



Cleveland Clinic

Cancer Center

What is cancer?



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.

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.

Primary causes of cancer include:

- **Diet/nutrition:** A healthy 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. Alcohol use has been linked with many different types of cancer.
- **Tobacco:** Tobacco use, whether in the form of smoking, chewing or exposure to secondhand smoke (smoking by others), can cause cancer of the mouth and larynx, esophagus, throat and many other parts of the body.
- **Environment:** Cancer can develop if you are 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.
- **Infection:** Some infections, including human immunodeficiency virus (HIV), human papillomavirus (HPV), hepatitis B and others, are major factors in cancer risk.

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.

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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 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:

- **Surgery:** A surgeon removes the tumor, along with the surrounding area (in some cases).
- **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). In some cases, radiation therapy and chemotherapy are given to a patient at the same time.
- **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.
- **Targeted treatments:** Targeted therapies use natural or artificial (created in a laboratory) materials to rebuild the body's natural defenses against disease. Targeted therapies include immunotherapy, gene therapy, vaccines and monoclonal antibody therapy. (Monoclonal antibodies are created in a laboratory to work like natural antibodies, which are produced by the body's immune system to fight disease.)

- **Immunotherapy:** A type of biological therapy that uses substances that work on the immune system to help the body fight cancer, infection and other diseases. Some types of immunotherapy only target certain cells of the immune system. Others affect the immune system in a general way.
- **Blood and marrow 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.
- **CAR T-Cell therapy:** A type of cancer therapy that uses a patient's own modified white blood cells to kill cancer cells.

What are the side effects of cancer treatments?

- **Chemotherapy:** Side effects include hair loss, fatigue, nausea and vomiting.
- **Radiation:** Side effects include fatigue, hair loss and 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/immunotherapy:** These therapies can cause 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.

Cleveland Clinic Cancer Center offers services that address the emotional, psychosocial and financial needs of our patients. For more information or additional patient resources, visit clevelandclinic.org/cancersupport or speak with your care team.

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