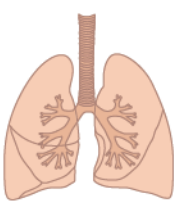


What to Expect: Thoracic (Lung) Surgery





Your Lungs

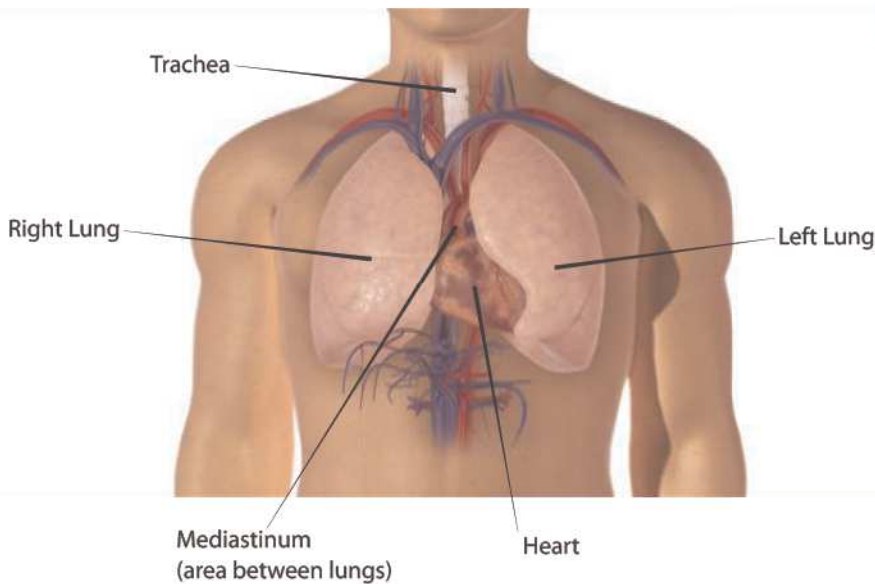
Who Needs a Lung Operation?

The main reason for having an operation on your lung is to remove a lung nodule or tumor. Other reasons include:

- An abnormal X ray
- Treatment of infection or scarring around the lung
- Removal of sections of the lung that are diseased

Understanding Your Respiratory System

Knowing how your lungs work is helpful in understanding your operation.



YOUR LUNGS

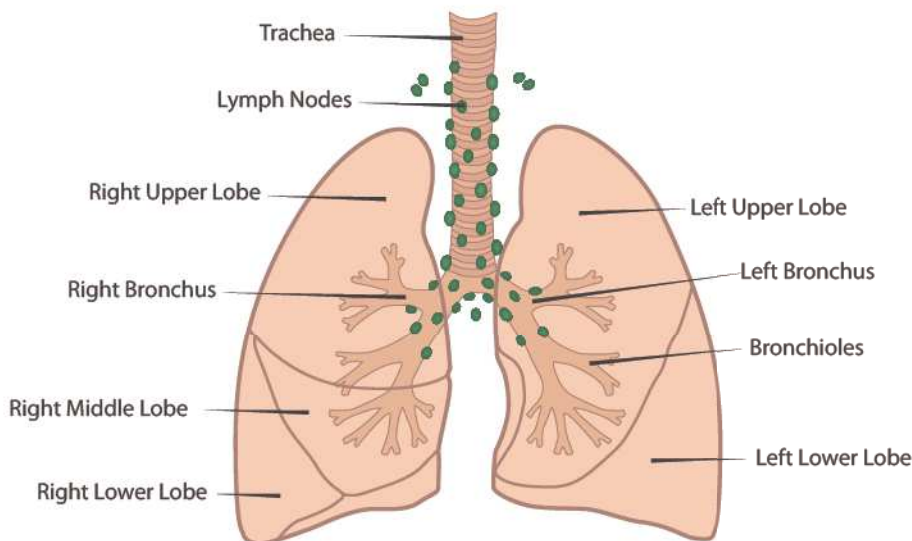
When you take a breath, air and oxygen pass from your mouth and nose through your trachea (windpipe) and right and left bronchus and into your lungs. Your lungs carry the oxygen through small tubes called bronchioles, and then to the alveoli. The alveoli are where the oxygen meets with the bloodstream. Oxygen is provided to the blood, and carbon dioxide is released back into the alveoli. As you breathe out, the carbon dioxide gas exits through your lungs and then out through your mouth.

