

Questions People Ask About Cancer

What Is Cancer?

Cancer is the general name for a group of more than 100 diseases in which cells in part of the body begin to grow out of control. Although there are many kinds of cancer, they all start because abnormal cells grow out of control. Untreated cancers can cause serious illness and even death.

Normal cells in the body

The body is made up of trillions of living cells. Normal body cells grow, divide into new cells and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries.

How cancer starts

Cancer starts when cells in a part of the body start to grow out of control. There are many kinds of cancer, but they all start because of out-of-control growth of abnormal cells.

Cancer cell growth is different from normal cell growth. Instead of dying, cancer cells continue to grow and form new, abnormal cells. Cancer cells can also invade (grow into) other tissues, something that normal cells cannot do. Growing out of control and invading other tissues are what makes a cell a cancer cell.

Cells become cancer cells because of damage to DNA. DNA is in every cell and directs all its actions. In a normal cell, when DNA gets damaged the cell either repairs the damage or the cell dies. In cancer cells, the damaged DNA is not repaired, and the cell does not die like it should. Instead, this cell goes on making new cells that the body does not need. These new cells all have the same damaged DNA as the first cell does.

People can inherit damaged DNA, but most DNA damage is caused by mistakes that happen while the normal cell is reproducing or by something in our environment. Sometimes the cause of the DNA damage is something obvious, like cigarette smoking. But often no clear cause is found.

In most cases the cancer cells form a tumor, also called a mass or a lump. Some cancers, like leukemia, rarely form tumors. Instead, these cancers involve the blood and blood-forming organs, and the cancer cells circulate through other tissues where they grow.



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How cancer spreads

Cancer cells often travel to other parts of the body, where they begin to grow and form tumors that replace normal tissue. This process is called metastasis (meh-**tas**-tuh-sis). It happens when the cancer cells get into the bloodstream or lymph vessels of our body.

How cancers differ

No matter where a cancer may spread, it is always named for the place where it started. For example, breast cancer that has spread to the liver is still called breast cancer, not liver cancer. Likewise, prostate cancer that has spread to the bone is metastatic prostate cancer, not bone cancer.

Different types of cancer can behave very differently. For example, lung cancer and breast cancer are very different diseases. They grow at different rates and respond to different treatments. That is why people with cancer need treatment aimed at their particular kind of cancer.

Tumors that are not cancer

Not all tumors are cancer. Tumors that are not cancer are called benign (be-**nine**). Benign tumors can cause problems—they can grow very large and press on healthy organs and tissues. But benign tumors cannot grow into (invade) other tissues. Because they cannot invade, they also cannot spread to other parts of the body (metastasize). Benign tumors are almost never life threatening.

How common is cancer?

Today, millions of people are living with cancer or have had cancer. The risk of developing most types of cancer can be reduced by changes in a person's lifestyle, for example, by avoiding tobacco, limiting time in the sun, being physically active, staying at a healthy weight, limiting alcohol and healthy eating.

For most types of cancer, the sooner a cancer is found and treated, the better the chances are for living for many years.

What Causes Cancer?

Things people do

Some cancers are caused by things people do or expose themselves to. For example, smoking can cause cancers of the lungs, mouth, throat, bladder, kidneys and other organs. Of course, not everyone who smokes will get cancer, but smoking increases a person's chance of cancer, as well as their chance of heart and blood vessel disease.

Being in the sun too much without protection can cause skin cancer. Melanoma is a very serious form of skin cancer linked to sunlight and tanning bed exposure.



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Other things people are exposed to

Radiation can cause cancer. For example, people exposed to nuclear fallout have a higher cancer risk than those who were not exposed. Rarely, radiation treatment for one type of cancer can cause another cancer to grow many years later. This is why doctors and dentists use the lowest possible doses of radiation for x-rays and scans (much lower than the doses used for cancer treatment).

Certain chemicals have been linked to cancer, too. Being exposed to or working with them can increase a person's risk of cancer.

Genes that run in families

A very small percentage of cancer cases are linked to genes that are inherited from parents.

Bottom line

No one knows the exact cause of most cases of cancer. We know that certain changes in our cells can cause cancer to start, but we do not yet know exactly how it all happens. Scientists are studying this problem and learning more about the many steps it takes for cancers to form and grow. Although some of the factors in these steps may be a lot alike, the process that happens in the cells is generally different for each type of cancer.

Can injuries cause cancer?

It is a common myth that injuries can cause cancer. But the fact is that falls, bruises, broken bones, or other such injuries have not been linked to cancer. Sometimes a person might visit the doctor for what is thought to be an injury and cancer is found at that time. But the injury did not cause the cancer; the cancer was already there. It also sometimes happens that a person will remember an injury that happened long ago in the place cancer was found.

Can stress cause cancer?

Researchers have done many studies to see if there is a link between personality, stress and cancer. No scientific evidence has shown that a person's personality or outlook can affect their cancer risk.

