



कैंसर जागरूक प्रोग्राम

कैंसर को जानो, कैंसर को पहचानो और फिर रहो कैंसर से दूर
सौजन्य से अक्षांश रीसर्च फाउंडेशन

About Foundation

The Cancer Awareness Program runs under Akshansh Research Foundation, an Indian social and research development organization, is directly benefitting over the people. The foundation is registered under the Section 8 of the Companies Act, 2013 and its Office:- Flat 1916, H-2, Jasmine Grove, NH-24, Ghaziabad, UP 201002 CIN U73100DL2021NPL383424 PAN AAVCA4501A CSR Registration No CSR00014249 80G Unique Registration Number AAVCA4501AF20216 and 12A Unique Registration Number AAVCA4501AE20218 Under Income Act, Niti Ayog (Darpan) Unique Id VO/NGO DL/2021/0293758

We have various welfare projects on education, healthcare, livelihood, and women empowerment and research thereto in remote villages and urban slums across states of India.

The groundwork for a better life lies in education. It is the most powerful catalyst for social transformation. However, a child cannot be educated in isolation. Only an empowered family, especially the mother, would be willing to educate their child. Thus, rather than focusing on only one stage of a persons life, we believe in the lifecycle approach.

Education empowers an individual to earn their livelihood and also increases ones awareness on a range of issues. From healthcare, to appropriate social behavior, to understanding ones rights - Akshansh foundation seeks to educate, empower and cultivate better citizens and planning and strategy to research in these area etc.

Cancer an Introduction

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body.

Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Normally, human cells grow and multiply (through a process called cell division) to form new cells as the body needs them. When cells grow old or become damaged, they die, and new cells take their place.

Sometimes this orderly process breaks down, and abnormal or damaged cells grow and multiply when they shouldn't. These cells may form tumors, which are lumps of tissue. Tumors can be cancerous or not cancerous (benign).

Cancerous tumors spread into, or invade, nearby tissues and can travel to distant places in the body to form new tumors (a process called metastasis). Cancerous tumors may also be called malignant tumors. Many cancers form solid tumors, but cancers of the blood, such as leukemias, generally do not.

Benign tumors do not spread into, or invade, nearby tissues. When removed, benign tumors usually don't grow back, whereas cancerous tumors sometimes do. Benign tumors can sometimes be quite large, however. Some can cause serious symptoms or be life threatening, such as benign tumors in the brain.

Development

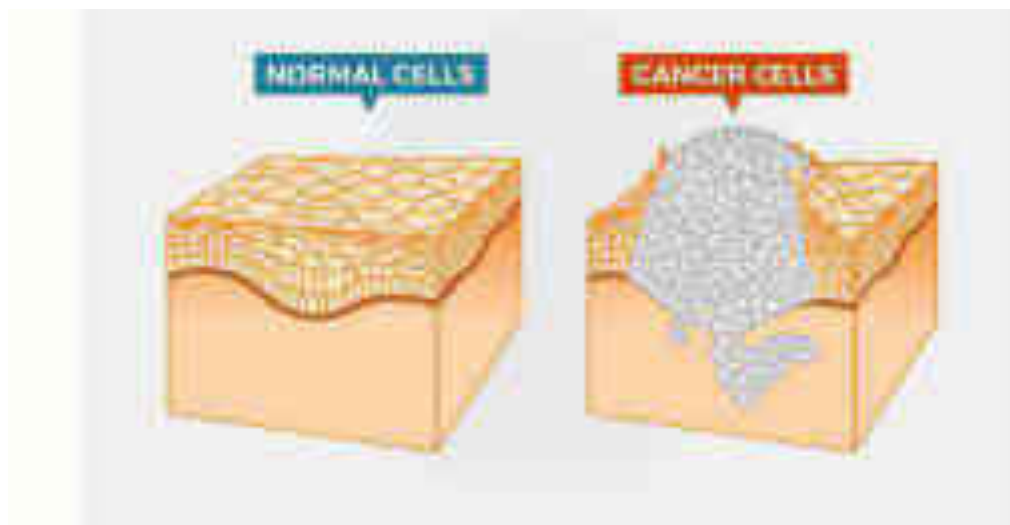
Cancer is a genetic disease—that is, it is caused by changes to genes that control the way our cells function, especially how they grow and divide.