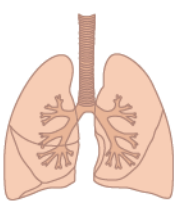
LUNG LOBES

The lungs are divided into lobes. There are 3 lobes on your right side and 2 lobes on your left side.

LYMPH NODES NEAR THE LUNGS

The lungs also have a large supply of lymph nodes. The lymph nodes are small, round masses of tissue that filter the blood and trap cancer cells and bacteria.

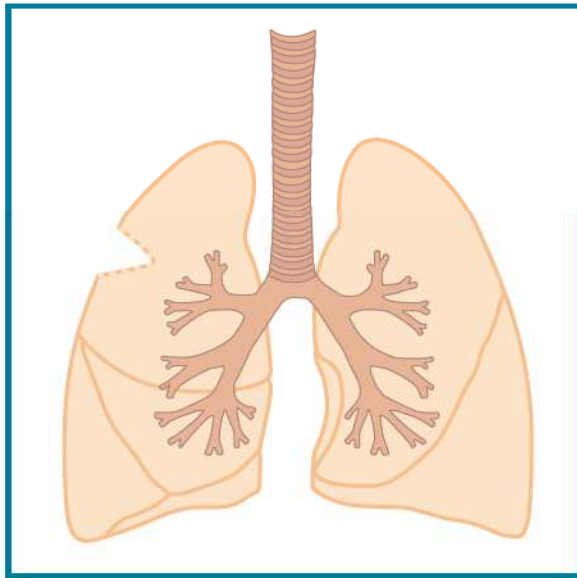




Understanding Your Operation

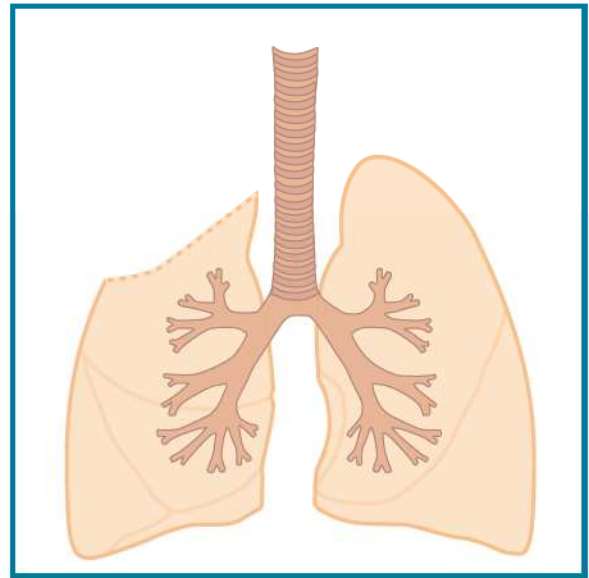
Your Operation: Removing a Section of Your Lung

There are different approaches that your surgeon can do to remove part of your lung. The approach is based on the location and extent of your disease, the surgeon's level of expertise, and your overall health.



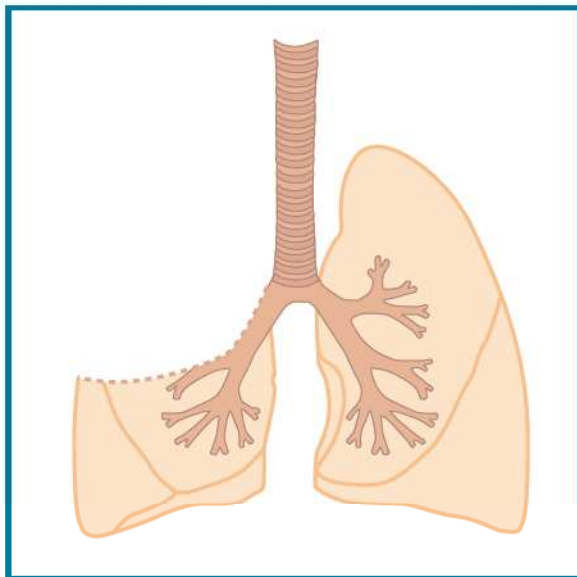
Wedge Resection:

A small, pie-shaped section from a lung lobe is removed.



