being evaluated is whether peer support can improve cancer screening rates and adherence in African American adults aged 50-74 years.⁸ If successful, this model could be implemented across other vulnerable populations and health care topics.

Introduction

This guideline contains recommendations designed to assist clinicians in delivering and supporting preventive health care services for patients across their lifetime.

Recommendations

The following tables summarize the recommendations based upon patient age. Detailed recommendations may be found within each topic-specific section.

INFANTS AND CHILDREN

Table 1. Infant/Child Preventive Health Care Summary (Age 0-1 year)

CHILDREN AGE 0-1 YR.	Birth to 1 mo.	2 mo.	4 mo.	6 mo.	9 mo.	12 mo.
<u>Anemia</u>			Consider risk assessment. Test if at risk. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>			Test using CBC without differential. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>
	Routine iron supplementation (1 mg/kg/day) based on breastfeeding status. <i>(UW Health High quality evidence, strong recommendation)</i>					
<u>Blood Lead</u>						Perform risk assessment. Test if at risk. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>
<u>Breastfeeding</u>	Exclusive breastfeeding for approximately 6 months after delivery is recommended. <i>(UW Health Low quality evidence, strong recommendation)</i> Thereafter, infants may receive complementary foods with continued breast feeding up to 1 yr. of age or beyond. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>					
<u>Dental Caries</u>				Apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption. <i>(USPSTF Grade B)</i> Children should be seen by a dentist within 6 months of first tooth eruption or 12 months of age, whichever comes first. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i> Oral fluoride supplementation starting at age 6 months through 5 yrs. for children whose water supply is deficient in fluoride. <i>(USPSTF Grade B)</i>		
<u>Development</u>					Complete ASQ. <i>(UW Health Moderate quality evidence, strong recommendation)</i>	
<u>Hearing</u>	Perform newborn screening. <i>(Mandated by law)</i>					

CHILDREN AGE 0-1 YR.	Birth to 1 mo.	2 mo.	4 mo.	6 mo.	9 mo.	12 mo.
<u>Hypertension</u>	Patients with specific risk conditions should have their blood pressure obtained every six months. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>					
<u>Immunization</u>	Follow ACIP/CDC Schedule <i>(UW Health High quality evidence, strong recommendation)</i> ; Vaccine Refusal Form should be completed annually <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>					
<u>Newborn Screening</u>	Complete within 24-48 hrs. of birth <i>(Mandated by law)</i>					
<u>Tobacco</u>	Assess secondhand smoke exposure at every clinical encounter. <i>(UW Health Moderate quality evidence, strong recommendation)</i>					
<u>Tuberculosis</u>				Perform risk assessment. Test if at risk. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>		Perform risk assessment. Test if at risk. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>
<u>Vision</u>	Examine using inspection and red reflex testing. <i>(UW Health Very low quality evidence, strong recommendation)</i>			An ocular history, ocular alignment and motility assessment, and an ocular examination consisting of an external examination, pupil examination, red reflex testing to assess ocular media, ocular fundus examination with ophthalmoscope, and assessment of visual function should be done between 6-12 months. <i>(UW Health Very low quality evidence, strong recommendation)</i>		
*Badger Care Plus eligible children **Medicaid patients should be screened annually between age 3-8 yrs.						

Table 2. Infant/Child Preventive Health Care Summary (Age > 1 year)

CHILDREN AGE > 1 YR.	15 mo.	18 mo.	24 mo.	30 mo.*	3-6 yrs.	7-10 yrs.
<u>Alcohol</u>						Beginning at age 10 yrs., screening should take place at least annually (UW Health Very low quality evidence, weak/conditional recommendation) Adolescent patients should be screened using the CRAFFT (version 2.0). (UW Health Low quality evidence, strong recommendation) Patients with less than two “yes” answers on the CRAFFT should receive a brief counseling intervention. (UW Health Low quality evidence, weak/conditional recommendation)
<u>Anemia</u>	Consider risk assessment. Test if at risk. (UW Health Low quality evidence, weak/conditional recommendation)					
<u>Autism</u>		Complete M-CHAT-R/F (UW Health High quality evidence, strong recommendation)	Complete M-CHAT-R/F (UW Health High quality evidence, strong recommendation)			
<u>Blood Lead</u>			Perform risk assessment. Test if at risk. (UW Health Low quality evidence, weak/conditional recommendation)		Perform risk assessment. Test if at risk. (UW Health Low quality evidence, weak/conditional recommendation)	
<u>Breastfeeding</u>	Patients may receive complementary foods with continued breast feeding up to 1 yr. of age or beyond. (UW Health Low quality evidence, weak/conditional recommendation)					
<u>Dental Caries</u>	Apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption. (USPSTF Grade B) Oral fluoride supplementation starting at age 6 months through 5 yrs. for children whose water supply is deficient in fluoride. (USPSTF Grade B)					
<u>Development</u>		Complete ASQ. (UW Health Moderate quality evidence, strong recommendation)	Complete ASQ between 24-30 months. (UW Health Moderate quality evidence, strong recommendation)			
<u>Diabetes</u>						Test for type 2 diabetes at age 10 yrs. or onset of puberty if at risk (ADA Grade E)

CHILDREN AGE > 1 YR.	15 mo.	18 mo.	24 mo.	30 mo.*	3-6 yrs.	7-10 yrs.
Hearing					Test once between 4-6 yrs.** <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>	Test once between 8-10 yrs.** <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>
Hypertension	Patients with specific risk conditions should have their blood pressure obtained every six months. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>				Measure blood pressure annually. <i>(ICSI High quality evidence, strong recommendation)</i>	
Immunization	Follow ACIP/CDC Schedule <i>(UW Health High quality evidence, strong recommendation)</i> ; Vaccine Refusal Form should be completed annually <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>					
Lipids						Complete universal screen once between 9-11 yrs. using non-fasting total cholesterol and HDL. <i>(NHLBI Grade B, strongly recommended)</i>
Obesity			Measure BMI annually <i>(ICSI High quality evidence, strong recommendation)</i>			
Skin Cancer						Provide counseling beginning at age 10 yrs. if at risk. <i>(USPSTF Grade B)</i>
Tobacco	Assess secondhand smoke exposure at every clinical encounter. <i>(UW Health Moderate quality evidence, strong recommendation)</i>					
Tuberculosis			Perform risk assessment. Test if at risk. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>		Perform risk assessment annually. Test if at risk. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>	
Vision	An ocular history, ocular alignment and motility assessment, and an ocular examination consisting of an external examination, pupil examination, red reflex testing to assess ocular media, ocular fundus examination with ophthalmoscope, and assessment of visual function be done between the following ages: 1-3 yrs., and 4-5 yrs. <i>(UW Health Very low quality evidence, strong recommendation)</i>					Vision acuity screening tests and additional ophthalmic assessments should be completed once during the following age ranges to detect the presence of myopia: 6-8 yrs. and 10-12 yrs. <i>(UW Health Very low quality evidence, strong recommendation)</i>
*Badger Care Plus eligible children **Medicaid patients should be screened annually between age 3-8 yrs.						

ADOLESCENTS

Table 3. Adolescent Preventive Health Care Summary

ADOLESCENTS	11 yr.	12 yr.	13 yr.	14 yr.	15 yr.	16 yr.	17 yr.
<u>Alcohol</u>	Screening should take place at least annually (UW Health Very low quality evidence, weak/conditional recommendation) Adolescents should be screened using Part A of the CRAFFT (version 2.0). (UW Health Low quality evidence, strong recommendation) If positive screen, all 6 CRAFFT Part B questions should be asked. The CAR question should be asked regardless of patient response to Part A. Patients with less than two “yes” answers on the CRAFFT should receive a brief counseling intervention. (UW Health Low quality evidence, weak/conditional recommendation)						
<u>Chlamydia, Gonorrhea</u>	Screen sexually active females annually for chlamydia and gonorrhea (USPSTF Grade B) Perform annual chlamydia and gonorrhea screening in MSM (UW Health High quality evidence, strong recommendation)						
<u>Depression</u>	Screen annually using the PHQ-2. (UW Health Very low quality evidence, strong recommendation) If positive screen, complete further assessment using PHQ-A or PHQ-9. (UW Health Low quality evidence, strong recommendation)						
<u>Diabetes</u>	Test for type 2 diabetes at onset of puberty if at risk. (ADA Grade E) Repeat testing every 3 yrs. (ADA Grade C)						
<u>Hearing</u>	No current recommendations for routine screening.*						
<u>HIV</u>	Universal opt-out HIV screening should be offered once by 16 to 18 yrs. of age. (UW Health Very low quality evidence, strong recommendation) High-risk youth should be tested annually for HIV. (UW Health Very low quality evidence, weak/conditional recommendation)						
<u>Hypertension</u>	Measure blood pressure annually (ICSI High quality evidence, strong recommendation)						
<u>Immunization</u>	Follow ACIP/CDC Schedule (UW Health High quality evidence, strong recommendation); Vaccine Refusal Form should be completed annually (UW Health Very low quality evidence, weak/conditional recommendation)						
<u>Intimate Partner Violence</u>	Screen females of childbearing age for intimate partner violence (USPSTF Grade B) using the HITS assessment tool. (UW Health Moderate quality evidence, weak/conditional recommendation) Screening may be considered annually. (UW Health Very low quality evidence, weak/conditional recommendation)						
<u>Lipids</u>	Complete universal screen once between 9-11 yrs. using non-fasting total cholesterol and HDL. (NHLBI Grade B, strongly recommended)						Complete universal screen once between 17-21 yrs. using non-fasting total cholesterol and HDL (NHLBI Grade B, strongly recommended)
<u>Obesity</u>	Measure BMI annually. (ICSI High quality evidence, strong recommendation)						
<u>Sexual Activity</u>	Provide behavioral counseling if sexually active (USPSTF Grade B)						
<u>Skin Cancer</u>	Provide behavioral counseling about minimizing exposure to ultraviolet radiation if at risk. (USPSTF Grade B)						
<u>Tobacco</u>	Tobacco use status should be assessed and documented at every clinical encounter. (UW Health High quality evidence, strong recommendation) In nonusers, assess secondhand smoke exposure at every clinical encounter. (UW Health Moderate quality evidence, strong recommendation)						
<u>Tuberculosis</u>	Perform annual risk assessment. Test if at risk. (UW Health Very low quality evidence, weak/conditional recommendation)						
<u>Vision</u>	Vision acuity screening tests and additional ophthalmic assessments should be completed once during the following age ranges to detect the presence of myopia: 10-12 yrs., 13-15 yrs., and 16-18 yrs. (UW Health Very low quality evidence, strong recommendation)						

*Medicaid patients should be screened at age 12 yrs. and 16 yrs.

ADULTS

Table 4. Adult Preventive Health Care Summary (Men and Non-pregnant Women)

ALL ADULTS	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
<u>Alcohol</u>	<p>Screening should take place at least annually. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i> Adults should be screened using the AUDIT-C. <i>(UW Health Low quality evidence, strong recommendation)</i></p> <p>Adult patients who screen positive for unhealthy alcohol use should receive a brief counseling intervention. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i> Adult patients who are likely to have an alcohol use disorder should receive further assessment and/or a referral to treatment with a specialist in alcohol and drug related issues. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i></p>					
<u>Aspirin</u> (81 mg daily)	<p>Aspirin can be considered following shared decision making in patients younger than 40 yrs. at very high risk for cardiovascular disease. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i></p> <p>However, aspirin use in patients younger than 21 yrs. is not recommended. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i></p>	<p>Aspirin is not recommended for ASCVD prevention in adults aged 40-49 yrs. with diabetes at low ASCVD risk (< 5%). <i>(ADA Grade C)</i></p> <p>Aspirin may be used on an individual basis in patients aged 40-49 yrs. with diabetes at intermediate ASCVD risk (5-10%), following consideration of the benefits and harms of initiation. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i></p>	<p>Initiating low-dose aspirin for primary prevention is recommended in adults aged 50-59 yrs. who have a 10% or greater 10-yr. cardiovascular disease risk, are not at increased risk for bleeding, have a life expectancy of at least 10 yrs., and are willing to take low-dose aspirin daily for at least 10 yrs. <i>(USPSTF Grade B)</i></p> <p>The decision to initiate low-dose aspirin for primary prevention of CVD and CRC in adults aged 60-69 yrs. who have a 10% or greater 10-yr. CVD risk should be an individual one. <i>(USPSTF Grade C)</i></p>	<p>Due to the increased risk of bleeding with age, initiation of aspirin for primary prevention may be considered on an individual basis. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i></p>	<p>It is recommended to use the ACC/AHA ASCVD Risk Estimator to evaluate 10-yr. cardiovascular disease risk (http://tools.acc.org/ASCVD-Risk-Estimator/). <i>(UW Health Low quality evidence, strong recommendation)</i></p>	
<u>Cognitive Screening</u>					<p>Routine screening is not recommended. <i>(USPSTF I Statement)</i></p> <p>However, if performing a CMS Annual Wellness Visit, screening should be completed annually. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i></p>	

ALL ADULTS	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
Colorectal Cancer				<p>Screen patients aged 50-75 yrs. (<i>USPSTF Grade A</i>) Routine universal screening should not be performed in patients 76-85 yrs.; however there may be considerations that support screening in an individual patient. (<i>USPSTF Grade C</i>)</p> <p>The most important outcome is that eligible patients are screened. Patient choice has been independently associated with greater participation and adherence to screening, therefore, appropriate patient-physician discussion of the screening testing options should occur. (<i>UW Health High quality evidence, strong recommendation</i>) Optical colonoscopy (<i>UW Health Moderate quality evidence, strong recommendation</i>), CT colonography (<i>UW Health Moderate quality evidence, strong recommendation</i>), fecal immunohistochemical test (FIT) (<i>UW Health Moderate quality evidence, strong recommendation</i>), or multi-target stool DNA (Cologuard®/FIT-DNA) (<i>UW Health Low quality evidence, weak/conditional recommendation</i>) are recommended for colon cancer screening. Flexible sigmoidoscopy is also acceptable. (<i>UW Health Moderate quality evidence, strong recommendation</i>)</p> <p>See text below for the pros and cons of each testing option as well as the screening intervals.</p> <hr/> <p>Patients with a life expectancy of less than 10 yrs. should not be screened. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)</p>		
Depression	<p>Screen annually using the PHQ-2. (<i>UW Health Very low quality evidence, strong recommendation</i>)</p> <p>If positive screen, complete further assessment using PHQ-9. (<i>UW Health Low quality evidence, strong recommendation</i>)</p>					
Diabetes	<p>Screening for type 2 diabetes with an informal assessment of risk factors should be considered in asymptomatic adults. (<i>ADA Grade B</i>) It is reasonable to perform a risk assessment annually. (<i>UW Health Very low quality evidence, weak/conditional recommendation</i>) Testing for type 2 diabetes should be considered in all adult patients who are overweight or obese (BMI ≥ 25 kg/m² or ≥ 23 kg/m² in Asian Americans) and have one or more risk factors (<i>UW Health Moderate quality evidence, weak/conditional recommendation</i>) Frequency should be based upon individual clinical judgement that is influenced by the patient's clinical status, any prior test results, and the presence of or changes in risk factors. (<i>UW Health Very low quality evidence, weak/conditional recommendation</i>) If prior test results are normal and patients do not demonstrate other significant risk, testing should not be repeated more frequently than every 3 years. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)</p>					
Falls Risk					<p>Screen patients age 65 yrs. or older annually (<i>AGS Grade A</i>) using the STEADI screening questionnaire.</p> <p>If positive screen, complete assessment using the TUG.</p>	
Hepatitis B	<p>Patients should be screened if at high risk. (<i>USPSTF Grade B</i>)</p> <p>Patients with ongoing risk factors may be tested annually. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)</p>					
Hepatitis C	<p>Patients should be screened once if born between the yrs. of 1945-1965. (<i>USPSTF Grade B</i>)</p> <p>Patients should be screened if at increased risk. (<i>USPSTF Grade B</i>)</p> <p>Patients with ongoing risk factors may be tested annually. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)</p>					

ALL ADULTS	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
<u>HIV</u>	Universal opt-out HIV screening is recommended in average risk patients aged 19-64 yrs. who were not tested in adolescence, regardless of sexual activity or risk. <i>(UW Health Very low quality evidence, strong recommendation)</i> Annual screening is recommended in patients at an increased or high risk for infection. <i>(UW Health Low quality evidence, strong recommendation)</i>				Screen after age 65 yrs. if at increased risk. <i>(USPSTF Grade A)</i>	
Pre-exposure prophylaxis may be indicated if at increased risk. <i>(UW Health High quality evidence, strong recommendation)</i>						
<u>Hypertension</u>	Screen adults age 18 yrs. or older. <i>(USPSTF Grade A)</i> Annual screening in adults \geq 40 yrs. and for all adults at increased risk. <i>(UW Health Moderate quality evidence, strong recommendation)</i> Patients age 18-30 yrs. with normal blood pressure and no other risk factors should be rescreened every 3-5 yrs. <i>(USPSTF Grade A)</i>					
<u>Immunizations</u>	Follow ACIP/CDC Schedule. <i>(UW Health High quality evidence, strong recommendation)</i>					
<u>Lipids</u>	Complete universal screen once between 17-21 yrs. using non-fasting total cholesterol and HDL. <i>(NHLBI Grade B, strongly recommended)</i> Test once every 5 yrs. between ages of 22-39 yrs. <i>(NHLBI Grade B, Moderate)</i> using a fasting lipid panel or non-fasting total cholesterol and HDL. Patients at increased risk may be tested more frequently. If LDL and TG levels are within normal limits, subsequent screening may be delayed until age 35 (men) and age 45 (women) unless risk factors develop. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>		Test once every 5 yrs. between ages of 40-75 yrs. <i>(NHLBI Grade B, Moderate)</i> using a fasting lipid panel or non-fasting total cholesterol and HDL. Patients at increased risk may need to be tested more frequently. If a woman's 10 yr. cardiovascular risk is $<$ 2.5% and if LDL and TG levels are within normal limits subsequent screening may be delayed until age 45 unless risk factors develop. ¹³⁹ It is recommended to use the ACC/AHA ASCVD Risk Estimator to evaluate 10-yr. CVD risk (http://tools.acc.org/ASCVD-Risk-Estimator/). <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>			
<u>Lung Cancer</u>				Complete annual screening using low dose CT in high-risk patients age 55-80 yrs. who have a 30 pack-yr. smoking history AND are current smokers or have quit within the last 15 yrs. <i>(USPSTF Grade B)</i> Discontinue screening once patient has not smoked for 15 yrs. or develops a health problem which limits life expectancy. <i>(USPSTF Grade B)</i>		
<u>Obesity</u>	Measure BMI annually. <i>(ICSI High quality evidence, strong recommendation)</i>					
<u>Sexual Activity</u>	Provide behavioral counseling if sexually active and at increased risk for sexually transmitted infection. <i>(USPSTF Grade B)</i>					

ALL ADULTS	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
<u>Skin Cancer</u>	Provide behavioral counseling about minimizing exposure to ultraviolet radiation in patients age 18-24 yrs. and at risk. <i>(USPSTF Grade B)</i> Provide behavioral counseling about minimizing exposure to ultraviolet radiation in all patients aged 25 yrs. or older. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>					
<u>Syphilis</u>	Screen if at increased risk. <i>(USPSTF Grade A)</i> Screen MSM annually using a complete syphilis serology with confirmatory testing. <i>(UW Health High quality evidence, strong recommendation)</i>					
<u>Tobacco</u>	Tobacco use status should be assessed and documented at every clinical encounter. <i>(UW Health High quality evidence, strong recommendation)</i> In non-users, assess secondhand smoke exposure at every clinical encounter. <i>(UW Health Moderate quality evidence, strong recommendation)</i>					

Table 5. Adult Preventive Health Care Summary (Men Only)

ADULT MEN*	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
<u>Abdominal Aortic Aneurysm</u>					Screen once between the ages of 65-75 yrs. if patient ever smoked using abdominal duplex ultrasonography. <i>(USPSTF Grade B)</i> Selective screening may be considered in men who have never smoked with additional risk factors. <i>(USPSTF Grade C)</i>	
<u>Chlamydia or Gonorrhea</u>	Insufficient evidence in regards to routine screening in heterosexual men <i>(USPSTF I Statement)</i> ; screening may be considered in settings with high prevalence. <i>(UW Health Low quality evidence, strong recommendation)</i> Screen MSM annually, including extragenital sites. <i>(UW Health High quality evidence, strong recommendation)</i>					
<u>Osteoporosis</u>				Risk assessment using the NOF guideline criteria is recommended in men between the ages of 50-69 years. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i> Central dual-energy X-ray absorptiometry (DXA) should be completed in patients who exhibit one or more risk factor. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>	Central dual-energy X-ray absorptiometry (DXA) should be completed in men age 70 years or older. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>	
				Following completion of the first DXA scan, a FRAX assessment should be completed using the T-score to determine major osteoporotic fracture risk and future screening interval. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>		
<u>Prostate Cancer</u>			Routine prostate cancer screening is not recommended. <i>(UW Health Very low quality evidence, strong recommendation)</i> Shared decision making may be considered in men with increased risk. <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i>	A one-time shared decision making conversation is recommended. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i> If the decision made is to screen, PSA testing may be completed every 1-2 yrs. <i>(UW Health Low quality evidence, weak recommendation)</i>	Routine prostate cancer screening is not recommended. <i>(UW Health High quality evidence, strong recommendation)</i>	
			Men with a life expectancy of less than 10 yrs. should not be screened. <i>(UW Health Moderate quality evidence, weak recommendation)</i>			
*Sex-based screening should be dependent upon organ inventory and the individual needs of a patient.						