Genetic changes that cause cancer can happen because: of errors that occur as cells divide or damage to DNA caused by harmful substances in the environment, such as the chemicals in tobacco smoke and ultraviolet rays from the sun. (Our Cancer Causes and Prevention section has more information.)

They were inherited from our parents.

The body normally eliminates cells with damaged DNA before they turn cancerous. But the body's ability to do so goes down as we age. This is part of the reason why there is a higher risk of cancer later in life.

Each person's cancer has a unique combination of genetic changes. As the cancer continues to grow, additional changes will occur. Even within the same tumor, different cells may have different genetic changes.



A cancer that has spread from the place where it first formed to another place in the body is called metastatic cancer. The process by which cancer cells spread to other parts of the body is called metastasis.

Metastatic cancer has the same name and the same type of cancer cells as the original, or primary, cancer. For example, breast cancer that forms a metastatic tumor in the lung is metastatic breast cancer, not lung cancer.

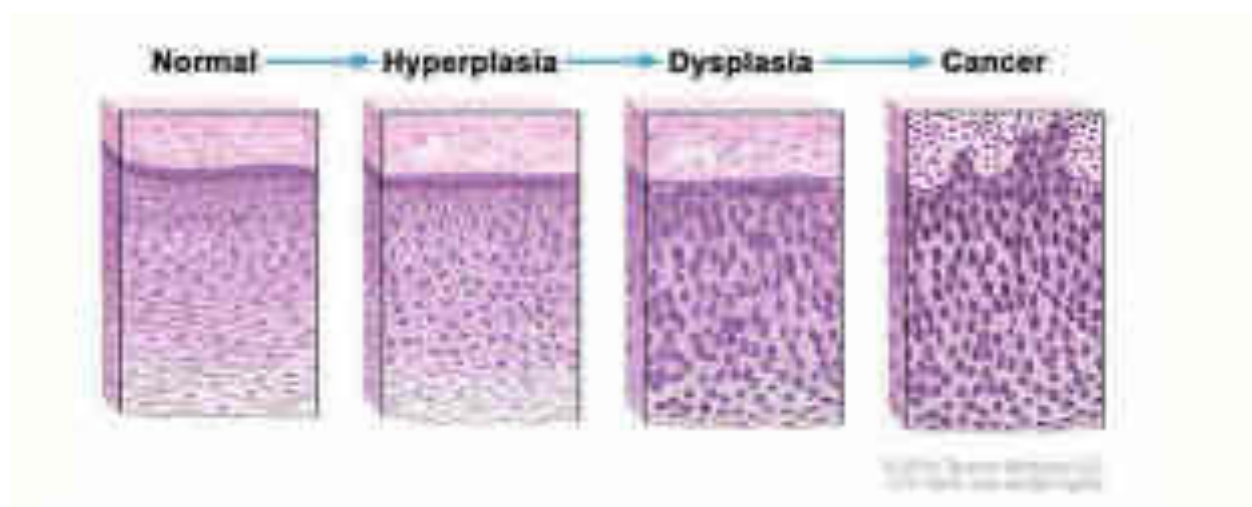
Under a microscope, metastatic cancer cells generally look the same as cells of the original cancer. Moreover, metastatic cancer cells and cells of the original cancer usually have some molecular features in common, such as the presence of specific chromosome changes.

In some cases, treatment may help prolong the lives of people with metastatic cancer. In other cases, the primary goal of treatment for metastatic cancer is to control the growth of the cancer or to relieve symptoms it is causing. Metastatic tumors can cause severe damage to how the body functions, and most people who die of cancer die of metastatic disease.

