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Esophageal Cancer Prevention (PDQ®) Patient Version

Last Modified: 07/12/2007

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Overview of Prevention

Prevention

Doctors cannot always explain why one person gets [cancer](#) and another does not. However, scientists have studied general patterns of cancer in the population to learn what things around us and what things we do in our lives may increase our chance of developing cancer.

Anything that increases a person's chance of developing a disease is called a [risk factor](#); anything that decreases a person's chance of developing a disease is called a protective factor. Some of the risk factors for cancer can be avoided, but many cannot. For example, although you can choose to quit smoking, you cannot choose which [genes](#) you have [inherited](#) from your parents. Both smoking and inheriting specific genes could be considered risk factors for certain kinds of cancer, but only smoking can be avoided. [Prevention](#) means avoiding the risk factors and increasing the protective factors that can be controlled so that the chance of developing cancer decreases.

Although many risk factors can be avoided, it is important to keep in mind that avoiding risk factors does not guarantee that you will not get cancer. Also, most people with a particular risk factor for cancer do not actually get the disease. Some people are more sensitive than others are to factors that can cause cancer. Talk to your doctor about methods of preventing cancer that might be effective for you.

Purposes of this summary

The purposes of this summary on prevention of [esophageal](#) cancer are to:

- Give information on esophageal cancer and how often it occurs.
- Describe esophageal cancer prevention methods.
- Give current facts about which people or groups of people would most likely be helped by following esophageal cancer prevention methods.

You can talk to your doctor or health care professional about cancer prevention methods and whether they would be likely to help you.

Esophageal Cancer Prevention

Esophageal cancer is cancer of the esophagus, the muscular tube through which food passes from the throat to the stomach. Most esophageal cancers are either adenocarcinoma or squamous cell carcinoma. Both types of cancer are found in the tissue that lines the inside of the esophagus. Squamous cell cancers occur in the upper part of the esophagus near the throat and adenocarcinomas occur in the lower part of the esophagus near the stomach.

Significance of esophageal cancer

The number of new cases of squamous cell cancers of the esophagus is declining. African American males are more likely to develop squamous cell carcinoma of the esophagus than are white males. The risk of this type of cancer increases with age for all racial/ethnic groups.

The number of new cases of esophageal adenocarcinomas has risen over the past 2 decades. It has become more prevalent than squamous cell cancer of the esophagus in the United States and Western Europe.

Esophageal cancer prevention

The following risk factors and preventive factors may affect whether a person develops esophageal cancer:

Tobacco and Alcohol

Squamous cell cancer of the esophagus is strongly associated with tobacco and alcohol use. Studies have shown that avoiding tobacco and alcohol decreases the risk of developing esophageal cancer.

Diet

A diet with plenty of green and yellow fruits and vegetables and cruciferous vegetables (such as cabbage, broccoli, and cauliflower) may lower the risk of developing squamous cell cancer of the esophagus.

Nonsteroidal Anti-Inflammatory Drugs

Some studies have shown that the use of nonsteroidal anti-inflammatory drugs or NSAIDs (such as aspirin and other drugs that reduce fever, swelling, pain, and redness) is associated with a reduced risk of developing both squamous cell cancer and adenocarcinoma of the esophagus. Use of NSAIDs, however, increases the risk of heart attack, heart failure, stroke, bleeding in the stomach and intestines, and kidney damage.

Helicobacter Pylori Infection and Gastric Atrophy

Infection with the Helicobacter pylori bacteria causes inflammation and ulcers in the stomach lining, which may lead to a condition called gastric atrophy (cells that line the stomach are destroyed). This condition may increase the risk of developing squamous cell cancer of the esophagus.

Gastric Reflux and Barrett Esophagus

Gastric reflux (the backing up of stomach contents into the lower section of the esophagus) may irritate the esophagus and, over time, cause Barrett esophagus. Barrett esophagus is a condition in which the cells lining the lower part of the esophagus have changed or been replaced with abnormal cells that could lead to adenocarcinoma of the esophagus. It is not known if surgery or other medical treatment to stop gastric reflux will reduce the risk of developing adenocarcinoma of the esophagus.

Get More Information From NCI

Call 1-800-4-CANCER

For more information, U.S. residents may call the National Cancer Institute's (NCI's) Cancer Information

Service toll-free at 1-800-4-CANCER (1-800-422-6237) Monday through Friday from 9:00 a.m. to 4:30 p.m. A trained Cancer Information Specialist is available to answer your questions.

Chat online

The [NCI's LiveHelp®](#)¹ online chat service provides Internet users with the ability to chat online with an Information Specialist. The service is available from 9:00 a.m. to 11:00 p.m. Eastern time, Monday through Friday. Information Specialists can help Internet users find information on NCI Web sites and answer questions about cancer.

Write to us

For more information from the NCI, please write to this address:

NCI Public Inquiries Office
Suite 3036A
6116 Executive Boulevard, MSC8322
Bethesda, MD 20892-8322

Search the NCI Web site

The [NCI Web site](#)² provides online access to information on cancer, clinical trials, and other Web sites and organizations that offer support and resources for cancer patients and their families. For a quick search, use the search box in the upper right corner of each Web page. The results for a wide range of search terms will include a list of "Best Bets," editorially chosen Web pages that are most closely related to the search term entered.