Table 6. Adult Preventive Health Care Summary (Non-pregnant Women Only)

ADULT WOMEN*	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
Abdominal Aortic Aneurysm					Current evidence insufficient to assess benefits and harms of screening in women 65-75 yrs. who have smoked. (USPSTF I Statement) It may be appropriate in individual cases to perform screening. (UW Health Very low quality evidence, weak/conditional recommendation) It is not recommended to screen women who have never smoked. (USPSTF Grade D)	
Breast Cancer			<p>Beginning at age 40 yrs., a shared decision making conversation is recommended to determine patient preferences and assess breast cancer risk. (UW Health Very low quality evidence, weak/conditional recommendation)</p> <p>Recommend discussion of the risk and benefits to consider additional screening every 1-2 yrs. in the context of patient preferences, breast density, and other risk factors. (UW Health Moderate quality evidence, weak/conditional recommendation)</p>	<p>Screen women age 50-74 yrs. using 2-D mammography. (UW Health Moderate quality evidence, strong recommendation) Digital breast tomosynthesis (DBT), a 3-D mammography method which UW Health has available at most imaging sites, may be considered. (UW Health Low quality evidence, weak/conditional recommendation) Biennial or annual screening frequency may be influenced by patient's expressed preference during shared-decision making or risk factors such as mammographic breast density. (UW Health Low quality evidence, weak/conditional recommendation)</p> <p>Consider mammography screening in women age 75 yrs. or older every 1-2 yrs. based upon a discussion of the risks and benefits, as well as consideration for life expectancy. (UW Health Low quality evidence, weak/conditional recommendation)</p>		
Cervical Cancer	<p>Screening is not recommended in patients younger than 21 yrs. (USPSTF Grade D) unless at high risk (see Appendix B)</p> <p>Screen patients age 21-29 yrs. using cytology alone every 3 yrs. (USPSTF Grade A)</p>	<p>Screen women age 30-65 yrs. with a combination cytology and high risk HPV co-test every 5 yrs. OR screen with cytology alone every 3 yrs. (USPSTF Grade A)</p>	<p>Women with a life expectancy of less than 10 yrs. should not be screened. (UW Health Low quality evidence, weak/conditional recommendation)</p> <p>UW Health Prevention and Tailored Health Screening (PATHS) clinic referral for women at high risk. (Appendix B)</p>		<p>Stop screening at age 65 yrs. if three normal results OR two negative high risk HPV results in the last decade AND no history of CIN 2, 3, or cervical cancer in last 20 yrs. (USPSTF Grade D)</p>	

ADULT WOMEN*	18-29 yrs.	30-39 yrs.	40-49 yrs.	50-64 yrs.	65-69 yrs.	70 yrs. and older
Chlamydia or Gonorrhea	<p>Screen sexually active patients 24 yrs. or younger. (USPSTF Grade B)</p> <p>Screen sexually active patients age 25-29 yrs. if at increased risk. (USPSTF Grade B)</p> <p>Patients should be screened annually. (UW Health Low quality evidence, strong recommendation)</p>	<p>Screen sexually active patients age 30-69 yrs. if at increased risk. (USPSTF Grade B) Patients should be screened annually. (UW Health Low quality evidence, strong recommendation)</p>				
Osteoporosis				<p>Assessment using the FRAX is recommended in postmenopausal women between the ages of 50-64 years, especially if the patient is considered at increased risk. (UW Health Moderate quality evidence, weak/conditional recommendation)</p> <p>Central dual-energy X-ray absorptiometry (DXA) should be completed in patients whose fracture risk is equal to or greater than that of a 65 year old white woman who has no additional risk factors (major osteoporotic fracture score 9.3%). (UW Health Moderate quality evidence, strong recommendation)</p> <p>In patients without risk factors or at low risk, risk should be reassessed every 5 years. (UW Health Very low quality evidence, weak/conditional recommendation)</p>	<p>Perform DXA in women age 65 yrs. or older. (USPSTF Grade B)</p> <p>Following completion of the first DXA scan, a FRAX assessment should be completed using the T-score to determine major osteoporotic fracture risk and future screening interval. (UW Health Very low quality evidence, weak/conditional recommendation)</p>	
Intimate Partner Violence	<p>Screen women of childbearing age (18-46 yrs.) for intimate partner violence (USPSTF Grade B) using the HITS assessment tool. (UW Health Moderate quality evidence, weak/conditional recommendation) Screening may be considered annually. (UW Health Very low quality evidence, weak/conditional recommendation)</p>					
<p>*Sex-based screening should be dependent upon organ inventory and the individual needs of a patient.</p>						

Topic-specific Recommendations

ABDOMINAL AORTIC ANEURYSM

[Return to Adult Table \(Men Only\)](#) | [Return to Adult Table \(Women Only\)](#)

Risk Factors

Important risk factors for abdominal aortic aneurysm (AAA) in men include^{9,10}:

- Smoking (at least 100 cigarettes in lifetime)
- First degree relative with an AAA
- History of other vascular aneurysms
- Coronary artery disease
- Cerebrovascular disease
- Atherosclerosis.
- eGFR < 60 mL/min
- Hypercholesterolemia
- Obesity
- Hypertension

Factors associated with a reduced risk for AAA in men include⁹:

- African American race
- Hispanic ethnicity
- Diabetes mellitus

Men age 65-75 years

It is recommended to perform one-time screening for AAA with abdominal duplex ultrasonography in men ages of 65-75 years who have ever smoked (i.e., at least 100 cigarettes in his lifetime).^{9,11} (*USPSTF Grade B*)

Selective screening using abdominal duplex ultrasonography in men who have never smoked may be considered in patients with additional risk factors.^{9,12,13} (*USPSTF Grade C*) In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms on the basis of evidence relevant to the patient's medical history, family history, other risk factors, and personal values.^{9,12,13}

Women age 65-75 years

The current evidence is insufficient to assess the balance of benefits and harms related to AAA screening in women age 65-75 years who have ever smoked (i.e., at least 100 cigarettes in her lifetime).⁹ (*USPSTF I Statement*) It may be appropriate in individual cases to perform screening. (*UW Health Very low quality evidence, weak/conditional recommendation*) Patients and clinicians should consider the balance of benefits and harms relevant to the patient's medical history, family history, other risk factors, and personal values.

It is not recommended to routinely screen women who have never smoked.⁹ (*USPSTF Grade D*).

Contraindications to Screening

There are no established contraindications to AAA screening in the literature. The benefits of screening and surgical repair have been demonstrated even in patients with a limited life expectancy or comorbidities (e.g., obesity). (*UW Health Very low quality evidence, strong recommendation*) In accordance with Choosing Wisely principles, patients with prior imaging adequate enough to view the abdominal aorta within the previous 5 years do not need to receive additional imaging. (*UW Health Very low quality evidence, weak/conditional recommendation*)

Surveillance

Patients determined to have an abdominal aortic aneurysm upon screening may require modified screening recommendations as outlined below (**Table 7**).¹⁴

Table 7. Abdominal Aortic Aneurysm Surveillance Recommendations

Size determined by initial screening	Suggested Follow-up
3 cm - 3.5 cm	5 years (following a complete ultrasound)
3.6 cm – 4 cm	2 years (following a complete ultrasound)
4.1 cm – 4.5 cm	1 year (if clinically warranted further imaging with CT)
4.6 cm – 4.9 cm	6 months (if clinically warranted further imaging with CT)
5 cm – 6.9 cm	Consider referral to Vascular Surgery
≥ 7 cm	Critical result- patient kept in the imaging suite until further direction from a specialty physician.

Patients who have undergone abdominal aortic aneurysm repair are no longer considered average risk and fall outside the scope of this guideline.

Patient Resources

1. HFFY #4885: Surgery of the Aorta
2. Healthwise: Well Visit: 50 to 65 Year Men
3. Healthwise: Well Visit: Over 65 Years
4. [Health Information: Abdominal Aortic Aneurysm Screening](#)
5. [Health Information: Abdominal Aortic Aneurysm: Should I Get a Screening Test?](#)

ALCOHOL USE

[Return to Adolescent Table](#) | [Return to Adult Table](#)

Detailed recommendations for providing a brief intervention and treatment can be found within the full [UW Health Alcohol Assessment and Intervention – Adult/Pediatric – Inpatient/Ambulatory Guideline](#).

Patients age 10-17 years

Screening should take place at least annually in the primary care setting.¹⁵ (*UW Health Very low quality evidence, weak/conditional recommendation*) The CRAFFT (Car, Relax, Alone, Forget, Family/Friends, Trouble) is a validated tool to screen adolescents for risky drinking and drug behaviors. Adolescent patients should be screened for alcohol and drug use using Part A of the [CRAFFT \(version 2.0\)](#).¹⁶⁻¹⁹ (*UW Health Low quality evidence, strong recommendation*) If the patient responds to any question with a number greater than “0,” all 6 CRAFFT Part B questions should be asked. The CAR question should be asked regardless of patient response to Part A.

Patients with less than two “yes” answers on the CRAFFT should receive a brief counseling intervention.^{16,18} (*UW Health Low quality evidence, weak/conditional recommendation*) A score of two or more “yes” answers suggest a serious problem and need for further assessment. Patients with two or more “yes” answers on the CRAFFT should receive a brief intervention and a referral to treatment with a specialist in alcohol and drug related issues.^{16,18} (*UW Health Low quality evidence, weak/conditional recommendation*)

Patients age 18 years or older

The United States Preventive Services Task Force (USPSTF) recommends that clinicians screen adults aged 18 years or older for alcohol misuse and provide persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce alcohol misuse.²⁰ (*USPSTF B Recommendation*) Screening should take place at least annually in the primary care setting.^{15,20} (*UW Health Very low quality evidence, weak/conditional recommendation*) UW Health recommends using the [Alcohol Use Disorders Identification Test – Consumption \(AUDIT-C\)](#) to screen for alcohol misuse in non-pregnant adults.²¹⁻²³ (*UW Health Low quality evidence, strong recommendation*) The AUDIT-C includes the first three questions of the full AUDIT screening tool.

Adult patients who screen positive for unhealthy alcohol use (AUDIT-C score of **3 to 7** for men over 65 years and all adult women; **4 to 7** for men 18 to 65 years) should receive a brief counseling intervention.²⁴ (*UW Health Moderate quality evidence, weak/conditional recommendation*) It is important to note that even low or

moderate drinking is risky for some patients in certain clinical situations (e.g. pregnancy, taking warfarin), and these patients should be advised to not drink at all.²⁵⁻²⁷ (UW Health Moderate quality evidence, weak/conditional recommendation) Adult patients who are likely to have an alcohol use disorder (AUDIT-C score of 8 or greater) should receive further assessment and/or a referral to treatment with a specialist in alcohol and drug related issues.^{20,28} (UW Health Moderate quality evidence, weak/conditional recommendation)

Clinicians may consider using the entire AUDIT screening tool to evaluate adult patients for potential negative health or social consequences associated with drinking.^{22,29} (UW Health Moderate quality evidence, weak/conditional recommendation) This information may be helpful when conducting the brief intervention or when discussing referral to treatment with the patient.

Pertinent UW Health Policies & Procedures

1. UWHC Policy 4.38: Release of Alcohol & Other Drug Abuse Information

Patient Resources

1. HFFY #4611: Alcohol and Drug Abuse: A Guide to Community Services
2. HFFY #7628: Cutting Back On Your Drinking
3. HFFY #7373: Maintaining Your Sobriety
4. HFFY #5717: Older Adults and Alcohol Abuse
5. HFFY #5669: A Health Guide for Men Age 50 or Older
6. HFFY #6419: A Health Guide for Men Age 50 or Older
7. HFFY #5668: A Health Guide for Women 50 or Older
8. Healthwise: Alcohol Abuse: Your Teen: General Info
9. Healthwise: Alcohol Abuse and Addition: Teen: General Info
10. Healthwise: Alcohol and Drug Problems
11. Healthwise: Alcohol Intoxication : Your Teen
12. Healthwise: Alcohol Intoxication: Acute
13. Healthwise: Alcohol Use: Teen: General Info
14. Healthwise: Well Visit: 18 to 50 Years
15. Healthwise: Well Visit: 50 to 65 Year Men
16. Healthwise: Well Visit: 50 to 65 Year Women
17. Healthwise: Well Visit: Over 65 Years
18. [Health Information: Alcohol Abuse and Dependence](#)
19. [Health Information: Alcohol Abuse, Do You Have a Drinking Problem Interactive Tool](#)
20. [Health Information: Alcohol Abuse, Teen](#)
21. [Health Information: Alcohol Abuse: Dealing with Teen Substance Abuse](#)
22. [Health Information: Alcohol Abuse: Other Health Problems That May Occur](#)
23. [Health Information: Alcohol and Drug Problems](#)
24. [Health Information: Alcohol Problems: How to Stop Drinking](#)

ANEMIA

[Return to Infant/Child Table](#)

Risk Factors

Positive risk factors for iron deficiency or iron-deficiency anemia³⁰ include:

- History of prematurity or low birth weight
- Exposure to lead
- Exclusive breastfeeding beyond 4 months of age without supplemental iron
- Weaning to whole milk or complementary foods that do not include iron-fortified cereals or foods naturally rich in iron
- Feeding problems
- Poor growth
- Inadequate nutrition (typically in infants with special needs or low socioeconomic status)

Patients age 1 year

Universal screening for anemia via complete blood count (CBC) without differential lab is recommended by the American Academy of Pediatrics at approximately 1 year of age.³⁰⁻³² (UW Health Low quality evidence, weak/conditional recommendation)

Patients at Increased Risk (age 4 months, ≥ 15 months)

Selective screening can be performed at any age when risk factors have been identified, including risk of inadequate iron intake according to dietary history.³⁰ An assessment of risk factors associated with iron deficiency or iron-deficiency anemia may be considered for any patient age 4 months or 15 months and older (see risk factors above).^{30,32} (UW Health Low quality evidence, weak/conditional recommendation)

Patients exhibiting any of the above risk factors or with a hemoglobin (Hb) concentration of less than 11.0 mg/dL may have serum ferritin (SF), C-reactive protein (CRP), and reticulocyte hemoglobin (CHr) levels measured in addition to Hb concentration to increase the sensitivity and specificity of the diagnosis.³⁰

Iron Supplementation

It is recommended that exclusively breastfed term infants receive an iron supplementation of 1 mg/kg per day, starting at 4 months of age and continued until appropriate iron-containing complementary foods have been introduced. For partially breastfed infants, the proportion of human milk versus formula is uncertain; therefore, beginning at 4 months of age, infants who receive more than one-half of their daily feedings as human milk and who are not receiving iron-containing complementary foods should also receive 1 mg/kg per day of supplemental iron.³⁰ (*UW Health High quality evidence, strong recommendation*)

Patient Resources

1. HFFY #182: Vitamins and Minerals: Iron in Your Diet
2. Healthwise: Iron

ASPIRIN FOR PRIMARY PREVENTION

[Return to Adult Table](#)

Risk Factors

It is recommended to use the ACC/AHA Atherosclerotic Cardiovascular Disease (ASCVD) Risk Estimator to evaluate 10-year cardiovascular disease (CVD) risk (<http://tools.acc.org/ASCVD-Risk-Estimator/>).^{33,34} (*UW Health Low quality evidence, strong recommendation*) Clinicians should remain aware of the calculator's limitations, including the inability to calculate 10-year risk in patients younger than 40 years, absence of consideration for family history, potential to overpredict risk, and lack of generalizability to racial/ethnic minorities. However, despite these limitations, this calculator is the only U.S.-based, externally validated equation which evaluates risk as a combination of cerebrovascular and coronary heart disease events.³³

The independent risk factors for cardiovascular diseases^{33,35,36} include:

- Older age
- Male sex
- Abnormal lipid levels (total cholesterol \geq 240 mg/dL)
- High blood pressure
- Diabetes mellitus (type 1 or type 2)
- Smoking
- Family history of premature atherosclerotic cardiovascular disease (ASCVD)

Risk factors for gastrointestinal (GI) bleeding with aspirin use^{33,37} include:

- Higher dose and longer duration of use
- History of GI ulcers or upper GI tract pain
- Bleeding disorders
- Renal failure
- Severe liver disease
- Thrombocytopenia

Risk factors for GI or intracranial bleeding with aspirin use^{33,37} include:

- Concurrent anticoagulation or nonsteroidal anti-inflammatory drug (NSAID) use
- Uncontrolled hypertension
- Male sex
- Older age

Life Expectancy

Life expectancy is often difficult to ascertain³⁸, however the following resources are available:

- [ePrognosis](#)
- CDC Tables

Patients younger than 50 years

The current evidence is insufficient to assess the balance of benefits and harms of initiating aspirin use for the primary prevention of cardiovascular disease and colorectal cancer in adults younger than 50 years.³³ (*USPSTF I Statement*) Mixed literature suggests an association between aspirin use and risk of Reye syndrome, therefore aspirin use in patients younger than 21 years is not recommended.^{35,36,39-41} (*UW Health Low quality evidence, weak/conditional recommendation*) Aspirin could be considered following a shared decision making process in patients younger than 40 years at very high risk for cardiovascular disease (i.e., familial hypercholesterolemia, heavy smoking, type 2 diabetes mellitus with additional risk factors, or strong family history of premature coronary artery disease). (*UW Health Very low quality evidence, weak/conditional recommendation*)

Despite diabetes being an independent risk factor for cardiovascular disease, aspirin should not be recommended for ASCVD prevention in adults age 40-49 years with diabetes at low 10-year ASCVD risk (< 5%), as the potential adverse effects from bleeding likely offset the potential benefits.³⁶ (*ADA Grade C*) Aspirin may be used on an individual basis in patients age 40-49 years with diabetes at intermediate 10-year ASCVD risk (5-10%), following consideration of the benefits and harms of initiation.³⁶ (*UW Health Very low quality evidence, weak/conditional recommendation*)

Patients age 50-59 years

Initiating low-dose aspirin use for the primary prevention of cardiovascular disease and colorectal cancer is recommended in adults aged 50-59 years who have a 10% or greater 10-year cardiovascular disease risk, are not at increased risk for bleeding (see [USPSTF tables 1 and 2](#)), have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.³³ (*USPSTF Grade B*) This recommendation applies to adults at increased CVD risk and/or whom are at average risk for colorectal cancer.³³ The evidence to initiate aspirin in patients at intermediate or low ASCVD risk is uncertain; however patients at lower baseline cardiovascular risk are less likely to have a favorable balance of the benefit and harms.³³

Patients age 60-69 years

The decision to initiate low-dose aspirin use for the primary prevention of CVD and CRC in adults aged 60-69 years who have a 10% or greater 10-year CVD risk should be an individual one. Persons who are not at increased risk for bleeding (see [USPSTF tables 1 and 2](#)), have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years are more likely to benefit. Persons who place a higher value on the potential benefits than the potential harms may choose to initiate low-dose aspirin.³³ (*USPSTF Grade C*) This recommendation applies to adults at increased CVD risk and/or whom are at average risk for colorectal cancer.³³ The evidence to initiate aspirin in patients at intermediate or low ASCVD risk is uncertain; however patients at lower baseline cardiovascular risk are less likely to have a favorable balance of the benefit and harms.³³

Patients age 70 years or older

The current evidence is insufficient to assess the balance of benefits and harms of initiating aspirin use for the primary prevention of CVD and CRC in adults aged 70 years or older.³³ (*USPSTF I Statement*) Due to the increased risk of bleeding, concomitant illness or medication use with age, initiation of aspirin for primary prevention may be considered on an individual basis. (*UW Health Very low quality evidence, weak/conditional recommendation*) It is important to consider life expectancy, as the cardiovascular benefit appears to begin within the first 5 years of administration but the benefit of colorectal cancer prevention is not demonstrated until 10-20 years after aspirin initiation.^{33,35}

Dosing and Cessation

While the optimal dose of aspirin to prevent CVD events is not known, a reasonable approach is to prescribe 81 mg/day. (UW Health Low quality evidence, weak/conditional recommendation) Clinicians should assess CVD and bleeding risk factors at least annually, or if a patient's clinical condition changes. (UW Health Low quality evidence, weak/conditional recommendation) Aspirin use should be stopped once the risk for bleeding exceeds the long-term benefits. (UW Health Low quality evidence, strong recommendation)

Patient Resources

1. HFFY #7722: Aspirin
2. HFFY #6982: Colorectal Cancer Prevention
3. [Health Information: Aspirin](#)
4. [Health Information: Aspirin to Prevent Heart Attack and Stroke](#)
5. [Health Information: Aspirin: Should I Take Daily Aspirin to Prevent Heart Attack or Stroke?](#)

AUTISM SPECTRUM DISORDER

[Return to Infant/Child Table](#)

Patients age 18 and 24 months

Autism screening is recommended in patients age 18 and 24 months.^{32,42} (UW Health High quality evidence, strong recommendation) Screening should be completed using the Modified Checklist for Autism in Toddlers, Revised with Follow-up (M-CHAT-R/F) assessment tool.⁴³

Patient Resources

1. Healthwise: Autism and Autism Spectrum Disorder (ASD): Pediatric
2. [Health Information: Autism](#)

BLOOD LEAD

[Return to Infant/Child Table](#)

Risk Factors⁴⁴⁻⁴⁶

- Child lives in/frequently visits a house or building built before 1950 or has in the past
- Child lives in/frequently visits a house or building built before 1978 with recent or ongoing renovations or has in the past
- Child has a sibling or playmate who has/had lead poisoning
- Child is enrolled in Medicaid, Head Start, All Kids or WIC
- Child is a refugee or adoptee from any foreign country
- Child has been to Mexico, Central or South America, Asia or any country where exposure to lead from certain items could have occurred
- Child lives with someone who has a job or hobby that may involve lead
- Child has lived near a factory where lead is used
- Child resides in a high-risk area (Milwaukee, Racine, Chicago, designated high risk zip code)

Patients age 12 months, 24 months or between 3-6 years

It is recommended to perform a risk assessment using the state-specific tools below for lead exposure during the 12 and 24 month well child visits, and between 3-6 years of age.^{32,45,46} (UW Health Low quality evidence, weak/conditional recommendation)

Lead tests should be completed on patients who screen positively, especially patients eligible for Medicaid (BadgerCare Plus, IL Public Aid).^{32,45} (UW Health Low quality evidence, weak/conditional recommendation) Routine screening for elevated blood lead levels should not be performed in asymptomatic children age 1-5 years who are at average risk.⁴⁷ (USPSTF Grade D)

Required testing questionnaires/algorithms vary from state to state; please see the following for more information:

- In Wisconsin- <https://www.dhs.wisconsin.gov/lead/links/wibloodleadscreeningrecommendations.pdf>
- In Illinois- <http://idph.prod.acquia-sites.com/sites/default/files/forms/childhood-lead-risk-questionnaire-and-guidelines-042116.pdf>

Patient Resources

1. Healthwise: Lead
2. Healthwise: Lead Poisoning: Pediatric
3. [Health Information: Lead Poisoning](#)
4. [Health Information: Lead Poisoning in Children: Questions Before Screening](#)
5. [Health Information: Lead Poisoning Screening](#)

BREAST CANCER

[Return to Adult Table \(Women Only\)](#) | See High Risk Recommendations in [Appendix B](#)

Screening mammography is performed in asymptomatic women who do not currently have any breast complaints. The following recommendations are made for **average risk women**, while high risk factors and recommendations are outlined in [Appendix B](#). Women with clinical signs or symptoms should undergo diagnostic imaging with mammography and/or ultrasound, based on patient age.

Risk Factors

The risk of breast cancer increases with patient age.⁴⁸ The risk of breast cancer also increases with increasing mammographic breast density, as displayed in **Table 8** below.⁴⁹ Note: State differences exist between Wisconsin and Illinois, as Illinois has breast density notification legislature.

Table 8. Absolute Risk of Breast Cancer Incidence Over 5 Years by BI-RADS Category*

BI-RADS Category	Patient Age						
	40-44 yrs.	45-49 yrs.	50-54 yrs.	55-59 yrs.	60-64 yrs.	65-69 yrs.	70-74 yrs.
A (almost entirely fatty)	0.2%	0.4%	0.5%	0.7%	0.8%	1.3%	1.4%
B (scattered areas of fibroglandular density)	0.5%	0.8%	1.0%	1.4%	1.7%	2.0%	2.1%
C (heterogeneously dense)	0.7%	1.2%	1.6%	2.2%	2.6%	2.8%	2.9%
D (extremely dense)	1.0%	1.6%	2.1%	2.8%	3.3%	2.9%	3.1%
Average Risk (no density information)	0.7%	1.0%	1.4%	1.7%	2.0%	2.2%	2.4%

*Example: A 57 year old woman has an average risk of 1.7%. If she has a breast density of BI-RADS Category D, her risk is 2.8%; while with Category A her risk is 0.7%.

Several other factors also increase the risk of developing breast cancer, and may be considered in decisions regarding the frequency of screening mammography (see [Healthwise Breast Cancer Screening-Health Professional Information](#)).⁵⁰ These other minor risk factors may interact in complex and non-additive ways. It is still not known the degree of clinical significance that these factors play in breast cancer risk individually or in combination.

1. Obesity (BMI > 30 kg/m²)
2. Alcohol intake on average of two drinks per day
3. Nulliparity

4. First birth after age 30 years
5. Menstrual cycles that started prior to age 12 years
6. Menopause that ended after age 55 years

Shared Decision-Making

The following resource may be used as physician support for the shared-decision making process:

- [Health Decision Mammography Screening Tool](#)

Life Expectancy

Patients with a life expectancy of less than 10 years should not be screened.^{51,52} (*UW Health Low quality evidence, weak/conditional recommendation*) Life expectancy is often difficult to ascertain³⁸, however the following resources are available:

- [ePrognosis](#)
- CDC Tables

Patients age 40-49 years

Beginning at age 40 years, a shared decision making conversation is recommended to determine patient preferences for screening and assess breast cancer risk (e.g., establishing breast density, discussing family history, reviewing [high risk factors](#), etc.). (*UW Health Very low quality evidence, weak/conditional recommendation*) A baseline 2-D digital screening mammogram can be obtained to assess breast density.⁵³

It is recommended to discuss the risks and benefits of 2-D digital mammography screening every 1-2 years in this age group, in the context of patient preferences, mammographic breast density, and other risk factors.⁵⁰ (*UW Health Moderate quality evidence, weak/conditional recommendation*) Annual mammography has some benefit above biennial screening of increased cancer detection with the trade-off of increased false-positive rates.⁵⁴ Women who place a higher value on the potential benefit than the potential harms may choose to be screened more often.