Tissue Changes that Are Not Cancer

Not every change in the body's tissues is cancer. Some tissue changes may develop into cancer if they are not treated, however. Here are some examples of tissue changes that are not cancer but, in some cases, are monitored because they could become cancer:

1. Hyperplasia occurs when cells within a tissue multiply faster than normal and extra cells build up. However, the cells and the way the tissue is organized still look normal under a microscope. Hyperplasia can be caused by several factors or conditions, including chronic irritation.
2. Dysplasia is a more advanced condition than hyperplasia. In dysplasia, there is also a buildup of extra cells. But the cells look abnormal and there are changes in how the tissue is organized. In general, the more abnormal the cells and tissue look, the greater the chance that cancer will form. Some types of dysplasia may need to be monitored or treated, but others do not. An example of dysplasia is an abnormal mole (called a dysplastic nevus) that forms on the skin. A dysplastic nevus can turn into melanoma, although most do not.
3. Carcinoma in situ is an even more advanced condition. Although it is sometimes called stage 0 cancer, it is not cancer because the abnormal cells do not invade nearby tissue the way that cancer cells do. But because some carcinomas in situ may become cancer, they are usually treated.



Types of Cancer

There are more than 100 types of cancer. Types of cancer are usually named for the organs or tissues where the cancers form. For example, lung cancer starts in the lung, and brain cancer starts in the brain. Cancers also may be described by the type of cell that formed them, such as an epithelial cell or a squamous cell.

You can search NCI's website for information on specific types of cancer based on the cancer's location in the body or by using our A to Z List of Cancers. We also have information on childhood cancers and cancers in adolescents and young adults.

Here are some categories of cancers that begin in specific types of cells:

Carcinoma

Carcinomas are the most common type of cancer. They are formed by epithelial cells, which are the cells that cover the inside and outside surfaces of the body. There are many types of epithelial cells, which often have a column-like shape when viewed under a microscope.

Carcinomas that begin in different epithelial cell types have specific names:

Adenocarcinoma is a cancer that forms in epithelial cells that produce fluids or mucus. Tissues with this type of epithelial cell are sometimes called glandular tissues. Most cancers of the breast, colon, and prostate are adenocarcinomas.

Basal cell carcinoma is a cancer that begins in the lower or basal (base) layer of the epidermis, which is a person's outer layer of skin.

Squamous cell carcinoma is a cancer that forms in squamous cells, which are epithelial cells that lie just beneath the outer surface of the skin. Squamous cells also line many other organs, including the stomach, intestines, lungs, bladder, and kidneys. Squamous cells look flat, like fish scales, when viewed under a microscope. Squamous cell carcinomas are sometimes called epidermoid carcinomas.

Transitional cell carcinoma is a cancer that forms in a type of epithelial tissue called transitional epithelium, or urothelium. This tissue, which is made up of many layers of epithelial cells that can get bigger and smaller, is found in the linings of the bladder, ureters, and part of the kidneys (renal pelvis), and a few other organs. Some cancers of the bladder, ureters, and kidneys are transitional cell carcinomas.

Sarcomas are cancers that form in bone and soft tissues, including muscle, fat, blood vessels, lymph vessels, and fibrous tissue (such as tendons and ligaments).

Osteosarcoma is the most common cancer of bone. The most common types of soft tissue sarcoma are leiomyosarcoma, Kaposi sarcoma, malignant fibrous histiocytoma, liposarcoma, and dermatofibrosarcoma protuberans.

Leukemia

Cancers that begin in the blood-forming tissue of the bone marrow are called leukemias. These cancers do not form solid tumors. Instead, large numbers of abnormal white blood cells (leukemia cells and leukemic blast cells) build up in the blood and bone marrow, crowding out normal blood cells. The low level of normal blood cells can make it harder for the body to get oxygen to its tissues, control bleeding, or fight infections.

There are four common types of leukemia, which are grouped based on how quickly the disease gets worse (acute or chronic) and on the type of blood cell the cancer starts in (lymphoblastic or myeloid). Acute forms of leukemia grow quickly and chronic forms grow more slowly.

Lymphoma

Lymphoma is cancer that begins in lymphocytes (T cells or B cells). These are disease-fighting white blood cells that are part of the immune system. In lymphoma, abnormal lymphocytes build up in lymph nodes and lymph vessels, as well as in other organs of the body.

There are two main types of lymphoma:

Hodgkin lymphoma – People with this disease have abnormal lymphocytes that are called Reed-Sternberg cells. These cells usually form from B cells.