There are also many other places to get materials and information about cancer treatment and services. Hospitals in your area may have information about local and regional agencies that have information on finances, getting to and from treatment, receiving care at home, and dealing with problems related to cancer treatment.

Find Publications

The NCI has booklets and other materials for patients, health professionals, and the public. These publications discuss types of cancer, methods of cancer treatment, coping with cancer, and clinical trials. Some publications provide information on tests for cancer, cancer causes and prevention, cancer statistics, and NCI research activities. NCI materials on these and other topics may be ordered online or printed directly from the [NCI Publications Locator](#)³. These materials can also be ordered by telephone from the Cancer Information Service toll-free at 1-800-4-CANCER (1-800-422-6237).

Changes to This Summary (07/12/2007)

The [PDQ cancer](#) information summaries are reviewed regularly and updated as new information becomes available. This section describes the latest changes made to this summary as of the date above.

Editorial changes were made to this summary.

Questions or Comments About This Summary

If you have questions or comments about this summary, please send them to Cancer.gov through the Web site's [Contact Form](#)⁴. We can respond only to email messages written in English.

About PDQ

PDQ is a comprehensive cancer database available on NCI's Web site.

PDQ is the National Cancer Institute's (NCI's) comprehensive cancer information database. Most of the

information contained in PDQ is available online at [NCI's Web site](#)². PDQ is provided as a service of the NCI. The NCI is part of the National Institutes of Health, the federal government's focal point for biomedical research.

PDQ contains cancer information summaries.

The PDQ database contains summaries of the latest published information on cancer prevention, detection, genetics, treatment, supportive care, and complementary and alternative medicine. Most summaries are available in two versions. The health professional versions provide detailed information written in technical language. The patient versions are written in easy-to-understand, nontechnical language. Both versions provide current and accurate cancer information.

The PDQ cancer information summaries are developed by cancer experts and reviewed regularly.

Editorial Boards made up of experts in oncology and related specialties are responsible for writing and maintaining the cancer information summaries. The summaries are reviewed regularly and changes are made as new information becomes available. The date on each summary ("Date Last Modified") indicates the time of the most recent change.

PDQ also contains information on clinical trials.

A clinical trial is a study to answer a scientific question, such as whether a certain drug or nutrient can prevent cancer. Trials are based on past studies and what has been learned in the laboratory. Each trial answers certain scientific questions in order to find new and better ways to help cancer patients and those who are at risk for cancer. During prevention clinical trials, information is collected about the effects of a new prevention method and how well it works. If a clinical trial shows that a new method is better than one currently being used, the new method may become "standard." People who are at high risk for a certain type of cancer may want to think about taking part in a clinical trial.

Listings of clinical trials are included in PDQ and are available online at [NCI's Web site](#)⁵. Descriptions of the trials are available in health professional and patient versions. Many cancer doctors who take part in clinical trials are also listed in PDQ. For more information, call the Cancer Information Service 1-800-4-CANCER (1-800-422-6237).

Glossary Terms

abnormal

Not normal. An abnormal lesion or growth may be cancer, premalignant (likely to become cancer), or benign (not cancer).

adenocarcinoma (A-den-oh-KAR-sih-NOH-muh)

Cancer that begins in cells that line certain internal organs and that have gland-like (secretory) properties.

aspirin

A drug that reduces pain, fever, inflammation, and blood clotting. Aspirin belongs to the family of drugs called nonsteroidal anti-inflammatory agents. It is also being studied in cancer prevention.

bacteria (bak-TEER-ee-uh)

A large group of single-cell microorganisms. Some cause infections and disease in animals and humans. The singular of bacteria is bacterium.

Barrett esophagus (BA-ret ee-SAH-fuh-gus)

A condition in which the cells lining the lower part of the esophagus have changed or been replaced with abnormal cells that could lead to cancer of the esophagus. The backing up of stomach contents (reflux) may irritate the esophagus and, over time, cause Barrett esophagus.

cancer (KAN-ser)

A term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems. There are several main types of cancer. Carcinoma is a cancer that begins in the skin or in tissues that line or cover internal organs. Sarcoma is a cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue. Leukemia is a cancer that starts in blood-forming tissue such as the bone marrow, and causes large numbers of abnormal blood cells to be produced and enter the blood. Lymphoma and multiple myeloma are cancers that begin in the cells of the immune system. Central nervous system cancers are cancers that begin in the tissues of the brain and spinal cord. Also called malignancy.

cell (sel)

The individual unit that makes up the tissues of the body. All living things are made up of one or more cells.

congestive heart failure

Weakness of the heart muscle that leads to a buildup of fluid in body tissues.

cruciferous vegetable (KROO-sih-feh-rus VEJ-tuh-bul)