The U.S. Preventive Services Task Force and Canadian Task Force encourage providers to consider biennial screening in the context of each individual patient's preferences and the value placed on the balance of benefits and harms.^{55,56} In contrast, the National Comprehensive Cancer Network and American Cancer Society recommend annual screening after age 40 and 45 years, respectively.^{57,58}

Patients age 50-74 years

Routine 2-D digital mammography screening is recommended.^{48,54-58} (*UW Health Moderate quality evidence, strong recommendation*) Biennial or annual screening frequency may be influenced by patient's expressed preference during shared decision-making or risk factors such as mammographic breast density. (*UW Health Low quality evidence, weak/conditional recommendation*) However, patient values/preferences should be the primary factor in determining screening frequency as risk-based screening demonstrated only a modest mortality benefit when compared to universal screening. and risk calculators are often unable to stratify average risk patients.⁵⁹ Additionally, evidence supporting either screening frequency is primarily based on modeling data.^{60,61} While annual screening has the benefit of increased cancer detection, a possible trade-off is increase false-positive rates (recalls, biopsy recommendations) and overdiagnosis compared with biennial screening.^{55,62} Women who place a higher value on the potential benefit than the potential harms may choose to be screened more often.

The U.S. Preventive Services Task Force and Canadian Task Force recommend biennial screening for average risk women; however other organizations such as the National Comprehensive Cancer Network recommend annual screening.⁵⁵⁻⁵⁷ The American Cancer Society recommends annual screening in patients age 50-54 years and biennial screening in those aged 55 years and older (with the option to continue annual screening).⁵⁸

Patients age 75 years or older

Consider 2-D digital mammography screening in women age 75 and older every 1- 2 years based upon a discussion of the risks and benefits with the patient, as well as consideration of a patient's life expectancy.^{52,63-65} (*UW Health Low quality evidence, weak/conditional recommendation*) Women who place a higher value on the potential benefit than the potential harms may choose to continue screening.

The U.S. Preventive Services Task Force concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years or older.⁵⁵ Whereas the American Cancer Society states that screening should continue as long as a woman is in good health and is expected to live 10 more years or longer.⁵⁸

Emerging Primary Screening Method

Digital Breast Tomosynthesis: Digital breast tomosynthesis (DBT), a 3-D mammography method which is available at most UW Health mammography sites, may be considered as a primary screening method. (*UW Health Low quality evidence, weak/conditional recommendation*) It is not yet known which particular groups of women are most likely to benefit from DBT, however it may be most useful for circumstances when conventional mammography has been shown to be less accurate, including in women less than 50 years of age, or in women with heterogeneous or extremely dense breasts on mammography.⁶⁶ DBT may not be covered by insurance.

Converging evidence from large randomized studies using 2-D and DBT suggest it is a technique that may reduce false positive results and increases cancer detection compared to conventional 2-D digital mammography alone.⁶⁷⁻⁷² DBT software at UW Health now includes FDA-approved virtual reconstruction of 2-D mammography which eliminates the need for a separate digital 2-D mammogram; however insufficient evidence exists to establish its equivalence to digital 2-D mammography in clinical research.

Adjunctive Screening Methods

Automated Breast Ultrasound: Automated breast ultrasound imaging as an adjunct to mammography, which is only available at SwedishAmerican, can be considered in patients with mammographically dense breasts.^{73,74} (*UW Health Low quality evidence, weak/conditional recommendation*) There are emerging observational studies which support the improved sensitivity of adjunctive automated breast ultrasound, however this technique may increase false positives and lead to additional interventions.^{73,74} Illinois law mandates insurance coverage of supplemental screening of comprehensive ultrasound of an entire breast or breasts, when determined to be medically necessary by a physician [215 ILCS 5/356g (a) (4) and 215 ILCS 125/4-6.1(a) (4)].

Magnetic Resonance Imaging (MRI): The use of breast MRI alone or as an adjunct to mammography for routine breast cancer screening in average risk women is not recommended. (*UW Health Low quality evidence, strong recommendation*) Patients at high risk for breast cancer should follow the recommendations outlined within [Appendix B](#) and/or the [UW Health MRI Breast Cancer Screening – Adult – Ambulatory Guideline](#).

Clinical and self breast examination: The benefit of clinical breast examination (CBE) alone or in conjunction with mammography for breast cancer screening among average-risk women at any age is not clearly demonstrated in the literature.⁵⁸ Insufficient evidence exists to evaluate whether CBE improves patient outcomes; moderate quality evidence demonstrates an increased false-positive rate when CBE is added to mammography screening and other studies show that the addition of CBE can detect some small invasive breast cancers (i.e., 2-6%) when compared to mammography alone.^{54,58,75,76}

Teaching breast self-examination (BSE) to patients is not recommended.⁷⁷ (*USPSTF Grade D*) Instead, patients should be encouraged to be aware of changes in their bodies and to discuss these changes with clinicians.⁵⁵

Thermography: The use of thermography alone or adjunctive to mammography for breast cancer screening is not recommended.^{78,79} (*UW Health Low quality evidence, strong recommendation*) Despite FDA approval, no empirical evidence exists which supports the use of this technology for population-based screening programs.

Patient Resources

1. HFFY #5668: A Health Guide for Women 50 or Older
2. HFFY #7638: Digital Breast Tomosynthesis (DBT) Mammography
3. HFFY #7444: What You Need to Know about Mammography
4. Healthwise: Breast Cancer (BRCA) Gene Testing
5. Healthwise: Breast Cancer: Screening
6. Healthwise: Mammogram
7. Healthwise: Well Visit: 18 to 50 Years
8. Healthwise: Well Visit: 50 to 65 Year Women
9. Healthwise: Well Visit: Over 65 Years
10. [Health Information: Breast Cancer](#)
11. [Health Information: BRCA Gene Test, Should I Have](#)
12. [Health Information: Breast Cancer Prevention \(PDQ\): Health Professional Information \[NCI\]](#)
13. [Health Information: Breast Cancer Prevention \(PDQ\): Patient Information \[NCI\]](#)
14. [Health Information: Breast Cancer Risk: Should I Have a BRCA Gene Test?](#)
15. [Health Information: Breast Cancer Screening](#)
16. [Health Information: Breast Cancer Screening \(PDQ\): Health Professional Information \[NCI\]](#)
17. [Health Information: Breast Cancer Screening \(PDQ\): Patient Information \[NCI\]](#)
18. [Health Information: Breast Cancer Screening and Dense Breasts: What Are My Options?](#)
19. [Health Information: Breast Cancer Screening: When Should I Start Having Mammograms?](#)

BREAST FEEDING

[Return to Infant/Child Table](#)

Pediatric Patients

Exclusive breastfeeding is the ideal nutrition for approximately 6 months after delivery and is sufficient to support optimal growth and development.⁸⁰⁻⁸² (*UW Health Low quality evidence, strong recommendation*) Thereafter, infants may receive complementary foods with continued breast feeding up to 1 year of age or beyond.⁸⁰ (*UW Health Low quality evidence, weak/conditional recommendation*)

The USPSTF recommends providing interventions during pregnancy and after birth to support breastfeeding.⁸³ (*USPSTF Grade B*) The promotion and support of breastfeeding may be accomplished through interventions over the course of pregnancy; around the time of delivery; and after birth, while breastfeeding is under way. Interventions may include multiple strategies, such as formal breastfeeding education for mothers and families, direct support of mothers during breastfeeding observations, providing psychological support, peer support, and the training of health professional staff about breastfeeding and techniques for breastfeeding support.⁸³ Evidence suggests that interventions that include both prenatal and postnatal components may be the most effective at increasing breastfeeding duration.⁸³

Patient Resources

1. HFFY #5985: Choosing a Breast Pump

CERVICAL CANCER

[Return to Adult Table \(Women Only\)](#) | See High Risk Recommendations in [Appendix B](#)

Note: More frequent screening intervals than those listed in the following recommendations (i.e., annual cytology) are not recommended for average risk women of any age. (*UW Health High quality evidence, strong recommendation*) Increased screening frequency offers little additional benefit, with large increases in harms such as additional procedures, assessment, and treatment of transient lesions which would otherwise resolve on their own.⁸⁴

Patients younger than 21 years

Cervical cancer screening via cytology (Papanicolaou (pap) smear) is not recommended for patients less than 21 years, regardless of age of sexual initiation.⁸⁴⁻⁸⁷ (USPSTF Grade D) Any adolescent with a history of normal cytologic screening should not be rescreened until the age of 21 years.⁸⁵ Due to the high prevalence of human papillomavirus (HPV) in adolescents, HPV testing is not recommended.^{85,87-89} (USPSTF Grade D)

Patients age 21-29 years

It is recommended to screen for cervical cancer using cytology alone every three years.^{84,86,87} (USPSTF Grade A) Due to the high prevalence of HPV and low incidence of cervical cancer in this age group, co-testing is not recommended.^{84,86,87} (USPSTF Grade D)

Patients age 30-65 years

Women ages 30–65 years should be screened with cytology and HPV testing (“cotesting”) every 5 years (preferred) or cytology alone every 3 years (acceptable)^{84,86,87,90} (UW Health High quality evidence, strong recommendation) Women age 30-65 years with both a negative cytology and HPV test result have been shown to be at an extremely low risk of developing cervical cancer during the following 4-6 years⁹¹, therefore women 30-65 years with both negative tests may be rescreened every 5 years.⁸⁷ (UW Health High quality evidence, strong recommendation)

Stop screening at age 65 if three normal cytology results OR 2 negative high risk HPV results in the last decade AND no history of CIN 2, 3 or cervical cancer in the last 20 years.^{84,86,87} (USPSTF Grade D)

Special Considerations

Hysterectomy: No screening should be completed after hysterectomy with removal of the cervix, unless there is a history of CIN 2 or greater in the last 20 years.^{84,86} (USPSTF Grade D) Patients who have had supracervical hysterectomy should continue to have routine screening.^{84,87}

HPV Vaccination: Routine screening guidelines should be followed in patients who have received an HPV vaccination, as the long-term efficacy of vaccination is not yet known.^{86,87}

HPV Test for Primary Screening: The cobas[®] HPV test, which is not available at UW Health, is FDA-approved as a primary screening tool for cervical cancer screening.^{92,93} While UW Health has HPV testing, HPV testing alone is not recommended for primary screening in an average risk patient. (UW Health Low Quality Evidence, strong recommendation)

Surveillance

Screening recommendations and follow-up testing in adolescent patients (under 21 years) with atypical squamous cells of undetermined significance (ASC-US) and low-grade squamous intraepithelial lesion (LSIL) should be managed with repeat cytology alone at 12 month intervals, without colposcopy or HPV testing.⁸⁹ For patients age 21 and over with abnormal cervical cancer screening test results or cancer precursors, surveillance recommendations may be found in the 2014 ASCCP guidelines

(<http://www.asccp.org/Assets/51b17a58-7af9-4667-879a-3ff48472d6dc/635912165077730000/asccp-management-guidelines-august-2014-pdf>).⁹⁴

Patient Resources

1. HFFY #5668: A Health Guide for Women 50 or Older
2. Healthwise: Cervical Cancer
3. Healthwise: HPV (Human Papillomavirus)
4. Healthwise: Well Visit: 18 to 50 Years
5. Healthwise: Well Visit: 50 to 65 Year Women
6. Healthwise: Well Visit: Over 65 Years
7. [Health Information: Cervical Cancer](#)
8. [Health Information: Cervical Cancer Prevention \(PDQ\): Prevention- Health Professional Information](#)
9. [Health Information: Cervical Cancer Prevention \(PDQ\): Prevention- Patient Information](#)
10. [Health Information: Cervical Cancer Screening](#)
11. [Health Information: Cervical Cancer Screening \(PDQ\): Screening- Health Professional Information](#)
12. [Health Information: Cervical Cancer Screening \(PDQ\): Screening- Patient Information](#)

CHLAMYDIA (*C. trachomatis*) AND GONORRHEA (*N. gonorrhoeae*)

[Return to Adolescent Table](#) | [Return to Adult Table \(Men Only\)](#) | [Return to Adult Table \(Women Only\)](#)

Risk Factors

Clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose having risk factors, even when asked.⁹⁵ The Five P's: Partners, Practices, Prevention of Pregnancy, Protection from STDs, and Past History of STDs, available from the CDC, may be used to guide a dialogue to assess a patient's risk of Sexually Transmitted Infections (STI) (see [Appendix C](#)).⁹⁵

Positive risk factors for chlamydial or gonococcal infections include⁹⁵⁻⁹⁷:

- History of chlamydia or gonorrhea infection or other sexually transmitted infection
- New or multiple sexual partners
- Sexual partner with concurrent partners
- Sexual partner with a sexually transmitted infection
- Inconsistent condom use among persons who are not in mutually monogamous relationships
- Exchanging sex for money or drugs
- Recent travel history with sexual contacts outside of the United States

Female Patients age 24 years and younger

All sexually active (non-pregnant) female patients 24 years or younger should be screened for chlamydial or gonococcal infection.^{95,96} (*USPSTF Grade B*) The Centers for Disease Control and Prevention (CDC) recommends annual screening in non-pregnant patients at average risk.⁹⁵ More frequent screening may be considered if risk factors are present. (*UW Health Low quality evidence, strong recommendation*)

Female Patients age 25 years or older

Sexually active non-pregnant female patients age 25 years or older at an increased risk for infection should be screened (see risk factors above).⁹⁶ (*USPSTF Grade B*) The CDC recommends annual screening in patients 25 years or older at increased risk.⁹⁵ (*UW Health Low quality evidence, strong recommendation*)

Heterosexual Male Patients

Insufficient evidence exists in regards to routine chlamydia or gonorrhea screening in sexually active heterosexual men (*USPSTF I Statement*), however screening may be considered in clinical settings associated with high prevalence of chlamydia (i.e., adolescent clinics, correctional facilities, and STD clinics).^{95,96} (*UW Health Low quality evidence, strong recommendation*)

Men Who Have Sex with Men (MSM)

It is recommended by CDC that men who have sex with men (MSM) are screened annually for chlamydia and gonorrhea using the following tests based upon sexual behavior: urine test using nucleic acid amplification testing (NAAT) (insertive intercourse) and/or NAAT of a rectal swab (receptive anal intercourse). NAAT for the detection of chlamydia infection is not recommended in MSM patients who have performed receptive oral intercourse within the preceding year. NAAT of pharyngeal swab (receptive oral intercourse) is recommended for the detection of gonococcal infection.^{95,98} (*UW Health High quality evidence, strong recommendation*) More frequent STD screening (i.e., every 3-6 months) may be indicated for MSM with multiple or anonymous partners or MSM patients who have sex in conjunction with illicit drug use or whose sex partners participate in similar high-risk behaviors.^{95,99} (*UW Health Low quality evidence, strong recommendation*)

Testing Options

Chlamydial or gonococcal infections are diagnosed by using nucleic acid amplification tests (NAAT), which are approved by the FDA for use on urogenital sites, including male and female urine; clinician-collected endocervical, vaginal, and male urethral specimens; and 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.⁹⁶

Pertinent UW Health Policies & Procedures

1. UWHC Policy 13.04: Communicable Disease Reporting

Patient Resources

1. HFFY #911: Chlamydia
2. HFFY #917: Gonorrhea
3. HFFY #5669: A Health Guide for Men Age 50 or Older
4. HFFY #6419: A Health Guide for Men Age 50 or Older
5. HFFY #5668: A Health Guide for Women 50 or Older
6. Healthwise: Chlamydia
7. Healthwise: Gonorrhea
8. Healthwise: Chlamydia: Female: Teen
9. Healthwise: Gonorrhea: Female: Teen
10. Healthwise: Gonorrhea and Chlamydia Tests
11. Healthwise: Well Visit: 18 to 50 Years
12. [Health Information: Chlamydia](#)
13. [Health Information: Chlamydia Trachomatis](#)
14. [Health Information: Gonorrhea](#)

COGNITIVE SCREENING

[Return to Adult Table](#)

Patients age 65 years or older

The USPSTF concluded that current evidence is insufficient to assess the balance and harms of universal screening for cognitive impairment¹⁰⁰ (*USPSTF I Statement*); therefore routine cognitive screening is not recommended.

However, assessment of a patient's cognitive function by direct observation is required by the Centers for Medicare and Medicaid Services (CMS) during the Annual Wellness Visit (AWV). If an AWV is performed, it is recommended that the following questions¹⁰¹ are included in the annual Health Risk Assessment (HRA) (*UW Health Low quality evidence, weak/conditional recommendation*):

1. During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?
2. During the past 7 days, did you need help with others to perform everyday activities such as eating, getting dressed, grooming, bathing, walking, or using the toilet?
3. During the past 7 days, did you need help from others to take care of things such as laundry and housekeeping, banking, shopping, using the telephone, food preparation, transportation, or taking your own medications?

During the AWV, it is recommended that the clinician have a conversation with the patient and, if present, an informant, regarding cognition impairment. If no informant is present or concerns are noted from review of the HRA or during conversation, further evaluation with a structured tool should be performed.¹⁰¹ (*UW Health Low quality evidence, weak/conditional recommendation*) The recommended structured tool that providers should use is the Mini-Cog.^{101,102} (*UW Health Low quality evidence, weak/conditional recommendation*)

Patient Resources

1. HFFY #6977: Memory Loss
2. HFFY #5262: Stages of Alzheimer Disease
3. [Health Information: Memory Loss](#)

COLORECTAL CANCER

[Return to Adult Table](#) | See High Risk Recommendations in [Appendix B](#)

Patients age 50-75 years

It is recommended to screen all average-risk patients age 50-75 years for colorectal cancer.¹⁰³ (*USPSTF Grade A*)

Patients age 76-85 years

Routine screening should not be performed in patients who have had a consistently negative screening history and are not at an increased risk for colorectal cancer. The U.S. Preventive Services Task Force

recommends that the decision to screen for colorectal cancer screening in adults ages 76-85 years should be an individual one, taking into account the patient's overall health and prior screening history.¹⁰³ (*USPSTF Grade C*) Adults in this age group who have never been screened for colorectal cancer are more likely to benefit.¹⁰³ Screening would be most appropriate among adults who 1) are healthy enough to undergo treatment if colorectal cancer is detected and 2) do not have comorbid conditions that would significantly limit their life expectancy.¹⁰³

Overscreening for cancer (including colorectal cancer) is common¹⁰⁴, despite population-based, randomized controlled trials which suggest the benefits of screening are not realized until 10 years following the test. Therefore, patients with a life expectancy of less than 10 years should not be screened.^{51,52} (*UW Health Low quality evidence, weak/conditional recommendation*)

Testing Options

The most important outcome is that eligible patients are screened.¹⁰³ Patient choice has been independently associated with greater participation and adherence to screening, therefore, appropriate patient-physician discussion of the screening testing options should occur.^{103,105-107} (*UW Health High quality evidence, strong recommendation*) Evidence suggests that many factors can influence a patient's acceptance of and adherence to colorectal cancer screening, including individual risk factors, race/ethnicity, primary or preferred language, education level, social support, and socioeconomic status.^{6,7,107,108} Failure to consider patient preferences has been negatively associated with satisfaction in the decision-making process, screening intentions, and test completion rates.¹⁰⁹

While no head-to-head comparisons of the testing modalities have been completed¹⁰³, the tables below (**Table 9** and **Table 10**) summarize key differences between the screening options to offer physician support and guidance during the shared-decision making discussion. All options should be presented together, emphasizing the balance between benefits (e.g., advanced adenoma detection and cancer detection) against the potential harms or patient burden (e.g., invasive testing, bowel preparation, adherence, etc.).

Evidence from case control and cohort studies support the ability of colonoscopy to prevent colorectal cancer (with its associated morbidity) and cancer deaths.¹¹⁰⁻¹¹² Colonoscopy^{110,111} and CT colonography (virtual colonoscopy)¹¹³⁻¹¹⁶ have been shown to be sensitive tests for detection of advanced adenoma and colorectal cancer thus making them recommended screening modalities.^{107,117,118} (*UW Health Moderate quality evidence, strong recommendation*) Direct evidence from randomized controlled trials has demonstrated that flexible sigmoidoscopy can reduce mortality and is acceptable for colorectal cancer screening.¹¹⁹⁻¹²² (*UW Health Moderate quality evidence, strong recommendation*) However, this mortality benefit is limited to visualization of the distal colon and does not offer protection from advanced proximal neoplasia demonstrated in several landmark studies.¹²³⁻¹²⁵ Optical colonoscopy or CT colonography are better suited than flexible sigmoidoscopy for detecting advanced adenomas which has seen a shift in polyp presentation to the right side and significantly worse outcomes in patients with right-sided vs. left-sided colon cancer.^{126,127}

Screening using fecal immunohistochemical test (FIT)^{122,128,129} (*UW Health Moderate quality evidence, strong recommendation*) or multi-target stool DNA (m-t sDNA or FIT-DNA; Cologuard[®] from Exact Sciences Corporation)¹³⁰ (*UW Health Low quality evidence, weak/conditional recommendation*) are recommended for colon cancer screening, with the understanding that a positive result would require follow-up via colonoscopy. The benefit of screening using FIT or FIT-DNA is dependent upon patient adherence and compliance, and poor compliance may have a negative impact on the screening outcome.