Non-Hodgkin lymphoma – This is a large group of cancers that start in lymphocytes. The cancers can grow quickly or slowly and can form from B cells or T cells.

Multiple Myeloma

Multiple myeloma is cancer that begins in plasma cells, another type of immune cell. The abnormal plasma cells, called myeloma cells, build up in the bone marrow and form tumors in bones all through the body. Multiple myeloma is also called plasma cell myeloma and Kahler disease.

Our page on multiple myeloma and other plasma cell neoplasms has more information.

Melanoma

Melanoma is cancer that begins in cells that become melanocytes, which are specialized cells that make melanin (the pigment that gives skin its color). Most melanomas form on the skin, but melanomas can also form in other pigmented tissues, such as the eye.

Brain and Spinal Cord Tumors

There are different types of brain and spinal cord tumors. These tumors are named based on the type of cell in which they formed and where the tumor first formed in the central nervous system. For example, an astrocytic tumor begins in star-shaped brain cells called astrocytes, which help keep nerve cells healthy. Brain tumors can be benign (not cancer) or malignant (cancer).

Our pages on brain and spinal cord tumors in adults and brain and spinal cord tumors in children have more information.

Other Types of Tumors

Germ Cell Tumors

Germ cell tumors are a type of tumor that begins in the cells that give rise to sperm or eggs. These tumors can occur almost anywhere in the body and can be either benign or malignant.

Our page of cancers by body location/system includes a list of germ cell tumors with links to more information.

Neuroendocrine Tumors

Neuroendocrine tumors form from cells that release hormones into the blood in response to a signal from the nervous system. These tumors, which may make higher-than-normal amounts of hormones, can cause many different symptoms. Neuroendocrine tumors may be benign or malignant.

Carcinoid Tumors

Carcinoid tumors are a type of neuroendocrine tumor. They are slow-growing tumors that are usually found in the gastrointestinal system (most often in the rectum and small intestine). Carcinoid tumors may spread to the liver or other sites in the body, and they may secrete substances such as serotonin or prostaglandins, causing carcinoid syndrome.

NEGATIVE IMPACT OF CANCER

Highlights from the report, i.e. the global economic cost of cancer

(Source http://phrma-docs.phrma.org/sites/default/files/pdf/08-17-2010_economic_impact_study.pdf)

- The total economic impact of premature death and disability from cancer worldwide was \$895 billion in 2008. This figure, which does not include direct costs of treating cancer, represents 1.5 percent of the world's GDP.
- Using a formula accepted by public health researchers and economists to measure the global burden of disease, there were 83 million years of "healthy life" lost due to death and disability from cancer in 2008.
- The top three cancers that account for the highest number of healthy life years lost were lung cancer (15.5 percent), stomach cancer (9.6 percent), and liver cancer (8.6 percent).
- The top three cancers that caused the most economic impact globally were lung cancer (\$188 billion), colon/rectum cancer (\$99 billion), and breast cancer (\$88 billion).
- Cancer causes the highest economic loss of all of the 15 leading causes of death worldwide. The economic toll from cancer is nearly 20 percent higher than heart disease, the second leading cause of economic loss (\$895 billion and \$753 billion, respectively)

Cancer results in economic burden for patients, healthcare systems, and countries due to healthcare spending, and productivity losses from morbidity and premature mortality. Economic analyses can inform resource allocation decisions and investments in cancer control programs, including prevention, early detection, treatment, survivorship, and end-of-life care.

The global economic burden of cancer is unknown, although data are available in some countries. In the US in 2017, estimated cancer healthcare spending was US\$161.2 billion; productivity loss from morbidity, US\$30.3 billion; and premature mortality, US\$150.7 billion. The economic burden of cancer in the US is approximately 1.8% of gross domestic product (GDP). In the European Union, healthcare spending was €57.3 billion, and productivity losses due to morbidity and premature death were €10.6 billion and €47.9 billion, respectively. With informal care costs of €26.1 billion, total burden rose to €141.8 billion, 1.07% of GDP. (Figure 1; for details on inflation adjustment, see Page Sources at bottom of page) Productivity losses due to premature deaths vary in transitioning countries.

