Is Cancer Contagious?

Cancer is NOT contagious.

A healthy person cannot “catch” cancer from someone who has it. There is no evidence that close contact or things like sex, kissing, touching, sharing meals, or breathing the same air can spread cancer from one person to another.

Cancer cells from one person are generally unable to live in the body of another healthy person. A healthy person’s immune system recognizes foreign cells and destroys them, including cancer cells from another person.

Cancer transfer during organ transplant

There have been some cases in which organ transplants from people with cancer have been able to cause cancer in the person who got the organ. But there’s a major factor that makes this possible – people who get organ transplants take medicines that weaken their immune systems. This must be done so their immune system won’t attack and destroy the transplanted organ. This seems to be the main reason that cancer in a transplanted organ can, in rare cases, give cancer to the person who gets the organ. Organ donors are carefully screened to reduce this risk.

Cancer risk after transplant already high

Still, recent studies have shown that cancer is more common in people who get solid-organ transplants than in people who don’t – even when the donor doesn’t have cancer. This also appears to be due to the drugs that are given to reduce the risk of transplant rejection. Research has shown that the longer and more intensely the immune system is suppressed after transplant, the higher the risk of cancer. The drugs that allow the body to accept the organ also make the immune system less able to recognize and
attack pre-cancer cells and the viruses that can cause cancer.

**Cancer transfer during pregnancy**

Even if a woman has cancer during pregnancy, the cancer rarely affects the fetus directly. Some cancers can spread from the mother to the placenta (the organ that connects the mother to the fetus), but most cancers cannot affect the fetus itself. In a few very rare cases, melanoma (a form of skin cancer) has been found to spread to the placenta and the fetus.

**Germs are contagious.**

We know that germs (especially bacteria and viruses) can be passed from person to person through sex, kissing, touching, and sharing or preparing food. Some can even be spread by breathing the same air. But germs are much more likely to be a threat to a person with cancer than to a healthy person. This is because people with cancer often have weakened immune systems, especially when they’re getting treatment. They may not be able to fight off infections very well.

**Germs can increase cancer risk.**

There are some germs that can play a role in the development of certain types of cancer. This may lead some people to wrongly think that “cancer is catching.”

**Viruses**

We know that some forms of cancer are found more often in people who are infected with certain viruses. For example:

- Certain types of human papilloma viruses (HPVs) are linked to cancers of the cervix, vagina, vulva, penis, anus, and some cancers of the mouth, throat, head, and neck. But smoking, drinking, and other factors increase the risk of these cancers, too.
- Epstein-Barr virus (EBV) is linked to nose and throat (nasopharyngeal) cancer, lymphoma of the stomach, Hodgkin lymphoma, and Burkitt lymphoma.
- Hepatitis B virus (HBV) and hepatitis C virus (HCV) are linked to long-term (chronic) liver infections, which can raise the risk of liver cancer (hepatocellular carcinoma).
- Human herpes virus Type 8 (HHV-8), also called *Kaposi sarcoma herpes virus* (or KSHV), is linked with a type of cancer called *Kaposi sarcoma*. Most people with
HHV-8 do not develop Kaposi sarcoma unless they are also infected with human immunodeficiency virus (HIV), the virus that causes AIDS. A few may get Kaposi sarcoma if they are taking medicines that weaken their immune systems (such as those used after an organ transplant).

- Human T-lymphotropic virus-1 (HTLV-1) is linked with certain types of lymphocytic leukemia and non-Hodgkin lymphoma (NHL).
- Invasive cervical cancer, Kaposi sarcoma, and certain lymphomas are much more common in people who are infected with the human immunodeficiency virus (HIV), the virus that weakens the immune system and causes AIDS. In many cases of HIV-related cancer, other viruses (such as HHV-8 or HPV) also play a major role in the cancer’s growth and development.

These viruses can be passed from person to person (usually through blood or sex), but the viral infection alone usually does not lead to cancer. A weakened immune system, other infections, other risk factors (such as smoking), and other health problems allow cancer to develop more readily.

**Bacteria**

Bacteria can also promote cancer. *Helicobacter pylori* is a common bacterium now known to be linked to certain kinds of cancer in the stomach. Long-term infection with these bacteria can damage the inner layer of the stomach and increase the risk of stomach cancer.

**Parasites**

Certain parasitic worms that can live inside the human body can also increase the risk of developing some kinds of cancer. Parasites that can cause cancer are rarely found in the United States or other developed countries, but they are linked with cancer of the bladder and the bile ducts, and possibly other cancers, too.

**Cancer develops because the DNA in a cell changes.**

Most cancers do not appear to be caused or affected by infectious agents. Cancer develops because of mutations (changes) that take place in a person’s DNA, the genetic blueprint in each cell. These changes may be inherited or develop during life. Some changes happen for no known reason, while others are due to environmental exposures, such as sun (UV) damage or cigarette smoke. Some viruses are known to directly cause mutations in DNA that can develop into cancer. Other germs promote
cancer indirectly by causing chronic (long-term) inflammation, or by weakening a person’s immune system. For more information, see What Is Cancer?¹ and Infections That Can Lead to Cancer².

**Scientific studies of cancer causes show that cancer does not spread like a contagious disease.**

If cancer were contagious, we would have cancer epidemics just as we have flu epidemics – cancer would spread like measles, polio, or the common cold. We would expect a high rate of cancer among the families and friends of cancer patients and among health professionals because of their exposure to the disease. This is not the case.

The fact that cancer might happen more often in certain families does not mean that the family members have spread cancer to each other. There are other reasons this can happen:

- Family members share the same genes.
- Families may have similar unhealthy lifestyles (diet and smoking, for example).
- Family members may all be exposed to the same cancer-causing agent.

Some people point to “clusters” of cancer patients who have had contact, directly or indirectly, with one another as proof that cancer is contagious. But scientists have found that these clusters almost never reflect a greater incidence of cancer than would be found in a random survey of the general public. In the rare case that there really is more cancer in such a group, it’s hard to be sure that environmental factors and cultural factors such as diet and lifestyle are not responsible for the cancer cluster. (To learn more about this topic, see Cancer Clusters³.)

**People with cancer need to be around other people.**

Even today, families, friends, and co-workers of people with cancer sometimes stay away when they learn about the disease. As a result, people with cancer often say they feel isolated and alone. You don’t have to stay away from someone with cancer – you cannot “catch” it from them. Don’t be afraid to visit a person with cancer. They need your visits and support.

**Hyperlinks**


References


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