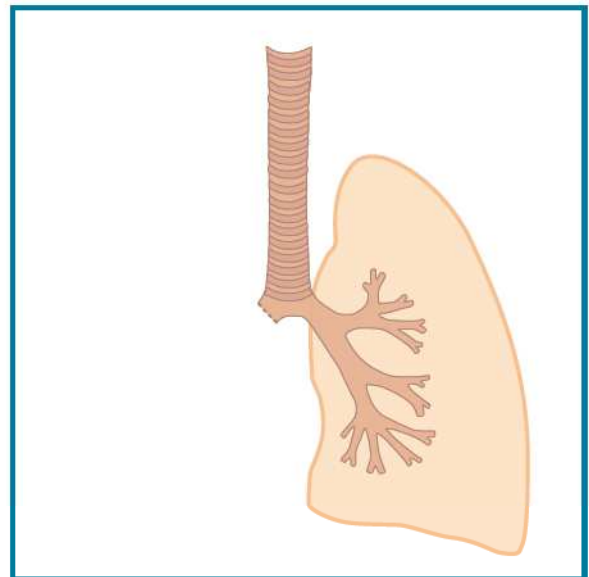
Segmentectomy:

Each lobe contains between 2 and 5 segments. A segmentectomy removes one or more segments but less than the entire lobe.



Lobectomy:

An entire lobe is removed. The rest of the lung inflates to fill up the space.



Pneumonectomy:

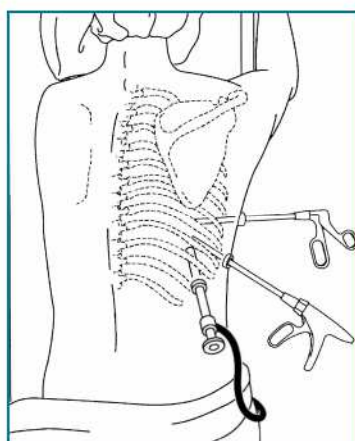
An entire lung is removed. The sac that contained the lung (pleural space) fills with fluid.



Your Operation: Surgical Approach

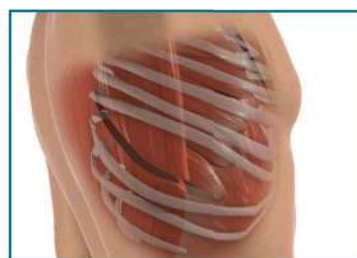
VIDEO-ASSISTED THORACIC SURGERY (VATS)

For a VATS procedure, 2 to 4 small incisions are made on the chest. Each incision is about 1 to 3 centimeters in length. Surgical tools and a thoracoscope (tube with a video camera and light source) are placed in the incisions. The lung tissue is cut away and placed in a small bag and then removed through an incision.



THORACOTOMY

A 3- to 8-inch incision is made on your chest. It can extend from under your arm around to your back. Some muscle is cut, and the ribs are spread apart. Occasionally a small portion of the rib must be removed to allow access to the lung. Sometimes smaller incisions under or near the armpit can be used for this procedure. This procedure is called a mini-thoracotomy. The size and location of the incision depends on the part of the lung being removed.



OTHER SURGICAL PROCEDURES

On rare occasions, your surgeon may decide to go in through the middle of your chest (median sternotomy). This approach may be used to reach both right and left lungs, as well as lymph nodes in the mediastinal area.

Nonsurgical Approach

For patients who cannot have an operation due to other medical conditions, stereotactic radiation therapy or other removal techniques may be an option.



