

Lesson 1 Activity: What is Cancer? Teacher Handout (for up to 36 students)

You will need:

Index cards
Tape, glue stick or rubber cement
Newsprint

1. Below you will find facts about various types of cancer (prostate, breast, etc). The facts are taken from the reading materials for this section. However, the facts do not say which cancer they belong to. It will be the students' responsibility to determine which cancer type each fact pertains to. This activity is easier for students, if they have read the reading material on this section.

2. Prior to class, determine how you would want groups to be split up depending on how many people you have in your class. If you have 24 students, for example, you can do 6 groups of 4. There are 6 cancer types represented below. You can determine which facts you like from each type, and cut up 4 facts from each one and paste them on individual index cards. Therefore you'll have 4 facts from prostate, breast, melanoma, colon, lung and pancreatic cancers. These will be your six groups of students. Also, before class, print in large letters PROSTATE CANCER, BREAST CANCER, etc. on individual large newsprint and put them up around the classroom. Allow room for facts below the title of the cancer type on the newsprint.

2. During class, distribute one card to each student. (If you would like to cover more material, each student can be given two facts.) One by one, have the students read aloud their fact in front of the class. Let them determine which cancer type their fact relates to. Once they figure it out, have them go towards the newsprint for that cancer type and write down their fact. For example, if the card says, "Smoking increases your chances of developing this type of cancer," the student would determine that they belong in the "lung cancer" group and they would go to the area of the room that has the "lung cancer" newsprint hung up.

3. Groups of 4 have been established and assigned to one cancer type. Each group will then be responsible for making an oral presentation/skit on that cancer type. The presentation/skit can address the following questions:

A. What is cancer? How does it arise? How does your particular type of cancer arise? Is your cancer type associated with specific mutations? Are there certain risk factors associated with your disease?

B. How many people does your type of cancer affect? In the US? In the world? How many people die from this type of cancer every year? Are the number of cases/deaths associated with this cancer increasing or decreasing in recent years? What is the 5-year survival rate for this cancer?

C. What is metastasis? Are there distinct organs that your type of cancer metastasizes to?

D. What are the treatment options available for your cancer type?

E. Early detection of cancer is important. What are the ways in which your cancer type is detected? What kinds of symptoms do patients with your cancer type have?

F. Prevention is being heavily study so that cancer can be stopped before it starts. Are there steps that individuals can take to prevent this type of cancer? What are they?

Encourage the students to have fun with the skit/presentation. The more enjoyable it is to produce and watch, the more the students will take away from it. They can show what it might be like at the doctor's office once they have been diagnosed, or what they wished they did when they were "younger" to prevent the disease. The students should come up with creative ways to make the presentation include all of the information above on their cancer type.

FACTS THAT CAN BE CUT AND PASTED ON INDEX CARDS. Make sure you keep track of what group each fact came from so that you know the students are going to the right group.

Prostate:

This organ is a walnut-sized gland located in front of the rectum and underneath the urinary bladder.

Male hormones (androgens) stimulate this organ to develop in the fetus.

This cancer is the most common cancer, excluding skin cancers, in American men.

During 2005 about 232,090 new cases of this kind of cancer will be diagnosed in the United States.

About 1 man in 6 will be diagnosed with this cancer during his lifetime, but only 1 man in 34 will die of this disease.

A little over 1.8 million men in the United States are survivors of this cancer.

This cancer is the second leading cause of cancer death in American men, exceeded only by lung cancer.

Modern methods of detection and treatment now mean that this cancer detected earlier and treated more effectively, which has led to a yearly drop in death rate of about 3.5% in recent years.

About two thirds of all of these cancers are diagnosed in men over the age of 65.

This cancer occurs about 60% more often in African-American men than in white American men.

This cancer can often be found early by testing the amount of (PSA) in your blood.

This cancer may also be found when your doctor does a digital rectal examination (DRE).

African-American men are more than twice as likely to die of this cancer as white men.

Breast Cancer

The disease occurs almost entirely in women, but men can get it, too.

This organ is made up of lobules, ducts and stroma.

This cancer predominantly arises from the lobules and ducts of the organ.

Fibrocystic changes can cause swelling and pain and can often be confused with this kind of cancer.

Woman over 40 should get yearly mammograms to detect any early signs of this kind of cancer.

Women who have had no children or who had their first child after age 30 have a slightly higher risk for this kind of cancer.