(Sources <https://canceratlas.cancer.org/taking-action/economic-burden/>)

Global and national economic impact

Cancer is one of the critical issues causing economic and financial burden in the world today. The growing incidence of cancer means that the health budgets of nations worldwide are being threatened, with nations facing lost productivity through premature deaths and time taken off from work. Public budgets for medicines and medical equipment are also being strained due to the high cost of treatment.

Financial burden on individuals and families

Individuals living with cancer and their carers often take a double-hit on their finances. Out-of-pocket expenditures for ongoing and expensive treatments like surgery or chemotherapy and lost income and benefits from taking time off work can combine to create a catastrophic financial burden. For many, this can lead to drained savings, borrowing money or selling assets. Those who struggle often give up on going to medical appointments because of the cost of transportation, cutting back on food, education and/or defaulting on bill payments.

Fast fact: Scaling up screening and treatment services for 11 cancers to the level of high-income countries, would cost globally an additional 232.9 billion USD between 2020 and 2030 but would produce 2.9 trillion USD in life time economic benefits.

(Source :- <https://www.worldcancerday.org/financial-and-economic-impact-0>)

India loses 1% of its GDP to diseases and early deaths from tobacco use, finds WHO study

For every Rs 100 received as excise taxes from tobacco products, Indian economy loses Rs 816

1.Economic cost attributable to tobacco use from all diseases and deaths between 2017
2.and 2018 for persons over 35 years is USD 27.5 billion (INR 1,773.4 billion)

3. Tax revenue from tobacco in 2016-2017 was 12.2% of its economic costs

4. Smoking contributed 74%, smokeless tobacco use contributed 26% of the costs

5. Men accounted for 91% of the total economic burden related to tobacco, while women accounted for the remaining 9%

Saving lives can save money

Investment in cancer prevention, early detection and control is critical to helping save lives. But it can also save money. There is a compelling and financial argument for investment: taking action can be cost-effective and offer a return on investment.

SYMPTOMS

Signs and symptoms caused by cancer will vary depending on what part of the body is affected. Some general signs and symptoms associated with, but not specific to, cancer include:

1) Fatigue

2) Lump or area of thickening that can be felt under the skin

3) Weight changes, including unintended loss or gain

4) Skin changes, such as yellowing, darkening or redness of the skin, sores that won't heal, or changes to existing moles

5) Changes in bowel or bladder habits

6) Persistent cough or trouble breathing

7) Difficulty swallowing

8) Hoarseness

9) Persistent indigestion or discomfort after eating

10) Persistent, unexplained muscle or joint pain

11) Persistent, unexplained fevers or night sweats

12) Unexplained bleeding or bruising

Risk factors

While doctors have an idea of what may increase your risk of cancer, the majority of cancers occur in people who don't have any known risk factors. Factors known to increase your risk of cancer include:

Your age

Cancer can take decades to develop. That's why most people diagnosed with cancer are 65 or older. While it's more common in older adults, cancer isn't exclusively an adult disease — cancer can be diagnosed at any age.

Your habits

Certain lifestyle choices are known to increase your risk of cancer. Smoking, drinking more than one drink a day for women and up to two drinks a day for men, excessive exposure to the sun or frequent blistering sunburns, being obese, and having unsafe sex can contribute to cancer.

You can change these habits to lower your risk of cancer — though some habits are easier to change than others.

Your family history

Only a small portion of cancers are due to an inherited condition. If cancer is common in your family, it's possible that mutations are being passed from one generation to the next. You might be a candidate for genetic testing to see whether you have inherited mutations that might increase your risk of certain cancers. Keep in mind that having an inherited genetic mutation doesn't necessarily mean you'll get cancer.

Your health conditions

Some chronic health conditions, such as ulcerative colitis, can markedly increase your risk of developing certain cancers. Talk to your doctor about your risk.

Your environment

The environment around you may contain harmful chemicals that can increase your risk of cancer. Even if you don't smoke, you might inhale secondhand smoke if you go where people are smoking or if you live with someone who smokes. Chemicals in your home or workplace, such as asbestos and benzene, also are associated with an increased risk of cancer.

