

The logo for 'Healthy Steps For Cancer Prevention' features three icons in a 2x2 grid: a person running, a heart, and an apple. The word 'Healthy' is in purple, 'Steps' is in a larger purple font, 'For' is in red, and 'Cancer Prevention' is in black.

Healthy Steps For Cancer Prevention

Arkansas ranks 11th highest overall in cancer mortality rates among the 50 states and Washington, D.C.

The American Cancer Society estimates that 1,284,900 new cancer cases will be diagnosed in the United States this year, including 14,200 in Arkansas with half of the cancers occurring in the lung, prostate, breast, colon and rectum.

- 555,500 cancer deaths will occur in the U.S., including 6,200 in Arkansas.
- 2,200 new cases of lung cancer will be diagnosed among men and women in Arkansas.
- 2,000 men and women will die of lung cancer in Arkansas.
- 1,500 new cases of colorectal cancer will be diagnosed among men and women in Arkansas.
- 600 men and women will die of colorectal cancer in Arkansas.
- 2,000 new cases of breast cancer will be diagnosed among women in Arkansas.
- 400 women will die of breast cancer in Arkansas.
- 2,300 new cases of prostate cancer will be diagnosed among men in Arkansas.
- 400 men will die of prostate cancer in Arkansas.
- Cancer kills one out of every four Americans, surpassed only by heart disease as the leading cause of death in this country.

Cancer is a group of more than 100 diseases. When cells in some areas of the body divide without control, the excess tissue that develops is called a tumor. Tumors may be cancerous and sometimes fatal, or they may be quite harmless. A cancerous growth is called a malignant tumor, or malignancy.

Cells of malignant tumors duplicate continuously and very often quickly and without control. One property of a malignant tumor is its ability to undergo metastasis, the spread of cancerous cells to other parts of the body. Initially, malignant cells invade surrounding tissues. As the cancer grows, it expands and begins to compete with normal tissues for space and nutrients. Eventually, the normal tissue decreases in size (atrophy) and dies. When cancer spreads, it is still named after the part of the body where it started. For example, if breast cancer spreads to the lungs, it is still breast cancer, not lung cancer.

When normal cells of the body divide and migrate (for example, skin cells that multiply to heal a superficial cut), their further migration is inhibited by contact on all sides with other skin cells. This is called contact inhibition. Malignant cells do not conform to the rules of contact inhibition; they have the ability to invade healthy body tissues with very few restrictions.

Following the nearby invasion, some of the malignant cells may detach from the initial tumor and invade a body cavity or enter the blood or lymph (fluid flowing through the lymphatic system to be returned to the blood). This latter condition can lead to widespread metastasis. In the next step in metastasis, those malignant cells that survive in the blood or lymph invade adjacent body tissues and establish secondary tumors.

In the final stage of metastasis, the secondary tumors become vascularized; that is, new networks of blood vessels develop to provide nutrients for their further growth. Any new tissue, whether it results from repairing a wound, normal growth or tumors, requires a blood supply. In all stages of metastasis, the malignant cells resist the antitumor defenses of the body. The pain associated with cancer develops when the growth puts pressure on nerves or blocks a passageway so that secretions build up pressure.

Some cancers, such as blood cancers (leukemia), rarely form a tumor.

Types of Cancer

There are many different types of cancer. Several factors, including location and how the cancerous cells appear under the microscope, determine how cancer is diagnosed. For example, there are several forms of breast cancer, classified according to where the tumors originate within the breast, and their tendency to invade surrounding organs and tissue. All cancers, however, fall into one of four broad categories:

Carcinomas are tumors that arise in the tissues that line the body's organs. About 80% of all cancer cases are carcinomas.

Sarcomas are tumors that originate in bone, muscle, cartilage, fibrous tissue or fat.

Leukemias are cancers of the blood or blood-forming organs.