Food and Drink

- You should not eat or drink starting at midnight before the operation (this rule includes candy, gum, and coffee). Usually you can take your morning pills with a sip of water, but check with your doctor. If you are a diabetic, your insulin should be adjusted.

Shower or Bath/Hygiene

- Clean your chest area with nonscented, mild, antibacterial soap (such as Ivory or Dial) the night before. Repeat the morning of your operation. Do not shave the surgical site.
- You can brush your teeth and rinse your mouth with an antibacterial or antiseptic mouthwash. Doing so can decrease the amount of bacteria in your mouth and may decrease your risk of developing pneumonia.

What to Bring

- Insurance card and identification
- Advance directive form
- Loose-fitting, comfortable clothes
- Nonslip shoes or slippers
- Toiletries (toothbrush, toothpaste, hairbrush)

What to Leave Behind

- Leave jewelry and valuables at home.
- You will have to remove all dentures, glasses, contact lenses, makeup, hairpins, hairpieces, piercings, nail polish, and artificial body parts.

Safety Checks

- An identification bracelet with your name and hospital number will be placed on your wrist. Your ID should be checked by the health care team before they provide any procedures or give you medication. If you have allergies, you will also get an allergy alert bracelet.
- You will be asked to confirm the location of your lung procedure (right or left). A member of the surgical team will mark the side with a marker.



Waiting Area

- You will change into the hospital gown, and all of your belongings will be labeled and placed in a locker or given to your family.
- You will meet with your anesthesia provider. Any health problems will be reviewed. Your postoperative pain management plan will be discussed.
- An intravenous (IV) line will be started to give you fluid and medications.

Family Updates

- You will be in the operating room area for up to 6 hours. Ask your surgeon about how long your procedure should last.
- Your family will be called when your operation is over.

How Long Will You Be in the Hospital?

The typical length of a hospital stay after a lung operation is 2 to 5 days. Your stay may be longer or shorter depending on the complexity of the surgical procedure, your age, and your overall health status. Let's go through what you need to know as you recover and get ready for discharge.

Thinking Clearly

General anesthesia and your pain medication may cause you to feel sleepy and not think clearly. Do not drive, drink alcohol, or make any big decisions while on opioid pain medication.

Nutrition

- Take a multivitamin.
- Eat a balanced diet with food that is high in proteins. Proteins are necessary for recovery.
 - Some examples of foods rich in protein include meats, beans, fish, eggs, nuts, milk, and milk products.
 - If you are having trouble eating a balanced diet, you can use nutrition supplements such as Ensure, Boost, or Carnation Instant Breakfast.

Activity

- You should be up and walking 3 to 4 times a day. Continue to increase the length of time that you walk. Even if you can't walk far, just getting up every hour and walking around your house is helpful.
- Use your incentive spirometer every 1 to 2 hours. Your activity log allows you to write down and keep track of your spirometer usage.
- Continue doing the stretching exercises that you learned before your operation.
- Do not drive while taking prescription pain medication, or until advised by your surgeon.

Fatigue

It is normal to feel tired when you get home. You may require more sleep than you did before the operation.

Lifting Restrictions

Do not lift anything heavier than 10 pounds (a gallon of milk is 9 pounds) for 1 to 3 months after your operation. Your doctor will provide you with more information about returning to heavy lifting after your operation.

Pain Management and Chest Discomfort

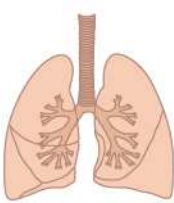
When you first get home, you may have more pain in the evening. This is usually due to all of the activities you perform throughout the day. You might see that you can manage with one pain medication pill every 4 to 6 hours during the day, but you need 2 at night. You will gradually decrease the amount of pain opioid medication you need. You may need a nonsteroidal (such as Ibuprofen) for several weeks.

Some patients feel stiffness in the chest. This problem can be helped by taking a warm shower or by using a heating pad. Place a towel between the heating pad and your chest.

