

CANCER AND YOU

Cancer is not just one disease, but many diseases that are the result of uncontrolled growth and spreading of abnormal cells. If the spread of cancer cells go uncontrolled, it can result in death. There are many environmental factors as well as hereditary links that cause cancer.

For the year 2007, there is an estimated 1.5 million new cases of cancer expected to affect the United States alone. 560,000 people are expected to die from cancer in 2007. There is a lot of research going on in the field to help understand the disease better, as well as develop new treatments.

Because cancer affects so many people, it is very important that **everyone** understands what causes this disease. Doctors and Researchers work every day to try and inform the public about what causes cancer, what people can do to decrease their risk of getting cancer, and what they must do if they have cancer.

Today, you and a partner are going to take the roll of a doctor and a researcher and produce an informative pamphlet to educate the public about a specific type of cancer. You two will work together to provide a pamphlet that is not only informative to the patient about what the cancer you are discussing is, but how is it caused in the cell.

Each pair/team will be given a sheet with the type of cancer they are going to make a pamphlet for. For each the doctor and the researcher, **there are questions that you need to answer and include in your pamphlet.** To get you started, you should use the following website as a reference:

<http://www.cancerquest.org>

You may use other sites on the web, but these have to be your main sources.

Include **pictures** in your pamphlet as well to help explain what you are talking about.

Cervical Cancer

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:**
What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?

Colorectal Cancer

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:** What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?

Lung Cancer

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:** What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?

Lymphoma

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:** What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?

Prostate Cancer

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:** What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?

Skin Cancer

Doctor's Questions:

Read all of the material in "Detection and Treatment: Cancer by Type" on www.cancerquest.org to help answer these questions.

1. Briefly discuss what this cancer is.
2. How many patients in the United States are expected to be diagnosed with this cancer in 2007?
3. How many patients are expected to die in the United States due to this cancer in 2007?
4. What are the risk factors for this cancer?
5. Are there different types of this cancer? If so, what are they?
6. What are the symptoms of this cancer?
7. How is this cancer detected?
8. How is this cancer treated?
9. How can this cancer be prevented?

Scientists Questions:

Read about cell division under the heading Cell Biology and then read then read about Genetic Changes under Cancer Biology on www.cancerquest.org to help answer the following questions.

1. What are the stages of the cell cycle? What happens in each stage? Why must a cell go through the cell cycle?
2. How is cell division controlled? What types of checks are there?
3. What happens to cell division when a cell becomes a cancer cell? How do they "break all of the rules"?
4. **Read the section Genetic Changes: Types of Genetic Changes:** What types of mutations can affect DNA ("on the genetic level") to create a cancer cell? Do these changes affect the protein that the gene codes for? Give at least three different types of genetic changes.

5. **Read the section Genetic Changes: Causes of Genetic Changes:**
List and briefly describe the different causes of genetic changes.
6. What is most likely the genetic change that occurs in the cancer you are reporting on?
7. Cancer cells avoid cell death to form tumors and to spread to other parts of the body. **Read under Tumor Biology: Hallmarks of Cancer.** What are tumors? What do they do to survive in parts of the body?
8. How does treatment for this cancer work? What does it do to the cancer cells?