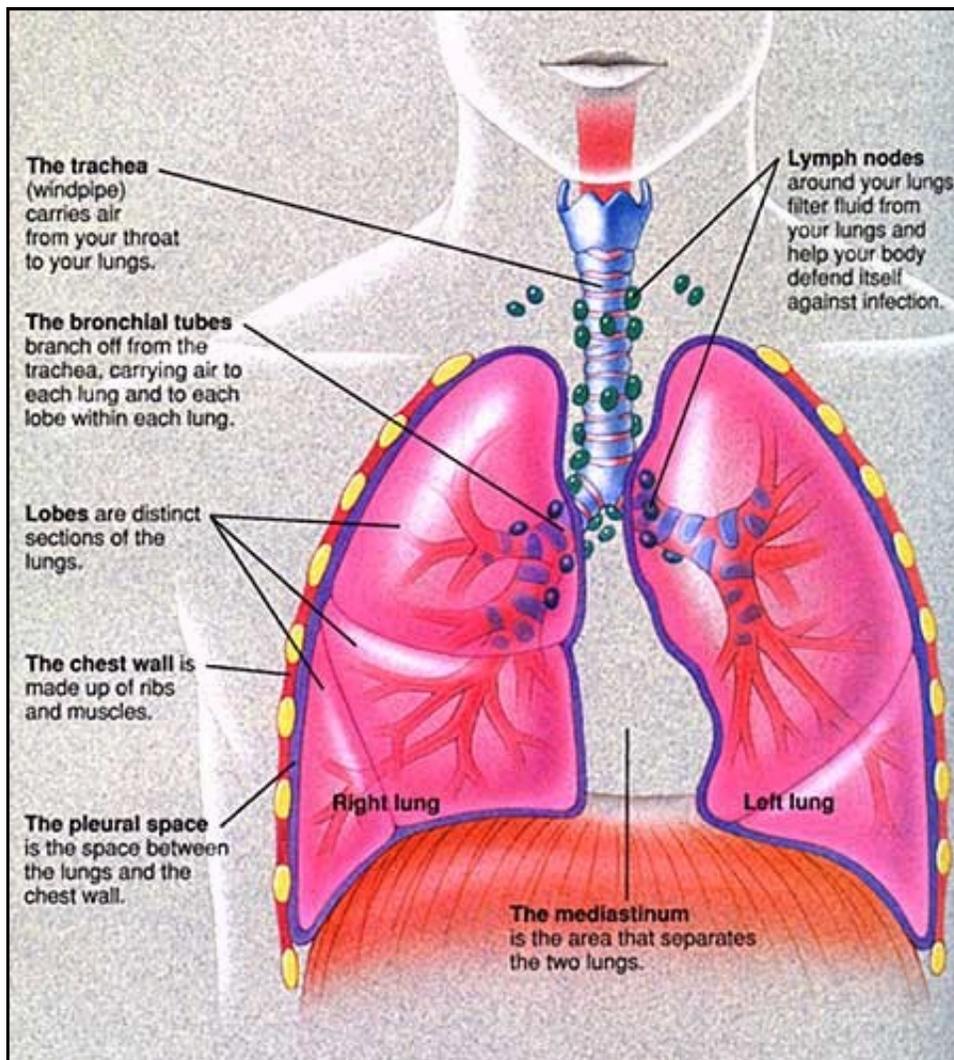


A Patient's Guide to Lung Surgery

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The Lungs

The Lungs are the body's organs for adding oxygen to the blood and removing the body's metabolic waste product, carbon dioxide. The lungs are divided into sections called lobes.

There are 3 lobes in the right lung and 2 lobes in the left lung. Each lung is composed of millions of tiny air sacs called alveoli. When a person breathes in, the alveoli fill with air and carbon dioxide moves into the alveoli while oxygen moves into the blood.

Lung Cancer

Lung cancer is the uncontrolled growth of abnormal cells in one or both lungs. These cells reproduce rapidly and never grow into normal lung tissue. Lumps of cancer cells (tumors) form and disrupt the normal functioning of the lungs.

More Americans die each year from lung cancer than from breast, prostate, and colorectal cancers combined. There are about 174,000 new cases of lung cancer diagnosed each year with about 160,000 deaths each year. 28% of all cancer deaths are attributed to lung cancer.

Smoking causes 87% of lung cancers, although not all smokers develop lung cancer. Other causes include exposure to cancer causing agents such as asbestos, radon gas and arsenic. Second-hand smoke, radiation exposure, air pollution and tuberculosis can also cause lung cancer.

When lung cancer is diagnosed/detected in an early stage where the tumor has not spread to other organs and surgery is possible, the 5-year survival rate can reach 85%. That rate declines dramatically if the cancer has spread to other organs.

Classifications and Stages of Lung Cancer

Small Cell Lung Cancer: makes up 20% of all lung cancers. The cancer cells are small and multiply rapidly to form large tumors that spread to the lymph nodes and to other organs such as the brain, liver, and the bones.

Stages of SCLC:

Limited: tumor is found in 1 lung and nearby lymph nodes

Extensive: tumor has spread beyond 1 lung to other organs

Non-small Cell Lung Cancer: makes up 80% of lung cancers. There are 3 subtypes of NSCLC:

Squamous cell carcinoma: usually linked to smoking. It is found centrally near the bronchus.

