

The Guidelines Guide: Routine Adult Screening

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Introduction/Disclaimer

I developed this guide in an attempt to consolidate the many practice guidelines and recommendations that currently exist. The bold and boxed statements under each heading are the screening strategies I have chosen to adopt based on the various guidelines. Many of the guidelines are imperfect due to poor data and commercial bias, but I do think they set the current standard of care. This document is meant to guide routine screening practices for average-risk adults. Clearly, clinical considerations should be taken into account for other populations or patients with symptomatic complaints. Pediatric and prenatal care recommendations are not covered here.

Abbreviations used in this guide

AAFP = American Academy of Family Physicians

AACE = American Association of Clinical Endocrinologists

ACOG = American College of Obstetricians and Gynecologists

ACP = American College of Physicians

ACR = American College of Radiologists

ACS = American Cancer Society

ADA = American Diabetes Association

AHA = American Heart Association

CDC = Center for Disease Control

JNC 7 = Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure

NIH = National Institutes of Health

USPSTF = United States Preventive Services Task Force

USPSTF Grades of Recommendations

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 against routinely providing the service. There may be considerations that support providing the service in an individual patient. 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 - 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.

BREAST CANCER

USPSTF and AAFP

- Women aged 50-74 should have screening mammography every 2 years [B]
- The decision to perform screening mammography before age 50 should be individualized. [C]
- Recommendation against teaching breast self-examination [D]

ACOG

- Women aged 40–49 years should have mammography done every 1–2 years. Women aged 50 years and older should have mammography every year
- All women should have clinical breast examinations annually as part of the physical examination
- Breast self-examination can be recommended

ACS

- Yearly mammograms are recommended starting at age 40 and continuing for as long as a woman is in good health.
- Clinical breast exam (CBE) should be part of a periodic health exam, about every 3 years for women in their 20s and 30s and every year for women 40 and over.

ACP

- For women 40 to 49 years of age, clinicians should base screening mammography decisions on benefits and harms of screening, as well as on a woman's preferences and breast cancer risk profile.

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| <ul style="list-style-type: none">• Mammography every 1-2 years starting at age 50 with clinical breast exams prior.• For women ages 40-49, an appropriate mammography screening regimen should be decided upon by the patient and physician based on individual risks and benefits.• No recommendation for or against routine breast self-examinations. |
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CERVICAL CANCER

USPSTF

- All women who have been sexually active and have a cervix should be screened [A]
- No routine pap smears for women older than age 65 with normal pap smears and for women who have had a total hysterectomy for benign disease [D]

AAFP

- Strongly recommends that a Pap smear be completed at least every 3 years to screen for cervical cancer for women who have ever had sex and have a cervix.

ACS

- All women should begin cervical cancer screening about 3 years after they begin having vaginal intercourse, but no later than when they are 21 years old. Screening should be done every year with the regular Pap test or every 2 years using the newer liquid-based Pap test.
- Beginning at age 30, women who have had 3 normal Pap test results in a row may get screened every 2 to 3 years. Another reasonable option for women over 30 is to get screened every 3 years (but not more frequently) with either the conventional or liquid-based Pap test, plus the HPV DNA test. Women who have certain risk factors such as diethylstilbestrol (DES) exposure before birth, HIV infection, or a weakened immune system due to organ transplant, chemotherapy, or chronic steroid use should continue to be screened annually.
- Women 70 years of age or older who have had 3 or more normal Pap tests in a row and no abnormal Pap test results in the last 10 years may choose to stop having cervical cancer screening. Women with a history of cervical cancer, DES exposure before birth, HIV infection or a weakened immune system should continue to have screening as long as they are in good health.
- Women who have had a total hysterectomy (removal of the uterus and cervix) may also choose to stop having cervical cancer screening, unless the surgery was done as a treatment for cervical cancer or pre-cancer. Women who have had a hysterectomy without removal of the cervix should continue to follow the guidelines above.