Some patients have breast or skin sensitivity and discomfort for a longer period of time. They tell us that the side of the operation feels different than the other side. This feeling can last for several months. Women say that wearing a sports bra or supportive bra that has a larger chest measurement (not cup size) is helpful. Place a small, clean gauze pad over the scar if your bra rubs the incision.

Frequent Coughing

Some patients have a frequent cough. You may find taking over-the-counter cough medicines to be helpful. You may cough up small amounts of dark blood the first few days after the operation, but this problem will begin to decrease over the next several weeks. The dark blood will change to mucus with just some blood streaks, and eventually to mucus with brown dried blood specks.



Your Recovery and Discharge



Wound Care

You may have stitches or Dermabond glue on the site where your chest tube was removed. Usually you go home with dressings or a small adhesive bandage over your chest tube site.

It is not unusual for the sites to have some drainage.

To change your dressing:

- Start by washing your hands.
- Remove the old dressing.
- Look at the wound for any redness, swelling, and drainage. The wound should not have a strong odor. On the first days, the drainage will be pink in color and then will gradually turn to a clear/yellow.
- Clean the skin around the site with soap and water.
- Let the skin dry.
- Apply a new gauze dressing attached with a small piece of tape or a new adhesive bandage.

Here are a few other things that you should know about your wound site:

- You can take a shower the day after your chest tube is removed.
- Do not soak in a bathtub until your stitches or Steri-strips are removed.
- A small amount of drainage from the incision is normal. If you are changing the dressing more than 3 times per day, or if it is soaked with blood or fluid, call your surgeon.
- If you have Steri-strips in place, they will fall off in 7 to 10 days. If they are still present after 10 days, you may remove them in the shower.
- If you have a stitch at your chest tube site, your doctor will remove it at your first postoperative visit.

- If you have skin glue, leave it in place. It will eventually fall off.
- Your scar will heal in about 4 to 6 weeks and will become softer and continue to fade over the next year.
- Avoid wearing tight or rough clothing, which may rub your incisions and make it harder for them to heal.
- Slight tingling or numbness at the site is normal and can last for weeks.

Bowel Movement/Constipation

Pain medications can cause constipation. Regular bowel movements should resume 2 to 3 days after your operation. Drinking 8 to 10 glasses of fluid per day and eating a high-fiber diet can help.

- High-fiber foods include beans, bran cereals, whole-grain breads, peas, dried fruits, raspberries, blackberries, strawberries, sweet corn, broccoli, baked potatoes with skin, plums, pears, apples, greens, and nuts.
- If needed, you can also use over-the-counter fiber medications or laxatives.

Returning to Work/School

Many factors affect your ability to return to work or school, including the type of job you have, how much lifting is required, and the extent of your operation. Your surgeon will work with you to determine a safe time for your return.

Intimacy

You can have sex when you feel ready and your wound site has healed (usually 1 to 2 weeks postoperatively).

Cancer Survivorship Plan

If your operation was needed for lung cancer, ask your doctor about a cancer survivorship plan. You can also refer to the survivorship plan in the front pocket.



Partners in Your Surgical Care

Call your surgeon if you have:

- Pain that gets worse or will not go away with pain medication
- Constipation for 4 days
- Worsening pain or swelling in your ankle or leg
- Continuous nausea or vomiting
- Urinary tract infection (pain when urinating or foul-smelling urine)
- A new skin rash
- Signs of infection
- Wound swelling, redness, drainage that soaks your dressings, or foul-smelling drainage
- A fever higher than 101 degrees Fahrenheit
- Signs of pneumonia
 - Coughing, fever, fatigue, nausea, vomiting, rapid breathing or shortness of breath, chills, or chest pain.
- If you run low on pain medication

Call 911 or go to your local emergency room if you have:

- Sudden or sharp chest pain
- Shortness of breath and feeling like your heart is racing
- Continuously coughing up bright red blood
- Sudden numbness or weakness in arms or legs
- A sudden, severe headache
- Fainting spells
- Severe abdominal pain

