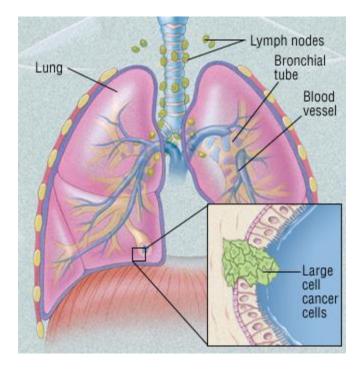
# Information provided by Harvard Health Publications

## Large Cell Cancer of the Lung

#### What Is It?

Large cell lung cancer is given this name because the abnormal cells appear large under the microscopic. Lung cancers are divided into two main groups -- small cell lung cancer and non-small cell lung cancer. Large cell lung cancer is one of the non-small cell cancers.

Large cell lung cancers often begin in the central part of the lung. Of the non-small cell lung cancers, this type is usually discovered at a later stage. This means that by the time the diagnosis is made, the cancer often has already spread to areas outside of the lung. Large cell lung cancers tend to grow quickly and spread. The cancer may spread into nearby lymph nodes and into the chest wall. It also can spread to more distant organs, even when the tumor in the lung is relatively small.



Most people who develop large cell lung cancer are past or present smokers.

### **Symptoms**

Sometimes lung cancer is discovered on a chest x-ray or CT scan that was performed for some other diagnostic concern.

When symptoms occur, the most common one is a persistent cough. However, most people with a persistent cough do not have lung cancer.

Other symptoms that can be related to lung cancer include:

- Coughing up blood
- · Shortness of breath

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- A wheeze in just one side of the chest
- Marked fatigue
- Pneumonia that returns to the same area of the lung
- Unexplained weight loss or loss of appetite

#### **Diagnosis**

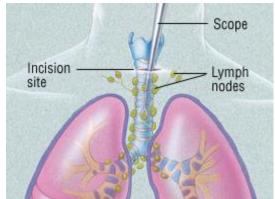
Doctors often first find large cell lung cancer on a chest x-ray, where it appears as a gray or whitish area, also commonly called a "spot". Other tests, such as computed tomography (CT), magnetic resonance imaging (MRI) scans and positron emission tomography (PET scans) can show the size, shape and location of the tumor. This information helps doctors determine where to take samples of the tumor (biopsy). A biopsy confirms type of lung cancer.

PET scans use a special sugar-based substance that can be measured and can help diagnose lung cancer and show whether it has spread and how far. Cancer cells are actively growing. So, they need to use more of this sugar. It accumulates in the cancer cells, more so than in normal, non-cancerous cells. This makes the cancer stand out. Studies show that PET scans may be better than CT scans at finding where the cancer has spread.

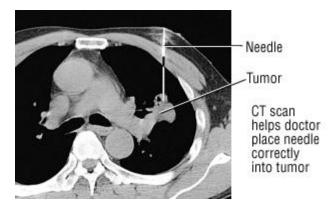
A test called is sputum cytology (spew-tum sigh-tol-oh-gee) can also determine the type of lung cancer. The patient coughs deeply to bring up mucus from the lungs. Doctors then check the mucus under the microscope for abnormal cells. This test works best for tumors near the center of the lung. It isn't as good for small tumors near the edges of the lung.

Doctors may also use the following tests to diagnose large cell lung cancer:

- Thoracentesis: Doctors use a thin needle to remove a sample of the fluid from between the lung and the chest wall. This fluid is examined for cancer cells. This test is often done when a chest x-ray shows abnormal buildup of fluid.
- **Mediastinoscopy:** In this operation, the doctor removes lymph nodes from the lungs through a very small opening made at the bottom of the neck. A pathologist who tests the tissue samples for cancer cells.



• **Needle biopsy:** Doctors us a very thin needle to remove fluid or tissue for testing. Samples may come from a tumor in the lung or from other parts of the body where the cancer may have spread.



- **Bronchoscopy:** For this test, doctors use a tiny camera at the end of a thin, long, flexible tube. She or he guides the tube through the mouth and into the lungs. Once in place, he or she can look directly at the tumor and take tissue samples.
- Video assisted thoracoscopic surgery (VATS): For this procedure, the surgeon also uses a tiny camera
  at the end of a long, flexible tube. But this time he or she inserts the tube directly into the chest. Again, this
  makes it possible for the doctor to look into the lung and take tissue samples for testing.
- **Surgery:** Sometimes, the best approach is immediate surgery to remove the tumor. This occurs most often when there is a single spot on a CT scan and no evidence that the cancer has spread.

New tests can be performed on the cancer tissue from a biopsy or surgery to look for certain types of mutations. When present, they can be used to help define optimal therapy.

