

## Education

### Lung Cancer

What is lung cancer?

Lung cancer is an abnormal growth of cells that starts in the lungs. Lung cancer is one of the most common forms of cancer in the US and is the leading cause of cancer deaths in both men and women.

When you breathe, the lungs bring oxygen into the body and take out carbon dioxide. Carbon dioxide is a waste product of the body's cells.

Lung cancer can spread to other parts of the body, most often to the liver, brain, bones, and other parts of the lungs, including the outer lining (called the pleura). Cancer from other parts of the body may also spread to the lungs, but it is different from cancer that starts in the lungs.

How does it occur?

Tobacco is linked to most cases of lung cancer. In addition to smoking, factors that increase your risk for lung cancer include exposures to:

- other people's smoke (secondhand smoke, or passive smoking)
- air pollution
- radiation at your job or in your environment
- asbestos
- radon gas
- industrial chemicals such as the byproducts from petroleum refining.

What are the symptoms?

Lung cancer grows for a while without causing symptoms. Symptoms may include:

- a cough that doesn't go away, coughing up blood, shortness of breath, wheezing, hoarseness
- chest pain, sometimes made worse by when you breathe in
- swelling in the neck or face
- tiredness, weakness
- loss of appetite
- weight loss.

If the cancer spreads to other parts of the body, the symptoms will depend on the area it has spread to.

How is it diagnosed?

Your health care provider will review your symptoms and examine you. A sample of sputum may show if cancer cells are present. Some of the following tests also will be done:

- chest x-rays
- CT scans of your chest
- CT or other scans of other parts of your body to look for spread of the disease, such as the liver or bones
- MRI (magnetic resonance imaging) of your brain or bones
- blood tests.

If x-rays or scans show an area in the lung that does not look normal, a sample of cells can be taken for testing (a biopsy). Biopsies can be done by:

- numbing the area and putting a thin needle through the chest wall
- passing a slim, flexible, lighted tube called a bronchoscope through your mouth and down into the lung to see and sample abnormal areas (a procedure called a bronchoscopy)
- doing surgery to remove some or all of the abnormal tissue.

How is it treated?

Treatment depends on the type, size, and stage of the cancer and your own general health. If you have a single tumor with little or no spread into nearby tissues, surgery is the usual treatment. Surgery is the single best way to cure lung cancer. A part of one lung or a whole lung may need to be removed.

Unless the cancer is very small, chemotherapy for about 2 months may be recommended after surgery. Chemotherapy is treatment with anticancer drugs to kill cancer cells.

In some cases, chemotherapy with or without radiation therapy may be recommended before surgery or instead of surgery. Radiation is usually given at the same time as chemotherapy but, in some cases, radiation is given after chemotherapy, followed by a bit more chemotherapy. If the cancer has spread outside the lung to the bones or brain, radiation therapy may need to be given to those areas. If it has spread to other parts of the body, chemotherapy alone or biologic therapy is used.

When lung cancer spreads to the outer lining of a lung, fluid may build up in the chest outside the lung and make it hard for the lung to take in air. The fluid can be removed with a needle so you can breathe more easily (a procedure called thoracentesis).

What are the chances of a cure?

Almost 1 of every 6 cases of lung cancer is cured (usually with at least surgery).

How can I take care of myself?

Follow your health care provider's recommended treatment and keep all your follow-up appointments. To help take care of yourself during your treatment and recovery, follow these guidelines:

- Do not smoke.
- Exercise according to your health care provider's recommendations.
- Eat regular, healthy meals, as recommended by your provider or dietitian.
- Get plenty of rest.
- Drink lots of liquids to keep the mucus in your lung secretions from getting thick.
- Spend time with people you can talk to comfortably. Ask for help at home or work when the load is too great to handle.
- Lower your stress in ways that work for you, such as taking part in hobbies and fun activities, listening to music, or doing relaxation and deep breathing exercises.
- Talk with your health care provider or a mental health professional about the things that make you anxious. Ask for help in finding ways to cope with these things.

Call your health care provider if any symptoms recur. Your provider will tell you what new signs and symptoms to watch for and when to call or make an appointment.

What can be done to help prevent lung cancer?

Not all of the causes of lung cancer are known, but following these guidelines can help reduce the risk of some of the more common kinds of lung cancer:

- Do not smoke and stay away from other people's smoke. If you are a smoker, stop smoking. You will start lowering your risk of lung cancer right away.
- Stay away from environmental hazards, such as radon and asbestos, and, when possible, severe air pollution. Use protective equipment at work when it is recommended.

For more information on cancer, contact national and local organizations such as:

- American Cancer Society, Inc. Phone: 800-ACS-2345 (800-227-2345) Web site: <http://www.cancer.org>
- Cancer Information Service Phone: 800-4-CANCER (800-422-6237) Web site: <http://cis.nci.nih.gov>.

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