Lymphomas affect the lymphatic system, a network of vessels and nodes that acts as the body's filter. The lymphatic system distributes nutrients to blood and tissue, and prevents bacteria and other foreign "invaders" from entering the bloodstream. There are over 20 types of lymphoma.

Causes of Cancer

The vast majority of cancers--about 80%--are considered sporadic, meaning that there is no clear cause. For some reason, certain normal genes begin to mutate (change), multiplying rapidly and becoming malignant. There are several environmental influences that may cause these gene mutations to occur. In fact, a large number of cancers are preventable because most of these factors can be controlled with healthy lifestyle choices.

Environmental causes of cancer include:

- **Age:** cancer is most common among people over the age of 50.
- **Diet:** high-fat, high-cholesterol diets are proven risk factors for several types of cancer, particularly colon cancer

- **Obesity:** although no clear link has been established, research indicates obesity may be a contributing factor to some cancers.
- **Cigarettes** greatly increase the lung cancer risk, even among non-smokers forced to inhale secondhand smoke. Other tobacco products, like pipes and chewing tobacco, are linked to cancers of the mouth, tongue and throat.
- **Long-term exposure to chemicals** like asbestos, radon and benzene
- **Exposure to high levels of radiation**
- **Harmful ultraviolet rays from the sun** are directly linked to melanoma and other forms of skin cancer
- **Some viruses**, including hepatitis B and C, human papillomaviruses (HPV), and the Epstein-Barr virus, which causes infectious mononucleosis, have been associated with increased cancer risk
- **Immune system diseases**, like AIDS, can make one more susceptible to some cancers

The other 20% of cancers are hereditary. This means that the abnormal gene responsible for causing the cancer is passed from parent to child, posing a greater risk for that type of cancer in all descendants of the family. However, just because someone has a cancer-causing gene doesn't mean they will automatically get cancer. If hereditary cancer is suspected, family members should consider genetic counseling and testing to determine their risk. Regular cancer screenings are recommended for high-risk families so that if cancer does occur, it will be diagnosed in the early stages, when it's most responsive to treatment.

Signs of hereditary cancer include:

- Several relatives with cancer
- Cancers that occur at an earlier age than normal
- Multiple or bilateral cancers: for example, a person with breast cancer who also develops ovarian cancer
- Rare or unusual types of cancer
- Ethnic background: some cancers are more common among certain population groups

Symptoms of Cancer

Unfortunately, many types of cancer don't display any obvious symptoms or cause pain until well advanced. Because early-stage cancer symptoms tend to be subtle, they are often mistaken for signs of other, less-threatening diseases. Here are the seven warning signs of cancer:

- Changes in bowel or bladder habits
- A sore that does not heal
- Unusual bleeding or discharge
- Thickening or lump in the breast or any other part of the body
- Indigestion or difficulty swallowing
- An obvious change in a wart or mole
- A nagging cough or hoarseness

Some symptoms are specific to certain types of cancer, such as difficult urination for prostate cancer, or flu-like symptoms for acute leukemias. Don't be afraid to discuss unusual symptoms

with your doctor! Diagnostic tests are available for most common cancers. **If diagnosed early, your chances of surviving cancer are greatly increased.**

Prevention of Cancer

More than 50% of cancers can be prevented by avoiding environmental risk factors like smoking, sun exposure, alcohol abuse and poor nutrition. Of course, things like age, race, gender and family history cannot be changed, but knowing your personal cancer risk can help you devise a prevention strategy with regular screenings and healthy lifestyle choices. Having one or more risk factors for cancer doesn't mean you will get cancer. In fact, many people considered high-risk never develop cancer while others with no known risk factors become ill.

To learn more about how to reduce your risk of cancer, check out the following:

The American Cancer Society provides comprehensive and reliable information that addresses cancer prevention and detection at:

http://www.cancer.org/docroot/PED/ped_1.asp?sitearea=PED&level=1

National Cancer Institute, Division of Cancer Prevention- another good source of research based information

<http://www3.cancer.gov/prevention/>



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