Although direct evidence from randomized controlled trials has demonstrated that fecal occult blood testing can reduce mortality from colorectal cancer, fecal occult blood testing is not available at UW Health, as FIT has replaced this testing modality.^{112,131-133}

The methylated *SEPT9* DNA test (Epi proColon[®] from Epigenomics) is FDA-approved as a blood test for annual colorectal cancer screening in average-risk adults¹³⁴; however, the test is not currently available or recommended by UW Health due to its low sensitivity. (*UW Health Low quality evidence, strong recommendation*)

Screening Intervals

Screening intervals for follow-up to a previously negative result should be based upon the chosen testing modality. Optical colonoscopy should be completed every 10 years.^{103,113,135,136} (*UW Health Moderate quality evidence, strong recommendation*) CT colonography should be completed every 5 years.^{103,113,137} (*UW Health Low quality evidence, weak/conditional recommendation*) Flexible sigmoidoscopy may be completed every 5 years. (*UW Health High quality evidence, strong recommendation*)

Fecal immunohistochemical testing (FIT) should be completed annually.^{103,129} (*UW Health Moderate quality evidence, strong recommendation*) The interval for multi-target stool DNA testing (FIT-DNA) is currently unclear due to a lack of empirical evidence. The U.S. Preventive Services Task Force recommends rescreening every 1-3 years.¹⁰³ The recommendation for annual screening is an indirect application of data supporting FOBT/FIT, whereas the 3 year interval is based on modeling data constructed by the test manufacturer.¹³⁰

Table 9. Comparison of Colorectal Cancer Screening Methods

Screening Test	Sensitivity		Specificity
	Colorectal Cancer	Advanced Adenoma	
Colonoscopy	95% ¹¹⁶	89-98% ¹²² (≥ 10 mm) 75-93% ¹²² (≥ 6 mm)	90% ¹³⁸
CTC	96% ¹¹⁶	67-94% ¹²² (≥ 10 mm) 73-98% ¹²² (≥ 6 mm)	86-98% ¹²² (≥ 10 mm) 80-93% ¹²² (≥ 6 mm)
FSIG	58-75% ^{124,139}	77-86% ^{123,139}	92% ¹³⁸
FIT*	79-88% ¹²² (OC-Light) 73-96% ¹²² (OC FIT-CHEK)	22-40% ¹²² (OC-Light and OC FIT-CHEK)	91-93% ¹²² (OC-Light) 87-92% ¹²² (OC FIT-CHEK)
FIT-DNA	92% ¹²²	42% ¹²²	84% ¹²²
mSEPT9 DNA	48% ¹³⁴	11% ¹³⁴	92% ¹³⁴
<p>*OC-Light from Polymedco is available at UW Health; OC FIT-CHEK from Polymedco is available at SwedishAmerican</p> <p>CTC: CT colonography; FSIG: flexible sigmoidoscopy; FIT: fecal immunohistochemical test; FIT-DNA: multitarget stool DNA (Cologuard[®]); mSEPT9 DNA: serology test (epi ProColon[®])</p>			

Table 10. Summary of Recommended Colorectal Cancer Screening Tests¹⁴⁰⁻¹⁴³

Sorted alphabetically by test type

Test	Interval*	Features	Limitations
Tests in the Clinic			
Colonoscopy	Every 10 years	<ul style="list-style-type: none"> • Procedure takes about 30 minutes • Can usually view entire colon • Full bowel preparation needed • Sedation of some kind usually needed • Can biopsy and remove polyps • Can diagnose other diseases of the colon 	<ul style="list-style-type: none"> • Can miss small polyps • Usually requires sedation so a driver is needed and the patient may miss work • Risk of bleeding: National data = 8 of 10,000 patients¹²² • Risk of perforation: National data = 4 of 10,000 patients¹²² vs. UW Health data = 0.01% (2 of 18,000 patients) • Risk of colonoscopy-specific mortality: National data = 0.007% (7 of 100,000 patients) vs. UW Health data = 0% (0 of 200,000 patients)
CT Colonography (CTC)	Every 5 years	<ul style="list-style-type: none"> • Procedure takes about 10 minutes • Visualizes the entire colon • Full bowel preparation needed • No sedation needed • Can diagnose diseases in other abdominal organs • Alternative for patients who cannot discontinue anticoagulation therapy • Radiation exposure: typical effective dose < 6 mSv¹⁴⁴ (average annual background radiation = 3 mSv) 	<ul style="list-style-type: none"> • Can miss polyps under 10mm • Cannot remove polyps during testing • Colonoscopy will be needed if abnormal • Risk of perforation: National data = < 2 of 10,000 patients¹²² vs. UW Health data = 0% (0 of 10,000 patients) • Extracolonic findings result in unnecessary testing. UW Health data^{145,146} = Potentially important findings are found in < 3% of exams; likely unimportant but indeterminate findings are found in < 10%; overall work-up rate is 5-6%***
Flexible Sigmoidoscopy	Every 5 years	<ul style="list-style-type: none"> • Procedure takes about 20 minutes • Usually doesn't require full bowel preparation • Sedation usually not used 	<ul style="list-style-type: none"> • Views only about a third of the colon and can miss small polyps • Cannot remove all polyps • Typically no sedation so may be uncomfortable • Risk of bleeding: National data = 2 of 10,000 patients¹²² • Risk of perforation: National data = 1 of 10,000 patients¹²² • Risk of death attributable to endoscopic complications: National data = 0.01% (1 of 10,000 patients) • Colonoscopy will be needed if abnormal
Tests at Home			
Fecal Immunohistochemical Test (FIT)	Annual	<ul style="list-style-type: none"> • Done at home • No direct risk to the colon • No bowel preparation • No sedation needed • No pretest dietary limitations 	<ul style="list-style-type: none"> • May miss polyps and some cancers • May produce false-positive test results • Cannot remove polyps • Colonoscopy will be needed if abnormal • Requires single test
Multitarget stool DNA (FIT-DNA)	Every 1-3 years**	<ul style="list-style-type: none"> • Done at home • No direct risk to the colon • No bowel preparation • No sedation needed • No pretest dietary limitations 	<ul style="list-style-type: none"> • May miss polyps and some cancers • Cannot remove polyps • Higher false positive rate than FIT • Colonoscopy will be needed if abnormal • Based on single cross-sectional study¹³⁰
<p>*Frequency based upon normal (negative) results. **Interval for rescreening using FIT-DNA is not clear (3 year interval based on modeling data by manufacturer) ***Extracolonic findings: National data¹²² = 5-37% of exams had likely unimportant but indeterminate or potentially important findings; 2-12% had potentially important findings, and ≤ 3% require definitive treatment.</p>			

Patients at Increased Risk

Patients who have had polyps removed in the past are no longer considered average risk and fall outside of the scope of this guideline. These patients may require modified screening recommendations as outlined below (**Table 11**).^{113,147,148} A retrospective cohort study found a low incidence of colorectal cancer and relatively high rate of postprocedure hospitalization in elderly patients with a history of colorectal cancer or adenomatous polyps undergoing surveillance colonoscopy.¹⁴⁹ Surveillance testing in patients 75 years or older should be an individual decision which takes into consideration a patient’s overall health and the impact of comorbid illness and increasing age.¹⁴⁹ (*UW Health Low quality evidence, weak/conditional recommendation*)

For recommendations related to patients at an increased personal risk of colorectal cancer (e.g., family history of colorectal cancer) refer to [Appendix B](#). Recommendations for patients with a personal history are NOT included within this guideline as surveillance schedules for survivors should be determined with specialty input.

Table 11. Post-polypectomy Surveillance Recommendations

Polypectomy	Recommendations ^{113,147,148,150}
Hyperplastic polyp	No follow-up necessary, screen using average risk recommendations. (<i>UW Health Low quality evidence, strong recommendation</i>)
1-2 adenomas or sessile serrated adenomas/polyps < 10 mm	Repeat colonoscopy in 5 years. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)
3+ adenomas, adenomas \geq 10 mm, adenomas with high grade dysplasia, adenomas with villous features Sessile serrated adenomas/polyps > 10 mm or sessile serrated adenomas with high grade dysplasia	Repeat colonoscopy in 3 years. (<i>UW Health Low quality evidence, weak/conditional recommendation</i>) If follow-up is normal or shows only 1-2 adenomas with low grade dysplasia, the subsequent screen should occur in 5 years. (<i>UW Health Low quality evidence, strong recommendation</i>)
Incomplete or piecemeal resection of large sessile adenoma or sessile serrated adenoma/polyp	Repeat colonoscopy in 3-6 months (<i>UW Health Low quality evidence, weak/conditional recommendation</i>)

Patient Resources

1. HFFY #5668: A Health Guide for Women 50 or Older
2. HFFY #5669: A Health Guide for Men Age 50 or Older
3. HFFY #6982: Colorectal Cancer Prevention
4. HFFY #6258: Getting Ready for Flexible Sigmoidoscopy (English)
5. HFFY #6518: Getting Ready for Flexible Sigmoidoscopy (Spanish)
6. HFFY #6257: Getting Ready for Flexible Sigmoidoscopy with Sedation (English)
7. HFFY #7350: Getting Ready for Flexible Sigmoidoscopy with Sedation (Spanish)
8. HFFY #7479: Getting Ready for Your Colonoscopy (MoviPrep)
9. HFFY #7478: Getting Ready for Your Colonoscopy (PEG)
10. HFFY #7661: Getting Ready for Your Colonoscopy (Suprep)
11. HFFY #5995: Virtual Colonoscopy
12. HFFY #6293: Getting Ready for Your Virtual Colonoscopy (VC PEG Prep with Oral Contrast)
13. HFFY #7560: Getting Ready for Your Virtual Colonoscopy (Omnipaque Routine VC Prep)
14. Healthwise: Colon Cancer
15. Healthwise: Colon Cancer: General Info
16. Healthwise: Colon Cancer Screening
17. Healthwise: Colonoscopy: General Info
18. Healthwise: Colonoscopy: Pre-op
19. Healthwise: Colonoscopy: Post-op
20. Healthwise: Well Visit: 18 to 50 Years
21. Healthwise: Well Visit: 50 to 65 Year Men

22. Healthwise: Well Visit: 50 to 65 Year Women
23. Healthwise: Well Visit: Over 65 Years
24. [Health Information: Colorectal Cancer](#)
25. [Health Information: Colorectal Cancer Prevention-Health Professional Information](#)
26. [Health Information: Colorectal Cancer Prevention-Patient Information](#)
27. [Health Information: Colorectal Cancer Screening](#)
28. [Health Information: Colorectal Cancer Screening-Health Professional Information](#)
29. [Health Information: Colorectal Cancer Screening-Patient Information](#)
30. [Health Information: Colonoscopy, Virtual](#)
31. [Health Information: Colon Cancer Genetic Testing](#)
32. [Health Information: Colon Cancer: What Raises Your Risk](#)
33. [Health Information: Colon Cancer: Which Screening Test Should I Have?](#)
34. [Health Information: Diabetes: How to Prepare for a Colonoscopy](#)

DENTAL CARIES

[Return to Infant/Child Table](#)

Risk Factors

Individual risk factors¹⁵¹ that can elevate risk of dental caries:

- Primary water supply deficient in fluoride (defined as containing < 0.6 ppm F)
- Frequent sugar exposure
- Inappropriate bottle feeding
- Developmental defects of the tooth enamel
- Dry mouth
- History of previous caries.
- Poor oral hygiene
- Low socioeconomic status
- Recent maternal caries
- Sibling with dental caries
- Frequent snacking
- Lack of access to dental care
- Inadequate preventive measures, such as failure to use fluoride-containing toothpastes
- Lack of parental knowledge about oral health.

Patients age 6 months to 5 years

The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months through 5 years for children whose water supply is deficient in fluoride.¹⁵¹ (*USPSTF Grade B*)

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.¹⁵¹ (*USPSTF Grade B*)

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of routine screening examinations for dental caries performed by primary care clinicians in children from birth to age 5 years.¹⁵¹ (*USPSTF I Statement*) The American Academy of Pediatrics (AAP) and the American Academy of Pediatric Dentistry (AAPD) recommend that children be seen by a dentist within 6 months of eruption of the first tooth or 12 months of age, whichever comes first.^{152,153} (*UW Health Low quality evidence, weak/conditional recommendation*) The AAP recognizes that this ideal may be impractical in communities with limited pediatric dental resources, so recommends all children at risk for caries be triaged for early establishment of a dental home by age 1.¹⁵²

Patient Resources

None identified

DEPRESSION

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Detailed recommendations for the detection and treatment of depression can be found within the [UW Health Depression – Pediatric/Adult – Ambulatory Guideline](#).

Patients age 12-17 years

All patients age 12 and older should be screened annually using the Patient Health Questionnaire-2 (PHQ-2).^{154,155} (*UW Health Very low quality evidence, strong recommendation*) Patients who screen positive on the PHQ-2 (score of 3 points or greater) should be administered the PHQ-A or the PHQ-9.¹⁵⁵⁻¹⁵⁷ (*UW Health Low quality evidence, strong recommendation*) A score of 10 points or greater on the PHQ-A or PHQ-9 indicates clinically significant depressive symptoms and the need for clinical evaluation and documentation of a follow-up plan.¹⁵⁵⁻¹⁵⁸

Patients age 18 years or older

All patients age 18 year or older should be screened annually using the PHQ-2.^{155,159} (*UW Health Very low quality evidence, strong recommendation*) Patients who screen positive on the PHQ-2 (score 3 points or greater) should complete the PHQ-9.^{155,158,160} (*UW Health Low quality evidence, strong recommendation*) A score of 10 or greater on the PHQ-9 indicates clinically significant depressive symptoms and the need for clinical evaluation and documentation of a follow-up plan.^{155,158,160}

Patient Resources

1. HFFY #4525: Depression- A Guide to Recognition and Treatment
2. HFFY #6327: How to Recognize and Treat Childhood Depression
3. Healthwise: Depression: Pediatric
4. [Health Information: Depression](#)
5. [Health Information: Depression Evaluation Calculator](#)
6. [Health Information: Depression in Older Adults](#)
7. [Health Information: Depression Screening](#)

DEVELOPMENTAL MILESTONES

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Patients age 9, 18, and 24-30 months

Universal developmental screening with a standardized validated developmental screening tool (Ages and Stages Questionnaire-3)¹⁶¹ is recommended for all children at 9, 18, and 24-30 months of age.^{32,162} (*UW Health Moderate quality evidence, strong recommendation*)

Targeted screening at any age may be completed when developmental concerns are identified.¹⁶¹⁻¹⁶³ (*UW Health Moderate quality evidence, weak/conditional recommendation*)

Patient Resources

1. Healthwise: Developmental Problems: Pediatric
2. [Health Information: Developmental Problems: Testing](#)

DIABETES

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Additional recommendations for the detection, diagnosis, and treatment of diabetes mellitus can be found in the [2017 UW Health Standards of Medical Care in Diabetes Guideline](#).

Pediatric Risk Factors

Positive risk factors for type 2 diabetes in pediatrics¹⁶⁴:

- Family history of type 2 diabetes in first- or second-degree relative
- Race/ethnicity (Native American, African American, Latino, Asian American, Pacific Islander)
- Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome, or small-for-gestational-age birth weight)
- Maternal history of diabetes or GDM during the child's gestation

Adult Risk Factors

Positive risk factors for type 2 diabetes in adults^{164,165}:

- A1C \geq 5.7%, impaired glucose tolerance, or impaired fasting glucose on previous testing
- First-degree relative with diabetes
- High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
- Women who were diagnosed with gestational diabetes mellitus (GDM)
- History of cardiovascular disease
- Hypertension (\geq 140/90 mmHg or on therapy for hypertension)
- HDL cholesterol level $<$ 35 mg/dL and/or a triglyceride level $>$ 250 mg/dL
- Women with polycystic ovary syndrome
- Physical inactivity
- Chronic glucocorticoid exposure
- Atypical antipsychotic use
- Sleep disorders, including obstructive sleep apnea, chronic sleep deprivation, and night-shift occupation
- Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans).

Patients age 10-18 years

Testing for type 2 diabetes and prediabetes should be considered in asymptomatic children and adolescents who are overweight or obese (BMI $>$ 85th percentile for age and sex, weight for height $>$ 85th percentile, or weight $>$ 120% of ideal for height) **AND** who have two or more additional risk factors for diabetes (see above).¹⁶⁴ (ADA Grade E) Testing should begin at age 10 or at the onset of puberty, if puberty occurs at a younger age, and repeated every 3 years.¹⁶⁴ (ADA Grade C)

Patients age 19 years or older

The 2017 ADA Standards¹⁶⁴ recommend universal screening in patients after age 45 years; however, UW Health recommends targeted screening in all adult patients based on risk. Screening for type 2 diabetes with an informal assessment of risk factors should be considered in asymptomatic adults.¹⁶⁴ (ADA Grade B) It is reasonable to perform a risk assessment annually. (UW Health Very low quality evidence, weak/conditional recommendation)

Testing for type 2 diabetes should be considered in all adult patients who are overweight or obese (BMI \geq 25 kg/m² or \geq 23 kg/m² in Asian Americans) and have one or more risk factors (see above).¹⁶⁴⁻¹⁶⁶ (UW Health Moderate quality evidence, weak/conditional recommendation)

The appropriate interval between screening tests is not known.^{164,170} In patients age ≥ 40 years, testing for type 2 diabetes was not associated with a reduction in all-cause, cardiovascular or diabetes-related mortality over 10 years.¹⁷¹ Modeling simulation studies have found screening every 3-5 years to be cost-effective, particularly in patients age 30 or older.^{170,172,173} A large open cohort study in Japan which stratified patients age 30-74 years by risk (BMI and 10-yr. cardiovascular risk) demonstrated that screening frequencies could be extended to 8-10 year intervals in patients at lower risk.¹⁷⁴ Therefore, subsequent screening tests, especially in patients aged 18-44 years, should be based upon individual clinical judgement that is influenced by the patient's clinical status, any prior test results, and the presence of or changes in risk factors. (*UW Health Very low quality evidence, weak/conditional recommendation*) If prior test results are normal and patients do not demonstrate other significant risk, testing should not be repeated more frequently than every 3 years.¹⁶⁴ (*UW Health Low quality evidence, weak/conditional recommendation*)

It is important to recognize that not all of the risk factors are weighted equally. The following alternative testing frequencies may need to be considered based on the presence of comorbid clinical conditions or prescription therapies:

- Patients with HIV should be screened for diabetes and prediabetes with a fasting glucose every 6-12 months before starting antiretroviral therapy and 3 months after starting or changing antiretroviral therapy. If initial screening results are normal, checking fasting glucose every year is advised. If prediabetes is detected, continue to measure fasting glucose levels every 3-6 months to monitor for progression to diabetes.¹⁷⁵ (*ADA Grade E*)
- Annually screen people who are prescribed atypical antipsychotic medications for prediabetes or diabetes.¹⁷⁵ (*ADA Grade B*)
- At least annual monitoring for the development of diabetes in those with prediabetes is suggested.¹⁷⁶ (*ADA Grade E*) Prediabetes is defined as an A1C of 5.7-6.4%, impaired oral glucose tolerance (140-199 mg/dL), or impaired fasting glucose (100-125 mg/dL) on previous testing.¹⁶⁴
- It is suggested that patients with polycystic ovary syndrome and normal glucose tolerance be rescreened every 2 years or sooner if additional risk factors are identified.¹⁶⁷ Those with impaired glucose tolerance should be screened annually.¹⁶⁷
- Women with a history of gestational diabetes mellitus (GDM) should have lifelong screening for the development of diabetes or prediabetes at least every 3 years.¹⁶⁴ (*ADA Grade B*)

Testing Options

To test for type 2 diabetes, fasting plasma glucose, 2-hour plasma glucose after 75-g oral glucose tolerance test, and A1C are equally appropriate.¹⁶⁴ (*ADA Grade B*) In patients with polycystic ovary syndrome, a 2-hour 75-g oral glucose challenge is recommended over the other screening testing options.¹⁶⁷⁻¹⁶⁹ (*UW Health Low quality evidence, strong recommendation*)

Patient Resources

1. Healthwise: Diabetes: Type 2
2. Healthwise: Diabetes: Type 2: General Info
3. Healthwise: Diabetes: Type 2: Pediatric
4. Healthwise: Diabetes: Type 2: Teen
5. Healthwise: Prediabetes
6. Healthwise: Well Visit: 18 to 50 Years
7. Healthwise: Well Visit: 50 to 65 Year Men
8. Healthwise: Well Visit: 50 to 65 Year Women
9. Healthwise: Well Visit: Over 65 Years
10. [Health Information: Diabetes](#)
11. [Health Information: Diabetes, Type 2](#)
12. [Health Information: Diabetes, Type 2 in Children](#)

FALLS RISK

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Risk Factors

Patients who exhibit one or more of the following risk factors are at an increased risk for falling^{177,178}:

- Increased age
- History of falls or mobility problems
- Patient score ≥ 4 on the STEADI *Stay Independent* screening questionnaire

- Poor performance on the Timed-Up-and-Go assessment¹⁷⁹ (score \geq 12 seconds)

Patients age 65 years or older

UW Health endorses the Centers for Disease Control and Prevention (CDC) Stopping Elderly Accidents, Deaths & Injuries (STEADI) program.¹⁷⁸ Annual screening for falls and balance or gait problems is recommended by the CDC STEADI program¹⁷⁸ and American Geriatric Society (AGS) guidelines¹⁸⁰ (AGS Grade A), and is required as an ACO Quality measure.

Testing Options

Providers should screen for patient reports of falling within the previous year, or expression of feeling unsteady when standing or walking or worry about falling. Patients should complete the [STEADI Stay Independent screening questionnaire](#).¹⁷⁸ (UW Health Low quality evidence, strong recommendation)

Those patients who score \geq 4 on the screening questionnaire, or report falling in the past year, or express feeling unsteady when standing/walking or concern for falling should complete the [Timed-Up-and-Go \(TUG\)](#)¹⁷⁹ assessment. (UW Health Low quality evidence, strong recommendation)

Those patients who score \geq 12 seconds on the TUG should be considered at risk for falling. Providers may also use their judgment and provide interventions to individual high risk patients with a lower score or refer those patients to the UW Health Falls Clinic. (UW Health Very low quality evidence, weak/conditional recommendation)

Preventive Interventions

The STEADI program includes an [algorithm](#) for preventive intervention based upon patient risk as determined by the STEADI screen and other clinical assessments.¹⁷⁸

Patients identified at **low risk** (STEADI screen score < 4) should be rescreened in one year. (UW Health Very low quality evidence, weak/conditional recommendation)

Patients identified at **moderate risk** (TUG score \geq 12 seconds and report 1 fall **without** injury within the last year) should receive^{177,178}:

- a) Education about fall risk factors (AGS Grade C)
- b) Recommendations regarding optimal calcium (UW Health Very low quality evidence, weak/conditional recommendation)
- c) Vitamin D supplementation of 600 IU/day for patients aged 65-70 years. Patients older than 70 years should receive 800 IU/day. (USPSTF Grade B)
- d) Referral to community fall prevention program (i.e., Stepping On)
OR referral to physical therapy (AGS Grade A) (USPSTF Grade B)

Patients at **high risk** (TUG score \geq 12 seconds and report 1 fall **with** injury or report \geq 2 falls within the last year) should receive a multifactorial risk assessment.¹⁷⁸ The multifactorial fall risk assessment should be followed by direct interventions in patients considered high risk for falling.¹⁸⁰ Interventions should be tailored to the identified risk factors, coupled with an appropriate exercise program. (AGS Grade A) The components most commonly included in efficacious interventions include^{177,180}:

- a) Adaptation or modification of home environment (AGS Grade A)
- b) Withdrawal or minimization of medications which may increase the risk of or adverse events to falls, including antipsychotics, benzodiazepines, anticonvulsants, antidepressants (e.g., TCAs, SSRIs), and opioids.¹⁸¹ (UW Health High quality evidence, strong recommendation)
- c) In regards to initiation or continuation of anticoagulation therapy, this decision should be based on patient preferences and estimation of overall bleeding risk. A history of falls and falls risk should not be considered as absolute or relative contraindications to anticoagulation (UW Health Low quality evidence, strong recommendation), as the literature suggests that a history of falls is not an important factor in this decision.¹⁸²⁻¹⁸⁸

- d) Vitamin D supplementation of 600 IU/day for patients age 65-70 years. Patients older than 70 years should receive 800 IU/day. (*USPSTF Grade B*)
- e) Exercise, particularly balance, strength, and gait training (*AGS Grade A*) (*USPSTF Grade B*) The minimum dose of exercise to protect an older adult against falls is 50 hours.¹⁸⁹ The U.S. Department of Health and Human Services¹⁹⁰ recommends balance training 3 or more days per week for older adults at risk for falling because of a recent fall or difficulty walking. The AGS recommends that exercise interventions include balance, gait, and strength training.¹⁸⁰ (*AGS Grade A*)

Patient Resources

- | | |
|---|---|
| 1. HFFY #6625: Falls and Older Adults | 8. HFFY #3140: Preventing Falls Packet |
| 2. HFFY #6626: Home Safety- Preventing Falls | 9. Healthwise: Diabetes: Fall Prevention |
| 3. HFFY #6752: Home Safety- Preventing Falls | 10. Healthwise: Fall Prevention |
| 4. HFFY #6627: If You Fall | 11. Healthwise: Fall Prevention: Outdoors |
| 5. HFFY #7553: Risk of Falls for Older Adults | 12. Healthwise: Falls: Get Up Safely Instructions |
| 6. HFFY #5841: What YOU Can Do to Avoid Falls at Home | 13. Health Information: Fall Prevention |
| 7. HFFY #5234: Preventing Falls and Fractures | 14. Health Information: Fall-Proofing Your Home |

HEARING

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Please reference the [UW Health Standard Primary Care Rooming Criteria – Adult/Pediatric – Ambulatory Guideline](#) for additional information, including hearing test procedures and interpretation of results.

Newborn Patients (age 0-1 months)

If an initial hearing screening test was not performed before the newborn was discharged from the hospital, one should be completed within the first month of life.^{31,82,191,192} (*UW Health Moderate quality evidence, strong recommendation*) Newborn hearing screening is supported by state and federal legislation including Wisconsin Statute (253.115), Illinois Statute (410 ILCS 213), and the Patient Protection and Affordable Care Act.¹⁹³

Patients age 4-10 years

Hearing screening tests should be completed once between the ages of 4-6 years and once between the ages of 8-10 years. (*UW Health Very low quality evidence, weak/conditional recommendation*) This recommendation is at variance with previously published guidelines^{31,32,194,195} which indicate hearing screening at patient ages 4, 5, 6, 8, and 10 years. However, there is currently no evidence to support an association with more frequent screening intervals and improved outcomes.

Annual screening between the ages of 3-8 years is required in Medicaid patients, see <https://www.forwardhealth.wi.gov/WIPortal/Online%20Handbooks/Print/tabid/154/Default.aspx?ia=1&p=1&sa=24&s=2&c=61&nt=Description%20of%20Required%20Components%20of%20a%20HealthCheck%20Screening>.

Patients age 11-18 years

Current evidence suggests that hearing loss may occur due to secondhand tobacco smoke exposure or excessive exposure to noise.¹⁹⁶ These studies are limited by inconsistent definitions of hearing loss, and varying frequency and threshold values for accurate testing.¹⁹⁶⁻¹⁹⁸ At this time, no recommendation can be made related to hearing screening in the adolescent patient population.

Screening at age 12 and 16 years is required in Medicaid patients, see <https://www.forwardhealth.wi.gov/WIPortal/Online%20Handbooks/Print/tabid/154/Default.aspx?ia=1&p=1&sa=24&s=2&c=61&nt=Description%20of%20Required%20Components%20of%20a%20HealthCheck%20Screening>.

