NIH NATIONAL CANCER INSTITUTE

Screening Tests

Cancer screening tests aim to find cancer before it causes symptoms and when it may be easier to treat successfully. An effective screening test is one that

- finds cancer early
- reduces the chance that someone who is screened regularly will die from the cancer
- has more potential benefits than harms (possible harms of screening tests include bleeding or other physical damage, false-positive or false-negative test results, and overdiagnosis—the diagnosis of cancers that would not have caused problems and did not need treatment)

Screening mammography has been shown to reduce deaths from breast cancer among women ages 40 to 74, especially those ages 50 to 69.
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Recommended cancer screening tests

Several cancer screening tests are considered effective and recommended by expert groups.

Breast cancer screening

Screening mammography has been shown to reduce deaths from breast cancer among women ages 40 to 74, especially those ages 50 to 69.

Expert groups generally recommend that screening start at age 50 for women at average risk.

For more information, see the Mammograms fact sheet and the PDQ Breast Cancer Screening summary.

Cancer Screening Drops during COVID-19 Pandemic

COVID-19 has created obstacles and opportunities for

improving screening.

Cervical cancer screening

Human papillomavirus (HPV) tests and Pap tests are recommended cervical cancer screening tests that can be used alone or in combination. These tests prevent the disease because they allow abnormal cells to be found and treated before they become cancer.

Expert groups generally recommend that testing begin at age 21 and end at age 65 (for women who have had adequate prior screening and are not otherwise at high risk for cervical cancer).

For more information, see Cervical Cancer Screening.

Colorectal cancer screening

Several screening tests, including colonoscopy, sigmoidoscopy, and stool tests (high-sensitivity fecal occult blood tests and stool DNA tests) have been shown to reduce the risk of dying from colorectal cancer. In addition to detecting colorectal cancer early, colonoscopy and sigmoidoscopy can help prevent the disease from developing. That's because these tests can find abnormal colon growths (polyps) that can be removed before they become cancer.

Expert groups generally recommend that people who are at average risk for colorectal cancer have screening with one of these tests at ages 45 or 50 through 75.

For more information, see the Screening Tests to Detect Colorectal Cancer and Polyps fact sheet and the PDQ Colorectal Cancer Screening summary.

Lung cancer screening

Low-dose helical computed tomography, a type of CT scan, has been shown to reduce lung cancer deaths among heavy smokers.

Expert groups generally recommend screening of some current or former heavy smokers at ages 50 to 80.

For more information, see the National Lung Screening Trial page and the PDQ Lung Cancer Screening summary.

Other screening tests

Screening tests that have not been shown to be effective may still be offered, especially to

people who are known to be at increased risk of certain cancers.

Alpha-fetoprotein blood test

The alpha-fetoprotein blood test is sometimes used, along with ultrasound of the liver, to try to detect liver cancer early in people at high risk of the disease.

For more information, see Liver Cancer Screening.

Breast MRI

A breast MRI imaging test is often used for women who carry a harmful mutation in the *BRCA1* gene or the *BRCA2* gene; these mutations increase the risk of breast cancer, as well as other cancers.

For more information, see the BRCA Gene Mutations: Cancer Risk and Genetic Testing fact sheet and the PDQ Breast Cancer Screening summary.

CA-125 test

The CA-125 blood test, which is often done together with a transvaginal ultrasound, may be used to try to detect ovarian cancer early, especially in women with an increased risk of the disease. Although this test can help to diagnose ovarian cancer in women who have symptoms and can be used to evaluate the recurrence of cancer in women previously diagnosed with the disease, it has not been shown to be an effective ovarian cancer screening test.

For more information, see the PDQ Ovarian Cancer Screening summary.

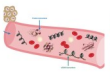
Clinical breast exams and regular breast self-exams

Routine examination of the breasts by health care providers (clinical breast exam) or by women themselves (breast self-exam) has not been shown to reduce deaths from breast cancer. However, if a woman or her health care provider notices a lump or other unusual change in the breast, it is important to get it checked out.

For more information, see the PDQ Breast Cancer Screening summary.

Multi-cancer detection tests

Multi-cancer detection (MCD) tests are tests that measure biological signals in body fluids that may be shed by cancer cells. These signals are also known as biomarkers or tumor markers. Depending on which signals the MCD test



Screening for Many Cancers with One Test

measures, it may detect several different types of cancer. Whether MCD tests are effective for cancer screening in people without symptoms is unknown and needs to be assessed through randomized clinical trials.

No MCD tests have been approved by the US Food and Drug Administration. However, a health care provider may be able to order an MCD test for a patient.

Many multi-cancer early detection tests are in the works, but more research is needed.

For more information, see Tumor Markers and Questions and Answers about Multi-Cancer Detection Tests.

PSA test

The prostate-specific antigen (PSA) blood test has been used, often along with a digital rectal exam, for prostate cancer screening. However, expert groups no longer recommend routine PSA testing for most men because many prostate cancers detected with PSA testing are not deadly, and early detection and treatment of PSA-detected cancers has not been shown to reduce the chance of dying from prostate cancer.

For more information, see the Prostate-Specific Antigen (PSA) Test fact sheet and the PDQ Prostate Cancer Screening summary.

Skin exams

Doctors often recommend that people who are at risk for skin cancer examine their skin regularly or have a health care provider do so. Such exams have not been shown to decrease the risk of dying from skin cancer, and they may lead to overtreatment. However, people should be aware of changes in their skin, such as a new mole or a change to an existing mole, and report these to their doctor promptly.

For more information, see the Common Moles, Dysplastic Nevi, and Risk of Melanoma fact sheet and the PDQ Skin Cancer Screening summary.

Transvaginal ultrasound

The transvaginal ultrasound imaging test, which can create pictures of a woman's ovaries and uterus, is sometimes used in women who are at increased risk of ovarian cancer (because they carry a harmful *BRCA1* or *BRCA2* gene mutation) or of endometrial cancer (because they have a condition called Lynch syndrome). But it has not been shown to reduce deaths from either cancer.

For more information, see the PDQ Ovarian Cancer Screening summary and the PDQ Endometrial Cancer Screening summary.

Virtual colonoscopy

A virtual colonoscopy allows the colon and rectum to be examined from outside the body. Although it has not been shown to reduce deaths from colorectal cancer and may reveal possible problems outside the colon that then need to be investigated further, this test may be recommended if it is the only colorectal cancer screening test a person finds acceptable.

For more information, see the Screening Tests to Detect Colorectal Cancer and Polyps fact sheet and the PDQ Colorectal Cancer Screening summary.

Questions to ask your doctor about cancer screening

Knowing if you should have a cancer screening test, when and how often you should have it, and at what age to stop having it can be confusing. Talking over the following questions with your doctor can help you understand the best cancer screening plan for you.

- Are any cancer screening tests recommended for me? Which ones?
- How often should I have the test? At what age should I stop having it?
- What is the purpose of the test?
- Does the test require preparation and how do I do that?
- What happens during the test?
- Are there risks to having the test?
- How long does it take to get test results?
- How will you tell me about the test results? For example, email, online health portal, phone?
- If I do not get my test results, who should I contact? Is there a phone number can I call?
- What happens if the results are not normal?

Related Resources

ACS's Updated Cervical Cancer Screening Guidelines Explained

Crunching Numbers: What Cancer Screening Statistics Really Tell Us

Many Older Adults Screened Unnecessarily for Common Cancers

Study Examines Whether Blood Test Can Identify Early Cancers

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