ACOG

- Cervical cytology screening should begin at age 21
- Paps should be done every 2 years between ages 21 and 29
- Women aged 30 years and older who have had three consecutive negative cervical cytology screening test results and who have no history of cervical intraepithelial neoplasia (CIN) grade 2 or CIN 3, are not immunocompromised and are not HIV infected, and were not exposed to diethylstilbestrol in utero may extend the interval between cervical cytology examinations to 3 years.
- Evidence-based data indicate both liquid-based and conventional methods of cervical cytology are acceptable for screening.
- Women who have undergone hysterectomy with removal of the cervix for benign indications and who have no prior history of CIN 2 or CIN 3 or worse may discontinue routine cytology testing.

- **First pap smear at age 21**
- **Pap smears every 2 years until age 30 using liquid-based cytology**
- **After age 30 with 3 negative pap smears on file, do pap smears every 3 years**
- **No pap smears after age 65 in low-risk women**
- **No pap smears in women after total hysterectomy (including removal of the cervix) for benign indications**

COLON CANCER

USPSTF and AAFP

- All adults from ages 50 until age 75 should have screening for colon cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy. [A]
- Recommendation against routine screening in adults older than 75. [C,D]

CDC

- Recommended screening tests and intervals are:
 - Fecal occult blood test (FOBT) every year
 - Flexible sigmoidoscopy every 5 years.
 - Double-contrast barium enema every 5 years.
 - Colonoscopy every 10 years.

Joint Guideline (US Multi-Society Task Force on Colorectal Cancer, ACS, ACR)

- Screening should begin at age 50 by one of the following techniques:
 - (1) high-sensitivity FOBT or fecal immunochemical testing annually
 - (2) flexible sigmoidoscopy every 5 years
 - (3) double-contrast barium enema every 5 years
 - (4) CT colonography (virtual colonoscopy) every 5 years
 - (5) colonoscopy every 10 years
 - (6) fecal DNA at an unspecified interval
- Direct visualization methods are preferred to indirect methods

All adults should have colon cancer screening between the ages of 50 and 75 with one of the following methods:

- **Fecal occult blood test (FOBT) every year**
- **Flexible sigmoidoscopy every 5 years**
- **Double-contrast barium enema every 5 years**
- **Colonoscopy every 10 years.**

SEXUALLY TRANSMITTED INFECTIONS

Chlamydia

USPSTF and AAFP and ACOG

- Recommends screening for chlamydial infection for all sexually active non-pregnant young women aged 24 and younger and for older non-pregnant women who are at increased risk. Risk factors include: history of chlamydial or other sexually transmitted infection, new or multiple sexual partners, inconsistent condom use, and exchanging sex for money or drugs. [A]
- Recommends against routinely providing screening for chlamydial infection for women aged 25 and older, whether or not they are pregnant, if they are not at increased risk. [C]

CDC

- As above. In addition, recommends at least annual screening for chlamydia in men who have sex with men.

**Routine chlamydia screening for all sexually active women \leq 24 years old.
All other patients (women and men) should be screened only if at increased risk.**

Gonorrhea

USPSTF and AAFP and ACOG

- Recommends that clinicians screen all sexually active women, including those who are pregnant, for gonorrhea infection if they are at increased risk for infection. Risk factors include: history of previous gonorrhea infection, other sexually transmitted infections, new or multiple sexual partners, inconsistent condom use, sex work, and drug use. [B]

CDC

- As above. In addition, all sexually active men who have sex with men should be screened at least annually for genital gonorrhea and also for pharyngeal and rectal infection if at risk due to exposure.

Routine gonorrhea screening for patients at risk per USPSTF risk factors.

Syphilis

USPSTF

- Strongly recommends that clinicians screen persons at increased risk for syphilis infection

Persons at increased risk of syphilis should be routinely screened.

HIV

USPSTF

- Strongly recommends that all adolescents and adults at increased risk for HIV infection should be screened. Risk factors include: men who have had sex with men after 1975; men and women having unprotected sex with multiple partners; past or present injection drug users; men and women who exchange sex for money or drugs or have sex partners who do; individuals whose past or present sex partners were HIV-infected, bisexual, or injection drug users; persons being treated for sexually transmitted diseases (STDs); and persons with a history of blood transfusion between 1978 and 1985. Persons who request an HIV test despite reporting no individual risk factors may also be considered at increased risk. [A]

CDC

- All individuals between 13 and 64 years of age should be screened regardless of risk factors.

