Prevention of Cancer

Cancer is the second leading cause of death in the U.S.
Cancer will strike three out of four families.
30% of U.S. citizens will develop some type of cancer in their lifetimes.
Cancer is most common in older people.

Warning signs of cancer
Change in size or color of wart
Sore that does not heal or heals slowly
Unusual bleeding from bowel, nipples, vagina, or presence of blood in urine
Thickening or lump in the breast or mouth
Indigestion that persists or loss of appetite
Obvious change in bowel or bladder habits
Nagging or persistent cough or hoarseness; difficulty in swallowing
Cancer is Not a Single Disease but a Class of Over 100 Different Diseases

Cancer is caused by an uncontrolled growth and spread of abnormal cells
Common types of cancer: prostate, breast, skin, stomach, lung, colon, and kidney
Skin cancer is the most common type of cancer

Cancer incidence and death rate by site and sex.

A group of abnormal cells is called a tumor

Tumors can be benign or malignant
Generally benign tumors are not serious health threats
Malignant tumors are cancerous
Cancer cells can undergo metastasis
Causes of cancer

Cancer is caused by exposure to carcinogens

Common carcinogens

- Radiation – specifically ionizing type
  - Natural (solar system, soil)
  - Nuclear weapons
  - Medical (x-ray)
  - Ultraviolet radiation - sun
- Chemicals - Various chemicals (for example, benzene, asbestos, vinyl chloride, arsenic, aflatoxin) show definite evidence of human carcinogenicity; others are considered probable human carcinogens
- Tobacco

Causes of cancer

- Tobacco
  - About 87% of lung cancer deaths are caused by smoking.
  - More than 4,000 individual compounds have been identified in tobacco and tobacco smoke. Among these are about 43 compounds that are carcinogens.
  - In 2002, 430,700 deaths are expected in the U.S. from tobacco use. Yet, 47 million adults were current smokers in 1999.
A normal cell can be transformed into a cancer cell.

Cancer risk factors.

Cancer Prevention

Practice a healthy lifestyle
Avoid chronic exposure to carcinogens
Exercise
Diet
Vitamins A, E, and C may reduce the risk of cancer
Evidence shows that exercise can reduce your risk of cancer.

**Physical Activity and Cancer Prevention**

**Exercise Training in Cancer Patients**
Summary
Cancer results from the abnormal growth of mutated cells.
Carcinogens are cancer-causing substances.
Skin cancer is the most common type of cancer.
Cells become cancerous when DNA is mutated.

Summary (continued)
Heredity, race, radiation, viruses, tobacco, occupational carcinogens, UV light, and diet are risk factors for cancer.
Approximately 80% of cancers are related to lifestyle and environment.
Diet is an important factor in controlling risk.
Exercise may reduce the risk of certain cancers.