

## About Skin Cancer

- There are 3 types of skin cancer: basal cell carcinoma, squamous cell carcinoma (together referred to as nonmelanoma skin cancer), and melanoma. The outer layer of the skin is made up of squamous cells. Basal cells are found below the squamous cells. Melanocytes are in the deepest layer of epidermis. Melanoma develops from melanocytes.

### Significance of skin cancer

- Skin cancer is the most commonly occurring cancer in the United States. Basal cell carcinoma and squamous cell carcinoma (nonmelanoma skin cancer) are the most common forms of skin cancer, but are easier to cure than melanoma. The number of new cases of skin cancer appears to be increasing each year. The number of deaths due to skin cancer, however, is fairly small.

## Sun Safety Tips

1. Do not burn: Avoid sun tanning and tanning beds. Ultraviolet light from the sun and tanning beds causes skin cancer and wrinkling. If you want to look like you've been in the sun, consider using a sunless self-tanning product, but continue to use sunscreen with it.
2. Generously apply sunscreen to all exposed skin using a Sun Protection Factor (SPF) of at least 15 which provides broad-spectrum protection from both ultraviolet A (UVA) and ultraviolet B (UVB) radiation. Re-apply every two hours, even on cloudy days, and after swimming or sweating.
3. Wear protective clothing such as a long-sleeved shirt, pants, a wide-brimmed hat and sunglasses, where possible.
4. Seek shade when appropriate, remembering that the sun's rays are the strongest between 10 a.m. and 4 p.m.
5. Use extra caution near water, snow and sand as they reflect the damaging rays of the sun which can increase your chance of sunburn.

Early detection of melanoma can save your life.

Carefully examine all of your skin once a month.

A new or changing skin lesion in an adult should be evaluated.

## About Prostate Cancer

- A total of 186,320 new cases of prostate cancer and 28,660 deaths from the disease are anticipated in the United States in 2008. Prostate Cancer is the second most common type of cancer among men in this country.
- A man's lifetime risk of prostate cancer is 1 in 6.

### Prostate cancer prevention

Prostate cancer can sometimes be associated with known risk factors for the disease. Many risk factors are modifiable though not all can be avoided.

- Age: The risk of developing prostate cancer increases as a man gets older.
- Chemoprevention: Chemoprevention is the use of specific natural or man-made drugs, vitamins, or other agents to reverse, suppress, or prevent cancer growth. Several agents, including difluoromethylornithine (DFMO), isoflavonoids, selenium, vitamins D and E, and lycopene have shown potential benefit in studies. Further studies are needed to confirm this.
- Diet and Lifestyle: The effect of diet on prostate cancer risk is under study. A diet high in fat, especially animal fat, may be associated with an increased risk of prostate cancer. More studies are needed to determine if a low-fat diet with more fruits and vegetables helps prevent prostate cancer. Studies show that a diet high in dairy products and calcium may be linked to an increased risk of prostate cancer, although the increase may be small.
- Hormonal Prevention: Studies are underway to discover the role of certain drugs, such as finasteride, that reduce the amount of male hormone as preventive agents for prostate cancer.
- Race: The risk of prostate cancer is dramatically higher among blacks, intermediate among whites, and lowest among native Japanese. However, this increase in risk may be due to other factors associated with race. Studies have shown a link between levels of testosterone and prostate cancer risk, with black men having the highest levels.

## About Leukemia

Leukemia is cancer that starts in the tissue that forms blood. White blood cells, red blood cells, and platelets are made from stem cells as the body needs them. When cells grow old or get damaged, they die, and new cells take their place. In a person with leukemia, the bone marrow makes abnormal white blood cells. The abnormal cells are leukemia cells. Unlike normal blood cells, leukemia cells don't die when they should. They may crowd out normal white blood cells, red blood cells, and platelets. This makes it hard for normal blood cells to do their work

Estimated new cases and deaths from leukemia in the United States in 2008:

New cases: 44,270  
Deaths: 21,710

### Risk factors:

- *Radiation* - People exposed to very high levels of radiation.
- *Smoking* - Smoking cigarettes increases the risk of acute myeloid leukemia
- *Benzene* - Exposure to benzene in the workplace can cause acute myeloid leukemia. Benzene is used widely in the chemical industry. It's also found in cigarette smoke and gasoline
- *Chemotherapy* - Cancer patients treated with certain types of cancer-fighting drugs sometimes later get acute myeloid leukemia or acute lymphocytic leukemia.
- *Down syndrome* and certain other inherited diseases
- *Myelodysplastic syndrome* and certain other blood disorders
- *Human T-cell leukemia virus type I (HTLV-I)*
- *Family history of leukemia* - It's rare for more than one person in a family to have leukemia.

Having one or more risk factors does not mean that a person will get leukemia. Most people who have risk factors never develop the disease.

