# Cancer Overview

Cancer is one of the scariest words in the English language. When you hear the word as part of a diagnosis, it’s natural to feel many emotions, especially fear.

A cancer diagnosis can cause you and your family a great deal of stress, but you have many resources to help you. You owe it to yourself to learn as much as possible about your diagnosis and how it can be treated. Knowledge is power, and it can help you deal with this disease.

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| The most consistent finding, over decades of research, is the strong association between tobacco use and cancers of many sites. Hundreds of epidemiologic studies have confirmed this association. Further support comes from the fact that lung cancer death rates in the United States have mirrored smoking patterns, with increases in smoking followed by dramatic increases in lung cancer death rates and, more recently, decreases in smoking followed by decreases in lung cancer death rates in men. |

Additional examples of modifiable cancer risk factors include alcohol consumption (associated with increased risk of oral, esophageal, breast, and other cancers), physical inactivity (associated with increased risk of colon, breast, and possibly other cancers), and obesity (associated with colon, breast, endometrial, and possibly other cancers). Observational evidence shows associations between amount of alcohol consumption, physical inactivity, and obesity and increased incidence of certain cancers. More research is needed to determine whether these associations are causal and thus whether avoiding these behaviors would actually reduce cancer incidence. Other lifestyle and environmental factors known to affect cancer risk (either beneficially or detrimentally) include certain sexual and reproductive practices, the use of exogenous estrogens, exposure to ionizing radiation and ultraviolet radiation, certain occupational and chemical exposures, and infectious agents.

Food and nutrient intake have been examined in relation to many types of cancer. Case-control epidemiological studies have suggested an association between high fruit and vegetable consumption and reduced risk of various cancers. The quality of this evidence, however, has been questioned, and prospective cohort studies exploring this question have shown inadequate evidence to conclude that such an association truly exists. Contrary to expectation, randomized trials found no benefit of beta-carotene supplementation in reducing lung cancer incidence and mortality; risk of lung cancer was statistically significantly increased in smokers in the beta-carotene arms of 2 of the trials. Similarly, randomized controlled trials have found no reduction in risk of subsequent adenomatous polyps of the colon in individuals who have had polyps previously resected taking dietary fiber supplements compared with those receiving much lower amounts of supplemental wheat bran fiber. Ecologic, cohort, and case-control studies have found that increased consumption of fat and red meat is associated with increased risk of colon cancer. A randomized controlled trial of dietary modification to lower fat consumption in postmenopausal women, however, showed no reduction in colon cancer. Likewise, there was no benefit of the low-fat diet on all cancer mortality, overall mortality, or cardiovascular disease. A large randomized trial is currently underway to investigate whether men taking daily selenium or vitamin E or both experience a reduced incidence of prostate cancer in comparison with men taking placebo pills.

## Diagnosis

The rates of newly diagnosed cancer cases (incidence) are one way to measure progress against cancer. The lower the rates, the better.

Another important measure is the proportion of cancers diagnosed at a late stage. The stage of a cancer shows how far the disease has progressed. The earlier the stage at diagnosis, the better the chances for cure. Downward trends in the proportion of late cancer diagnoses are a sign that screening is working for the cancers for which early detection methods are available.

This section of the Cancer Trends Progress Report - 2005 Update provides data on the rates of new cancers, based on the NCI Surveillance, Epidemiology, and End-Results (SEER) Program, by cancer site and by racial and ethnic group. Also included are data on the proportion of cancers diagnosed at a late stage for five of the major cancer sites where cancer screening has been shown or has been evaluated to make a difference in outcomes. Cancer sites include: female breast, colon, rectum, cervix, and prostate.

Source: [www.cancer.gov](http://www.cancer.gov)

## Cancer: Choosing a Treatment Program

What are the different kinds of cancer treatment?

The three most common types of cancer treatment are surgery, radiotherapy and chemotherapy. Treatment is aimed at removing the cancer cells or destroying them in the body with medicines or other agents.

Surgery can be very successful in treating some kinds of cancer, but it isn't an option for all people. If the cancer is in the form of a malignant tumor and the tumor is in one place (localized), it may be possible to safely "cut out" the tumor and any surrounding affected tissue. Surgery may not be possible if the cancer has spread to other areas of the body or if the tumor cannot be removed without damaging vital organs, such as the liver or brain.

Radiotherapy uses radiation — in the form of a special kind of x-ray, gamma rays or electrons — to damage cancer cells so that they can't multiply. There is usually no pain during therapy. Radiotherapy may sometimes be the only treatment needed, or it may be used with other therapies, such as surgery. A combination of surgery and radiotherapy may be used for tumors that grow in one place.