Adenocarcinoma: usually found in the outer region of the lung

Large-cell undifferentiated carcinoma: can appear in any part of the lung and tends to grow and spread quickly

Stages of NSCLC:

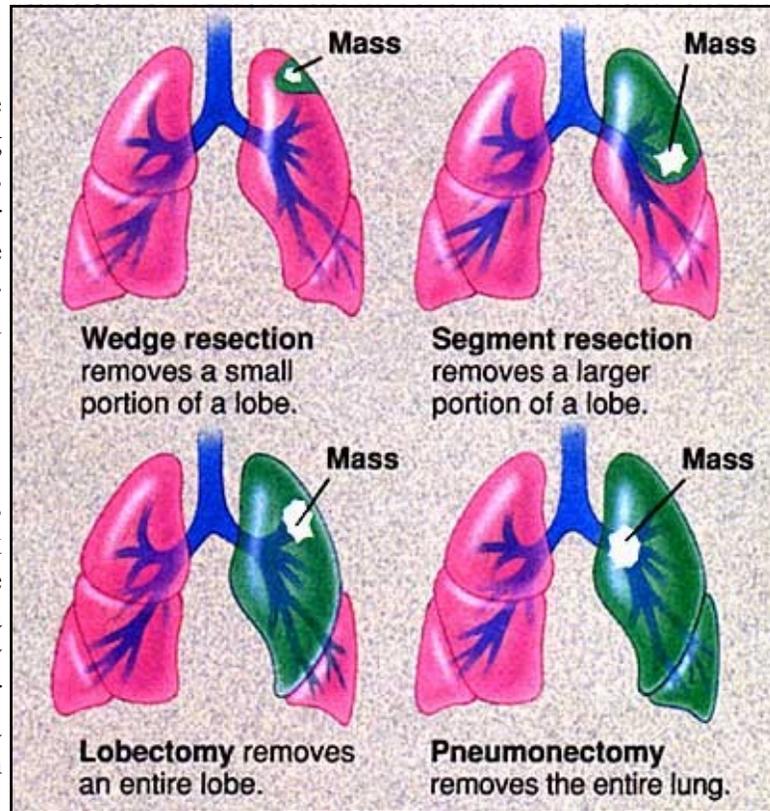
- Stage I a/b: tumor of any size in only 1 lung
- Stage II a/b: tumor has spread to lymph nodes associated with the lung
- Stage IIIa: tumor has spread to the lymph nodes of the trachea, chest wall and diaphragm
- Stage IIIb: tumor has spread to the lymph nodes on the opposite lung or in the neck
- Stage IV: tumor has spread to other organs such as the brain, liver or bones

Lung Surgery

Surgery is often the greatest chance for a cure from many types of lung cancer, especially if the cancer is detected early and has not spread or metastasized to other parts of the body. The type of surgery performed depends on the location and extent of the tumor.

Other Lung Surgeries

When a portion of the lung wall is thin or has ruptured, air may leak into the pleural space causing the lung to collapse. This is called a pneumothorax. A type of surgery called a bleb resection can repair the wall of the lung, especially if a pneumothorax occurs more than once.



Types of Lung Surgery

Fluid may collect in the area around the lungs called the pleural space. Causes of fluid collection include infections such as pneumonia, some cancers, and complications from certain types of surgery. If the fluid contains pus, it is called an empyema. This condition frequently develops pockets of fluid that cannot be easily drained with a chest tube. If the fluid cannot be drained with a chest tube or a biopsy is needed, then surgery is performed to drain the fluid and help the lung heal.

Video-Assisted Thoracic Surgery (VATS)

For people with early stage lung cancer, a pleural effusion, or who need a lung tissue sample for diagnosis, they may undergo a less invasive type of surgery. The surgeon uses a tiny camera that is placed through a small incision in the chest to help him see the area in question. Additional small incisions are used for the other instruments that are needed. This approach is only for tumors that are smaller than 2 inches in diameter, drainage of uncomplicated pleural effusions, and for a lung biopsy.

If a larger incision is needed because of tumor size or better exposure is required, then a thoracotomy is performed. This is a long incision that is made in the chest wall between the ribs.

Recovery from Surgery

Recovery from lung surgery can take 4-8 weeks. The incisions take approximately 6 weeks to heal. Do not go into a swimming pool or hot tub until the incision have completely healed. It is okay to take a warm (not hot) shower once you are discharged from the hospital.

It is normal to experience the following; all of these will resolve with time:

Pain: The intensity and frequency will differ from day to day. You may also experience discomfort in the chest at or below the breast. Take pain pills when needed. These may not totally relieve the pain, but should make the pain tolerable.

Difficulty sleeping: This is usually caused by pain. Taking your pain medication at bedtime may help you relax.

Low grade fevers: This is caused by the healing process and not taking deep breaths. Take 10 deep breaths or use your breathing device at least 4 times a day.

Some redness and swelling along and around the incision site.

Numbness in the chest.

Swelling and discomfort in the breast. This usually occurs on the side where the surgery was performed.

Call the Doctor for the Following:

- Extreme redness, puffiness or drainage from or around the incision.
- Temperature above 102° F.
- Severe shortness of breath.

Other Considerations

If you have lung cancer, additional treatment may be recommended after your surgery depending upon the staging of your tumor. These treatments may include chemotherapy and radiation treatments. You may be referred to an Oncologist (cancer specialist) for further treatments.

If you are a smoker, the most important thing you can do after lung surgery is to **quit smoking**. Quitting improves your appetite during the recovery period, improves your overall health and can reduce the chance of developing a new cancer. Quitting also improves tissue healing. In addition, the risk of developing other smoking-related diseases such as heart disease, emphysema, stroke, and chronic bronchitis are greatly reduced by quitting smoking.

Remember that your body is unique. No one can predict how your body will respond to treatment or how quickly it will heal after surgery.