Patient Resources

1. HFFY #7487: Your Baby's Hearing Screen
2. Healthwise: Hearing Tests: Pediatrics
3. Healthwise: Hearing Test Abnormal Results: Pediatric: General Info

HEPATITIS B

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Risk Factors

The relative importance of the risk factors for hepatitis B virus (HBV) infection varies substantially, and depends upon geographical location and patient population. A major risk factor for HBV infection is country of origin. The risk for HBV infection varies substantially by country of origin in foreign-born persons in the United States. Another important risk factor for HBV infection is lack of vaccination in infancy in U.S.-born persons with parents from a country or region with high prevalence. Important risk groups for HBV infection with a prevalence of greater than or equal to 2% that should be screened¹⁹⁹⁻²⁰¹:

- Persons born in countries and regions with a high prevalence of HBV infection (greater than or equal to 2%)
- U.S.-born persons not vaccinated as infants whose parents were born in regions with a very high prevalence of HBV infection (greater than or equal to 8%), such as sub-Saharan Africa and central and Southeast Asia
- Human Immunodeficiency Virus (HIV)-positive persons
- Injection drug users
- Men who have sex with men
- Household contacts or sexual partners of persons with HBV infection
- Persons receiving hemodialysis
- Persons receiving cytotoxic or immunosuppressive therapy (for example, chemotherapy for malignant diseases, immuno-suppression related to organ transplantation, and for rheumatologic and gastroenterologic disorders)

For more information on countries and regions with a high prevalence of HBV infection, visit: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

Adolescent and Adult Patients at High Risk

It is recommended to screen patients at high risk HBV infection (see risk factors above).¹⁹⁹ (*USPSTF Grade B*) Patients with ongoing risk factors may be tested annually. (*UW Health Very low quality evidence, weak/conditional recommendation*)

Patients should be tested using a hepatitis B surface antigen (HBsAg) test followed by a neutralizing confirmatory test for initially reactive results. Testing for antibodies to HBsAg (anti-HBs) and hepatitis B core antigen (anti-HBc) should also be performed as part of a screening panel to help distinguish between infection and immunity.¹⁹⁹⁻²⁰¹

Pertinent UW Health Policies & Procedures

1. UWHC Policy 13.04: Communicable Disease Reporting

Patient Resources

1. Healthwise: Hepatitis B
2. Healthwise: Hepatitis B- Should I Be Tested?

HEPATITIS C

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Risk Factors

The relative importance of the risk factors for hepatitis C virus (HCV) infection varies substantially, and depends upon geographical location and patient population. Positive risk factors for HCV infection²⁰²⁻²⁰⁵ include:

- Previous or current injection drug use
- Recipient of a blood transfusion prior to 1992
- Long-term hemodialysis
- Being born to a HCV-infected mother
- Incarceration
- Intranasal drug use
- Getting an unregulated tattoo
- Other percutaneous exposures (i.e., occupational)

Patients born between the years of 1945-1965

It is recommended to complete a one-time screening in patients born between 1945 and 1965.²⁰²⁻²⁰⁴ (USPSTF Grade B) Patients should be tested using a rapid or laboratory-conducted assay for HCV antibody test followed by a confirmatory nucleic acid testing (NAT) for HCV RNA.²⁰⁴⁻²⁰⁷

Patients at Risk

It is recommended to test individuals at an increased risk for hepatitis C virus (HCV) infection (see risk factors above).²⁰²⁻²⁰⁵ (USPSTF Grade B) Patients with ongoing risk factors may be tested annually. (UW Health Very low quality evidence, weak recommendation) Tests should be completed using a rapid or laboratory-conducted assay for HCV antibody test followed by a confirmatory nucleic acid testing (NAT) for HCV RNA.²⁰⁴⁻²⁰⁷

Pertinent UW Health Policies & Procedures

1. UWHC Policy 13.04: Communicable Disease Reporting

Patient Resources

1. Healthwise: Hepatitis C
2. Healthwise: Hepatitis C: General Info
3. Healthwise: Hepatitis C Virus Test
4. [Health Information: Hepatitis C](#)

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

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Risk Factors

Clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose having HIV risk factors, even when asked.²⁰⁸ The Five P's: Partners, Practices, Prevention of Pregnancy, Protection from STDs, and Past History of STDs, available from the CDC, may be used to guide a dialogue to assess a patient's risk of Sexually Transmitted Infections (STI) (see [Appendix C](#)).⁹⁵

Positive risk factors for HIV infection include^{95,208}:

- Sexual partners who are HIV-infected
- Exchanging sex for drugs or money
- Men who have sex with men (MSM)
- Having sex with multiple partners
- Active injection drug users
- Have acquired or requested testing for another sexually transmitted infections
- Sexually active adolescents
- Unprotected vaginal or anal intercourse

Adolescent Patients age 13-18 years

Early testing is beneficial, as patients who are aware of their HIV status are more likely to practice safer sex or remain abstinent.²⁰⁹ Furthermore, patients who are diagnosed and treated earlier have a slower progression to acquired immune deficiency syndrome (AIDS), are more likely to restore immunologic function, and are less likely to transmit HIV to others.²⁰⁹

Universal screening should be offered to all adolescents at least once between 16 to 18 years of age in health care settings when the prevalence of HIV in the patient population is more than 0.1% (e.g., STI clinic, correctional facility, clinics serving MSM, homeless shelters, TB clinics, and adolescent health clinics with a high prevalence of STIs).²⁰⁹ (*UW Health Very low quality evidence, strong recommendation*) It is important to inform adolescents that they will receive an HIV test as part of routine screening unless they decline (opt-out screening).

In areas of lower HIV prevalence, HIV testing is encouraged for all adolescents who are sexually active and those with other high risk factors for HIV (e.g., IV drug use). Targeted screening based on risk is recommended beginning at age 13 years, unless an individual is identified at an earlier age with risk factors for HIV infection.²⁰⁸ (*UW Health Very low quality evidence, weak/conditional recommendation*) High-risk youth should be tested annually for HIV. (*UW Health Very low quality evidence, weak/conditional recommendation*) Adolescents tested for other STIs should be tested for HIV at the same visit.²⁰⁹ (*UW Health Very low quality evidence, strong recommendation*)

Patients age 19-64 years

Universal opt-out HIV screening is recommended in average risk patients age 19-64 years who were not tested in adolescence, regardless of sexual activity or risk.²⁰⁸ (*UW Health Very low quality evidence, strong recommendation*) This one-time screening serves to identify persons who are already HIV-positive, with repeated screening of those who are known to be at risk for HIV infection, those who are actively engaged in risky behaviors, and those who live or receive medical care in a high-prevalence setting. While the evidence is insufficient to determine optimum time intervals for HIV screening, the CDC guideline recommends annual screening in patients at an increased or high risk for infection.⁹⁵ (*UW Health Low quality evidence, strong recommendation*)

Patients age 65 years and older

Screening after age 65 years is indicated if there is ongoing risk for HIV infection, as indicated by risk assessment (for example, new sexual partners).²⁰⁸ (*USPSTF Grade A*) The CDC guideline recommends annual screening in patients at an increased or high risk for infection.⁹⁵ (*UW Health High quality evidence, strong recommendation*)

Pre-exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis may be considered as additional intervention for uninfected partners in serodiscordant couples (*UW Health High quality evidence, strong recommendation*) and MSM, injection drug users, and heterosexual men and women at high risk of acquiring HIV (i.e., commercial sex workers).²¹⁰⁻²¹² (*UW Health High quality evidence, strong recommendation*) For details related to therapy initiation and maintenance, consult Infectious Disease and/or reference the [2014 Centers for Disease Control and Prevention Preexposure Prophylaxis for the Prevention of HIV Infection in the United States Guideline](#).²¹² The following table (**Table 12**) provides a summary of the CDC recommendations:

Table 12. Pre-exposure Prophylaxis Recommendations²¹²

	Men Who Have Sex With Men (MSM)	Heterosexual Women and Men	Injection Drug Users
Detecting substantial risk of acquiring HIV infection	HIV-positive sexual partner Recent bacterial sexually transmitted infection High number of sex partners History of inconsistent or no condom use Commercial sex worker		HIV-positive injecting partner Sharing injection equipment Recent drug treatment (but currently injecting)
Clinically Eligible	Documented negative HIV test result before prescribing PrEP No signs/symptoms of acute HIV infection Normal renal function; no contraindicated medications Documented hepatitis B virus infection and vaccination status		
Prescription	Daily, continuing, oral doses of Tenofovir disoproxil fumarate/ Emtricitabine ≤ 90-day supply		
Other Services	Follow-up visits at least every 3 months to provide the following: HIV test, medication adherence counseling, behavioral risk reduction support, side effect assessment, sexually transmitted infection symptom assessment At 3 months and every 6 months thereafter, assess renal function. Test for bacterial sexually transmitted infection every 6 months.		
	Do oral/rectal sexually transmitted infection testing	Assess pregnancy intent; complete pregnancy test every 3 months	Access to clean needles/syringes and drug treatment services

Testing Options

Conduct initial testing with an FDA-approved antigen/antibody combination (4th generation) immunoassay that detects HIV-1 and HIV-2 antibodies and HIV-1 p24 antigen to screen for established (HIV-1 or HIV-2) or acute (HIV-1) infection.²¹³

Specimens with a reactive antigen/antibody combination immunoassay result (or repeatedly reactive) need be tested with an FDA-approved antibody immunoassay that differentiates HIV-1 and HIV-2 antibodies.²¹³

Specimens that are reactive on the initial antigen/antibody combination immunoassay and nonreactive or indeterminate on the HIV-1/HIV-2 antibody differentiation immunoassay need to be tested with an FDA-approved HIV-1 NAT.²¹³

Pertinent UW Health Policies & Procedures

1. UWHC Policy 13.04: Communicable Disease Reporting
2. UWHC Policy 4.30: Consent for HIV Testing & Release of Protected Health Information
3. UWHC Policy 4.17: Informed Consent

Patient Resources

1. HFFY #4421: HIV/AIDS General Information
2. HFFY #6097: HIV/AIDS General Information
3. HFFY #5669: A Health Guide for Men Age 50 or Older
4. HFFY #6419: A Health Guide for Men Age 50 or Older
5. HFFY #5668: A Health Guide for Women 50 or Older
6. HFFY #6432: A Health Guide for Women 50 or Older
7. Healthwise: HIV
8. Healthwise: HIV: Testing
9. Healthwise: Well Visit: 18 to 50 Years
10. [Health Information: HIV Screening](#)

HUMAN PAPILLOMA VIRUS (HPV)

Refer to [Cervical Cancer](#) and [Immunization](#) recommendations.

HYPERTENSION

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Risk Factors

Positive risk factors for blood pressure screening in **patients younger than 3 years** include^{31,214,215}:

- History of prematurity, low birth weight, or neonatal complications requiring ICU care
- Congenital heart disease (repaired, unrepaired, or family history)
- Elevated body mass index (BMI)/obesity (BMI > 95th percentile)
- Recurrent UTI, hematuria, or proteinuria
- Known renal disease or urologic malformations
- Solid organ transplant
- Malignancy or bone marrow transplant
- Treatment with drugs known to raise blood pressure
- Other systemic illnesses associated with hypertension (i.e., neurofibromatosis, evidence of elevated intracranial pressure, tuberous sclerosis, etc.).

Factors which increase risk for high blood pressure in **adults** include.^{36,216-219}

- High-normal blood pressure/pre-hypertension (130-139/85-89 mmHg)
- Overweight or obesity (BMI \geq 25 kg/m² or \geq 23 kg/m² in Asian Americans)
- Diabetes mellitus or impaired fasting glucose
- Tobacco use
- African American ancestry
- Family history of hypertension
- Secondary causes of hypertension (obstructive sleep apnea; CKD; thyroid or parathyroid disease; Cushing syndrome; primary aldosteronism; pheochromocytoma; coarctation of the aorta; renovascular disease/renal artery stenosis; alcohol abuse; illicit stimulants such as amphetamines, methamphetamines, and cocaine; or other medications such as stimulants, estrogen, corticosteroids, erythropoietin alfa, mineralocorticosteroids, cyclosporine, tacrolimus, NSAIDs, herbals, OTC cold medication, bupropion, triptans, SNRIs)

Patients under age 3 years

Risk factors should be assessed by the provider in patients under the age of 3 years. Patients with specific risk conditions (see above) or changes in risk should have their blood pressure obtained every six months during health supervision visits or other illness visits.³² (*UW Health Very low quality evidence, weak/conditional recommendation*)

Blood pressure measurements should be obtained using proper technique with manual and/or validated automated devices.^{218,220} Measurement should be taken using the right arm in children. Factors such as food intake, strenuous exercise, smoking, caffeine, or a cold exam room may influence blood pressure results and should be avoided 30-60 minutes prior to taking the patient's blood pressure.²²¹

Patients age 3-18 years

Patients over the age of 3 years should have their blood pressure measured annually, preferably during their health supervision visits.²²² (*ICSI High quality evidence, strong recommendation*) Blood pressure measurements should not be obtained during every clinic visit, despite recommendations from the National High Blood Pressure Education Program (NHBPEP) Working Group on Children and Adolescents.^{215,223} No

direct evidence exists that routine blood pressure measurement accurately identifies children and adolescents who are at increased risk for cardiovascular disease in adulthood.²¹⁴

Blood pressure measurements should be obtained using proper technique with manual and/or validated automated devices.^{218,220} Measurement should be taken using the right arm in children. Factors such as food intake, strenuous exercise, smoking, caffeine, or a cold exam room may influence blood pressure results and should be avoided 30-60 minutes prior to taking the patient's blood pressure.²²¹

Patients age 18 years or older

The U.S. Preventive Services Task Force (USPSTF) recommends screening for high blood pressure in adults aged 18 years or older.²¹⁸ (USPSTF Grade A) Annual blood pressure screening is recommended for adults aged ≥ 40 years old and for all adults with an increased risk for high blood pressure (see risk factors above).²¹⁸ (UW Health Moderate quality evidence, strong recommendation) Patients aged 18-39 years with normal blood pressure (< 130/85 mmHg), and no other cardiovascular disease risk factors, should be rescreened every 3-5 years.²¹⁸ (USPSTF Grade A)

Blood pressure measurements should be obtained using proper technique with manual and/or validated automated devices.^{218,220} For additional details, reference the [UW Health Standard Primary Care Rooming Criteria – Pediatric/Adult – Ambulatory Guideline](#) and [UW Health Hypertension – Adult – Inpatient/Ambulatory Guideline](#).

Patient Resources

1. HFFY #5669: A Health Guide for Men Age 50 or Older
2. HFFY #6419: A Health Guide for Men Age 50 or Older
3. HFFY #5668: A Health Guide for Women 50 or Older
4. HFFY #4462: High Blood Pressure
5. Healthwise: Hypertension
6. Healthwise: Hypertension: General Info
7. Healthwise: Well Visit: 18 to 50 Years
8. Healthwise: Well Visit: 50 to 65 Year Men
9. Healthwise: Well Visit: 50 to 65 Year Women
10. Healthwise: Well Visit: Over 65 Years
11. [Health Information: Blood Pressure Screening](#)
12. [Health Information: Prehypertension](#)

IMMUNIZATIONS

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It is recommended that immunization history for each individual patient is properly documented (including dates) within the medical record.²²⁴ With the exception of influenza vaccine and pneumococcal vaccines providers should only accept dated records, history of disease, or Immunization Registry ([WIR](#) or [I-CARE](#)) documentation as evidence of vaccination; self-reported doses of influenza and pneumococcal vaccines are acceptable, but efforts should be made to obtain original records. All patients who do not have a recommended vaccine properly documented should complete serologic testing to prove immunity or be re-immunized. (UW Health Low quality evidence, strong recommendation)

Pediatric Patients (Birth-18 years)

It is recommended to administer the Hepatitis B vaccine to all infants at birth, in particular, within 12 hours of birth to infants born to HBsAg positive mothers or to whom mother's status is unknown.^{225,226} (UW Health High level of evidence, strong recommendation)

The Recommended Childhood and Adolescent Immunization Schedule approved by the Advisory Committee on Immunization Practices (ACIP) and confirmed by the CDC through publication in the MMWR should be followed.^{225,226} (UW Health High quality evidence, strong recommendation) The Schedule is provided in its entirety on the Centers for Disease Control website at <http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html> and includes additional recommendations for patients with medical and other indications that put them at high risk for vaccine preventable disease.

Families choosing not to immunize or who do not follow the recommended immunization schedule need to sign a Vaccine Refusal Form. The forms are located on the [UW Health Immunization Toolkit](#) webpage. Pediatric vaccine refusal forms should be completed per [UW Health Clinical Policy 3.1.1](#).^{224,227,228} (*UW Health Very low quality evidence, weak recommendation*)

Adult Patients (age 19 years+)

The Recommended Adult Immunization Schedule approved by the Advisory Committee on Immunization Practices (ACIP) and confirmed by the CDC through publication in the MMWR should be followed.^{226,229} (*UW Health High quality evidence, strong recommendation*) The Schedule is provided in its entirety on the Centers for Disease Control website at <http://www.cdc.gov/vaccines/schedules/hcp/adult.html> and includes a schedule with additional recommendations for adults with medical and other indications that put them at high risk for vaccine preventable disease.

Pertinent UW Health Policies & Procedures

1. UWHC Policy 3.1.1: UW Health Ambulatory Childhood Vaccine Refusal

Patient Resources

1. HFFY #5240: Immunizations for Children & Adults
2. HFFY: Category Medication Instruct. (Immunization)
3. [Health Information: Immunization Schedules](#)
4. [Health Information: Immunizations](#)
5. [Health Information: Immunizations: Questions Parents Ask](#)

INTIMATE PARTNER VIOLENCE

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Patients age 14-46 years

It is recommended to screen females of childbearing age for intimate partner violence, such as domestic violence.²³⁰ (*USPSTF Grade B*) Screening should be completed using the Hurt, Insult, Threaten, and Scream (HITS) assessment tool.²³⁰⁻²³³ (*UW Health Moderate quality evidence, weak/conditional recommendation*) Patients who score greater than 10 points should be considered a positive screen.²³²

Screening may be considered annually. (*UW Health Very low quality evidence, weak/conditional recommendation*) While evidence supports an increase in identification of intimate partner violence when routine screening is performed; the literature has not consistently demonstrated improved patient awareness, changes in health outcomes or quality of life, even when interventions were provided to patients who screened positive.²³⁴⁻²³⁷ National guidelines and UW Health support universal screening in female patients age 14-46 because it is believed that the benefits of screening outweigh potential harm. In the research reviewed, documented harms were not determined to be significant.²³⁰

Clinical documentation and reporting should be completed per UW Health policy. It is recommended to provide or refer patients who screen positive to intervention services.²³⁰ (*USPSTF Grade B*) Patients may be referred to Social Work (as available by clinic), UW Health Patient Resources, or may be provided with community resources. It is important to consider that the patient may not be ready at the present time to receive interventions (e.g., establishing a safety plan, information cards, referrals to community services, counseling, mentor support, or home visits) or take actions such as leaving the perpetrator.²³⁰ The patient may wait to participate in or accept interventions until they feel it may be possible without endangering their life.

Pertinent UW Health Policies & Procedures

1. [UW Health Clinical Policy 1.2.7- Suspected Domestic Violence and Abuse](#)

Patient Resources

1. Healthwise: Domestic Abuse
2. Healthwise: Domestic Violence: Safety Instructions
3. [Health Information: Domestic Abuse](#)
4. [Health Information: Domestic Violence](#)
5. [Health Information: Domestic Violence: Checklist of Things to Take When You Leave](#)
6. [Health Information: Domestic Violence: Getting a Protective Order](#)

LIPIDS

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Risk Factors

Pediatric patients who exhibit any of the following risk factors are at an increased risk for coronary heart disease²³⁸:

Positive family history: myocardial infarction, angina, coronary artery bypass graft/stent/angioplasty, sudden cardiac death in parent, grandparent, aunt, or uncle, male < 55 years, female < 65 years.²³⁸

High Risk:

- Hypertension requiring drug therapy (BP \geq 99th percentile + 5 mmHg)
- Current cigarette smoker
- BMI \geq 97th percentile
- Diabetes Mellitus, type 1 and type 2
- Chronic renal disease/end-stage renal disease/postrenal transplant
- Postorthotopic heart transplant
- Kawasaki disease with current aneurysms

Moderate Risk:

- Hypertension not requiring drug therapy
- BMI \geq 95th percentile, < 97th percentile
- HDL-C <40 mg/dL
- Kawasaki disease with regressed coronary aneurysms
- Chronic inflammatory disease (e.g. systemic lupus, erythematosus, juvenile rheumatoid arthritis)
- HIV
- Nephrotic syndrome
- BMI percentile >95th percentile

Adult patients who exhibit any of the following risk factors are at an increased risk for coronary heart disease:^{219,239-241}

- Diabetes or glucose intolerance
- Personal history of coronary heart disease or non-coronary atherosclerosis (e.g., abdominal aortic aneurysm, peripheral artery disease, carotid artery stenosis)
- Family history of cardiovascular disease before age 65
- Tobacco use
- Hypertension
- Overweight (BMI \geq 25 kg/m²) or obese (BMI \geq 30 kg/m²)
- Elevated hs-CRP (\geq 3.0 mg/mL)

Patients age 9-11 years

Universal screening is recommended in patients aged 9-11 years (*NHLBI Grade B, strongly recommended*) using non-fasting total cholesterol and HDL measurements.^{238,242} Evidenced-based, early screening has been shown to identify patients with familial hypercholesterolemia because selective, risk-based screening has been shown to be ineffective in this population.³⁴

Patients with an LDL between 160 and 190 mg/dL and a family history of premature vascular disease may also have familial hypercholesterolemia. Further evaluation may be considered.³⁴ (*UW Health Very low quality evidence, weak/conditional recommendation*)

Patients age 17-21 years

Universal screening is recommended in all patients age 17-21 years (NHLBI Grade B, strongly recommended) using non-fasting total cholesterol and HDL measurements.^{238,242}

Patients age 22-39 years

It is recommended to test average risk patients age 22-39 years once every 5 years.²⁴³ (NHLBI Grade B, moderate) However, if LDL and TG levels are within acceptable limits (Table 13) and the patient does not exhibit any risk factors, subsequent screening may be delayed until age 35 for men and age 45 for women, unless risk factors develop. (UW Health Very low quality evidence, weak/conditional recommendation)

Patients considered at increased risk (see risk factors above) may need to be screened more frequently. (UW Health Very low quality evidence, weak/conditional recommendation)

Patients age 40-75 years

It is recommended to test average risk men and women age 40-75 years once every 5 years.²⁴³ (NHLBI Grade B, moderate) However, if a woman's 10-year CVD risk is less than 2.5% and if LDL and TG levels are within acceptable limits (Table 13) subsequent screening may be delayed until age 45, unless risk factors develop. (UW Health Very low quality evidence, weak/conditional recommendation) It is recommended to use the ACC/AHA ASCVD Risk Estimator to evaluate 10-year CVD risk (<http://tools.acc.org/ASCVD-Risk-Estimator/>). (UW Health Low Quality Evidence, weak/conditional recommendation)

Patients considered at increased risk (see risk factors above) may need to be screened more frequently. (UW Health Very low quality evidence, weak/conditional recommendation)

Testing Options

Initial testing in pediatric patients can be done with non-fasting total cholesterol and an HDL with either a venous puncture or fingerstick, if available.²⁴⁴ If non-fasting labs are performed and non-HDL is > 145 mg/dL or HDL is < 40 mg/dL, it is recommended to follow up with a fasting lipid panel.²⁴⁵ (UW Health High quality evidence, strong recommendation)

Testing in adults should be performed with a fasting lipid panel (total cholesterol, LDL, HDL and Triglycerides) or non-fasting total cholesterol and HDL measurements. If non-fasting labs are performed and total cholesterol is > 200mg/dL or HDL is < 40 mg/dL, it is recommended to follow up with a fasting lipid panel for LDL management.²⁴¹ (UW Health High quality evidence, strong recommendation)

Table 13. Acceptable Lipid Results^{238,243,246}

Age	Total Cholesterol	HDL	Triglycerides	LDL	Non-HDL Cholesterol
0-19 yrs.	< 170 mg/dL	> 45 mg/dL	0-9 yrs.: < 75 mg/dL 10-19 yrs.: < 90 mg/dL	< 110 mg/dL	< 125 mg/dL
20 yrs. and older	< 200 mg/dL	> 40 mg/dL	< 150 mg/dL	< 100 mg/dL	< 160 mg/dL

Patient Resources

1. HFFY #7466: Familial Hypercholesterolemia (FH) in Children
2. HFFY #7617: My Child's Lipoprotein (a) Level
3. HFFY #5668: A Health Guide for Women 50 or Older
4. HFFY #5669: A Health Guide for Men 50 or Older
5. HFFY #6419: A Health Guide for Men 50 or Older
6. Healthwise: Cholesterol and Triglycerides Tests
7. Healthwise: Cholesterol and Triglycerides Tests: Pediatric
8. Healthwise: Cholesterol and Triglycerides Tests: Teen
9. Healthwise: Well Visit: 18 to 50 Years
10. Healthwise: Well Visit: 50 to 65 Year Men
11. Healthwise: Well Visit: 50 to 65 Year Women
12. Healthwise: Well Visit: Over 65 Years
13. [Health Information: Cholesterol in Children and Teens](#)
14. [Health Information: Lipid Panel](#)

LUNG CANCER

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Risk Factors

High Risk Factors for lung cancer include^{247,248}:

- Age 55-80 years AND
- ≥ 30 pack-year smoking history AND
- Current smoker or smoking cessation < 15 years ago

Patients age 55-80 years

A shared decision making conversation is required prior to the initial LDCT lung cancer screening. (*UW Health Low quality evidence, strong recommendation*) It is recommended to complete annual low-dose computed tomography (LDCT) screening in asymptomatic patients who exhibit all of the high risk factors.²⁴⁷ (*USPSTF Grade B*) Chest radiography has never been shown to decrease lung cancer mortality; therefore a chest x-ray should never be used for lung cancer screening.^{247,249} (*UW Health High quality evidence, strong recommendation*)

Screening should be discontinued once the patient has ceased smoking for 15 years or more, if the patient has or develops a health problem which substantially limits life expectancy or the ability or willingness to have a curative lung surgery, or when the patient reaches 81 years of age.²⁴⁷ (*USPSTF Grade B*)

Current evidence is lacking on the net benefit of expanding low-dose computed tomography (LDCT) screening to include lower or moderate-risk patients. At this time, lung cancer screening should not be performed in patients who are not high risk.²⁵⁰

Smoking Cessation

Smoking cessation is the most important intervention to prevent lung cancer in current smokers.²⁵¹ All patients should be advised on the importance of maintaining abstinence or on smoking cessation, and should be offered smoking cessation interventions prior to the initial LDCT screening and at every screening thereafter.^{247,252} (*UW Health Low quality evidence, strong recommendation*) The [UW Health Tobacco Cessation - Adult/Pediatric - Inpatient/Ambulatory Guideline](#) contains recommendations related to smoking cessation interventions based upon patient age and healthcare delivery setting.