### Symptoms:

- Swollen lymph nodes that usually don't hurt (especially lymph nodes in the neck or armpit)
- Fevers or night sweats
- Frequent infections
- Feeling weak or tired
- Bleeding and bruising easily (bleeding gums, purplish patches in the skin, or tiny red spots under the skin)
- Swelling or discomfort in the abdomen (from a swollen spleen or liver)
- Weight loss for no known reason
- Pain in the bones or joints

Most often, these symptoms are not due to cancer. An infection or other health problems may also cause these symptoms. Only a doctor can tell for sure.

### Treatment:

- *Watchful Waiting*
- *Chemotherapy*
- *Targeted Therapy*
- *Biological Therapy*
- *Radiation Therapy*
- *Stem Cell Transplant*

## About Esophageal Cancer

Esophageal cancer forms in tissues lining the esophagus (the muscular tube through which food passes from the throat to the stomach). Two types of esophageal cancer are squamous cell carcinoma (cancer that begins in flat cells lining the esophagus, usually found in the lower part of the esophagus, near the stomach) and adenocarcinoma (cancer that begins in cells that make and release mucus and other fluids, usually found in the upper part of the esophagus).

Adenocarcinoma is the most common type of esophageal cancer. It's been increasing since the 1970s.

Estimated new cases and deaths from esophageal cancer in the United States in 2008:

New cases: 16,470  
Deaths: 14,280

### Risk factors include:

- Age 65 or older, male, smoking, heavy drinking, diet, obesity
- *Acid reflux:* Acid reflux is the abnormal backward flow of stomach acid into the esophagus. Reflux is very common. A symptom of reflux is heartburn, but some people do not have symptoms. The stomach acid can damage the tissue of the esophagus. After many years of reflux, this tissue damage may lead to adenocarcinoma of the esophagus in some people.
- *Barrett esophagus:* Acid reflux may damage the esophagus and over time cause a condition known as Barrett esophagus. The cells in the lower part of the esophagus are abnormal. Most people who have Barrett esophagus do not know it. The presence of Barrett esophagus increases the risk of adenocarcinoma of the esophagus. It is a greater risk factor than acid reflux alone.

### Symptoms:

Early esophageal cancer may not cause symptoms. As the cancer grows, the most common symptoms are:

- \* Food gets stuck in the esophagus, and food may come back up
- \* Pain when swallowing
- \* Pain in the chest or back
- \* Weight loss
- \* Heartburn
- \* A hoarse voice or cough that doesn't go away within 2 weeks

*These symptoms may be caused by esophageal cancer or other health problems. If you have any of these symptoms, you should tell your doctor so that problems can be diagnosed and treated as early as possible.*

### Treatment:

Surgery

Radiation therapy

Chemotherapy, or a combination of these treatments.

*Esophageal cancer is hard to control with current treatments. For that reason, many doctors encourage people with this disease to consider taking part in a clinical trial, a research study of new treatment methods.*



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Ohio Cancer Research Associates is an independent statewide, nonprofit organization dedicated to the cure and prevention of the many forms of cancer and the reduction of its debilitating effects through aggressive basic seed money research, public information and awareness. Ohio Cancer Research Associates is not affiliated with any other organization.

Over \$16 million has been spent on cancer awareness and seed money research projects. Of that amount, over \$5.7 million in seed money provided to researchers by Ohio Cancer Research Associates *has generated more than \$96 million in new money* from other sources to continue basic cancer research on projects initially funded.

Researchers have been funded at these Ohio institutions:

- University of Cincinnati
- Cincinnati Children's Hospital Medical Center
- The Ohio State University
- Nationwide Children's Hospital in Columbus
- The Cleveland Clinic
- Case Western Reserve University
- MetroHealth Medical Center in Cleveland
- University of Dayton
- Wright State University
- The former Hipple Cancer Research, Dayton
- Ohio University
- University of Toledo
- Bowling Green State University

*"Without vigorous, farsighted and continuing encouragement of fundamental scientific research, we are in the position of eating our seed corn. We may fend off starvation for one more winter, but we have removed the last hope of surviving the following winter."*

—Carl Sagan



## Cancer Awareness and Prevention

### What is prevention?

Cancer prevention is action taken to lower the chance of getting cancer. By preventing cancer, the number of new cases of cancer in a group or population is lowered. Hopefully, this will lower the number of deaths caused by cancer.

To prevent new cancers from starting, scientists look at risk factors and protective factors. Anything that increases your chance of developing cancer is called a cancer risk factor; anything that decreases your chance of developing cancer is called a cancer protective factor.

Some risk factors for cancer can be avoided, but many cannot. For example, both smoking and inheriting certain genes are risk factors for some types of cancer, but only smoking can be avoided. Regular exercise and a healthy diet may be protective factors for some types of cancer. Avoiding risk factors and increasing protective factors may lower your risk but it does not mean that you will not get cancer.

Different ways to prevent cancer are being studied, including:

- \* Changing lifestyle or eating habits.
- \* Avoiding things known to cause cancer.
- \* Taking medicines to treat a precancerous condition or to keep cancer from starting.