Chemotherapy uses medicines to attack the cancer cells. Just the word "chemotherapy" can cause a lot of fear because the side effects can be severe. However, not all people experience severe side effects. The side effects of chemotherapy can often be reduced with other medicines.

Chemotherapy is usually used when the cancer has spread to other areas in the body. Chemotherapy can also be used in combination with surgery and radiation. Sometimes the tumor is surgically removed and then chemotherapy is used to make sure all the cancer cells are killed.

Another kind of treatment is biological therapy. This treatment uses proteins to trigger the body's immune system to produce more white blood cells (or lymphocytes). Two lymphocytes that can attack and kill cancer cells are the T-cell and the B-cell. The proteins boost the ability of the T-cell and B-cell lymphocytes to kill cancer. Biological therapy can also be used in combination with surgery, radiation therapy or chemotherapy.

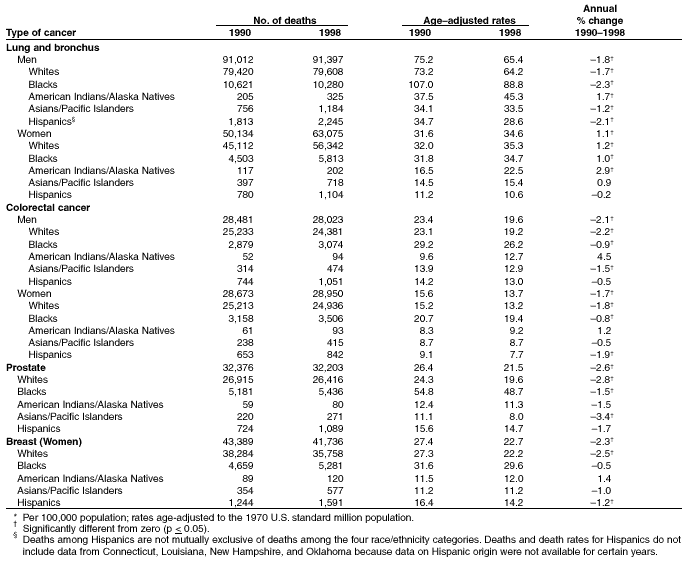
Hormone therapy is sometimes used to treat breast or prostate cancer. The hormone estrogen can make breast cancer tumors grow faster. Similarly, the hormone testosterone can make cancerous tumors in the prostate grow faster. Drugs that contain other hormones may be used to block the effects of estrogen and testosterone. In other cases, surgery to remove the ovaries or the testicles may be used. Removing these organs reduces the amount of estrogen or testosterone in the body.

Hormone therapy is often used in addition to chemotherapy or radiotherapy.

Other specialized treatments may be available. Your doctor may talk to you about these treatments if they are an option.

Source: <http://familydoctor.org>

## Statistics



## Tobacco and Cancer

Smoking damages nearly every organ in the human body, is linked to at least 10 different cancers, and accounts for some 30% of all cancer deaths. And it costs billions of dollars each year. Yet one in four Americans still light up. If you or someone you love uses tobacco, here's what you need to know about how tobacco kills, and how to get the help you need to quit.

## Sun Safety

A sunburn will fade, but damage to deeper layers of skin remains and can eventually cause cancer. That's why sun-safe habits should begin in childhood and last a lifetime.

## Food and Fitness

Eating right, being active, and maintaining a healthy weight are important ways to reduce your risk of cancer—as well as heart disease and diabetes. Learn the American Cancer Society's guidelines for diet and activity and find tips for a healthy lifestyle and community.

## Early Detection

If you can't prevent cancer, the next best thing you can do to protect your health is to detect it early. Recognizing symptoms, getting regular check-ups, and performing self-exams are just a few ways you can do this.

Source: [www.cancer.org](http://www.cancer.org)

## What is cancer?

Cancer is a disease that occurs when cells in the body begin to divide at a faster rate than the body requires. These rapidly dividing cells grow into a lump that is known as a tumor. The tumor can be benign (non-cancerous) or malignant (cancerous).

## What are the causes of cancer?

Many factors can cause the development of cancer in the body. Some of these factors, such as heredity (family members who have the disease) cannot be avoided. Others, such as lifestyle, can be controlled.

For instance, the use of tobacco is one of the main causes of cancer, especially lung cancer. Tobacco use, whether in the form of smoking, chewing, or exposure to second-hand smoke (smoking by others), can also cause cancer of the mouth and larynx, esophagus, throat, and many other parts of the body.

## Other primary causes of cancer include:

Diet/nutrition — The proper diet is always important, but a poor diet might also increase your risk of cancer. For instance, eating large amounts of high-fat foods can contribute to cancer of the colon and prostate. Exercise is also key. Excess weight might be a contributing factor for various types of cancer, including breast, uterus, ovary, prostate, and colon.