Shared Decision Making

Elements of the shared decision making discussion should include the harms and benefits of screening, potential for follow-up diagnostic testing, over-diagnosis, false positive results, false negative results, and consideration of total radiation exposure.^{247,253,254} Counseling related to the importance of adherence to annual lung cancer LDCT screening, impact of comorbidities, and establishment of the patient's ability or willingness to undergo diagnosis and treatment should also be completed.^{247,254} (*UW Health Low quality evidence, strong recommendation*)

Patient Decision Aides:

- www.shouldiscreen.com
- [Healthwise](#)
- www.HealthDecision.org
- [National Cancer Institute \(English\)](#)
- [National Cancer Institute \(Spanish\)](#)
- [Shared Decision Making for Lung Cancer Screening Document](#)

Patient Resources

1. Healthwise: Lung Cancer
2. [Health Information: Lung Cancer Screening](#)
3. [Health Information: Lung Cancer Screening \(PDQ\): Health Professional Information \[NCI\]](#)
4. [Health Information: Lung Cancer Screening \(PDQ\): Patient Information \[NCI\]](#)

NEWBORN SCREENING

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CONGENITAL HEART DISEASE

Screen for critical congenital heart disease (CCHD) using pulse oximetry within 24-48 hours of birth, as required by Wisconsin Statute (253.13) and Illinois Statute (410 ILCS 240/1.10).^{82,255}

BLINDNESS PREVENTION

Ophthalmic antibiotic should be applied topically to the eyes within 1 hour of birth, in accordance with Wisconsin Statute (253.11)^{82,256} and Illinois Statute (410 ILCS 215/3).

BLOOD SCREENING PANEL

Complete a newborn blood screening panel^{82,257} as required by Wisconsin Statute (253.13)²⁵⁵ and Illinois Statute (Act 410 ILCS 240) to assess for the following congenital diseases:

- Argininosuccinic Acidemia (ASA)
- Biotinidase Deficiency
- Congenital Adrenal Hyperplasia
- Congenital Hypothyroidism
- Citrullinemia (Types I & II)
- Cystic Fibrosis
- Fatty Acid Oxidation Disorders (11)
- Galactosemia
- Homocystinuria
- Hypermethioninemia
- Maple Syrup Urine Disease
- Organic Acidemias (12)
- Phenylketonuria (PKU) and Hyperphenylalaninemia
- Severe Combined Immune Deficiency (SCID)
- Tyrosinemia (Types I, II & III)
- Hemoglobinopathies (Sickle Cell Disease, Hemoglobin S-Beta Thalassemia, Hemoglobin SC Disease, Hemoglobin Variants)
- Urea Cycle Disorders (Argininosuccinic Acidemia (ASA), Citrullinemia (Types I & II))

Additional details regarding the state statutes can be found online:

- Wisconsin: <http://www.slh.wisc.edu/clinical/newborn/health-care-professionals-guide/>.
- Illinois: <http://www.dph.illinois.gov/sites/default/files/publications/2015%20Newborn%20Metabolic%20Screening%20Disorder%20List.pdf>

Illinois only: Liposomal Storage Disease The blood specimen should be collected between 24-48 hours of life in full term infants, and must be collected prior to discharge from the birth hospital.²⁵⁷ Infants born outside of a hospital (i.e., home births) must have a specimen collected within one week of life. Additional state requirements for populations such as premature infants can be found at the applicable department of public health.

HEARING TEST

See [Hearing Section](#).

VITAMIN D SUPPLEMENTATION

It is recommended that all exclusively breast-fed or formula-fed infants (who receive less than 1,000 mL of formula per day) begin to receive vitamin D supplement (400 IU) within the first few days of life.^{82,258} (*UW Health Low quality evidence, weak/conditional recommendation*) Vitamin supplementation is also recommended for breastfed infants who are receiving formula supplementation.⁸² Supplementation should be continued unless the infant is weaned to at least 1 L/day of vitamin-D-fortified formula or whole milk.²⁵⁸

VITAMIN K ADMINISTRATION

Intramuscular injection of vitamin K (0.5-1 mg) should be administered within 1 hour of birth to prevent hemolytic disease of the newborn.^{82,259} (*UW Health Low quality evidence, strong recommendation*)

Patient Resources

1. Healthwise: Newborn Screening: Pediatric

OBESITY

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Pediatric Patients

Body mass index (BMI) should be calculated and documented in the medical record on all children ages 2-18 at least annually, ideally at a well child visit.²²² (*ICSI Strong recommendation, High quality evidence*)

An assessment of diet, physical activity and sedentary behaviors should be done annually, preferably at a well child visit. This assessment should be used to target appropriate messages to each family.²²² (*ICSI Strong Recommendation, High Quality Evidence*) Obesity prevention messages should be targeted at all families, starting at the time of the child's birth.²²² (*ICSI Strong recommendation, High quality evidence*)

For a full set of recommendations including additional preventive interventions and anticipatory guidance, or treatment and counseling methods for patients identified as overweight or obese, reference the [UW Health Obesity– Pediatric – Ambulatory Guideline](#).

Adult Patients

Clinicians should calculate body mass index (BMI) for their patients on an annual basis for screening and as needed for management. Classify BMI based on the body mass categories. Educate patients about their body mass index and associated risks for them.²¹⁷ (*ICSI Strong recommendation, High quality evidence*)

Clinicians need to carefully consider BMI and its associated mortality risk across different ethnicity, sex, and age groups.²¹⁷ (*ICSI Strong recommendation, Moderate quality evidence*)

Clinicians should consider waist circumference measurement to estimate disease risk for patients who have normal or overweight BMI scores. Refer to Table 2 for disease risk relative to weight and waist circumference.²¹⁷ (*ICSI Strong Recommendation, Moderate Quality Evidence*)

For additional recommendations including interventions, treatment and counseling methods, reference the [UW Health Obesity– Adult – Ambulatory Guideline](#).

Patient Resources

1. HFFY #528: Weight Management: Resources
2. HFFY #168: Healthy Eating Plan (English)
3. HFFY #383: Healthy Eating Plan (Spanish)
4. HFFY Nutrition Category
5. Healthwise: Obesity: Pediatric
6. Healthwise: Weight: Overweight
7. Healthwise: Weight: Overweight: Pediatric
8. [Health Information: Obesity](#)

OSTEOPOROSIS

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Risk Factors

An estimated 10-year probability for major osteoporotic fracture may be calculated using the [Fracture Risk Assessment Tool \(FRAX\)](#) developed by the World Health Organization.²⁶⁰ (*UW Health Moderate quality evidence, weak/conditional recommendation*) Risk factors²⁶⁰⁻²⁶⁴ included within the FRAX calculation include:

- Advancing age
- Gender
- Body mass index
- Personal history of fracture(s) without major trauma
- Family history (first-degree relative) of hip fracture
- Tobacco use (smoking)
- Steroid use (glucocorticoid therapy in daily dose of ≥ 5 mg prednisone or equivalent for ≥ 3 months)
- Rheumatoid arthritis
- Secondary osteoporosis (e.g., insulin dependent type 1 diabetes mellitus; osteogenesis imperfecta; untreated long-standing hypothyroidism; hypogonadism or premature menopause at < 45 years; chronic malnutrition or malabsorption; and chronic liver disease)
- Excessive alcohol use (≥ 3 drinks daily)
- Bone mineral density (femoral neck BMD calculated on prior DXA scan)

The National Osteoporosis Foundation (NOF) identifies the following risk factors in men²⁶⁵:

- Age 70 years and older
- Prior fracture after age 50 years
- Adults with a condition (e.g., rheumatoid arthritis) or taking a medication (e.g., glucocorticosteroid use in a daily dose ≥ 5 mg prednisone or equivalent for ≥ 3 months) associated with low bone mass or bone loss

Postmenopausal Women age 50-64 years

Assessment of risk using the FRAX is recommended in postmenopausal women between the ages of 50-64 years, especially if the patient is considered at increased risk (i.e., exhibiting one or more of the risk factors above).²⁶¹⁻²⁶⁴ (*UW Health Moderate quality evidence, weak/conditional recommendation*)

Bone mineral density screening should be completed using central dual-energy X-ray absorptiometry (DXA) in patients whose fracture risk (FRAX) is equal to or greater than that of a 65 year old white woman who has no additional risk factors (major osteoporotic fracture score 9.3%).²⁶¹ (*UW Health Moderate quality evidence, strong recommendation*) However, the confidence intervals surrounding estimation of fracture risk (FRAX score) are unknown, therefore clinicians should also consider a patient's individual values and preferences and use clinical judgement when discussing screening within this younger age group.

A risk assessment should be completed using the T-score obtained to determine major osteoporotic fracture risk and future screening interval (**Table 14**). (*UW Health Very low quality evidence, weak/conditional recommendation*)

In patients who are at low 10-year major osteoporotic fracture risk where DXA is not indicated, risk should be reassessed every 5 years. (*UW Health Very low quality evidence, weak/conditional recommendation*)

Women age 65 years or older

It is recommended to screen for osteoporosis in women aged 65 years or older using central dual-energy X-ray absorptiometry (DXA) to measure bone mineral density.²⁶¹⁻²⁶³ (*USPSTF Grade B- for women*) This screening should occur regardless of calculated major osteoporotic fracture risk or prior screening. A risk assessment should be completed using the T-score to determine major osteoporotic fracture risk and future screening interval (**Table 14**). (*UW Health Very low quality evidence, weak/conditional recommendation*)

Men age 50 years or older

Strong data to guide screening decisions in men is extremely limited, however many consensus guidelines endorse screening in patients at increased risk.^{265,267,268} In a retrospective observational study which compared guideline-recommended clinical criteria to select men for osteoporosis screening, the National Osteoporosis Foundation (NOF) criteria provided the highest sensitivity (82%) in identifying men who will develop a hip fracture.^{265,269}

Assessment of risk is recommended in men age 50 years or older. (*UW Health Low quality evidence, weak/conditional recommendation*) Bone mineral density should be completed using dual-energy X-ray absorptiometry (DXA) in men age 70 and older and in men age 50-69 years who exhibit one or more of the following: prior fracture, glucocorticosteroid use, or rheumatoid arthritis.^{265,269} (*UW Health Low quality evidence, weak/conditional recommendation*)

Following completion of the first DXA scan, a FRAX assessment should be completed using the T-score to determine major osteoporotic fracture risk and future screening interval (**Table 14**). (*UW Health Very low quality evidence, weak/conditional recommendation*)

Screening Interval for All Adults

In patients at low major osteoporotic fracture risk (FRAX < 10%), perform risk assessment every 5 years.^{268,270} (*UW Health Very low quality evidence, weak/conditional recommendation*) Depending on the clinical situation (e.g., comorbid conditions or health issues, recent hospitalizations, etc.), a DXA scan may be obtained every 5 years to optimize calculation of fracture risk. (*UW Health Very low quality evidence, weak/conditional recommendation*)

A risk assessment should be completed every 2-3 years in patients with moderate fracture risk (FRAX 10-20%) to decide whether to perform additional DXA scans based on patient preferences (e.g., adherence to treatment and ongoing monitoring) and other clinical risk factors.^{267,268,270} (*UW Health Very low quality evidence, weak/conditional recommendation*)

Patients with high fracture risk (FRAX > 20%) or prior fragility fracture of hip or spine or > 1 fragility fracture should be considered for therapeutic intervention.^{263,270} (*UW Health Moderate quality evidence, strong recommendation*)

Table 14. BMD Risk Assessment and Screening Intervals

10- yr. estimated risk of major osteoporotic fracture	FRAX Calculation	DXA Scan
< 10%	Every 5 yrs.	Not recommended.*
10 - 20%	Every 2-3 yrs.	Consider every 2-3 years based on patient preferences and other clinical risk factors.
> 20%	n/a	Confirm diagnosis and follow treatment guidelines.

*All women should receive a DXA at age 65, regardless of calculated risk or prior screening. Depending on the clinical situation, a DXA scan may be obtained in any patient every five years to optimize fracture risk calculation.

Will DXA scans be covered?

Insurance coverage for DXA scans is variable, especially in men. Providers are encouraged to discuss the potential burden of out-of-pocket costs if screening is performed.

Medicare Part B (Medical Insurance) covers the test once every 24 months (or more often if medically necessary) for people who meet one or more of the criteria below²⁶⁶:

- *Women determined by their physician or qualified non-physician practitioner (NPP) to be estrogen deficient and at clinical risk for osteoporosis, based on her medical history and other findings*
- *Individuals with a x-ray showing possible osteoporosis, osteopenia, or vertebral fractures*
- *Individuals getting (or expecting to get) glucocorticosteroid therapy for more than 3 months*
- *Individuals diagnosed with primary hyperparathyroidism*
- *Individuals being monitored to assess response to U.S. FDA-approved osteoporosis drug therapy*

Primary Prevention of Fractures

Falls are the precipitating factor in nearly all fractures, therefore falls risk assessment and prevention is recommended in patients 65 years or older (see [Falls Risk section](#)).²⁶³

Opportunistic Screening

Computed tomography (CT) scans are not recommended for routine assessment and are not approved for monitoring of bone mineral density. (*UW Health Low quality evidence, strong recommendation*) However, recent evidence suggests a good correlation between T-scores obtained via DXA and those obtained by CT.²⁷¹⁻²⁷⁷ Therefore, opportunistic screening may be considered in the event that a patient is scheduled for a CT scan that includes imaging of the hip and is eligible for DXA scanning. (*UW Health Low quality evidence, weak/conditional recommendation*)

Patients at High Risk

Patients over age 50 years who have experienced a spine or hip fragility fracture can be clinically diagnosed with osteoporosis.²⁶⁵ For those patients and others with fragility fractures, it is important that they are assessed using DXA.²⁶⁵ (*UW Health Moderate quality evidence, strong recommendation*)

Patient Resources

1. HFFY #5646: Bone Mineral Density (BMD) Test
2. HFFY #5668: A Health Guide for Women 50 or Older
3. HFFY #5669: A Health Guide for Men 50 or Older
4. HFFY #6419: A Health Guide for Men 50 or Older
5. Healthwise: Osteoporosis
6. Healthwise: Osteoporosis: Prevention
7. Healthwise: Well Visit: 50 to 65 Years Women
8. Healthwise: Well Visit: Over 65 Years
9. [Health Information: Osteoporosis](#)
10. [Health Information: Osteoporosis in Men](#)
11. [Health Information: Osteoporosis Risk Factors](#)
12. [Health Information: Osteoporosis Risk in Younger Women](#)
13. [Health Information: Osteoporosis Screening](#)
14. [Health Information: Should I Have a Dual-Energy X-Ray Absorptiometry \(DXA\) Test?](#)

PROSTATE CANCER

[Return to Adult Table \(Men Only\)](#)

Recommendations on prostate cancer screening continue to evolve as new data is published. The Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial was the primary source for the 2012 USPSTF statement, which recommended against PSA-based screening for prostate cancer.^{278,279} (*USPSTF Grade D*) A recent analysis of the PLCO, however, uncovered pervasive contamination of the control group in this trial, making the trial results difficult or impossible to interpret.^{280,281} The ERSPC trial, a study involving about 182,000 men from 7 European countries, has demonstrated an increasing mortality benefit of prostate cancer screening as longitudinal results continue to be published. The 2013 ERSPC data showed a 27% reduction in prostate cancer mortality after adjusting for non-participation.²⁸²

Risk Factors

Risk factors²⁸³⁻²⁸⁷ for increased prostate cancer mortality include:

- Having one or more first-degree relatives (parent, sibling, or child) diagnosed with prostate cancer before age 65
- African American ancestry
- Genetic cancer syndromes (e.g., *BRCA2* mutation)

Life Expectancy

Patients with a life expectancy of less than 10 years should not be screened.²⁸⁶ (*UW Health Moderate quality evidence, weak/conditional recommendation*) Life expectancy is often difficult to ascertain³⁸, however the following resources are available:

- [ePrognosis](#)
- CDC Tables

Men age 40-49 years

Routine prostate cancer screening is not recommended in men aged 40-49 years.²⁸⁶ (*UW Health Very low quality evidence, strong recommendation*) The prevalence of prostate cancer is low in this age group, so the harms of screening outweigh the benefit for men at average risk.²⁸⁶

In men at increased risk (see risk factors above), consider a shared decision making discussion of the harms and benefits of prostate cancer screening.^{285,286} (*UW Health Very low quality evidence, weak/conditional recommendation*) The decision to initiate screening should be based on the man's values, preferences, and risk factors.

Men age 50-69 years

A one-time shared decision making conversation regarding the harms and benefits of prostate cancer screening is recommended.²⁸³⁻²⁸⁶ (*UW Health Moderate quality evidence, weak/conditional recommendation*) The decision to initiate screening should be based on the man's values, preferences, and risk factors.

Men age 70 years or older

Patients 70 years or older should not be routinely screened for prostate cancer, as data suggests little mortality benefit to treatment in this population.^{279,288,289} (*UW Health High quality evidence, strong recommendation*)

Testing Options and Frequency

PSA testing should not be initiated without first having a shared decision making conversation.^{278,283-286} (*UW Health Moderate quality evidence, strong recommendation*) If the decision is made to perform screening, PSA testing may be completed every 1-2 years. (*UW Health Moderate quality evidence, weak/conditional recommendation*) Longer screening intervals may be considered for PSA levels less than 1.0 ng/mL, as these values are associated with a low lifetime risk of lethal prostate cancer.²⁹⁰⁻²⁹⁴ (*UW Health Low quality evidence, weak/conditional recommendation*)

There is no demonstrated benefit for digital rectal exam (DRE) as an adjunct to PSA testing.^{279,282,283,286,295} The sensitivity and specificity of DRE are lower than for PSA testing and no randomized trials have supported a mortality or morbidity benefit of DRE screening for prostate cancer in average risk men.^{283,286,295}

Shared Decision Making

Shared decision making remains the key component for prostate cancer screening (**Table 15**). The following resources may be used as physician support for the shared-decision making process.

Patient Decision Aids:

- [Annals of Internal Medicine](#)
- [Healthwise](#)
- [Georgetown University](#)
- [Mayo Clinic](#)

Table 15. Physician Discussion Points for PSA Testing

Benefits of Prostate Cancer Screening	Risks/Harms of Screening
Early stages of prostate cancer are easier to treat and more likely to be cured.	Not all prostate cancers need treatment, especially in individuals that are older or with other health problems. Prostate cancer treatment has some risks and side effects, including urinary incontinence, problems with erections, or bowel problems. For patients with low risk cancers, active surveillance is an available option to mitigate the risks of treatment.
PSA testing can be done with a widely available blood test.	PSA testing is not perfect. PSA levels can be elevated when cancer is not present and not elevated when cancer is present. Patients with a high PSA level will likely need to be referred to Urology to undergo a biopsy to determine further treatment (active surveillance, radiation, or surgery).
PSA screening may help to detect prostate cancer early.	Many prostate cancers never spread beyond the prostate gland during an individual’s lifetime.
For some men, having the test can provide them with reassurance that they likely don’t have prostate cancer.	PSA testing can provoke anxiety and confusion especially if an elevated level is obtained. Inflammation, benign enlargement, and infection of the prostate can cause false elevations. For abnormal initial PSA results, more specific free to total PSA testing may be considered to reduce this error. ²⁹⁶
The number of deaths from prostate cancer has gone down since PSA testing became available.	Although significant, it’s not yet clear how much of the decrease in deaths from prostate cancer is due to early detection and treatment based on PSA testing. Data is still being collected.

Patient Resources

1. Healthwise: Well Visit: 18 to 50 Years
2. Healthwise: Well Visit: 50 to 65 Year Men
3. Healthwise: Well Visit: Over 65 Years
4. Healthwise: Prostate Cancer
5. Healthwise: Prostate Cancer Screening
6. [Health Information: Prostate Cancer](#)
7. [Health Information: Prostate Cancer Screening](#)
8. [Health Information: Prostate Cancer \(PDQ\): Screening- Health Professional Information](#)
9. [Health Information: Prostate Cancer \(PDQ\): Screening- Patient Information](#)
10. [Health Information: Prostate Cancer Screening: Should I Have a PSA Test?](#)

SEXUAL ACTIVITY (BEHAVIORAL COUNSELING)

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Risk Factors

As part of the clinical encounter, health-care providers should routinely obtain sexual histories from their patients and address risk reduction. The “Five P’s” approach to obtaining a sexual history is one strategy for eliciting information concerning five key areas of interest (see Box 1 in [Appendix C](#)).⁹⁵

Effective interviewing and counseling skills characterized by respect, compassion, and a nonjudgmental attitude toward all patients are essential to obtaining a thorough sexual history and delivering effective prevention messages.

Patients with the following risk factors are at increased risk for developing a sexually transmitted infection (STI)²⁹⁷:

- Current STI or other infections within the past year
- Multiple sex partners
- Inconsistent condom use
- Persons who exchange sex for money or drugs

Special Populations

Clinicians should be aware of populations with a particularly high prevalence of STIs including^{297,298}:

- African Americans (highest of all ethnic groups)
- American Indians, Alaska Natives, and Latinos (higher prevalence)
- Men who have sex with men (MSM)
- Persons with low income in urban settings
- Current or former inmates
- Military recruits
- 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

Patients age 11-17 years

The USPSTF recommends high-intensity behavioral counseling (30 minutes- 2 hours) for all sexually active adolescents.^{297,298} (USPSTF Grade B) The most successful counseling approaches provide basic information about STIs and STI transmission; assess the patient's risk for transmission; and provide training in pertinent skills, such as condom use, communication about safe sex, problem solving, and goal setting. Counseling interventions may include face-to-face counseling, videos, written material, or telephone support.²⁹⁷

Patients age 18 years or older

The USPSTF recommends high-intensity behavioral counseling (30 minutes- 2 hours) for all sexually active adults at an increased risk for sexually transmitted infection (see risk factors above).^{297,298} (USPSTF Grade B) The most successful counseling approaches provide basic information about STIs and STI transmission; assess the patient's risk for transmission; and provide training in pertinent skills, such as condom use, communication about safe sex, problem solving, and goal setting. Counseling interventions may include face-to-face counseling, videos, written material, or telephone support.²⁹⁷

In the event of time constraints, providers may consider providing brief education to patients on how to reduce their risk for sexually transmitted infection transmission, including abstinence, correct and consistent condom use, and limiting the number of sex partners.