ACP

- Recommends that clinicians adopt routine screening for HIV and encourage patients to be tested. Clinicians determine the need for repeat screening on an individual basis.

AAFP

- Strongly recommends that physicians screen for human immunodeficiency virus (HIV) in all adolescents and adults at increased risk for HIV infection. The AAFP makes no recommendation for or against routinely screening for HIV in adolescents and adults who are not at increased risk for HIV infections.

All individuals between 13 and 64 years of age should be screened for HIV regardless of risk factors.

LIPIDS

USPSTF and AAFP

- Strongly recommends screening men aged 35 and older for lipid disorders [A]
- Recommends screening men aged 20 to 35 for lipid disorders if they are at increased risk* for coronary heart disease [B]
- Strongly recommends screening women aged 45 and older for lipid disorders if they are at increased risk* for coronary heart disease. [A]
- Recommends screening women aged 20 to 45 for lipid disorders if they are at increased risk* for coronary heart disease. [B]

* Risk factors include: diabetes, previous personal history of CHD or non-coronary atherosclerosis, a family history of cardiovascular disease before age 50 in male relatives or age 60 in female relatives, tobacco use, hypertension, obesity (BMI >30).

AHA/NIH (Adult Treatment Panel III)

A fasting lipoprotein profile (total cholesterol, LDL-C, HDL-C, and TG) should be performed in all adults over the age of 20 once every 5 years.

AACE

- For young adults >20 years of age: lipids every 5 years when no CAD risk factors are present, more often if family history of premature CAD exists (that is, definite MI or sudden death before 55 years of age in father or other male first-degree relative or before 65 years of age in mother or other female first-degree relative).
- For adults up to 75 years: lipids every 5 years when no CAD risk factors are present and more often if CAD risk factors exist.
- For elderly patients >75 years of age: evaluate if patient has multiple CAD risk factors, established CAD, or a history of revascularization procedures and good quality of life with no other major life-limiting diseases.

- **All men ages 35-75 should have fasting lipids at least every 5 years**
- **Men ages 20-35 and women ages 20-75 should have fasting lipids every 5 years if they are at increased risk for heart disease per USPSTF risk factors above**
- **Measuring lipids after age 75 should be a clinical decision made between a patient and his/her provider based on individual risks and benefits**

DIABETES

USPSTF and AAFP

- Asymptomatic adults with sustained blood pressure (either treated or untreated) greater than 135/80 mm Hg should be screened for type 2 diabetes. [B]
- The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for type 2 diabetes in asymptomatic adults with blood pressure of 135/80 mm Hg or lower [I]

ADA

- Testing to detect pre-diabetes and type 2 diabetes in asymptomatic people should be considered in adults of any age who are overweight or obese ($BMI \geq 25 \text{ kg/m}^2$) and who have one or more additional risk factors for diabetes. In those without these risk factors, testing should begin at age 45 years. If tests are normal, repeat testing should be carried out at least at 3-year intervals.
- Appropriate screening tests are (1) HbA1c $\geq 6.5\%$, (2) fasting plasma glucose ≥ 126 mg/dl after no calorie intake for 8 hours, or (3) plasma glucose ≥ 200 mg/dl 2 hours after a 75 g glucose load

AACE

- Annually screen all individuals 30 years or older who are at risk for having or developing type 2 diabetes mellitus. Risk factors include: family history of diabetes, cardiovascular disease, overweight or obese state, sedentary lifestyle, Latino/Hispanic, Non-Hispanic black, Asian American, Native American, or Pacific Islander ethnicity, previously identified impaired glucose tolerance or impaired fasting glucose, hypertension, increased levels of triglycerides, low concentrations of HDL or both, history of gestational diabetes, history of delivery of an infant with a birth weight >9 pounds, polycystic ovary syndrome, psychiatric illness
- Diabetes should be diagnosed using 1 of these 3 diagnostic criteria:
 - (1) Fasting plasma glucose concentration ≥ 126 mg/dL
 - (2) 2-hour post-challenge glucose concentration ≥ 200 mg/dL during a 75-g oral glucose tolerance test
 - (3) Symptoms of diabetes (polyuria, polydipsia, unexplained weight loss) plus casual plasma glucose concentration ≥ 200 mg/dL