There are many factors to look at in the relationship between stress and cancer. It is known that stress affects the immune system, but so do many other things. Despite many studies, a link between psychological stress and cancer has not been proven. Looking at the studies that have been done, it seems they sometimes come to opposite conclusions.

In one large Danish study, people who reported major stressors in their lives did not appear to have a seriously increased risk for any type of cancer. Another study that looked at women with major life stressors, such as divorce or the death of someone close, found a slight increase (about 1/3 higher than average) in breast cancer compared to women without these stressors. In the area of day-to-day stress, another study showed higher breast cancer risk linked to stress. Yet another found that women reporting higher day-to-day stress actually were less likely to be diagnosed with breast cancer within the next 18 years.



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It is hard to explain these differences. Some may be related to the groups that were studied, while others may be due to the way the study was done. Chance may have played a role, too. All that can be said for now is that a definite link between stress and cancer risk has not yet been found.

Is cancer contagious?

In the past, people often stayed away from someone who had cancer. They were afraid they might “catch” the disease. But cancer is not like the flu or a cold. You cannot catch cancer from someone who has it. You will not get cancer by being around or touching someone with cancer. Don’t be afraid to visit someone with cancer. They need the support of their family and friends.

Can the Risk of Cancer be Reduced?

There is no sure way to prevent cancer, but there are things you can do that might reduce your chances of getting it.

Tobacco

Smoking damages nearly every organ in the human body and accounts for some 30% of all cancer deaths. Cigarettes, cigars, pipes and oral (smokeless) tobacco products can cause cancer and should not be used. People who use tobacco should try to quit.

It is best to never use tobacco at all and to stay away from secondhand smoke.

Alcohol

Drinking alcohol is also linked to a higher risk of certain types of cancer.

Some people think that certain types of alcohol are safer than others. But ethanol is the type of alcohol found in all alcoholic drinks, whether they are beers, wines or liquors (distilled spirits). Overall, it is the amount of alcohol that is consumed over time, not the type of drink, which seems to be the most important factor in raising a cancer risk.

If you drink, limit your intake to no more than 2 drinks per day for men and 1 drink per day for women. This may help reduce your cancer risk.

Drinking and smoking

The combined use of alcohol and tobacco raises the risk of mouth, throat, voice box and esophagus cancer far more than the effects of either drinking or smoking alone.



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Ultraviolet (UV) rays and sunlight

You can lower your chances of getting skin cancer by

- Staying out of the sun between the hours of 10 a.m. and 4 p.m.
- Wearing a hat, shirt and sunglasses when you are in the sun
- Using sunscreen with a sun protection factor (SPF) of 15 or higher
- Not using tanning beds or sun lamps

Diet

We know that our diet (what we eat or do not eat) is linked to some types of cancer, but the exact reasons are not yet clear. The best information we have suggests a lower cancer risk for people who:

- Eat a lot of fresh vegetables and fruits (at least 2½ cups a day)
- Choose whole grains rather than refined grains and sugars
- Limit red meats (beef, pork and lamb)
- Limit processed meats (such as bacon, deli meats and hot dogs)
- Choose foods in amounts that help them get to and stay at a healthy weight
- Limit alcohol intake to 1 alcoholic drink per day or less for women and 2 alcoholic drinks per day or less for men

Vaccines that reduce cancer risk

We now know that some cancers are caused by infections, mostly viruses. One virus that is well known for causing cancer is the human papilloma virus (HPV). It has been linked to cervical cancer, anal cancer, many genital cancers and some head and neck cancers. There are two vaccines to help reduce the risk of HPV infections. Young people who are not yet sexually active may have a lower future cancer risk if they get one of the vaccines before they are exposed to HPV. The American Cancer Society recommends the vaccines for girls aged 11 and 12, though they can be given to girls and boys as young as 9.

Early detection

To find cancer early, while it is small and before it has spread, adults should have regular tests called *screening exams*. These tests help doctors find common cancers before they cause symptoms. Talk to your doctor about which screening tests might be right for you. If cancer is found early, it can be easier to treat. Survival can also be longer for those with early cancer.

How many people survive cancer?

Years ago, most people who had cancer did not live very long. That is not the case anymore. Every year more and more people survive cancer. This is especially true of children with cancer and those whose cancers were found early, before they spread.

The survival rates are different for people with different types of cancers. Some types of cancers grow very slowly. Some respond to treatment very well. Others grow and spread faster and are harder to treat. If you know someone who has cancer, keep in mind that what happens to them could be very different from what happens to someone else with another type of cancer.



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How is cancer diagnosed?

If your doctor suspects cancer you are likely to need more tests, such as x-rays, blood tests, or a biopsy. In most cases a biopsy is the only way to be sure whether or not cancer is present.

To do a biopsy a piece of the lump or abnormal area is taken out and sent to the lab. There, a pathologist (a doctor who specializes in diagnosing diseases) looks at the cells under a microscope to see if cancer cells are present. If there are cancer cells, the doctor determines what type of cancer it is and how quickly it may grow.

