

Cancer

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What is cancer?

Cancer is a collection of many diseases that all involve growth of abnormal cells. The body is made up of many types of cells. Normally, cells grow, divide, and then die. Sometimes, cells mutate (change). They begin to grow and divide more quickly than normal cells. Rather than dying, these abnormal cells clump together to form tumors.

Sometimes these tumors are benign (not cancer). But if the cells in these tumors are cancerous (malignant), they can invade and kill your body's healthy tissues. From these tumors, cancer cells can metastasize (spread) and form new tumors in other parts of the body. Cells in benign tumors do not spread to other parts of the body.

There are many different types of cancer. All cancers begin with abnormal cells growing out of control. The type of cancer is determined by what type of cells begin to grow

abnormally and where they grow. Cancer cells that grow in the skin are skin cancer. Those that grow in the breast are breast cancer cells. Even if these cancers spread to another part of the body, they are still considered skin or breast cancer. That is because it is the skin or breast cancer cells that spread. For example, if breast cancer spreads to the lungs, it would still be breast cancer. In this case, it would be called metastasized breast cancer.

The most common cancers in adults are [skin cancer](#), [breast cancer](#), lung cancer, [prostate cancer](#), and [colorectal cancer](#).

Symptoms of cancer

There are many different symptoms of cancer. Often, your symptoms will depend on what kind of cancer you have. For example, a symptom of breast cancer is a lump in the breast. A symptom of skin cancer is an abnormal-looking mole. General symptoms that tend to go with multiple types of cancer include:

- Unexplained weight loss.
- Fatigue.
- Not feeling “right.”
- Blood in the stool or urine.
- Lumps anywhere on the body.
- Changes in skin appearance, texture, or color anywhere on the body.

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What causes cancer?

What causes cancer?

Cancer is caused by mutations in the DNA in your cells. The DNA is what makes up your genes, which give instructions to the cells about what they are supposed to do. When the DNA mutates, it causes errors in the instructions. This makes the cell stop functioning normally. It can lead the cell to become cancerous.

Many things can cause your genes to mutate. Sometimes you are born with a mutation. This means you inherited it from your parents. More commonly, the mutations happen after you're born. Factors that can cause this include:

- smoking
- radiation
- viruses
- carcinogens (chemicals that cause cancer)
- hormones
- chronic inflammation

Who is at risk for cancer?

Everyone has some risk for cancer. In the United States, cancer is likely to affect 1 in 3 people in their lifetime. The amount of risk you have depends on a number of factors. These factors include:

- Tobacco use.
- Lifestyle choices (such as diet and exercise).
- Family history.
- Factors in your workplace and environment.

How do I know if I am at risk for cancer?

Talk to your doctor. He or she can help you understand your risk for cancer. They can also help you understand how your risk for cancer is affected by the following:

- Using or having used tobacco products, such as cigarettes or chewing tobacco.
- Drinking alcohol.

- Being exposed to chemicals that can cause cancer.
- Being at risk for skin cancer.

Depending on your age and your risk factors, your doctor may begin screening you for certain types of cancer. Screening means looking for certain cancers before they cause any symptoms. Some doctors recommend that people who are at high risk or have a family history of cancer be screened more often, or at a younger age, than people who have average cancer risks. The recommendations for screening vary for different cancers.

How is cancer diagnosed?

There are a variety of tests your doctor will need to do if he or she suspects cancer.

- **Physical exam.** Your doctor will give you a thorough physical exam. He or she will check your body for lumps or tumors. They will check your skin for changes or enlargement of any areas.
- **Lab tests.** They will likely order urine and blood tests that can find abnormalities that can be caused by cancer.
- These tests are not invasive. They take pictures of your bones and the inside of your body. They may include CT scans, bone scans, MRIs, ultrasounds, X-rays, and positron emission tomography (PET) scans.
- If you have a tumor, your doctor will want to look at the cells inside. He or she will collect a sample of the cells. There are a variety of ways to do this. These often depend on what kind of cancer is suspected and where it is. A biopsy is the most definitive way to diagnose cancer.

If your doctor determines that you have cancer, you will undergo more tests. These will tell the doctor the stage of your cancer. This means how far it has spread. The stage of your cancer helps determine what kind of treatment you will have. It also helps the doctor know how likely it is that your cancer can be cured.

Further testing usually includes more imaging tests. These will show if the cancer has spread to other parts of the body.