A member of the family of vegetables that includes broccoli, Brussels sprouts, cabbage, cauliflower, collard greens, kale, and turnips. These vegetables contain substances that may protect against cancer. Also called Brassica vegetable.

diet

The things a person eats and drinks.

drug

Any substance, other than food, that is used to prevent, diagnose, treat or relieve symptoms of a disease or abnormal condition. Also refers to a substance that alters mood or body function, or that can be habit-forming or addictive, especially a narcotic.

esophageal (ee-SAH-fuh-JEE-ul)

Having to do with the esophagus, the muscular tube through which food passes from the throat to the stomach.

esophagus (ee-SAH-fuh-gus)

The muscular tube through which food passes from the throat to the stomach.

gastric atrophy (GAS-trik A-troh-fee)

A condition in which the stomach muscles shrink and become weak. The digestive (peptic) glands may also shrink, resulting in a lack of digestive juices.

gastric reflux (GAS-trik REE-flux)

The backward flow of stomach acid contents into the esophagus (the tube that connects the mouth to the stomach). Also called esophageal reflux and gastroesophageal reflux.

gene

The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein.

Helicobacter pylori (HEEL-ih-koh-BAK-ter py-LOR-ee)

A type of bacterium that causes inflammation and ulcers in the stomach or small intestine. People with *Helicobacter pylori* infections may be more likely to develop cancer in the stomach, including MALT (mucosa-associated lymphoid tissue) lymphoma. Also called *H. pylori*.

infection

Invasion and multiplication of germs in the body. Infections can occur in any part of the body and can spread throughout the body. The germs may be bacteria, viruses, yeast, or fungi. They can cause a fever and other problems, depending on where the infection occurs. When the body's natural defense system is strong, it can often fight the germs and prevent infection. Some cancer treatments can weaken the natural defense system.

inflammation (IN-fluh-MAY-shun)

Redness, swelling, pain, and/or a feeling of heat in an area of the body. This is a protective reaction to injury, disease, or irritation of the tissues.

inherited (in-HAYR-it-ed)

Transmitted through genes that have been passed from parents to their offspring (children).

intestine (in-TES-tin)

The long, tube-shaped organ in the abdomen that completes the process of digestion. The intestine has two parts, the small intestine and the large intestine. Also called bowel.

kidney (KID-nee)

One of a pair of organs in the abdomen. Kidneys remove waste from the blood (as urine), produce erythropoietin (a substance that stimulates red blood cell production), and play a role in blood pressure regulation.

nonsteroidal anti-inflammatory drug (NON-steh-ROY-dul AN-tee-in-FLA-muh-TOR-ee ...)

A drug that decreases fever, swelling, pain, and redness. Also called NSAID.

PDQ

PDQ is an online database developed and maintained by the National Cancer Institute. Designed to make the most current, credible, and accurate cancer information available to health professionals and the public, PDQ contains peer-reviewed summaries on cancer treatment, screening, prevention, genetics, complementary and alternative medicine, and supportive care; a registry of cancer clinical trials from around the world; and directories of physicians, professionals who provide genetics services, and organizations that provide cancer care. Most of this information, and more specific information about PDQ, can be found on the NCI's Web site at <http://www.cancer.gov/cancertopics/pdq>. Also called Physician Data Query.

preventive

Used to prevent disease.

risk factor (... FAK-ter)

Something that increases the chance of developing a disease. Some examples of risk factors for cancer are age, a family history of certain cancers, use of tobacco products, being exposed to radiation or certain chemicals, infection with certain viruses or bacteria, and certain genetic changes.

squamous cell carcinoma (SKWAY-mus sel KAR-sih-NOH-muh)

Cancer that begins in squamous cells, which are thin, flat cells that look like fish scales. Squamous cells are found in the tissue that forms the surface of the skin, the lining of the hollow organs of the body, and the passages of the respiratory and digestive tracts. Also called epidermoid carcinoma.

stomach (STUH-muk)

An organ that is part of the digestive system. The stomach helps digest food by mixing it with digestive juices and churning it into a thin liquid.

stroke

In medicine, a loss of blood flow to part of the brain, which damages brain tissue. Strokes are caused by blood clots and broken blood vessels in the brain. Symptoms include dizziness, numbness, weakness on one side of the body, and problems with talking, writing, or understanding language. The risk of stroke is increased by high blood pressure, older age, smoking, diabetes, high cholesterol, heart disease, atherosclerosis (a build-up of fatty material and plaque inside the coronary arteries), and a family history of stroke.

surgery (SER-juh-ree)

A procedure to remove or repair a part of the body or to find out whether disease is present. An operation.

tissue (TISH-oo)

A group or layer of cells that work together to perform a specific function.

ulceration

The formation of a break on the skin or on the surface of an organ. An ulcer forms when the surface cells die and are cast off. Ulcers may be associated with cancer and other diseases.

Table of Links

1 <https://cissecure.nci.nih.gov/livehelp/welcome.asp>

2 <http://cancer.gov>

3 <https://cissecure.nci.nih.gov/ncipubs>

4 http://cancer.gov/contact/form_contact.aspx

5 http://cancer.gov/clinical_trials