Five to ten percent of these cancers are thought to be hereditary.

This cancer is the second leading cause of cancer death in women, exceeded only by lung cancer.

The chance that this cancer will be responsible for a woman's death is about 1 in 33 (3%).

This cancer is the most common cancer in women.

Women living in North America have the highest rate of this cancer in the world.

It is estimated that in 2005 about 211,240 new cases of this cancer will be diagnosed among women in the United States.

An estimated 1,690 cases of this cancer will be diagnosed in men in 2005.

The current five-year survival rate for women with this cancer is 86%.

Lung Cancer

This consists of two sponge-like organs that are made up of lobes (3 lobes on the right, 2 lobes on the left)

Another term for this cancer is *bronchogenic cancer*.

There are two major types of this cancer: small cell and non-small cell.

During 2005, there will be about 172,570 new cases of this cancer. It will account for about 13% of all new cancers.

This cancer mainly occurs in the elderly. The average age of people diagnosed with this cancer is 70; fewer than 3% of all cases are found in people under the age of 45.

The chance that a man will develop this cancer is 1 in 13 and for a woman, it is 1 in 18.

This cancer is the leading cause of cancer death among both men and women.

This kind of cancer will account for 28% of all cancer-related deaths in both men and women.

Nearly 60% of people diagnosed with this cancer die within one year of their diagnosis. Nearly 75% die within 2 years. This had not improved in 10 years.

The 5-year relative survival rate for all stages of this cancer combined is only 15%. This has improved slightly in the last few years.

Not smoking will dramatically decrease your chances of getting this kind of cancer.

About 87% of these cancers are thought to result from smoking or passive exposure to tobacco smoke. The longer you smoke and the more packs per day you smoke, the greater your risk.

A nonsmoker who is married to a smoker has a 30% greater risk of developing this cancer than the spouse of a nonsmoker.

Melanoma:

This is the largest organ in your body.

This kind of cancer arises primarily in the epidermis of this organ

These cells produce the protective brown pigment called *melanin*, which makes skin tan or brown. Melanin is formed to protect the deeper layers of the skin from the harmful effects of the sun.

This kind of cancer arises mostly in the trunk of men and the legs of women.

Something called a spitz nevus can be confused for this kind of cancer.

Cancer of this organ is the most common of all cancers, probably accounting for more than 50% of all cancers.

These cancers tend to occur at a younger age than most cancers. Half of all of them are found in people under age 57.

The number of newly diagnosed cases of this cancer in the United States is increasing.

The risk of this cancer is about 20 times higher for whites than for African Americans.

Exposure to sunlight can dramatically increase your chance of getting this kind of cancer.

The simplest and most effective way to limit exposure to UV light is to avoid being outdoors in sunlight too long. This is particularly important in the middle of the day between the hours of 10 am and 4 pm, when UV light is strongest. This criteria is important for preventing this kind of cancer.

Colon Cancer:

This cancer arises in the large intestine and/or rectum.

This type of cancer generally starts as a non-cancerous polyps or adenomas.

Excluding skin cancers, this type of cancer is the third most common cancer diagnosed in men and in women in the United States.

This cancer is the second leading cause of cancer-related deaths in the United States

The death rate for this cancer type has been decreasing the last 15 years, probably due to better screening methods, allowing doctors to find the cancer at an early, more curable stage.

The 5-year relative survival rate for people who have this kind of cancer is treated in an early stage, before it has spread, is greater than 90%. But only 39% of these cancers are found at that early stage. Once the cancer has spread to nearby organs or lymph nodes, the 5-year relative survival rate goes down.

Jews of Eastern European descent (Ashkenazi Jews) have a higher rate of getting this cancer.

Pancreatic Cancer:

The organ is a gland located behind the stomach. It is shaped a little bit like a fish with a wide head, a tapering body, and a narrow-pointed tail.

This organ contains two types of glands: exocrine or endocrine.

Over the past 15 to 25 years, rates of cancer of the organ have slowly dropped in men and women.

The American Cancer Society estimates that 32,180 Americans (16,100 men and 16,080 women) will be diagnosed with this cancer during 2005.

An estimated 31,800 Americans (15,820 men and 15,980 women) will die of this cancer in 2005, making this type of cancer the fourth leading cause of cancer death overall.

Only about 23% of patients with cancer of the exocrine form of this cancer will be alive 1 year after their diagnosis; only about 4% will live 5 years after diagnosis.