Patient Resources

1. Healthwise: Safer Sex
2. Healthwise: Safer Sex: Teen
3. Healthwise: Condom: Male
4. Healthwise: Condom: Female
5. Healthwise: Condoms: General Info
6. Healthwise: Well Care: Teen
7. Healthwise: Well Visit: Young Teen
8. [Health Information: Sex Education, Talking with Children/Teenagers](#)

SKIN CANCER (BEHAVIORAL COUNSELING)

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High risk factors²⁹⁹⁻³⁰⁷ associated with developing melanoma:

- Strong family history of malignant melanoma (greater than 3 first-degree affected relatives)

- Strong family history of malignant melanoma combined with pancreatic cancer (one melanoma and 2 or more other melanoma and/or pancreatic cancer among first- or second-degree relatives)
- Personal history of melanoma
- Multiple benign nevi (more than 50) or atypical nevi
- Excessive sun exposure
- Use of indoor tanning equipment. UW Health concurs with the American Academy of Dermatology (2014) that the use of indoor tanning beds and devices represents a significant and avoidable risk factor for the development of both melanoma and non-melanoma skin cancers.^{305,307} In addition, the World Health Organization has categorized tanning devices as a known human carcinogen.

Additional risk factors include fair or freckled skin, light hair (red or blonde) or light eye color (blue, green, gray), or skin that sunburns easily or a history of blistering sun burns (especially during childhood or adolescence).^{301,303,308} It is still not known the degree of clinical significance that these factors play in skin cancer risk individually or in combination with one another.

Patients age 10-24 years

It is recommended to counsel all patients 10-24 years of age with fair skin or any of the previously stated risk factors about minimizing their exposure to ultraviolet radiation.³⁰⁸ (*USPSTF Grade B*) Sun protective behavior should be encouraged; such as avoiding exposure during certain times of day (peak hours: between 10 am to 4 pm), applying and reapplying sunscreen of SPF 30 or greater, minimizing overall sun exposure, and wearing appropriate types of clothing (long-sleeved shirts, pants, wide-brimmed hats and sunglasses). Clothing can be chosen with ultraviolet protection factor (UPF) labels or with fabric characteristics that block more UV light (**Table 16**).³⁰⁹

Patients age 25 years or older

While the benefits are uncertain in adults age 25 years or older, given the low risks associated with counseling, behavioral counseling and education related to sun protective behavior for all patients may be considered regardless of age or risk status. (*UW Health Very low quality evidence, weak/conditional recommendation*) The specific recommended ultraviolet-avoidance behaviors are the same as specified above.

Table 16. Influence of Fabric Characteristics on UPF³⁰⁹

Factor	Comment
Porosity	Tight weave has higher UPF
Color	Darker colored fabrics have higher UPF
Weight	Heavy fabric have higher UPF
Thickness	Thick fabrics have higher UPF
Stretch	Stretched fabric have lower UPF
Wetness	Dry fabrics have higher UPF
Type of Fabric	Cotton and rayon have the least UPF. Wool, silk and nylon have moderate UPF. Polyester has highest UPF.
Laundry	UPF increases after washing
Fabric to skin distance	Loose fit has higher UPF
UV absorbing agent	Increase UPF

Patient Resources

1. Healthwise: Well Visit: 18 to 50 Years
2. Healthwise: Well Visit: 50 to 65 Year Men
3. Healthwise: Well Visit: 50 to 65 Year Women
4. Healthwise: Well Visit: Over 65 Years
5. Healthwise: Skin Cancer: Prevention
6. [Health Information: Skin Cancer Prevention \(PDQ\): Prevention- Health Professional Information](#)
7. [Health Information: Skin Cancer Prevention \(PDQ\): Prevention- Patient Information](#)
8. [Health Information: Skin Cancer: Protecting Your Skin](#)

9. [Health Information: Sunblocks to Prevent Sunburn](#)
10. [Health Information: Sunburn and Skin Cancer](#)

11. [Health Information: Sunburn: Skin Types](#)

SYPHILIS

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Risk Factors

Clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose having HIV risk factors, even when asked.⁹⁵ The Five P's: Partners, Practices, Prevention of Pregnancy, Protection from STDs, and Past History of STDs, available from the CDC, may be used to guide a dialogue to assess a patient's risk of Sexually Transmitted Infections (STI) (see [Appendix C](#)).⁹⁵

Patients at an increased risk for syphilis infection include³¹⁰:

- Commercial sex workers
- Persons who exchange sex for drugs
- History of incarceration
- Persons living with HIV
- Males younger than 29 years

Heterosexual Male and Nonpregnant Female Patients

Routine screening should not be completed on asymptomatic patients not at an increased risk for infection.³¹⁰ (*USPSTF Grade D*) Syphilis screening is strongly recommended in patients at an increased risk (see above risk factors).³¹⁰ (*USPSTF Grade A*)

Men Who Have Sex with Men (MSM)

It is recommended that men who have sex with men (MSM) complete syphilis serology, with confirmatory testing, annually.⁹⁵ (*UW Health High quality evidence, strong recommendation*) More frequent STD screening (i.e., every 3-6 months) may be indicated for MSM with multiple or anonymous partners or MSM patients who have sex in conjunction with illicit drug use or whose sex partners participate in similar high-risk behaviors.⁹⁵ (*UW Health High quality evidence, strong recommendation*)

Testing Options

Nontreponemal tests commonly used for initial screening are the Venereal Disease Research Laboratory (VDRL) or Rapid Plasma Reagin (RPR), followed by a confirmatory fluorescent treponemal antibody absorbed (FTA-ABS) or *T.pallidum* particle agglutination (TP-PA).³¹¹

Pertinent UW Health Policies & Procedures

2. UWHC Policy 13.04: Communicable Disease Reporting

Patient Resources

1. Health Facts For You #977: Syphilis
2. Healthwise: Syphilis
3. Healthwise: Well Visit: 18 to 50 Years
4. [Health Information: Syphilis](#)

TOBACCO USE

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All Patients

Secondhand smoke exposure is harmful to all patients. Therefore, clinicians should ask about tobacco smoke exposure (**Table 17**) from parents, caregivers, spouses, or environmental conditions (e.g., multi-unit housing, public buildings where smoking is allowed).³¹²⁻³¹⁶ (*UW Health Moderate quality evidence, strong recommendation*)

Patients age 11 years or older

Tobacco use status should be assessed and documented in adolescent and adult patients at every clinical encounter (**Table 17**), preferably when vital signs are obtained or during inpatient admission.^{312-314,317} (*UW Health High quality evidence, strong recommendation*) Parental smoking and tobacco use are two of the strongest risk factors for smoking initiation in children.^{315,318} Therefore, it is important to assess parental or caregiver use of tobacco during pediatric visits, and address dependence as necessary.^{319,320} (*UW Health Low quality evidence, strong recommendation*)

A national survey of adolescent and young adults demonstrated the recent transition from electronic cigarette use to traditional cigarette smoking, suggesting e-cigarette use as a “gateway drug”. Smokeless tobacco users (e.g., chewing tobacco, snuff) or users of nicotine products (e.g., electronic cigarettes) should be identified, strongly urged to quit and provided counseling cessation interventions.^{312,321-326} (*HHS Strength of Evidence A*) Users of cigars, pipes, and other non-cigarette forms of smoking tobacco should be identified, strongly urged to quit, and offered the same counseling interventions recommended for cigarette smokers.³¹² (*HHS Strength of Evidence C*) Provider should be aware that cigar smokers are at an increased risk for coronary heart disease, COPD, periodontitis and oral, esophageal, lung, and other cancers.³²⁷⁻³³⁰

Table 17. Screening Based Upon Patient Age

Suggested Question (Age 0-10 years)
Is this patient regularly exposed to tobacco smoke (e.g., at home, in a car, at work)?
Suggested Questions (Age 11-17 years)
Have you ever tried tobacco or nicotine products (including e-cigarettes, e-hookah, hookah, vape or chew)? Are you regularly exposed to tobacco smoke (e.g., at home, in a car, at work)?
Suggested Questions (Age 18 years or older)
Do you currently use or have you used tobacco or nicotine products within the last month? Are you regularly exposed to tobacco smoke (e.g., at home, in a car, at work)?

Prevention and Anticipatory Guidance

Non-use should be reinforced by providers and other health care professionals in patients of any age. (*UW Health Low quality evidence, strong recommendation*)

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians provide interventions, including education and brief counseling, to prevent initiation of tobacco use in school-aged children and adolescents.^{313,315} (*USPSTF Grade B*) While screening for personal tobacco use should begin at age 11, anticipatory guidance and education may be appropriate at a much earlier age. The American Academy of Pediatrics (AAP) supports beginning anticipatory guidance at the age of 5 years.^{313,319} Children and adolescents should be warned about the harmful effects of tobacco and the ease with which experimentation progresses to addiction and regular use.^{313,314} Messages for adolescents which have been shown to resonate include those related to the effects of tobacco use on appearance, breath, sports performance, financial burdens, and lack of benefit for weight loss.³¹⁹

Brief Advice for Patients age 11 years or older

When using the 5A's model, patients who screen positive for tobacco use should receive brief advice and be assessed for their willingness to quit.³¹² Minimal interventions lasting less than 3 minutes increase overall tobacco abstinence rates. Every tobacco user should be offered at least minimal intervention, whether or not the patient is referred to an intensive intervention.^{312,331} (*HHS Strength of Evidence A*)

In a clear, strong, and personalized manner, urge every tobacco user to quit.³¹² All physicians should strongly advise every patient who smokes to quit because evidence shows that physician advice to quit smoking increases abstinence rates.³¹² (*HHS Strength of Evidence A*)

Advice should be³¹²:

- Clear—“It is important that you quit smoking (or using chewing tobacco) now, and I can help you.” “Cutting down while you are ill is not enough.” “Occasional or light smoking is still dangerous.”
- Strong—“As your clinician, I need you to know that quitting smoking is the most important thing you can do to protect your health now and in the future. The clinic staff and I will help you.”
- Personalized—Tie tobacco use to current symptoms and health concerns, and/or its social and economic costs, and/or the impact of tobacco use on children and others in the household. “Continuing to smoke makes your asthma worse, and quitting may dramatically improve your health.” “Quitting smoking may reduce the number of ear infections your child has”.³¹²

For additional detailed recommendations, refer to the [UW Health Assessment of Tobacco Use or Secondhand Smoke Exposure and Interventions for Tobacco Cessation – Adult/Pediatric – Inpatient/Ambulatory Guideline](#).

Patient Resources

1. HFFY #5669: A Health Guide for Men Age 50 or Older
2. HFFY #6419: A Health Guide for Men Age 50 or Older
3. HFFY #5668: A Health Guide for Women 50 or Older
4. HFFY #6432: A Health Guide for Women 50 or Older
5. HFFY #3096: Quit Smoking (English)
6. HFFY #6763: Quit Smoking (Spanish)
7. HFFY #2022: Quit Smoking Fact Sheet
8. HFFY #7515: Why You Should Quit Smoking
9. HFFY # 2028: You Can Quit Smoking (Spanish)
10. HFFY #5623: Quit Tobacco Program Workbook for Teens
11. HFFY #7008: Tobacco Use- How to Avoid Once You've Quit
12. HFFY #6141: Using a Nicotine Patch
13. HFFY #6150: Smoking and Wound Healing (Burn Patients)
14. HFFY #5328: Bupropion ER (ZYBAN®) for Smoking Cessation
15. Healthwise: Smokeless Tobacco: Quitting
16. Healthwise: Anti-Smoking Medication: Deciding About
17. Healthwise: Smoking: Stopping
18. Healthwise: Stopping Smoking- Teen
19. Healthwise: Teens Thinking About Quitting Smoking: After Your Visit
20. Healthwise: Well Visit: 18 to 50 Years
21. Healthwise: Well Visit: 50 to 65 Year Men
22. Healthwise: Well Visit: 50 to 65 Year Women
23. Healthwise: Well Visit: Over 65 Years
24. [Health Information: Tobacco Use in Teens](#)

TUBERCULOSIS

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Risk Factors for All Patients

Positive risk factors for immediate tuberculosis (TB) testing include³³²:

- Contact with people with confirmed or suspected contagious TB (contact investigation)
- Radiographic or clinical findings suggesting TB
- Recipients of immunosuppressive therapy or with immunosuppressive conditions, including HIV
- Immigration from countries with endemic infections (e.g., Asia, Middle East, Africa, Latin America, countries of the former Soviet Union), including international adoptees
- Travel histories greater than 1 week to countries with endemic infection and substantial contact with indigenous people from such countries. (Note: If the child is well and has no history of exposure, the test may be delayed up to 10 weeks after return)
- Health care workers, and workers in high-risk congregate settings may also be at increased risk of exposure

Pediatric Risk Factors for Latent Tuberculosis Infection (LTBI)

Patients at increased risk of progression of latent tuberculosis infection (LTBI) to tuberculosis disease include those with recent exposure **AND** one or more of the following risk factors³³²:

- Other medical conditions, including diabetes mellitus, organ transplant or chronic renal failure, Hodgkin disease or lymphoma
- Malnutrition
- Congenital or acquired immunodeficiencies

- Receiving tumor necrosis factor (TNF) antagonists

Pediatric Risk Assessment Tool for Latent Tuberculosis Infection

Validated screening questions to determine the risk of latent tuberculosis infection (exposure) in children are included below.³³² Patients who respond positively to the screening questions are considered at risk for latent TB infection.

1. Has a family member or contact had tuberculosis disease?
2. Has a family member had a positive tuberculin skin test result?
3. Was your child born in a high-risk country (i.e., countries other than the United States, Canada, Australia, New Zealand, or Western and North European countries)?
4. Has your child traveled (had contact with resident populations) to a high-risk country for more than 1 week?

Adult Risk Factors for Latent Tuberculosis Infection (LTBI)

Adult patients at increased risk for LTBI include³³³:

- Persons who were born in, or are former residents of, countries with increased tuberculosis prevalence
- Persons who live in, or have lived in, high-risk congregate settings (e.g., homeless shelters and correctional facilities)
- Persons who are immunosuppressed (e.g., persons living with HIV, patients receiving immunosuppressive medications such as tumor necrosis factor-alpha inhibitors, and patients who have received an organ transplant)
- Patients with silicosis

Pediatric Patients (age 6 months, 12 months, 24 months, 3-10 years)

It is recommended to complete a risk assessment for LTBI (see above) in pediatric patients by 1 month of age, and at ages 6 months, 12 months, 24 months, and then annually between 3-10 years.^{32,332} (*UW Health Very low quality evidence, weak/conditional recommendation*) Those patients found to be at risk for TB infection should be tested using a tuberculin skin test (TST) or interferon gamma release assay (IGRA) as indicated by age (see **Table 18**). (*UW Health Very low quality evidence, weak/conditional recommendation*) Pediatric patients living with HIV should be tested with TST annually.³³² (*UW Health High quality evidence, strong recommendation*)

Adolescent Patients (age 11-17 years)

It is recommended to complete an annual risk assessment for LTBI (see above) in adolescent patients and to test those found to be at risk for tuberculosis infection.^{32,332} (*UW Health Very low quality evidence, weak/conditional recommendation*) using a tuberculin skin test (TST) or interferon gamma release assay (IGRA) as indicated by age (see **Table 18**). (*UW Health Very low quality evidence, weak/conditional recommendation*) Pediatric patients living with HIV should be tested with TST annually.³³² (*UW Health High quality evidence, strong recommendation*)

Asymptomatic Adult Patients (age 18 years or older)

The USPSTF concludes with moderate certainty that the net benefit of screening for LTBI in persons who are at increased risk for tuberculosis is moderate.³³³ (*USPSTF Grade B*). It is recommended to test adults with immediate risk factors once as needed. (*UW Health Very low quality evidence, strong recommendation*)

The USPSTF found no evidence on the optimal frequency of screening for LTBI. Depending on specific risk factors, screening frequency could range from 1-time only screening among persons who are at low risk for future tuberculosis exposure to annual screening among those who are at continued risk of exposure.³³³ (*UW Health Very low quality evidence, weak/conditional recommendation*)

Testing Options

In addition to testing based upon risk, an initial TST or IGRA should be performed before initiation of immunosuppressive therapy, including prolonged steroid administration, organ transplantation, use of TNF-

alpha antagonists or blockers, or other immunosuppressive therapy in any patient requiring these treatments.³³² (*UW Health Very low quality evidence, weak/conditional recommendation*) Children infected with HIV should have an annual TST performed.³³² (*UW Health Very low quality evidence, strong recommendation*)

Table 18. Tuberculosis Testing Options³³²

TST preferred, IGRA acceptable	Pediatric or adult patients who are likely to return for TST reading Limited data exists regarding the usefulness of IGRAs in children 2-4 years; therefore IGRA should not be used in children < 2 years of age unless TB is suspected.
IGRA preferred, TST acceptable	≥ 5 years of age who have received Bacillus Calmette-Guérin (BCG) vaccine ≥ 5 years of age or adults who are unlikely to return for TST reading
TST only	3 months – 18 years of age with HIV infection

Patient Resources

- | | |
|---|---|
| 1. Healthwise: TB (Tuberculosis) | 4. Health Information: Tuberculosis (TB) |
| 2. Healthwise: TB (Tuberculosis): Pediatric | 5. Health Information: Tuberculosis Screening |
| 3. Healthwise: Tuberculin Skin Test | 6. Health Information: Tuberculin Skin Test |

VISION

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Newborns to 6 months

Newborn infants should be examined using inspection and red reflex testing to detect structural ocular abnormalities, such as cataract, corneal opacity, and ptosis.³³⁴ (*UW Health Very low quality evidence, strong recommendation*)

Visual acuity in young children should be completed by assessing the patient’s ability to fixate on and follow a target. Development of fixating on and following a target should occur by 6 months of age children who do not meet this milestone should be referred.^{334,335} (*UW Health High quality evidence, strong recommendation*)

Patients age 6 months – 5 years

An ocular history, ocular alignment and motility assessment, and an ocular examination consisting of an external examination, pupil examination, red reflex testing to assess ocular media, ocular fundus examination with ophthalmoscope, and assessment of visual function should be done between the following ages: 6-12 months, 1-3 years, and 4-5 years.^{334,335} (*UW Health Very low quality evidence, strong recommendation*)

Wisconsin statute 118.135 recommends that all students entering kindergarten request an eye examination by a licensed optometrist or physician.³³⁶ Illinois statute SB0641 requires an eye exam as part of a health examination within one year prior to entering kindergarten or the first grade, or irrespective of grade, immediately prior to or upon entrance into any public, private, or parochial nursery school. It is recommended that vision screening occur at least once between the ages of 3 to 5 years to detect the presence of amblyopia or its risk factors.^{31,337} (*USPSTF Grade B*) Therefore, a visual acuity screen (LEA symbol or letter optotype) performed by rooming staff is recommended at age 5 years, or in cooperative 3 or 4 year olds.³³⁵ The Allen figures, Lighthouse characters, and the Sail Boat chart are not standardized and no longer recommended by the American Academy of Pediatrics.³³⁵ If the patient is uncooperative and the test cannot be completed, vision screening may be rescheduled for the next Well Child exam.

Alternatively, instrument based screening devices for vision screening are available commercially and have had extensive validation, both in field studies and, more recently, in the pediatrician’s offices. Screening instruments detect amblyopia, high refractive error, and strabismus, which are the most common conditions producing visual impairment in children. If available, they can be used at any age but have better success after 18 months of age. Instrument- based screening can be repeated at each annual preventive medicine

encounter through 5 years of age or until visual acuity can be assessed reliably using optotypes.³³⁴ (*UW Health Moderate quality evidence, weak/conditional recommendation*)

Patients age 6-18 years

Vision acuity screening tests and additional ophthalmic assessments should be completed once during the following age ranges to detect the presence of myopia: 6-8 years, 10-12 years, 13-15 years, and 16-18 years. (*UW Health Very low quality evidence, strong recommendation*) The visual acuity screen should be completed using the Snellen chart. Additional ophthalmic assessments include ocular history, ocular alignment and motility assessment, and an ocular examination consisting of an external examination, pupil examination, red reflex testing, and ocular fundus examination with ophthalmoscope.^{334,335}

These recommendation are consistent with the 2013 American Academy of Family Physicians (AAFP) report³³⁸ for pediatric vision screening every 1-2 years after the age of 5 years; however they are slightly discrepant from previously published guidelines which indicate screening at ages 3, 4, 5, 6, 8, 10, 12, and 15 years.^{31,32} Illinois statute SB0641 requires an eye exam as part of a health examination upon entering fifth and ninth grades, or irrespective of grade, immediately prior to or upon entrance into any public, private, or parochial nursery school.

Patient Resources

1. Healthwise: Vision Tests: General Info

WELL CHILD VISIT FREQUENCY

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Well Child Checks

All infants discharged on the first or second postpartum day need to be seen within 48 hours of discharge. This is a state requirement for children who are Medicaid or HealthCheck eligible.

Well Child visits should occur at 2, 4, 6, 9, 12, 15, 18, 24 months, annually between ages 3-6 years and every 1-2 years between the ages of 7-17 years.^{31,32} (*UW Health Low quality evidence, strong recommendation*) It is recommended to consider patient privacy (absence of parent or guardian in the room) beginning at age 12 (or as developmentally appropriate) when discussing sensitive topics such as sexual activity, drug or alcohol use, mental health symptoms, etc.^{339,340} (*UW Health Very low quality evidence, strong recommendation*)

Patient Resources

- | | |
|--|--|
| 1. Healthwise: Well Visit: Pediatric: Birth to 4 Weeks | 10. Healthwise: Well Visit: Pediatric: 24 Months |
| 2. Healthwise: Well Visit: 1 Week: Pediatric | 11. Healthwise: Well Visit: Pediatric: 30 Months |
| 3. Healthwise: Well Visit: Pediatric: 2 Months | 12. Healthwise: Well Visit: Pediatric: 3 Years |
| 4. Healthwise: Well Visit: Pediatric: 4 Months | 13. Healthwise: Well Visit: Pediatric: 4 Years |
| 5. Healthwise: Well Visit: Pediatric: 6 Months | 14. Healthwise: Well Visit: Pediatric: 5 Years |
| 6. Healthwise: Well Visit: Pediatric: 9 to 10 Months | 15. Healthwise: Well Visit: Pediatric: 6 Years |
| 7. Healthwise: Well Visit: Pediatric: 12 Months | 16. Healthwise: Well Visit: Pediatric: 7 to 8 Years |
| 8. Healthwise: Well Visit: Pediatric: 14 to 15 Months | 17. Healthwise: Well Visit: Pediatric: 9 to 11 Years |
| 9. Healthwise: Well Visit: Pediatric: 18 Months | 18. Healthwise: Well Visit: Pediatric: Young Teen |

UW Health Implementation

Potential Benefits:

- Systematic approach to screening for and identifying preventive diseases.
- Appropriate use of a comprehensive approach of preventive services (counseling, education, and disease screening) for average risk, asymptomatic patients will result in an increase in patients who are up to date with preventive services.
- Decreased mortality rates from preventive diseases.

Potential Harms:

- Screening tests may lead to potential harms including false-positives, over diagnosis, unnecessary biopsies or surgery, and patient anxiety.

Qualifying Statements: This guideline is NOT intended to diagnose or treat any condition. Once a health issue or condition has been uncovered, other guidelines and clinical policies and practice will take precedence during any further diagnosis and management.

Note: Any referenced materials outside this guideline are for supplemental informational purposes only. Their mention in this guideline does not imply full agreement of all positions represented in those documents. To the extent that referenced materials appear to conflict with this guidelines' recommendations, the positions described in this document are the ones believed to be most appropriate for UW Health.

