Cancer 101

Cancer Screening

Cancer is often difficult to treat in its advanced stages, but several types of cancer can be detected early with regular screenings. Although experts don't always agree about the age at which screening tests should start or how often they should be done, most do agree that diagnosing and treating cancer early leads to better clinical outcomes.

However, screening can sometimes detect slow-growing tumors that will not become life-threatening. Known as "overdiagnosis," this can lead to unnecessary treatment. In addition, screening tests are not always foolproof and may give false-positive (detecting cancer that is not really present) or false-negative (failing to detect an existing cancer) results.

Screening guidelines are developed by experts who review medical studies and consider whether there is enough evidence to show that the benefits of a test outweigh its risks or harms. These decisions are based on population averages. There is no way for experts to predict cancer outcomes for specific individuals—only what is likely for groups of similar people.

Breast Cancer

Breast cancer is the second leading cause of cancer death among women, but routine screening mammograms have contributed to rising survival rates.

Mammograms are the primary method of breast cancer screening. The procedure uses low-dose X-rays to create a detailed image of the breast, which is compressed between two plates. Ultrasound imaging may be used to detect tumors in women with dense breast tissue. Magnetic resonance imaging (MRI) is sometimes recommended for women with high-risk BRCA gene mutations or to confirm a suspicious mammogram.

Many doctors and nurses perform manual clinical breast exams, and some experts advise women to do monthly breast self-exams, but there is little evidence that these contribute to improved survival.

Experts don't all agree about when breast cancer screening should be done. The American College of Gynecologists recommends that women at average risk should be offered mammograms starting at age 40, but the American Cancer Society suggests beginning at age 45 and the U.S. Preventive Services Task Force favors age 50. The first two groups recommend annual screenings, while the latter says every two years.

Experts do agree, however, that when to start screening should be a shared decision between a woman and her doctor. Women at higher risk—including those with a family history of breast cancer, those with BRCA gene mutations, women taking hormone replacement therapy after menopause and, possibly, African-American women (who tend to get more aggressive breast cancer at a younger age)—may benefit from earlier, more frequent screenings.

Cervical and Anal Cancer

Cervical cancer is a leading cause of cancer deaths for women worldwide, but it is uncommon in the United States thanks to routine screening, which began in the 1960s.

The Pap test, or cervical cytology, is the traditional method of cervical cancer screening. A doctor or nurse uses a small brush to scrape a sample of cells from the cervix (the opening of the uterus). The sample is examined under a microscope to look for abnormal cells. If found, areas of abnormal precancerous tissue, known as dysplasia, can be removed to prevent development of invasive cancer.

A newer type of test looks for human papillomavirus (HPV), the virus that causes cervical cancer. Cervical screening recommendations have shifted in recent years as more experts favor longer intervals between tests for women whose previous results have been normal.

The American Cancer Society and U.S. Preventive Services Task Force recommend that cervical cancer screening should start at age 21, regardless of whether young women have received HPV vaccines. Women should get Pap tests every three years through age 29, but they don't need an HPV test unless a Pap test is abnormal. Women age 30 to 65 should either continue to get Pap tests alone every three years, or get Pap tests plus HPV tests every five years. After age 65, those who have had normal test results over the past decade can stop screening. Women with a history of precancerous cell changes and those with weakened immune systems or other risk factors may need more frequent testing.

Anal cancer is caused by the same types of HPV as cervical cancer, but routine anal screening is not recommended. However, some experts advise that people at higher risk, including gay men with HIV, should be offered anal Pap tests and HPV tests.

Colon and Rectal Cancer

Colorectal cancer is the fourth most common cancer and the second leading cause of cancer-related deathin the United States. With routine screening it can be detected early, when it's easier to treat.

One type of colon cancer screening involves physical examination of the inside of the colon. These tests look for abnormal growths called polyps that can progress to cancer. A colonoscopy uses a flexible lighted tube to view the entire colon, while a sigmoidoscopy views the lower part of the colon and rectum. These tests involve bowel preparation beforehand and are sometimes done under some type of sedation. Alternative imaging methods include "virtual colonoscopy" (computed tomography or CT scans) and X-rays with a barium enema to improve visibility of the

colon.

Another type of test called Cologuard looks for DNA changes in a stool sample. The fecal immunochemical test (FIT) and guaiac fecal occult blood test (gFOBT) look for blood in the stool. These tests let you take a stool sample at home and mail it to a lab. These tests are not as precise as a colonoscopy, but some people are more likely to get them done.