#### **Expected Duration**

Without treatment, large cell lung cancer will continue to grow. As with any cancer, even when treatment appears successful (remission), it may come back.

#### **Prevention**

Tobacco smoke greatly increases the chances of developing most forms of lung cancer, including large cell lung cancer. If you smoke, quit. Also avoid other people's cigarette smoke.

Routine screening with low dose CT scanning may help detect asymptomatic lung cancers in patients that have a long history of smoking. The U.S. Preventive Services Task Force recommends annual screening for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years.

Early detection means there is a greater chance that the lung cancer can be completely removed with surgery. This can lead to improved survival. However, most of the abnormal spots seen on CT scans will not be cancerous. Therefore, many people will undergo biopsies that don't need them.

#### **Treatment**

The size and place of the tumor—also known as the cancer's stage—determine treatment.

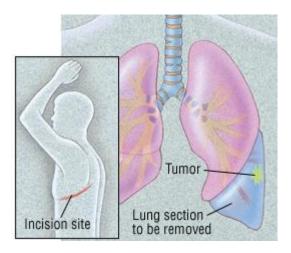
- Stage I tumors are small. They have not invaded the nearby tissue or organs.
- Stage II and III tumors have entered nearby tissue and/or organs and spread to lymph nodes.

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Stage IV tumors have spread outside the chest area.

In general, the goal of treatment is to shrink or remove the tumor. Treatment could include surgery to remove the tumor, radiation, or chemotherapy. Even when therapy shrinks or removes the cancer, doctors follow patients for months or even years after treatment. That's because lung cancer may return.

Surgery is the primary treatment for large cell lung cancer that has not spread. For small, tumors limited to one area, it might be possible to remove only a small section of the lung. More extensive cancer might require removing one lobe of the lung or the entire lung. To help keep the cancer in check, doctors may recommend radiation and/or chemotherapy in addition to surgery.



Surgery may not be a safe option for people with other serious health problems. For them, doctors may recommend radiation, or a combination of radiation and chemotherapy. There are specialized forms of radiation that can be used when patients are too ill to undergo surgical removal of the tumor and a portion of the lung.

A newer form of radiation therapy, Cyberknife, uses highly focused beams of radiation. It may be an option for people who cannot have surgery. It also is alternative to full dose radiation therapy because there is less damage to nearby tissues.



Chemotherapy can help slow tumor growth and decrease symptoms even when the cancer cannot be cured. Unfortunately, chemotherapy and radiation do not work as well against large cell lung cancer as they do against other types of tumors.

Scientist have discovered specific "signals" that tell lung cancer cells to grow. Newly developed drugs interfere or neutralize the signal. These "targeted therapies" offer another option for treating lung cancer.

#### When To Call a Professional

If you notice any of symptoms of lung cancer, see your health care professional right away.

#### **Prognosis**

In most cases, large cell lung cancer is diagnosed at an advanced stage. For these people, the chance for cure is small. When the diagnosis is made early, especially if the large cell lung cancer can be totally removed with surgery, the outlook is much more hopeful.

Even when surgery and other therapies are successful at first, the cancer may return. But as scientists learn more about cancer biology, there is hope that the outlook for lung cancer patients will improve.

#### **External resources**

#### **National Cancer Institute (NCI)**

U.S. National Institutes of Health Public Inquiries Office Building 31, Room 10A03 31 Center Drive, MSC 8322 Bethesda, MD 20892-2580 Phone: 301-435-3848 Toll-Free: 1-800-422-6237 TTY: 1-800-332-8615

#### **American Cancer Society (ACS)**

1599 Clifton Road, NE Atlanta, GA 30329-4251 Toll-Free: 1-800-227-2345 http://www.cancer.org/

http://www.nci.nih.gov/

#### **American Lung Association**

61 Broadway, 6th Floor New York, NY 10006 Phone: 212-315-8700 Toll-Free: 1-800-548-8252 http://www.lungusa.org/

#### National Heart, Lung, and Blood Institute (NHLBI)

P.O. Box 30105 Bethesda, MD 20824-0105 Phone: 301-592-8573 TTY: 240-629-3255 Fax: 301-592-8563

http://www.nhlbi.nih.gov/

U.S. Environmental Protection Agency (EPA)
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

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Phone: 202-272-0167 http://www.epa.gov/

#### U.S. Department of Labor's Occupational Safety & Health Administration (OSHA)

200 Constitution Ave. Washington, D.C. 20210 Phone: 202-693-1999 Toll-Free: 1-800-321-6742

TTY: 1-877-889-5627 http://www.osha.gov/

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