

Lesson 2

Cancer

VOCABULARY

cancer
tumor
benign
malignant
metastasis
carcinogen
biopsy
remission

YOU'LL LEARN TO

- Examine the causes and types of and treatments for cancer.
- Relate the importance of early detection and warning signs of cancer that prompt individuals to seek health care.
- Examine the effects of health behaviors that put you at risk for developing cancer.
- Develop, analyze, and apply strategies related to the prevention of cancer.



Make a list of any factors or behaviors you know of that can put a person at risk for developing cancer.

The body's cells are constantly growing and dividing. Most new cells are normal, but some are not. Sometimes these abnormal cells reproduce rapidly and uncontrollably, forming masses of abnormal cells inside otherwise normal tissue. This *uncontrollable growth of abnormal cells* is called **cancer**.



How Cancer Harms the Body

An abnormal mass of tissue that has no natural role in the body is called a **tumor**. Some tumors are **benign**, or *noncancerous*. Benign tumors grow slowly and are surrounded by membranes that prevent them from spreading from the original site. Although noncancerous tumors don't spread, they can be dangerous if they interfere with normal body functions. For example, a benign brain tumor may block the brain's blood supply. Tumors that are **malignant**, or *cancerous*, spread to neighboring tissues and through the blood or lymph to other parts of the body. The spread of cancer from the point where it originated to other parts of the body is called **metastasis**. As cancer cells spread throughout the body, they divide and form new tumors.

- Reduce your risk of skin cancer by protecting yourself from the sun's ultraviolet (UV) rays and reducing the amount of time you spend in the sun. How does each item in the picture help protect you from UV rays?

FIGURE 26.3

TYPES OF CANCER

Organ Affected (new cases/year)	Some Risk Factors	Symptoms	Screening and Early Detection Methods
Skin (1 million) Most common type of cancer in the United States	Exposure to ultraviolet radiation from the sun, tanning beds, sun lamps, or other sources	Change on the skin, especially a new growth, a mole or freckle that changes, or a sore that won't heal	physical exam, biopsies
Breast (205,000) Second leading cause of cancer death for women	Genetic factors, obesity, alcohol use, physical inactivity	Unusual lump; nipple that thickens, changes shape, dimples, or has discharge	self-exam, mammogram
Prostate (189,000) Found mostly in men over age 55	Possible hereditary link, possible link to high- fat diet	Frequent or painful urination; inability to urinate; weak or interrupted flow of urine; blood in urine or semen; pain in lower back, hips or upper thighs	blood test
Lung (169,400) Leading cause of cancer deaths in the United States	Exposure to cigarette smoke, radon, or asbestos	No initial symptoms; later symptoms include cough, shortness of breath, wheezing, coughing up blood, hoarseness	chest X ray
Colon/Rectum (148,000) Second leading cause of cancer deaths in the United States	Risk increases with age; close relative with colorectal cancer	Often no initial symptoms; later, blood in feces; frequent pain, aches, or cramps in stomach; change in bowel habits; weight loss	test for blood in the stool; sigmoidoscopy; colonoscopy
Mouth (30,000) Occurs mostly in people over 40	Use of tobacco, chewing tobacco, or alcohol	Sore or lump on mouth that doesn't heal; unusual bleeding; pain or numbness on lip, mouth, tongue, or throat; feeling that something is caught in the throat; pain with chewing or swallowing; change in voice	dental/oral exam
Cervix (15,000)	History of infection with HPV (human papilloma- virus)	Usually no symptoms in early stages; later, abnormal vaginal bleeding, increased vaginal discharge	Pap test
Testicle (7,000) Most common cancer in men ages 15 to 34	Undescended testicle; family history of testicular cancer	Small, hard painless lump on testicle; sudden accumulation of fluid in scrotum, pain in region between scrotum and anus	self-exam

Reducing Your Risk

You can't control some risk factors for cancer, such as heredity, but you can reduce your risk by practicing the healthful behaviors listed in **Figure 26.5**.

FIGURE 26.5

HOW YOU CAN REDUCE YOUR RISK OF CANCER



Practice abstinence from sexual activity to reduce the risk of sexually transmitted diseases. Hepatitis B can cause liver cancer, and HPV can cause cancers of the reproductive organs.

Be physically active.

Maintain a healthy weight.



Eat nutritious foods. Include 2–4 serving of fruits and 3–5 servings of vegetables every day. These foods are good sources of fiber, and some contain compounds that act against carcinogens.

Follow an eating plan that is low in saturated fat and high in fiber.



Protect your skin from ultraviolet radiation.

Avoid tobacco and alcohol. Tobacco is the single major cause of cancer death in the United States. Excess alcohol increases the risk of several types of cancer, including mouth and throat cancer.



Recognize the warning signs of cancer. Do regular self-exams to detect cancer early.

necessary to determine whether cancer is present. X rays and other imaging techniques help determine a tumor's location and size.

Treating Cancer

The methods used to treat cancer depend on several factors, such as the type of cancer, whether the tumor has spread, and the patient's age and health. Treatment might include one or more of the following:

- ▶ **Surgery** removes some or all of the cancerous masses from the body.
- ▶ **Radiation therapy** aims rays from radioactive substances at cancerous cells. The radiation kills the cells and shrinks the cancerous mass.
- ▶ **Chemotherapy** uses chemicals to destroy cancer cells.
- ▶ **Immunotherapy** activates a person's immune system to recognize specific cancers and destroy them.
- ▶ **Hormone therapy** involves using medicines that interfere with the production of hormones. These treatments kill cancer cells or slow their growth.

Cancer that responds to treatment or is under control is said to be in **remission**, a period of time when symptoms disappear. Cancer in remission is not always cured; it can recur, sometimes years later.

HEALTH Online

Link to the American Cancer Society to discover the latest in cancer research in Web Links at health.glencoe.com.

Lesson 2 Review

Reviewing Facts and Vocabulary

1. Define *cancer*. Name four risk factors for cancer.
2. What is the difference between a benign tumor and one that is malignant?
3. What are two important means of early cancer detection?

Thinking Critically

4. **Analyzing.** The physician of an adult family member has suggested that the person undergo a certain cancer screening procedure as part of a routine exam. The family member is afraid to have this procedure done. What would you tell this person?
5. **Evaluating.** Why do you think skin cancer is the most common cancer in the United States?

Applying Health Skills

Advocacy. Develop a cancer-awareness booklet that analyzes healthful strategies to reduce cancer risk and encourages people to develop these habits. Include information on technology and new treatments that impact the health status of people with cancer.

TECHNOLOGY OPTION

WORD PROCESSING Use word-processing software to create your booklet. Use special formats, borders, and art. Click on health.glencoe.com for help using word-processing software.

Guided Reading, Activity 96 (Continued)

FOR USE WITH CHAPTER 26, LESSON 2

7. List eight healthful behaviors that can reduce your risk of cancer. *8pts p. 685*

8. Name two factors that determine the survival rate for cancer. *2pts*

9. List seven warning signs of cancer. *7pts, page 684 Red Box*

10. List three factors that help determine what method is used to treat cancer. *3pts*

11. In the first column below, list five types of treatment used for cancer. In the second column, describe the treatment. *8pts, p. 687*

Type of treatment

Description of treatment

Type of treatment	Description of treatment
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