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## Asymptomatic cancer: prevention and screening tests taking place to prevent cancer

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### Abstract

If a patient is a carrier for a disease or infection but experiences no symptoms then the disease is considered asymptomatic. Some cancers can develop and grow without causing symptoms, especially in the early stages. The primary emphasis for asymptomatic cancers is to focus on screening and early detection. Some cancers remain asymptomatic for a longer period; many cancers cause little or no symptoms in the earliest stages of the disease. These cancers usually don't show any signs and symptoms in their early stage. But scientists and physicians say that some asymptomatic cancers can be cured by early detection using effective screening tests which are suitable for them and treatment can be started before cancerous cells start to spread. There is so much ongoing research taking place to prevent cancer.

**Keywords:** Asymptomatic, Cancer, Screening tests, Detection

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### Introduction

Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant tumors and neoplasm. Cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, which can then invade adjoining parts of the body and spread to other organs; the latter process is referred to as metastasis. Metastasis is the primary cause of death from cancer. It is a leading cause of death worldwide, with nearly 10 million deaths in 2020 according to WHO [1]. If a patient is a carrier for a disease or infection but experiences no symptoms then the disease is considered asymptomatic. Some cancers can develop and grow without causing symptoms, especially in the early stages. The primary emphasis for asymptomatic cancers is to focus on screening and early detection. Some cancers remain asymptomatic for a longer time, most of the cancers cause little to no symptoms in the earliest stages of the disease. Few examples for asymptomatic cancers were breast cancer, kidney cancer, lung cancer, ovarian cancer [2].

### Asymptomatic VS Symptomatic

Asymptomatic is a condition or state of disease and symptomatic is a variation from normal function or feeling which is noticed by a patient, reflecting the presence of an unusual state, or of disease; subjective, observed by the patient, cannot be measured directly [4]. Cancers are asymptomatic during their early stages, which is why regular screenings are more important.

A few Cancers that displays less or no symptoms early on and are typically detected and diagnosed

- Testicular cancer
- Cervical cancer
- Pancreatic cancer
- Breast cancer
- Ovarian cancer
- Prostate cancer
- Lung cancer
- Skin cancer
- Colon cancer
- Kidney cancer

These cancers usually don't show any signs and symptoms in their early stage [5]. But scientists and physicians say that some asymptomatic cancers can be cured by early detection using effective screening tests which are suitable for them and treatment can be started before cancerous cells start to spread [7].



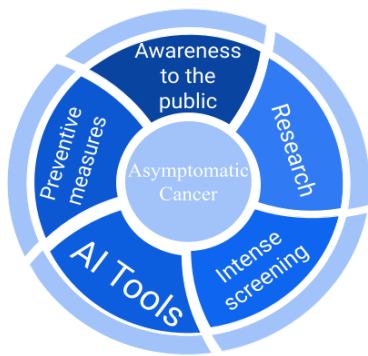
Here is a list of cancers that can be cured easily, at their early stages

- cervical cancer
- Breast cancer
- Testicular cancer
- Prostate cancer

### Tests to detect cancer

There are various screening tests to detect various types of cancers in that few which are effective are mentioned here [6]

- Physical examination and history
- Colonoscopy, sigmoidoscopy, and stool test.
- Low-dose helical computed tomography
- Mammography
- Pap test and human papillomavirus (HPV) Testing
- MRI
- CA-125 test
- PSA test
- Transvaginal ultrasound
- Skin exams
- CT Scan
- Bone Scan
- Virtual colonoscopy



### Ongoing Research

There is so much ongoing research on cancer prevention and screening tests taking place to prevent cancer like,

- **Genetic and genomic tests**, look for changes in genes to find out whether you have cancer and to predict how your tumor might behave, this test looks for breast cancer diagnosis.
- **Biomarkers**, find substances in the urine, blood, and other fluids that sometimes signal cancer.
- **Cancer preventing drugs**, a pill you may already take to protect your heart might also prevent colorectal cancer. The U.S. Prevention Services Task Force (USPSTF) says at-risk adults ages 50-59 should consume a daily aspirin to help prevent both heart disease and colorectal cancer [8].
- Scientists are working on **Cancer vaccines**.
- Using **AI** to improve detection of cancer.

- Accelerating drug discovery using AI in Oncology [9].

### Discussion

It's important to know that a condition is asymptomatic because it may develop symptoms later and only then require treatment, it may resolve itself or become benign. It's not required that a person undergo treatment, if it does not cause later medical problems such as high blood pressure etc [3].

Early and late-stage symptoms of cancers, for example, leukemia during the early stage it has flu-like symptoms; easy bruising later stages weakness; bone and joint pain; swollen lymph nodes. Cancer screening is looking for cancer before a person has any symptoms, finding cancer may not improve the person's health, but helps the person live longer.

### Conclusion

Some Cancers often show less or no symptoms early on and they are detected and diagnosed, to prevent cancer, intense screening is required to detect and cure cancer. Early diagnosis of cancer will help the patient in treatment and reducing the spread of tumor cells to other parts of the body. There is research going on to prevent cancer and to improve their diagnosis. They should focus more on using AI tools in the diagnosis and preparation of cancer drugs.

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