Can cancer be prevented or avoided?

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In some cases, cancer is caused by lifestyle choices, such as smoking or not protecting your skin in the outdoors. In those cases, it can be avoided by making better choices. Sometimes the gene mutation that causes it is inherited. Other times, it happens when you are doing all the right things to lower your risk. In those cases, cancer can't be prevented. But finding it early can make a big difference in your treatment and your outcome.

Why is it important to find cancer early?

Some common cancers are easier to treat if they are found early. If the tumor is found when it is still small and has not yet spread, curing the cancer can be easy. However, the longer the tumor goes unnoticed, the greater the chance that the cancer has spread. This usually makes treatment more difficult.

What can I do to lower my risk of cancer?

Unfortunately, some risk factors for cancer (such as family history) are out of your control. But there are things you can do each day to improve your health and lower your risk of cancer. The best ways to lower your cancer risk are to:

- Stop smoking.
- Maintain a healthy weight.
- Be active.
- Eat a healthy diet.
- Limit how much alcohol you drink.
- Limit your exposure to sunlight or tanning beds.

If you are a cancer survivor, these same lifestyle habits can help you stay healthy.

Seeing your doctor regularly can also help. Depending on your age and medical history, your doctor will probably run tests (called screenings) to try to detect the early signs of certain cancers. For most types of cancer, the sooner the cancer is found and treatment begins, the better your chances of recovering.

Cancer treatment

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 with medicines or by other means.

Some cancers cannot be cured. Some people choose to focus on quality of life and opt not to have treatment. In these cases, they may rely on palliative and hospice care. Palliative care can help provide comfort and treat symptoms. It can begin as early as diagnosis. Hospice care begins nearer the end of life. That is typically when the person is not expected to survive for more than 6 months.

Surgery

Surgery is a way to physically remove the cancer. Surgery can be very successful in treating some kinds of cancer. But it isn't an option in all cases. It may be possible to safely remove a tumor and any affected surrounding tissue if:

- The cancer is in the form of a malignant tumor (a tumor that spreads).
- The tumor is still in one place (localized).

Surgery may not be possible if:

- The cancer has spread to other areas of the body.
- The tumor cannot be removed without damaging vital organs, such as the liver or brain.

Radiotherapy

Radiotherapy uses radiation to damage cancer cells so that they can't multiply. The radiation is in the form of special X-rays, gamma rays, or electrons. There is usually no pain during this kind of therapy. Depending on the area that is treated, side effects from radiation damage to normal tissues may occur. Your doctor can tell you what to expect. Radiotherapy is sometimes the only treatment needed. It can also be used with other therapies. A combination of surgery and radiotherapy may be used for tumors that grow in one place.

Chemotherapy

Chemotherapy uses strong medicines to attack the cancer cells. The word "chemotherapy" sometimes causes 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 treated 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. Then chemotherapy is used to make sure any remaining cancer cells are killed.

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

Living with cancer

Many kinds of cancer are treatable, especially when detected early. Cancer treatments continue to get better. Life expectancy after a cancer diagnosis is much higher than it used to be.

Living with cancer during treatment can be stressful. Treatments can have different side effects on your body. Take good care of yourself. Eat a healthy diet, get plenty of sleep, and try to keep your energy up by staying mildly active.

Even after your cancer goes into remission, you are at higher risk of cancer returning to your body. Being in partial remission means you may be able to take a break from treatments as long as the cancer stops growing. If you are in full remission, there is no evidence of the disease still in your body. You will need to get regular follow-up care and check-ups for years after your treatment.

Questions to ask your doctor

- What is the best thing I can do to prevent cancer?
- Am I more likely to get certain types of cancer?
- How long after I'm diagnosed with cancer will treatment begin?
- How will I decide what treatment is best for me?
- Will I be able to work while I'm undergoing treatment for cancer?
- Can I still hold my children/grandchildren while I'm having chemotherapy or radiation therapy?
- Is there a special diet I should eat while I'm being treated for cancer?
- Now that I'm done with my cancer treatment, how often will I have to be tested to see whether my cancer has come back?

- Is it likely that my cancer will come back?
- How can I help my family accept that I have cancer?

Resources

[Centers for Disease Control and Prevention: Cancer](#)

[National Cancer Institute](#)

[National Institutes of Health, MedlinePlus: Cancer](#)