Experts now recommend that people at average risk should start getting screened for colorectal cancer at age 45. The age was reduced from 50 due an increase in this cancer among younger people. Options include a colonoscopy every 10 years, a flexible sigmoidoscopy every five years or a stool blood test (such as a FIT test) every year. Screening for people older than 75 depends on their overall health. People with a family history of colon cancer or other risk factors may need more frequent testing.

A follow-up colonoscopy should be done if alternative imaging methods or stool tests show abnormal results.

Liver Cancer

Over years or decades, chronic hepatitis B or C, heavy alcohol use, fatty liver disease and other causes of liver injury can lead to the development of cirrhosis and liver cancer. This type of cancer is often detected late and is difficult to treat.

Screening for liver cancer is not recommended for the general population at average risk. But people at increased risk should be screened regularly using an alfa-fetoprotein (AFP) blood test or ultrasound imaging. Even after hepatitis C has been cured, people who have developed cirrhosis remain at risk for liver cancer and need screening.

Lung Cancer

Lung cancer is the leading cause of cancer death in the United States for both men and women, accounting for about a quarter of all cancer deaths. Screening for lung cancer, which involves CT imaging (a type of low-dose X-ray) of the chest, is not yet widely done.

Experts do not recommend lung cancer screening for the general population at average risk. However, the American Cancer Society recommends screening for people age 55 to 74 who have a 30 pack-year history of smoking. This means, for example, a person who smoked one pack a day for 30 years or two packs a day for 15 years. The U.S. Preventive Services Task Force suggests screening between age 55 and 80. Screening is also recommended for those over 55 who either still smoke or have quit within the past 15 years.

Prostate Cancer

Prostate cancer is the most common cancer among men besides skin cancer, but its death rate is relatively low. Screening can detect aggressive prostate cancer early, allowing for more effective treatment, but routine testing can also diagnose slow-growing cancers that will never become life-

threatening.

Two types of test are used to screen for prostate cancer: the prostate-specific antigen (PSA) blood test, which measures a protein produced by the prostate gland, and the digital rectal exam, in which a finger is inserted into the rectum to feel for lumps or swelling of the prostate.

Experts disagree about when prostate cancer screening should be done. Because it usually grows slowly, most men with prostate cancer will die from other causes. A recent analysis of two large studies showed that PSA screening reduces mortality but also leads to unnecessary treatment.

Men with a positive PSA test face a decision between "watchful waiting" to see whether cancer progresses or prompt treatment, which can lead to adverse outcomes including urinary incontinence, impaired sexual function and the side effects that come with radiation and chemotherapy.

The American Cancer Society recommends that men should discuss the risks and benefits of screening with their doctor beginning at age 50 and make an individual decision. African-American men and those with a family history of prostate cancer should have this talk at age 45. The U.S. Preventive Services Task Force says that men age 55 to 69 should discuss screening with their doctors and make a decision based on their values and preferences, while recommending against screening for those over 70. The American Urological Association agrees, suggesting that screening every two years may offer most of the benefits of annual screening with fewer risks.

Skin Cancer

Skin cancer is the most common cancer, with more than 3 million people diagnosed each year. The most common type, basal cell carcinoma, can usually be successfully treated, but melanoma is more likely to spread throughout the body and become life-threatening.

Regular visual examination of the skin, both self-examination and clinical examination by a doctor, can find abnormal growths that might be cancerous. Dermatologists and other experts can often distinguish between benign (harmless) moles and those that are cancerous or likely to progress to cancer. When checking moles, look for the following characteristics:

- A: asymmetrical moles
- B: moles with irregular or ragged borders
- C: moles that contain different colors
- D: moles that are more than a quarter inch in diameter
- E: moles that are evolving, or changing in size, shape or appearance

It is important to note that all these recommendations are for preventive screening for people at average risk who currently have no signs or symptoms of cancer. Contact your doctor if you feel

an unusual lump, notice an abnormal appearance or a change in function anywhere in the body or have symptoms such as prolonged fatigue, unexplained weight loss or pain without a known cause.

For more information on cancer screening, visit:

American Cancer Society

American Society of Clinical Oncology (ASCO)

National Cancer Institute

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http://beta.docker.cancerhealth.com/basics/health-basics/cancer-screening