

Understanding Cancer

Courtesy of the National Cancer Institute and Mayo Clinic

Cancer begins in cells, the building blocks that form tissues. Tissues make up the organs of the body.

Normally, cells grow and divide to form new cells as the body needs them. When cells grow old, they die, and new cells take their place.

Sometimes, this orderly process goes wrong. New cells form when the body does not need them, and old cells do not die when they should. These extra cells can form a mass of tissue called a growth or tumor.

Tumors Can Be Benign or Malignant

- Benign tumors are not cancer:
- Benign tumors are rarely life-threatening.

- Generally, benign tumors can be removed, and they usually do not grow back.

- Cells from benign tumors do not invade the tissues around them.

- Cells from benign tumors do not spread to other parts of the body.

- Malignant tumors are cancer:

- Malignant tumors are generally more serious than benign tumors. They may be life-threatening.

- Malignant tumors often can be removed, but sometimes they grow back.

- Cells from malignant tumors can invade and damage nearby tissues and organs.

- Cells from malignant tumors can spread (metastasize) to other parts of the body. Cancer cells spread by breaking away from the original (primary) tumor and entering the bloodstream or lymphatic system. The cells can invade other organs, forming new tumors that damage these organs. The spread of cancer is called metastasis.

Most cancers are named for where they start. For example, lung cancer starts in the lung, and breast cancer starts in the breast. Lymphoma is cancer that starts in the lymphatic system. And leukemia is cancer that starts in white blood cells (leukocytes).

When cancer spreads and forms a new tumor in another part of the body, the new tumor has the same kind of abnormal cells and the same name as the primary tumor. For example, if prostate cancer spreads to the bones, the cancer cells in the bones are actually prostate cancer cells. The disease is metastatic prostate cancer, not bone cancer. For that reason, it is treated as prostate

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cancer, not bone cancer. Doctors sometimes call the new tumor "distant" or metastatic disease

Risk Factors

Doctors often cannot explain why one person develops cancer and another does not. But research shows that certain risk factors increase the chance that a person will develop cancer.

These are the most common risk factors for cancer:

- Growing older
- Tobacco
- Sunlight
- Ionizing radiation
- Certain chemicals and other substances
- Some viruses and bacteria
- Certain hormones
- Family history of cancer
- Alcohol
- Poor diet, lack of physical activity, or being overweight

Many of these risk factors can be avoided. Others, such as family history, cannot be avoided. People can help protect themselves by staying away from known risk factors whenever possible.

If you think you may be at risk for cancer, you should discuss this concern with your doctor. You may want to ask about reducing your risk and about a schedule for checkups.

Over time, several factors may act together to cause normal cells to become cancerous. When thinking about your risk of getting cancer, these are some things to keep in mind:

Not everything causes cancer.

Cancer is not caused by an injury, such as a bump or bruise.

Cancer is not contagious. Although being infected with certain viruses or bacteria may increase the risk of some types of cancer, no one can "catch" cancer from another person.

- Having one or more risk factors does not mean that you will get cancer. Most people who have risk factors never develop cancer.

- Some people are more sensitive than others to the known risk factors.

Symptoms

Cancer can cause many different symptoms. These are some of them:

- A thickening or lump in the breast or any other part of the body
- A new mole or a change in an existing mole
- A sore that does not heal
- Hoarseness or a cough that does not go away
- Changes in bowel or bladder habits
- Discomfort after eating
- A hard time swallowing
- Weight gain or loss with no known reason
- Unusual bleeding or discharge
- Feeling weak or very tired

Most often, these symptoms are not due to cancer. They may also be caused by benign tumors or other problems. Only a doctor can tell for sure. Anyone with these symptoms or other changes in health should see a doctor to diagnose and treat problems as early as possible.

Usually, early cancer does not cause pain. If you have symptoms, do not wait to feel pain before seeing a doctor.

(Editor's Note: Part II of Understanding Cancer will be printed in the May 2008 issue of Hole Notes.)