Scans can measure the size of the cancer and can often show if it has spread to nearby tissues. Blood tests can tell doctors about your overall health, indicate how well your organs are working and provide information about blood cancers.

How Is Cancer Treated?

Surgery, chemotherapy and radiation are the three main types of cancer treatment. A person with cancer may have any or all of these treatments.

Surgery

Surgery is often the first treatment option if the cancer is a tumor that can be removed from the body. Sometimes only part of the cancer can be removed. Radiation or chemotherapy might be used to shrink the cancer before or after surgery.

Chemotherapy

Doctors use chemotherapy or “chemo” drugs to kill cancer cells. Usually, the drugs are given intravenously (IV or into a vein) or taken by mouth. Chemo drugs then travel throughout the body in the bloodstream. They can reach cancer cells that may have metastasized (spread) from the tumor.

Radiation therapy

Radiation therapy is treatment with high energy rays (such as x-rays) to kill or shrink cancer cells. The radiation may come from outside the body, called *external radiation*, or from radioactive materials placed right into the tumor (internal or implant radiation).

Other types of cancer treatment

Other kinds of treatment you may hear about include hormone therapy, stem cell or bone marrow transplant and immunotherapy. Hormone therapy is sometimes used to treat certain kinds of prostate and breast cancers. Immunotherapy is treatment designed to boost the cancer patient’s own immune system to help fight the cancer.



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What are the side effects of cancer treatment?

The type of treatment a person receives depends on the type and stage (extent) of the cancer, the age of the patient and his or her medical history and general health. Each drug or treatment plan has different side effects. It is hard to predict what side effects a patient will have, even if patients are receiving the same treatment. Some effects can be severe and others fairly mild. It is true that some people have a tough time with cancer treatment, but many others manage quite well throughout treatment. Most cancer treatment side effects can be treated.

Chemotherapy side effects

Short-term (and often treatable) side effects of chemotherapy can include nausea and vomiting, loss of appetite, hair loss and mouth sores. Because chemotherapy can damage the blood-making cells in the bone marrow, patients may have low blood cell counts. This can lead to:

- Higher risk of infection (from a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (from a shortage of blood platelets)
- Anemia (from low red blood cell counts), which can cause fatigue, shortness of breath, pale skin or other symptoms

Cancer care teams must work carefully with the patient to manage the side effects of chemotherapy. Everyone will respond differently. Most of the side effects of chemotherapy will recede after treatment ends. For example, hair lost during treatment grows back after treatment is over. In the meantime, most patients can use wigs, scarves or hats to cover, warm or protect their heads.

Radiation side effects

Radiation treatments are much like x-rays. The most common side effects of radiation are skin irritation and fatigue. Fatigue is a feeling of extreme tiredness and low energy that does not get better with rest. It is especially common when treatments go on for many weeks. Other side effects can happen, too, depending on what part of the body is being treated.

Is cancer treatment worse than cancer?

This is a belief that can be dangerous to many people. People who think this is true might not get treatment that can save their lives.

It is easy to understand one of the sources of this belief. Often people diagnosed with early cancer have not yet had any symptoms or pain. In the early stages of cancer, symptoms tend to be minor, if there are any at all. It is often only after the treatment begins that people start to feel sick. It is also true that chemotherapy, radiation and surgery can cause distressing symptoms. But the side effects fade after the treatment is over and the treatment can be life-saving for many people.

If cancer is allowed to progress without treatment, symptoms may get worse and new symptoms may appear over time. Symptoms differ based on the type of cancer and the locations to which it spreads.



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Sometimes a person in very poor health may not be able to receive cancer treatment. Or because of age and other health conditions, the person might decide not to be treated for cancer, even knowing that it will result in death. A person in this situation may have learned that cancer treatment will not offer a chance for cure, and decides that they do not want to do any treatment at all. This is every person's choice, as long as the person is a competent adult.

A person who is thinking of refusing cancer treatment should talk with the doctor to clearly understand the likely outcomes of both treatment and non-treatment before making a decision.

Later in the course of cancer, when more serious symptoms start, curative treatment may not be an option. Cancer kills by invading the intestines, lungs, brain, liver, kidneys, or other vital organs, interfering with body functions that are necessary for life. Untreated cancer commonly causes death.

In contrast, cancer treatment can often save lives—especially when cancer is found and treated early. Even when it cannot cure the cancer, treatment can often prolong life or provide an increase to quality of life. Medical care can always be used to make a person more comfortable by reducing pain and other symptoms. This is why it is important for a person to know the goal of each course of treatment, and make informed decisions throughout the cancer experience.

There are times when every person being treated for cancer questions their commitment to the difficult journey of treatment and its side effects. Sometimes they get discouraged by the uncertainty of treatment and wonder if it is worth it. This is normal. It may help to know that doctors are always learning better ways to work with patients to control treatment side effects. Remember, each year brings new advances in cancer treatments.



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NOTE: This document is from the American Cancer Society and is taken from www.cancer.org