

Cancer Screening by Age

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Introduction

Cancer is a powerful and often frightening word for patients, family members, and loved ones. Cancer is a broad term. Cancer cells are not normal, and they grow in an unusual way. Each cancer type is very different. The different types of cancer have different symptoms and treatments. The earlier the cancer is found, the better patients respond to treatment. *Cancer screening* is used to find cancer as early as possible. It is a term used to describe tests which help to diagnose or discover



cancer. Everyone should have cancer screenings to protect their health.

Different cancer types are found most commonly at different ages. We will discuss the different types of cancer screening based on age. Our goal is to diagnose or discover cancer at its earliest stage. Cancer screening should start just before the age when the cancer is most commonly diagnosed. If screening is started too late, cancer might not be caught before it has spread. If the screening starts too early there are other risks. The risks of early screening are not balanced by the very low risk of cancer early in life. There is higher risk of false positive results when screening is completed too early. This means the screening test is positive but there is no cancer. False positive tests are very upsetting to patients. They could result in further testing that is not needed.

The following guidelines are meant for healthy people with "normal" risk. Patients with normal risk do not have any risk factors for cancer. A personal health history or family history of cancer would increase cancer risk. For example, a patient who has a mother and grandmother who has had breast cancer is at increased risk. Another example would be someone who had radiation treatment in childhood.



Cancer Screening

Cervical:

Cervical cancer is the most common gynecologic cancer worldwide. It is less common in the United States (U.S.) because of increased screening and vaccines (1). The cervix is located at the top of vagina. It is the bottom of the uterus, or womb. Cervical cancer screening involves taking a small sample of cells from the cervix. Papanicolaou smear or pap smear is the term used to describe this test. It involves a pelvic exam, or examination of genital organs. A tool called a speculum is used to view the cervix. Then a tiny plastic spatula and/or brush are used to gently wipe some cells from the top of the cervix. These cells are then examined under the microscope for any signs of abnormal cells. The cells can also be tested for the presence of high-risk subtypes of Human Papilloma Virus (HPV). HPV is known to be the cause of cervical cancer in women. Pap smears tell your doctor if there are any abnormal, precancerous, or cancer cells present.

Breast (see also FFHA article on Breast Cancer Screening):

Breast cancer is the most commonly diagnosed cancer in the U.S. It is the second leading cause of cancer deaths in women. Women have a 1 in 8 lifetime risk of breast cancer (1, 2). Screening for breast cancer involves a mammogram. A mammogram is an imaging test which takes pictures of the breast at all angles. The imaging technology is expanding to 3D mammograms and MRI for high risk patients. A physical exam of the breast by you or your doctor can also sometimes detect abnormal areas. There is some debate about how often a woman should perform breast self-exams. However, there is agreement that each person should be familiar with their own breast. Patients should report any abnormality to their doctor as soon as possible.

Colorectal:

The colon, or large bowel, attaches to the rectum, or anus, where stool exits your body. Cancer in the colon and rectum are treated very similarly. The term used is colorectal cancer. Colorectal cancer is the third leading cause of cancer and cancer related deaths in the U.S. (1). Screening for colorectal cancer can be done through multiple methods.



The first method is annual fecal occult blood testing. It involves collecting 2 – 3 samples of stool at home yearly. The stool is tested for blood, which can be an early sign of cancer. Sigmoidoscopy is another method which involves looking for abnormal areas or growths called polyps. During the procedure, a small camera is placed through the rectum. The camera is moved into the lower part of the large bowel, or sigmoid. Any polyps are removed and examined for abnormal cells or cancer. Sigmoidoscopy should be completed every five years, based on your age (see below). Patients may be given medicine to relax during the procedure. You will also be asked to drink laxatives or medications to clear the stool out of your colon. The areas are better seen without stool in the way. Sigmoidoscopy and stool occult blood testing can be completed together every five years.

Colonoscopy is similar to sigmoidoscopy except the whole large bowel is examined. Any polyps are removed and examined for abnormal cells or cancer. If normal, it is only done once every ten years. If there is anything abnormal found on fecal occult or sigmoidoscopy testing, a colonoscopy is the next test. For these reasons, many patients and doctors prefer colonoscopy for colorectal screening.

