Cancer

Chapter 31 Lesson 2

Tumors

- All cancers are **tumors-** *masses of tissue.*
- Not all tumors are cancers.
- Some tumors are **benign-** *noncancerous.* These tumors are surrounded by membranes that prevent them from spreading.
- **Malignant-** *cancerous* tumors do not have any membrane. When cancerous cells break away from a malignant tumor and move through lymph or blood vessels to other healthy tissues they have **metastasized-** *the spread of cancer from the point where it originated to other parts of the body.*

Causes of Cancer

- A number of risk factors have been associated with cancer including heredity, environment, and lifestyle.
- Some cases of cancers are caused by exposure to a **carcinogen-** *a cancer causing substance in the environment.*
- Carcinogens include: chemicals faound in tobacco smoke, asbestos, and toxic waste. Exposure to certain forms of radiation, including x-rays, radon, and the suns UV rays is another known cause of cancer.
- Not everyone is equally susceptible to the same carcinogens. You can control your exposure to and ingestion of many carcinogens.

Types of Cancer

- Cancers are classified in two ways: by the part of the body where the cancer cells first develop, and by the type of body tissue within which the cancer begins.
- Cancers that develop in the *epithelial tissue,* tissue that forms the skin and linings of the body organs, are called carcinomas.
- Sarcomas are cancers that develop in the connective and supportive tissues of the bones, muscles, and tendons.
- Lymphomas are cancers that develop in the lymphatic system. Hodgkin's disease is a type of lymphoma.

Skin Cancer

- There are three types of skin cancer
- **Melanoma-** *often deadly type of skin cancer.*
- **Basal cell-** *more curable type of skin cancer*
- **Squamous cell-** *curable type of skin cancer*
- There are 100,000 new cases of melanoma every year. While there is an increase in awareness about the dangers of the sun, people develop skin cancers because they fail to protect themselves by using sunscreens.

Lung Cancer

- The American Cancer Society reports that cigarette smoking is the single greatest cause of cancer in the US.
- 85% of cancers among males, and 75% of cancer cancers among females are directly related to smoking.
- Males who start smoking before the age of 15 are five times more likely to die of lung cancer than those who started after the age of 25.
- Among women, lung cancer has tripled in the last 20 years.
- Survival rate is only 13%.

Oral Cancer

- Oral cancer affects the mouth and throat area. Risk factors for oral cancer include smoking cigarettes, cigars, or a pipe, and the use of smokeless tobacco.
- These cancers form where tobacco has touched the persons mouth, lip, and throat tissues. Excessive use of alcohol is another risk factor for oral cancer.

Cancer of the Colon and Rectum

- Cancer of the colon and rectum is the third most commonly occurring cancer in the US today. This cancer usually develops in the lowest part of the colon, near the rectum. As the cancer grows larger, it either blocks the colon or causes bleeding.
- Cancers of this type are slow to spread.
- Seeking early medical treatment greatly increases a person's chance of survival.
- An eating plan low in fat, and high in fiber decreases a perons risk of this cancer.

Reproductive Cancer

- Most new cancers in the US are found in the reproductive system- breast cancer in women, and prostate cancer in men.
- In women, cancerous tumors can develop in the ovaries and uterus as well. Early detection through regular pelvic exams and a Pap test has reduced the death rate from uterine and cervical cancers. Breast self-exams and mammography are ways that breast cancer is detected.
- Prostate cancer in men is often detected during a rectal exam. Testicular cancer can also develop in men and is the leading type of cancer among males aged 15-34. Any lumps or thickening detected by a male or female through reproductive self-examination should be reported to a doctor.

Leukemia

- Leukemia is cancer of the blood forming tissue of the bone marrow. In leukemia, immature white blood cells multiply too rapidly and crowd out mature white cells. This weakens the body's immune system. Although often thought of primarily as a childhood disease, leukemia strikes people of all ages and both genders.
- Childhood leukemia is very curable, with a success rate of 95%.

Detecting Cancer

- Early detection of cancer is the most critical factor in combating the disease. Many types of cancer can be detected during a routine physical examination. This is one reason why regular physical checkups are important.
- If a tumor is found, a physician may do a **biopsy-** *a laboratory analysis of a section of a tissue taken from a site where abnormal cell growth is detected.*
- Ultrasound, which uses sound waves, can be used to locate abnormal growths when they are small and more easily treatable. This diagnostic procedure can also help determine the best method of treatment.

Treating Cancer

- Treatment of cancers is directed at confining and killing the cancerous cells. At present, this is accomplished by three basic approaches: surgery, radiation, and chemotherapy.

Surgery

- Surgery has been a standard method in removing tumors and affected areas. Today, with improved surgical techniques, cancer patients have a longer life expectancy and an improved quality of life. Whereas amputation used to be the standard practice for treating cancer of arm and leg bones, now doctors are able to treat many such cancers by removing only the diseased bone tissue and transplanting healthy tissue from another part of the patients body.

Radiation

- Radiation energy from cobalt or radium can penetrate a tumor. The energy destroys the tumor by damaging the DNA in the nuclei.
- DNA is the genetic material responsible for cell division. Radiation therapy is very successful in arresting-or slowing the growth of- certain kinds of cancer. It is also very helpful in areas of the body where surgery is difficult, such as the head and neck.

Chemotherapy

- **Chemotherapy-** *is the use of anti-cancer medications in the treatment of cancer.* Its goal is to destroy malignant cells without excessive destruction of normal cells.
- Chemotherapy works by interfering with cell division of cancer cells and, by dong so, preventing the cancer from spreading.
- Unfortunately there are some side affects such as nausea and vomiting which may occur with the use of these strong medicines.
- New techniques are now allowing doctors to administer chemotherapy more safely with fewer side effects.