What is Cancer?
Cancer is a destructive (malignant) growth of cells which invades nearby tissues and may metastasize (spread) to other areas of the body. Dividing rapidly, these cells escape the body’s normal controls and continued growth. Cancer cells tend to multiply and invade normal tissues and are seldom life-threatening.

The Diagnosis
Most benign cells are considered harmless unless their size or location threatens nearby structures. Any sign of cancer should be detected and treated early for a better chance of cure. The diagnosis of malignant cancer is determined by a microscopic examination of a biopsy (knife-cut) of abnormal tissue. Measuring the extent the cells have spread, called staging, can be done using a variety of imaging techniques.

Computerized Axial Tomography (CAT scan) is a rotating 5-ray machine used to take cross-sectional pictures of specific tissues. Magnetic Resonance Imaging (MRI) uses a magnetic field and radiofrequency waves to make detailed images of some parts of the body, like the brain.

The four stages of malignant cancer are determined by the spread of the cancer cells. This classification helps physicians develop a treatment plan specific to each individual case.

How Does Cancer Spread?
Cancer cells may invade nearby tissues or spread to other organs. There are three ways in which cancer cells may move to other tissues:

1. Local: Cancer cells travel through the veins, often to the liver and lungs
2. Lymphatic: Cancer cells move through the lymphatic system to lymph nodes and eventually to the circulatory system
3. Blood: Cancer cells enter the blood stream and travel to the veins or arteries throughout the body

Cancer Treatment
Due to the variety of cancers, the ideal treatment can range from observation to complicated surgical removal with aggressive therapy. Surgery, radiation therapy, and chemotherapy can be used in combination or as individual treatments. Some cancers may also be treated with hormone or biological therapy which can be administered by a physician in addition to treatment described above.

Surgery
As a method of local treatment, the diseased part of the body is removed. Nearby healthy lymph nodes and tissues may also be removed to help control the spread of the cancer.

Radiation Therapy
High energy rays, focused on a tumor, are used to damage the cancer cells and stop cell reproduction. This local therapy is used to shrink a cancer’s size either below surgical removal or after, if fully removing cancer cells. Side effects may range from minimal to moderate including: stomach, skin, nausea, and a decreased ability to fight white blood cells.

Chemotherapy
Synthetic drugs given at prescribed intervals are used to damage a cancer cell’s ability to grow. These drugs act, via the blood, on the entire body. In addition to treating the cancer, they may cause temporary side effects in fast growing cells like those of the blood, stomach and skin. Common side effects are hair loss, nausea, vomiting, and a reduced number of white blood cells. These side effects increase the chance of infection.

Cancer’s Seven Warning Signs
1. Change in bowel or bladder habits
2. A sore that does not heal
3. Unusual bleeding or discharge
4. Thickened or lump in breast or elsewhere
5. Indigestion or difficulty in swallowing
6. Obvious change in wart or mole
7. Nagging cough or hoarseness

Achieving a Healthy Lifestyle
Understanding cancer and its cause is one way to develop a healthier lifestyle and avoid exposure to its risks. Some preventative measures include:

- Selecting a balanced diet high in fiber, low in fat
- Limiting alcohol intake
- Maintaining low body fat
- Doing self examinations
- Getting regular checkups

It is very important to follow your physician’s instructions and to seek the support of family and friends.

Cancer-related support groups are also available to discuss issues surrounding cancer.

Medical Illustrations by Marguerite Arkin.