Skin:

There are many types of skin cancer. Melanoma is one type that is very difficult to treat in advanced stages. Very few formal guidelines about screening for skin cancer have been given. There are no formal recommendations for skin checks. Skin checks are an exam by your doctor to look for any abnormal areas on the skin. Patients are advised to bring any abnormal areas or moles on their skin to the attention of a doctor. It is suggested to limit skin ultraviolet sun exposure and regularly use sunscreen. This will help prevent skin cancer. This is especially true in young children ages 10 – 24 because the damage collects over time (3).

Other Cancers:

There are certain cancers which do not yet have screening tests. These cancers are generally only detected when problems occur. They are generally more rare cancers for healthy patients. These types of cancer include: pancreatic, oral, liver, gastric, bladder, thyroid, ovarian, and uterus/endometrial. Lung cancer is a common type of cancer in the U.S. for smokers, but uncommon without history of smoking.



Guidelines by Age:

Age 0 – 20 years:

Young girls and teenagers are at very low risk of developing cancer and there are no screening guidelines in this age group.

There are recommendations for vaccines for many diseases in childhood. There is currently



only one vaccine that is targeted to prevent cancer. The Human Papilloma Virus (HPV) is known to be the cause of cervical cancer in women. It is also the cause of some head and neck cancer in men and women. Most individuals who get HPV are infected in their young adult life when sexually active. Most people fight off the infection 1 - 2 year time period. However, some people do not. The vaccine is targeted at the viral subtypes which are known to cause cancer and genital warts.

The Center for Disease Control (CDC) recommends HPV vaccination before exposure to the virus (4):

- Two dose regimen ages 9 14 years old (preferred)
- Three dose regimen ages 15 26 years old (use this if vaccine was not started earlier)

Age 20 – 30 years:

Cervical cancer screening with pap smear every 3 years starting at age 21 until age 30. (5,6)

Age 30-40 years:

 Cervical cancer screening every 3 years with pap smear (cytology) or pap smear with HPV testing (co-testing) every five years. (5,6)

Age 40 – 50 years:

- Cervical cancer screening every 3 years with pap smear (cytology) or pap smear with HPV testing (co-testing) every five years. (5,6)
- Breast cancer screening with mammogram every 1-2 years starting age 40-50 years (2,7)
- Colorectal cancer screening starting by 50 but earlier by age 45 in African Americans (8,9)



Age 50 – 65 years:

- Cervical cancer screening every 3 years with pap smear (cytology) or pap smear with HPV testing (co-testing) every 5 years. (5,6)
- Breast cancer screening with mammogram every 1-2 years (2,7)
- Colorectal cancer screening starting by 50, repeat timing based on test chosen. Every ten years for colonoscopy. (8,9)

Age > 65 years:

- Stop cervical cancer screening age 65 with normal results for last 10 years (three normal pap smears or two normal pap smears with co-testing). (5,6).
- Breast cancer screening can be stopped at age 75 (2,7) or continued with discussion with your doctor for as long as >10 years for life expectancy. (10)
- Colorectal cancer screening recommended up to age 85 but individual cases should be discussed with your doctor. (8)

Take Home Points:

- Cancer screening is an important part of a healthy lifestyle. The earlier that cancer is diagnosed, the better. Preventive care from your doctor to diagnose and discover cancer is an important part of your medical care.
- These guidelines address individuals with normal risk for cancer.
- You should discuss any changes or unusual symptoms with your doctor.
- Detecting cancer at an early stage significantly increases the ability to successful treat. Age appropriate testing is an important part of early detection and successful treatment.

Useful Websites:

- More information about cervical cancer screening is available at: <u>https://www.acog.org/Patients/FAQs/Cervical-Cancer-Screening</u>
- More information about breast cancer screening is available at: https://www.cancer.org/cancer/breast-cancer/screening-tests-and-earlydetection.html
- More reading is available about colorectal screening at: <u>https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-</u> <u>staging/screening-tests-used.html</u>



More information about skin cancer recommendations is available at: <u>https://www.cancer.org/cancer/skin-cancer/prevention-and-early-detection.html</u>

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