Environment — Cancer can develop if the person is exposed over a period of time to various chemicals in the environment, including pesticides, asbestos, and radon.

Exposure to radiation — Too much exposure to the sun (ultraviolet radiation) can cause skin cancer. In addition, over-exposure to X-rays or to radiation therapy (as part of cancer treatment) might be a risk factor for cancer.

Hormone therapy — Women who are going through menopause might receive a prescription for hormone replacement therapy, either estrogen alone or in combination with progesterone. The use of both of these hormones together has been shown to increase the risk of breast cancer. A woman who still has her uterus and is taking estrogen alone (without progesterone) has a greater risk of endometrial cancer.

## What are the symptoms of cancer?

The most prominent symptoms of cancer include the following:

* A sore that doesn’t heal
* A wart or mole that changes
* An unusual lump anywhere in the body
* A persistent cough/hoarseness
* Indigestion or problems swallowing
* Changes in bowel movement or urination habits
* Unusual weight loss
* Unusual bleeding or discharge from various parts of the body

Please note that these symptoms do not mean that you definitely have cancer. However, if any of these symptoms appear, you should see your doctor right away.

## How is cancer diagnosed?

If your doctor thinks you might have cancer, he or she will examine you and might order certain tests, including:

### Blood and urine tests

Imaging tests that allow the doctor to see the inside your body to see if cancer is present (Imaging tests include X-rays, computed tomography (CT) scans, magnetic resonance imaging (MRI), radionuclide scanning, and ultrasonography.)

**Biopsy**

A procedure in which the doctor takes a small sample of the tumor and analyzes it under a microscope.

## What is staging?

One of the biggest concerns about a cancer diagnosis is whether the cancer has spread (metastasized) beyond its original location. To determine this, the doctor assigns a number (I through IV) to your diagnosis. The higher the number, the more the cancer has spread throughout your body. This is called "staging." The doctor needs this information in order to plan your treatment.

## What are the treatments for cancer?

In order to treat your cancer, your doctor needs to know the location of the tumor, the stage (whether it has spread), and whether you are strong enough to handle the treatment.

### Cancer treatment can take the following forms:

Chemotherapy — This treatment uses powerful drugs that destroy the cancer cells. Chemotherapy is delivered orally (pills) or through an intravenous (IV) line.

Radiation — This is a treatment that kills cancerous cells with radiation (high-energy rays). Radiation therapy can either be internal (placed within the body) or external (delivered by a machine outside the body).

NOTE: In some cases, radiation therapy and chemotherapy are given to a patient at the same time.

Surgery — A surgeon removes the tumor, along with the surrounding area (in some cases).

Hormone therapy — Hormones (substances produced by the glands to regulate organ functions) might be given to the patient to block other hormones that might cause cancer. For example, men with prostate cancer might be given hormones to keep testosterone (which contributes to prostate cancer) at bay.

Biological response modifier therapy — Biological response modifier therapy uses natural or artificial (created in a laboratory) materials to reconstruct the body's natural defenses against disease. Biological therapy includes monoclonal antibody therapy and vaccines. (Monoclonal antibodies are created in a laboratory to work like natural antibodies, which are produced by the body’s immune system to fight disease.)

Stem cell transplantation — Stem cells (immature cells from which all blood cells develop) are removed from the patient's circulating blood or bone marrow and then returned after chemotherapy treatment.

## What are the side effects of cancer treatments?

Chemotherapy — Side effects include hair loss, fatigue, nausea, vomiting.

Radiation — Side effects include fatigue, hair loss, skin problems (darkening, dryness, itchiness).

Surgery — Pain and weakness are possible side effects of surgery.

Hormone therapy — This therapy can result in fatigue, water retention (bloating), hot flashes, impotence, and blood clots.

Biological response modifier therapy — This can result in symptoms that resemble the flu (fever, chills, muscle ache, etc.), skin rash, swelling, and increased tendency to bruise or bleed.

Stem cell transplantation — Side effects include nausea, vomiting, flu-like symptoms, and greater risk of infection.

## What other resources are available?

If you are diagnosed with cancer, it’s important to realize that you are not alone. You have your family and friends, and there are support groups for nearly every type of cancer. Ask your doctor for information about these groups. You can also contact your local chapter of the American Cancer Society for more information.

In addition, your doctor can refer you to a social worker or a mental health professional, both of whom can help you deal with the emotional aspects of your diagnosis. The social worker can also help you with the practical and financial issues related to the disease.

Source: [Clevelandclinic.org](http://www.clevelandclinic.org/health/health-info/docs/3700/3778.asp?index=12194)