- **All adults 30 years and older with risk factors for diabetes (as listed under AACE recommendation) should be screened for diabetes. If negative, screening should be repeated yearly.**
- **In those without risk factors, a screening test should be done at 45 years of age. If negative, it should be repeated every 3 years.**
- **Screening should be done using HbA1c, or fasting plasma glucose, or a 2 hr 75-gm glucose challenge, or a random plasma glucose if symptoms are present.**

HYPERTENSION

USPSTF and AAFP

- Recommends screening for high blood pressure in adults aged 18 and older. [A]

AHA (JNC 7)

- Routine blood pressure measurement at least once every 2 years for adults with a systolic blood pressure below 120 mm Hg and a diastolic blood pressure below 80 mm Hg, and every year for systolic blood pressure 120-139 and diastolic blood pressure 80-89 mm Hg.

Blood pressure should be measured at least every 2 years in all adult patients.

ABDOMINAL AORTIC ANEURYSM

USPSTF and AAFP

One-time screening for abdominal aortic aneurysm by ultrasonography should be done in men aged 65 to 75 who have ever smoked. [B]

All men aged 65 to 75 who have ever smoked should have a one-time ultrasound screening for abdominal aortic aneurysm

DEPRESSION

USPSTF

- Adults should be screened for depression in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and followup. [B]

AAFP

- The AAFP recommends screening adults for depression.

All adults should be screened for depression at least once.

Appropriate screening consists of asking 2 questions:

1. **“Over the past 2 weeks, have you felt down, depressed, or hopeless?”**
2. **“Over the past 2 weeks, have you felt little interest or pleasure in doing things?”**

OSTEOPOROSIS

USPSTF and AAFP

- Women aged 65 and older should be screened routinely for osteoporosis. Routine screening begin at age 60 for women at increased risk for osteoporotic fractures. [B]
- No recommendation for or against routine osteoporosis screening in postmenopausal women who are younger than 60 or in women aged 60-64 who are not at increased risk for osteoporotic fractures [C]

AACE

- The following women should undergo assessment for osteoporosis (including bone mineral densitometry):
 - All women 65 years old or older
 - All adult women with a history of a fracture not caused by severe trauma
 - Younger postmenopausal women with weight < 127 lbs or a family history of spine or hip fractures

ACOG

- Bone mineral density testing should be recommended to all postmenopausal women who are 65 years of age or older.
- Bone mineral density testing should be recommended for postmenopausal women younger than 65 years of age who have one or more risk factors for osteoporosis.
- Bone mineral density testing should be performed on all postmenopausal women who have fractures to confirm the diagnosis of osteoporosis and determine disease severity.
- In the absence of new risk factors, screening should not be performed more frequently than every two years.

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| <ul style="list-style-type: none">• For average-risk women, consider a baseline DEXA scan at age 65.• For higher-risk women (wt<127, family or personal hx of fracture), a baseline DEXA scan should be done at age 60. |
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The USPSTF does not recommend routine screening for the following diseases:

- Bladder cancer
- Ovarian cancer
- Pancreatic cancer
- Prostate cancer (>75 years old)
- Testicular cancer
- Carotid artery stenosis
- Peripheral artery disease
- COPD

The evidence is insufficient for the USPSTF to recommend for or against routine screening for the following diseases:

- Lung cancer
- Oral cancers
- Prostate cancer (<75 years old)
- Skin cancer
- Dementia
- Thyroid disease

Resources

US Preventative Services Task Force <http://www.ahrq.gov/clinic/uspstfix.htm>

National Guideline Clearinghouse <http://www.guideline.gov>

UK National Institute for Health and Clinical Excellence <http://www.nice.org.uk/>

Center for Disease Control <http://www.thecommunityguide.org/index.html>

American College of Physicians
http://www.acponline.org/clinical_information/guidelines/current/#acg

American Academy of Family Physicians - Summary of Recommendations of Clinical Preventive Services
http://www.aafp.org/online/etc/medialib/aafp_org/documents/clinical/CPS/rcps08-2005.Par.0001.File.tmp/BOD-CPS-Approved-changes.pdf

American Association of Clinical Endocrinologists <http://www.aace.com/pub/guidelines/>