Pertinent UW Health Policies & Procedures

See Topic-specific sections within the Recommendations

Patient Resources*

1. [Health Information Interactive Tool: Which Health Screenings Do You Need?](#)

*See additional topic-specific resources within the Recommendations section above.

Guideline Metrics

ACO Metrics:

1. Breast Cancer Screening
2. Colorectal Cancer Screening
3. Falls: Screening for Future Fall Risk
4. Pneumococcal Vaccination Status for Older Adults
5. Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-up Plan
6. Preventive Care and Screening: Influenza Immunization
7. Preventive Care and Screening: Screening for Clinical Depression and Follow-up Plan
8. Preventive Care and Screening: Screening for High Blood Pressure and Follow-up Documented
9. Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention
10. Statin Therapy for the Prevention and Treatment of Cardiovascular Disease

WCHQ Metrics:

1. Chronic Care- Diabetes: Most Recent Tobacco Status is Tobacco-Free
2. Chronic Care- Ischemic Vascular Disease: Most Recent Tobacco Status is Tobacco-Free
3. Preventive Care- Adolescent Immunization Status
4. Preventive Care- Adult Body Mass Index (BMI) Screening Annually
5. Preventive Care- Breast Cancer Screening
6. Preventive Care- Cervical Cancer Screening

7. Preventive Care- Childhood Immunization Status
8. Preventive Care- Colorectal Cancer Screening
9. Preventive Care- Screening for Clinical Depression
10. Preventive Care- Screening for Osteoporosis
11. Preventive Care- Adults with Pneumococcal Vaccinations
12. Preventive Care- Tobacco User Receiving Tobacco Cessation Advice

Implementation Plan/Clinical Tools

1. Guideline will be housed on uConnect and uwhealth.org in a dedicated location for guidelines.
2. Release of the guideline will be advertised in the Physician/APP Briefing newsletter and presented at division/department meetings (e.g., DFM, GIM, GPAM).
3. Content of the [UW Health Screening, Prevention & Wellness website](http://uwhealth.org) (uwhealth.org) will be reviewed and updated as necessary, including any other publicly-facing websites.
4. Links to the guideline will be updated and/or added in appropriate Health Link or equivalent tools and content will be reviewed for consistency, including:

Smart Sets

- Preventive Screening- Adult HM [4351]
- Preventive Screening- Pediatric HM [5128]
- Welcome to Medicare [139]
- Annual Wellness Visit-Medicare [4148]
- Lead Screening [2984]
- Chlamydia Screening [167]
- Depression [77]
- Depression-ACHC [154]
- Adult Fall Risk [5097]
- Passive Smoking Exposure [5326]
- Well Child 0-1 Month [148]
- Well Child 2 Month [104]
- Well Child 4 Month [224]
- Well Child 6 Month [225]
- Well Child 9 Month [192]
- Well Child 12 Month [103]
- Well Child 15 Month [105]
- Well Child 18 Month [226]
- Well Child 24 Month [121]
- Well Child 30 Month [4780]
- Well Child 3 Year [223]
- Well Child 4 Year [106]
- Well Child 5 Year [222]
- Well Child 6 Year [4857]
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Related UW Health Clinical Practice Guidelines

- UW Health Alcohol Assessment and Intervention – Adult/Pediatric – Inpatient/Ambulatory
- UW Health Assessment of Tobacco Use or Secondhand Exposure and Cessation – Pediatric/Adult – Inpatient/Ambulatory
- UW Health Diagnosing and Treating Depression – Adult/Pediatric – Ambulatory
- UW Health Diagnosis and Management of Hypertension – Adult – Ambulatory
- UW Health MRI Screening in Patients at Increased Risk of Breast Cancer – Adult – Ambulatory
- UW Health Prevention and Management of Obesity – Adult – Ambulatory
- UW Health Prevention and Management of Obesity – Pediatric – Ambulatory
- UW Health Standard Primary Care Rooming Criteria – Pediatric/Adult – Ambulatory
- UW Health Standards of Medical Care in Diabetes – Adult/Pediatric – Inpatient/Ambulatory

Disclaimer

Clinical practice guidelines assist clinicians by providing a framework for the evaluation and treatment of patients. This guideline outlines the preferred approach for most patients. It is not intended to replace a clinician's judgment or to establish a protocol for all patients. It is understood that some patients will not fit the clinical condition contemplated by a guideline and that a guideline will rarely establish the only appropriate approach to a problem.

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Abdominal Aortic Aneurysm

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Alcohol Use

See [UW Health Alcohol Assessment and Intervention – Adult/Pediatric – Ambulatory Guideline](#)

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Lisa Brunette – Marketing and Public Affairs
Nicole Barreau – Marketing and Public Affairs
Elaine Rosenblatt – Unity Health Insurance
Mark Micek, MD – Internal Medicine
Jeff Huebner, MD – Family Medicine

Depression

See [UW Health Diagnosing and Treating Depression – Adult/Pediatric – Ambulatory Guideline](#)

Diabetes

See [UW Health Standards of Medical Care in Diabetes – Adult/Pediatric – Inpatient/Ambulatory Guideline](#)

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Hypertension

Pediatric: See [UW Health Standard Primary Care Rooming Criteria – Adult/Pediatric – Ambulatory Guideline](#)

Adult: See [UW Health Diagnosis and Management of Hypertension – Adult – Ambulatory Guideline](#)

Immunizations

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Obesity/BMI

Pediatric: See [UW Health Prevention and Management of Obesity – Pediatric – Ambulatory Guideline](#)

Adult: See [UW Health Prevention and Management of Obesity – Adult – Ambulatory Guideline](#)

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Skin Cancer

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Tobacco Use

See [UW Health Assessment of Tobacco Use or Secondhand Exposure and Interventions for Tobacco Cessation – Adult/Pediatric – Inpatient/Ambulatory Guideline](#)

Additional Steering Committee Members (Operational Support)

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Lori Bue- Ambulatory Operations
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Janna Lind, RN- Center for Clinical Knowledge Management (CCKM)
Chris Nemergut, PharmD- Center for Clinical Knowledge Management (CCKM)
Kris Hahn, PharmD- Center for Clinical Knowledge Management (CCKM)
Chad Warner- Center for Clinical Knowledge Management (CCKM)

Appendix B. High Risk Recommendations

Patients who exhibit one or more of the following **high risk** factors are no longer considered average risk, and fall outside the scope of this guideline. These patients may require more frequent preventive screening, therefore suggested actions are provided to guide primary care physicians in the proper referral and treatment of identified patients.

BREAST CANCER- HIGH RISK

The UW Health Prevention and Tailored Health Screening (PATHS) clinic exists to screen, counsel, treat, and follow patients at a high risk for the development of breast malignancies.

High Risk Factors³⁴¹ (For the purpose of these guidelines, DCIS is considered breast cancer)	Breast Cancer Screening Recommendations
<u>Women with a family history of any of the following:</u> <ul style="list-style-type: none"> • A known breast cancer gene mutation in the family • First or second-degree relative with breast cancer diagnosed \leq age 45 • First or second-degree relative with ovarian/fallopian tube/primary peritoneal cancer • First or second-degree relative with male breast cancer • Two or more breast cancers diagnosed at any age among first, second, or third-degree relatives on the same side of the family (maternal <u>or</u> paternal). This can include two primary breast cancers in one relative. • A family history of breast cancer at any age <u>AND</u> any one of the following in a first, second, or third-degree relative on the same side of the family (maternal <u>or</u> paternal): pancreatic cancer, prostate cancer (Gleason \geq 7), sarcoma, adrenocortical carcinoma, brain tumor, endometrial cancer, leukemia, lymphoma, diffuse gastric cancer, thyroid cancer, macrocephaly, hamartomatous GI polyps, trichilemmomas, palmoplantar keratosis, oral mucosal papillomatosis, or other unusual dermatologic findings • Ashkenazi Jewish ancestry and <u>any</u> family history of breast or ovarian cancer in first, second, or third-degree relatives 	Further genetic risk evaluation is recommended. Patient should be referred to PATHS clinic.
Personal history of breast cancer (including invasive ductal, lobular, and DCIS)	Annual screening unless otherwise recommended by oncology physicians.
Breast biopsy with atypia or LCIS	Complete annual screening unless indicated by oncology physicians; should be referred to PATHS clinic.
Prior chest wall radiation between the ages of 10-30 for treatment of cancer (Hodgkin's)	Complete annual screening at 8 years post therapy or age 40; patient should be referred to PATHS clinic.
First-degree: parents, siblings, children Second-degree: grandparents, aunts, uncles, nieces, nephews, grandchildren, half-siblings Third-degree: great-grandparents, great-aunts, great-uncles, great-grandchildren, first cousins	

CERVICAL CANCER- HIGH RISK

High Risk Factor	Cervical Cancer Screening Recommendations ^{84,86}
<p>Immunosuppression (HIV positive, transplant, etc.)</p>	<p>Cervical cancer screening in immunosuppressed populations has been debated and insufficiently investigated except in the HIV-infected population, but some evidence suggests that risks of cervical cancer in immunocompromised patients are equal to that of HIV infected patients.^{342,343} (UW Health Low Quality Evidence, strong recommendation)</p> <p>Women Aged 29 years and younger³⁴³:</p> <ul style="list-style-type: none"> • If younger than age 21, known to be immunocompromised or newly diagnosed, and sexually active, screen within 1 year. • Immunocompromised women aged 21-29 should have cytology testing following initial diagnosis • Cytology should be done at baseline and every 12 months • Some experts recommend cytology 6 months after baseline test • If results of 3 consecutive Pap tests are normal, follow-up tests can be performed every 3 years. • Co-testing (cytology and HPV test) is not recommended for women younger than 30. <p>Women Aged 30 years and older³⁴³:</p> <p><i>Cytology only:</i></p> <ul style="list-style-type: none"> • Cytology should be done at baseline and every 12 months • Some experts recommend cytology 6 months after baseline test. • If results of 3 consecutive Pap tests are normal, follow-up tests can be performed every 3 years. <p>Or:</p> <p><i>Cytology and HPV Co-Testing:</i></p> <ul style="list-style-type: none"> • Cytology and HPV co-testing should be done at baseline • If result of the cytology is normal and HPV co-testing is negative, follow-up cytology and HPV co-testing can be performed every 3 years. • If the result of the cytology is normal but HPV co-testing is positive, follow up test with cytology and HPV co-testing should be performed in one year. • If the one year follow-up cytology is abnormal or HPV co-testing is positive, referral to colposcopy is recommended. <p>Cervical cancer screening in immunosuppressed women should continue throughout a woman's lifetime (and not, as in the general population, end at 65 years of age).³⁴²⁻³⁴⁴</p>
<p>History of diethylstilbestrol (DES) exposure</p>	<p>Colposcopy may be considered during an initial exam. If the colposcopic exam is abnormal, repeat annually with four-quadrant Pap test. If the colposcopic exam is normal, perform annual examinations including cytology sampling of endocervical, ectocervical and vaginal fornices cells (four-quadrant Pap test).^{345,346} (UW Health Very low quality evidence, strong recommendation)</p>

High Risk Factor	Cervical Cancer Screening Recommendations ^{84,86}
History of CIN 2, 3	<p>Patients up to age 21 years Observation over intervention is recommended for CIN 2. Patients with CIN 3 should be treated.⁸⁹ (UW Health Very low quality evidence, strong recommendation)</p> <p>Patients 21-24 years Either treatment or observation is acceptable, provided colposcopy is adequate. (UW Health Very low quality evidence, strong recommendation) When CIN 2 is specified, observation is preferred (see additional ASCCP recommendations based upon results during observation).⁹⁴ (UW Health Very low quality evidence, strong recommendation)</p> <p>When CIN 3 is specified, or colposcopy is inadequate, treatment using excision or ablation of T-zone is preferred.⁹⁴ (UW Health Very low quality evidence, strong recommendation)</p> <p>Patients 25 years or older After appropriate treatment of CIN 2,3 and complete co-testing at 12 and 24 months with gynecology. Co-testing should be performed at 3 years later then resume age appropriate routine screening for at least 20 years.⁹⁴ (UW Health Very low quality evidence, strong recommendation)</p>
Positive HPV result or infection with negative cytology	<p>Patients up to age 29 years Due to the high prevalence of human papillomavirus (HPV) in adolescents, HPV testing is not recommended.^{85,87-89} (USPSTF Grade D)</p> <p>In the absence of abnormal cytology, observation over intervention is recommended⁸⁸, as more than 90% of HPV infections regress within 3 years.⁸⁹ (UW Health Very low quality evidence, strong recommendation)</p> <p>Patients 30 years or older Either repeat co-testing in 12 months or complete an immediate HPV genotype-specific testing for HPV16 alone or HPV16/18 (see additional ASCCP recommendations based upon test result).^{87,94} (UW Health Low quality evidence, strong recommendation)</p>

COLORECTAL CANCER- HIGH RISK

High Risk Factors	Colorectal Cancer Screening Recommendations ^{112,113,135,140,147,148}
One first-degree relative* with colorectal cancer diagnosed before age 60 years	Colonoscopy** every five years beginning at age 40 or 10 years before the age of the youngest case in the immediate family. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i>
Two or more first-degree relatives* diagnosed at any age with colorectal cancer	Colonoscopy** every five years beginning at age 40 or 10 years before the age of the youngest case in the immediate family. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i>
First-degree relative* with colorectal cancer at greater than or equal to 60 years, or two second-degree relatives with colorectal cancer	The workgroup recognizes this imposes an increased risk; however, due to lack of evidence supporting more frequent screening recommendations, routine screening is recommended. <i>(UW Health Low quality evidence, weak/conditional recommendation)</i>
Inflammatory bowel disease, chronic ulcerative colitis and Crohn's disease	Colonoscopy every one to two years starting eight years after the onset of pancolitis or 12 to 15 years after the onset of left-sided colitis. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i>
Genetic diagnosis of familial adenomatous polyposis (FAP) or suspected FAP without genetic testing evidence	Annual flexible sigmoidoscopy beginning at age 10 to 12 years, along with genetic counseling. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i>
Genetic or clinical diagnosis of hereditary nonpolyposis (Lynch Syndrome) colorectal cancer	Colonoscopy every one to two years beginning at age 20 to 25 years or 10 years before the age of the youngest case in the immediate family. <i>(UW Health Moderate quality evidence, weak/conditional recommendation)</i>
<p>* First-degree relatives include only parents, siblings, and children.</p> <p>** CT colonography may be considered as an alternative in high risk patients with family history who are unable to undergo or refuse colonoscopy (P. Pickhardt et al., unpublished data, 2016) <i>(UW Health Very low quality evidence, weak/conditional recommendation)</i></p>	

Appendix C. The Five P's for Sexually Transmitted Disease Screening

The Five P's: Partners, Practices, Prevention of Pregnancy, Protection from STDs, and Past History of STDs⁹⁵

Partners
<p>“Do you have sex with men, women, or both?”</p> <p>“In the past 2 months, how many partners have you had sex with?”</p> <p>“In the past 12 months, how many partners have you had sex with?”</p> <p>“Is it possible that any of your sex partners in the past 12 months had sex with someone else while they were still in a sexual relationship with you?”</p>
Practices
<p>“To understand your risks for STDs, I need to understand the kind of sex you have had recently.”</p> <p>“Have you had vaginal sex, meaning ‘penis in vagina sex’?” If yes, “Do you use condoms: never, sometimes, or always?”</p> <p>“Have you had anal sex, meaning ‘penis in rectum/anus sex’?” If yes, “Do you use condoms: never, sometimes, or always?”</p> <p>“Have you had oral sex, meaning ‘mouth on penis/vagina’?” If yes, “Do you use condoms: never, sometimes, or always?”</p> <p>For condom answers: If “never”: “Why don’t you use condoms?” If “sometimes”: “In what situations (or with whom) do you use condoms?”</p>
Prevention of Pregnancy
<p>“What are you doing to prevent pregnancy?”</p>
Protection from STDs
<p>“What do you do to protect yourself from STDs and HIV?”</p>
Past History of STDs
<p>“Have you ever had an STD?”</p> <p>“Have any of your partners had an STD?”</p>
Additional Questions to Identify HIV and Viral Hepatitis Risk
<p>“Have you or any of your partners ever injected drugs?”</p> <p>“Have you or any of your partners exchanged money or drugs for sex?”</p> <p>“Is there anything else about your sexual practices that I need to know about?”</p>

Appendix D. Rating Schemes for the Strength of the Evidence/Recommendations

U.S. Preventive Services Task Force (USPSTF)

USPSTF Ranking of Evidence

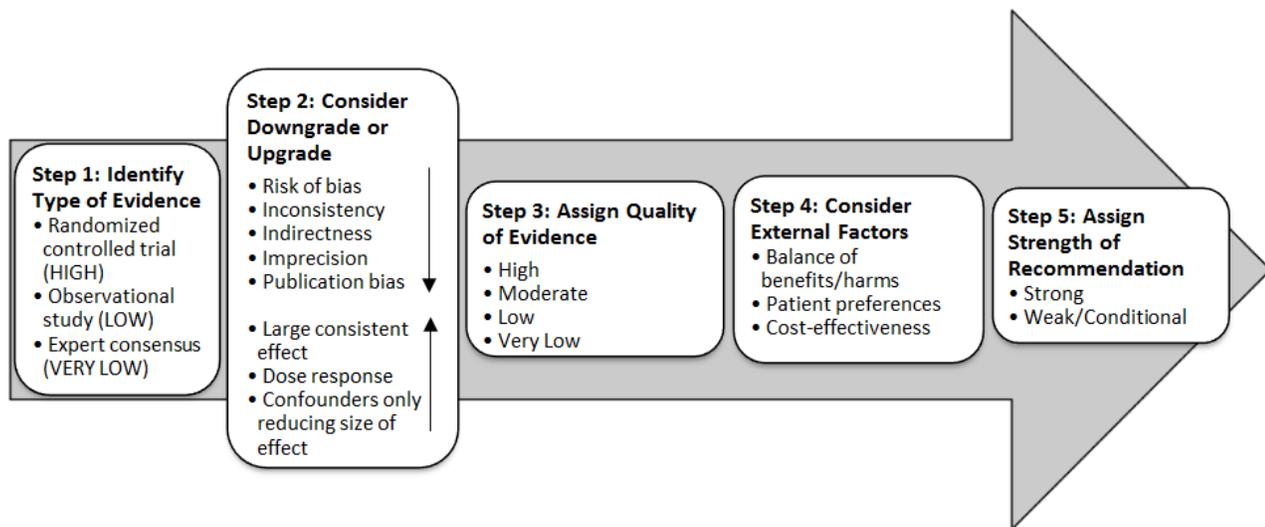
Level of Certainty*	
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as: <ul style="list-style-type: none"> • The number, size, or quality of individual studies. • Inconsistency of findings across individual studies. • Limited generalizability of findings to routine primary care practice. • Lack of coherence in the chain of evidence. As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: <ul style="list-style-type: none"> • The limited number or size of studies. • Important flaws in study design or methods. • Inconsistency of findings across individual studies. • Gaps in the chain of evidence. • Findings not generalizable to routine primary care practice. • Lack of information on important health outcomes. More information may allow estimation of effects on health outcomes.
<p>* The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.</p>	

USPSTF Grades for Recommendations

Grade	Definition
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

Grading of Recommendations Assessment, Development and Evaluation (GRADE)

Figure 1: GRADE Methodology adapted by UW Health



GRADE Ranking of Evidence

High	We are confident that the effect in the study reflects the actual effect.
Moderate	We are quite confident that the effect in the study is close to the true effect, but it is also possible it is substantially different.
Low	The true effect may differ significantly from the estimate.
Very Low	The true effect is likely to be substantially different from the estimated effect.

GRADE Ratings for Recommendations For or Against Practice

Strong	The net benefit of the treatment is clear, patient values and circumstances are unlikely to affect the decision.
Weak/conditional	Recommendation may be conditional upon patient values and preferences, the resources available, or the setting in which the intervention will be implemented.

U.S. Department of Health and Human Services (HHS)

HHS Grading Scheme

A	Multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielded a consistent pattern of findings.
B	Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal.
C	Reserved for important clinical situations in which the Panel achieved consensus on the recommendation in the absence of relevant randomized clinical trials.

American Geriatrics Society (AGS)

AGS Grading Scheme

A	A strong recommendation that the clinicians provide the intervention to eligible patients. <i>Good evidence was found that the intervention improves health outcomes and the conclusion is that benefits substantially outweigh harm.</i>
B	A recommendation that clinicians provide this intervention to eligible patients. <i>At least fair evidence was found that the intervention improves health outcomes and the conclusion is that benefits outweigh harm.</i>
C	No recommendation for or against the routine provision of the intervention is made. <i>At least fair evidence was found that the intervention can improve health outcomes, but the balance of benefits and harms is too close to justify a general recommendation.</i>
D	Recommendation is made against routinely providing the intervention to asymptomatic patients. <i>At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.</i>
I	Evidence is insufficient to recommend for or against routinely providing the intervention. <i>Evidence that the intervention is lacking, or of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.</i>

American Diabetes Association (ADA)

ADA Grading Scheme

Level of Evidence	Description
A	<p>Clear evidence from well-conducted, generalizable RCTs that are adequately powered, including:</p> <ul style="list-style-type: none"> • Evidence from a well-conducted multicenter trial • Evidence from a meta-analysis that incorporated quality ratings in the analysis <p>Compelling non-experimental evidence, i.e., “all or none” rule developed by the Center for Evidence-Based Medicine at the University of Oxford</p> <p>Supportive evidence from well-conducted RCTs that are adequately powered, including:</p> <ul style="list-style-type: none"> • Evidence from a well-conducted trial at one or more institutions • Evidence from a meta-analysis that incorporated quality ratings in the analysis
B	<p>Supportive evidence from well-conducted cohort studies</p> <ul style="list-style-type: none"> • Evidence from a well-conducted prospective cohort study or registry • Evidence from a well-conducted meta-analysis of cohort studies <p>Supportive evidence from a well-conducted case-control study</p>
C	<p>Supportive evidence from poorly controlled or uncontrolled studies</p> <ul style="list-style-type: none"> • Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results • Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls) • Evidence from case series or case reports <p>Conflicting evidence with the weight of evidence supporting the recommendation</p>
E	Expert consensus or clinical experience

NHLBI Grading Scheme

Grade	Strength of Recommendation*
A	<p>Strong recommendation There is high certainty based on evidence that the net benefit† is substantial.</p>
B	<p>Moderate recommendation There is moderate certainty based on evidence that the net benefit is moderate to substantial, or there is high certainty that the net benefit is moderate.</p>
C	<p>Weak recommendation There is at least moderate certainty based on evidence that there is a small net benefit.</p>
D	<p>Recommendation against There is at least moderate certainty based on evidence that it has no net benefit or that risks/harms outweigh benefits.</p>
E	<p>Expert opinion (“There is insufficient evidence or evidence is unclear or conflicting, but this is what the Work Group recommends.”) Net benefit is unclear. Balance of benefits and harms cannot be determined because of no evidence, insufficient evidence, unclear evidence, or conflicting evidence, but the Work Group thought it was important to provide clinical guidance and make a recommendation. Further research is recommended in this area.</p>
N	<p>No recommendation for or against (“There is insufficient evidence or evidence is unclear or conflicting.”) Net benefit is unclear. Balance of benefits and harms cannot be determined because of no evidence, insufficient evidence, unclear evidence, or conflicting evidence, and the Work Group thought no recommendation should be made. Further research is recommended in this area.</p>
<p>*In most cases, the strength of the recommendation should be closely aligned with the quality of the evidence; however, under some circumstances, there may be valid reasons for making recommendations that are not closely aligned with the quality of the evidence (e.g., strong recommendation when the evidence quality is moderate, like smoking cessation to reduce CVD risk or ordering an ECG as part of the initial diagnostic work-up for a patient presenting with possible MI). Those situations should be limited and the rationale explained clearly by the Work Group.</p>	
<p>†Net benefit is defined as benefits minus risks/harms of the service/intervention.</p>	

Appendix E. Interim Revisions

Date	Summary of Change(s)	Page(s)
05/2017	Addition of osteoporosis screening recommendations	15, 17, 53-55
05/2017	Reconciliation of diabetes screening recommendations with Diabetes Guideline	12, 37-38

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