Complications

Cancer and its treatment can cause several complications, including:

- **Pain.** Pain can be caused by cancer or by cancer treatment, though not all cancer is painful. Medications and other approaches can effectively treat cancer-related pain.
- **Fatigue.** Fatigue in people with cancer has many causes, but it can often be managed. Fatigue associated with chemotherapy or radiation therapy treatments is common, but it's usually temporary.
- **Difficulty breathing.** Cancer or cancer treatment may cause a feeling of being short of breath. Treatments may bring relief.
- **Nausea.** Certain cancers and cancer treatments can cause nausea. Your doctor can sometimes predict if your treatment is likely to cause nausea. Medications and other treatments may help you prevent or decrease nausea.
- **Diarrhea or constipation.** Cancer and cancer treatment can affect your bowels and cause diarrhea or constipation.
- **Weight loss.** Cancer and cancer treatment may cause weight loss. Cancer steals food from normal cells and deprives them of nutrients. This is often not affected by how many calories or what kind of food is eaten; it's difficult to treat. In most cases, using artificial nutrition through tubes into the stomach or vein does not help change the weight loss.
- **Chemical changes in your body.** Cancer can upset the normal chemical balance in your body and increase your risk of serious complications. Signs and symptoms of chemical imbalances might include excessive thirst, frequent urination, constipation and confusion.

- **Brain and nervous system problems.** Cancer can press on nearby nerves and cause pain and loss of function of one part of your body. Cancer that involves the brain can cause headaches and stroke-like signs and symptoms, such as weakness on one side of your body.
- **Unusual immune system reactions to cancer.** In some cases the body's immune system may react to the presence of cancer by attacking healthy cells. Called paraneoplastic syndromes, these very rare reactions can lead to a variety of signs and symptoms, such as difficulty walking and seizures.
- **Cancer that spreads.** As cancer advances, it may spread (metastasize) to other parts of the body. Where cancer spreads depends on the type of cancer.
- **Cancer that returns.** Cancer survivors have a risk of cancer recurrence. Some cancers are more likely to recur than others. Ask your doctor about what you can do to reduce your risk of cancer recurrence. Your doctor may devise a follow-up care plan for you after treatment. This plan may include periodic scans and exams in the months and years after your treatment, to look for cancer recurrence.

Prevention

Doctors have identified several ways to reduce your risk of cancer, such as:

- **Stop smoking.** If you smoke, quit. If you don't smoke, don't start. Smoking is linked to several types of cancer — not just lung cancer. Stopping now will reduce your risk of cancer in the future.
- **Avoid excessive sun exposure.** Harmful ultraviolet (UV) rays from the sun can increase your risk of skin cancer. Limit your sun exposure by staying in the shade, wearing protective clothing or applying sunscreen.
- **Eat a healthy diet.** Choose a diet rich in fruits and vegetables. Select whole grains and lean proteins. Limit your intake of processed meats.
- **Exercise most days of the week.** Regular exercise is linked to a lower risk of cancer. Aim for at least 30 minutes of exercise most days of the week. If you haven't been exercising regularly, start out slowly and work your way up to 30 minutes or longer.
- **Maintain a healthy weight.** Being overweight or obese may increase your risk of cancer. Work to achieve and maintain a healthy weight through a combination of a healthy diet and regular exercise.

- **Drink alcohol in moderation, if you choose to drink.** If you choose to drink alcohol, do so in moderation. For healthy adults, that means up to one drink a day for women and up to two drinks a day for men.
- **Schedule cancer screening exams.** Talk to your doctor about what types of cancer screening exams are best for you based on your risk factors.
- **Ask your doctor about immunizations.** Certain viruses increase your risk of cancer. Immunizations may help prevent those viruses, including hepatitis B, which increases the risk of liver cancer, and human papillomavirus (HPV), which increases the risk of cervical cancer and other cancers. Ask your doctor whether immunization against these viruses is appropriate for you.

Thanks



Person needed for education support, help and other information or communication Please contact us on following,

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