

Bronchoscopy

Diagnosing Lung Problems



When You Need Bronchoscopy

Your doctor recommends that you have a procedure called bronchoscopy. This procedure allows the doctor to learn more about your chest and lungs. It can help your doctor diagnose a lung or chest problem. It can also help in choosing the best treatment for any problem that is found.

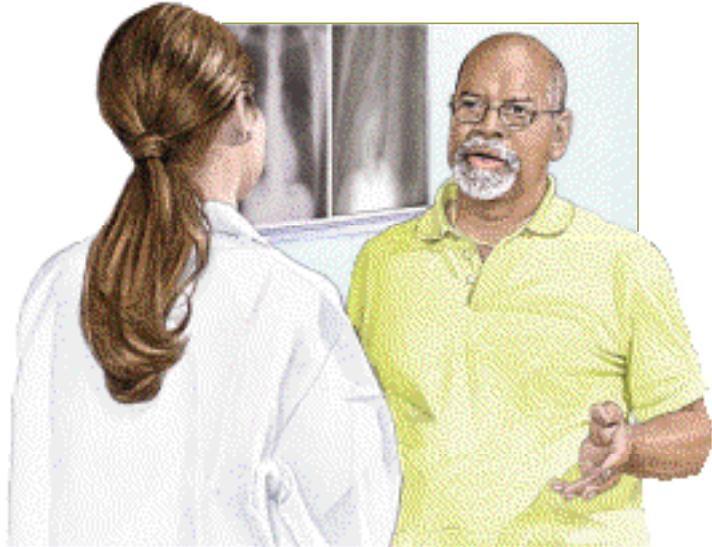
Signs of a Possible Chest or Lung Problem

Problems in the chest or lungs include infection, cancer, non-cancerous masses, smoking-related and non-smoking-related diseases. These problems may share the following:

- Coughing
- Shortness of breath
- Chest pain
- Dark or bloody sputum
- Hoarseness
- Trouble swallowing

Brochoscopy Helps Diagnose a Chest or Lung Problem

You may have already had tests, such as a chest x-ray or a sputum test. Bronchoscopy looks more closely at your lungs.



Quit Smoking for Good

If you smoke, there is no better time to quit than right now. Smoking leads to cancer and other lung problems. So talk to your doctor about getting help. He or she can provide you with resources to help you quit smoking for good.

What You Will Learn

This product will help you understand your diagnostic procedure. If you still have questions after reading this product, be sure to talk to your doctor. He or she can address any concerns you have.

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Anatomy of the Chest and Lungs

The space inside the chest where the lungs are found is called the **chest cavity**. The lungs take up most of the chest cavity. They are protected by the **chest wall**, which is made up of the ribs, breastbone, and muscles. The lungs are divided into sections called **lobes** (three in the right lung, two in the left). The lungs are separated from the abdomen by the **diaphragm** (breathing muscle). Air flows into and out of the lungs through **bronchial tubes** (breathing passages).

The trachea (windpipe) carries air from the nose and mouth to the lungs.

Lymph nodes filter fluid from the lungs and help the body fight infection.

Left lung

Right lung

Rib

Breastbone

The bronchial tubes branch off from the trachea, carrying air into the lungs.

The pleural space is between the lungs and the chest wall (shown in blue).

The diaphragm is the muscle that inflates the lungs as you breathe in.

The Mediastinum

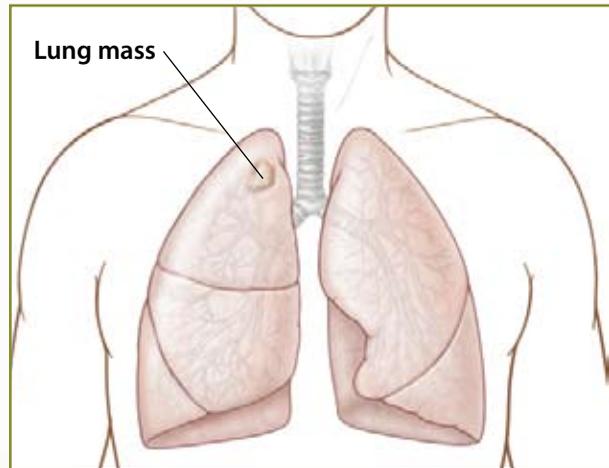
The mediastinum is the area between the two lungs. The heart, trachea, esophagus, bronchial tubes, and lymph nodes are in the mediastinum. The spine is at the back of the mediastinum and the breastbone is at the front.

What Your Doctor Is Looking For

A number of problems can affect the lungs and chest. These include masses, infections, and other diseases. Bronchoscopy can help the doctor determine what the problem is and how serious it may be. Common types of chest and lung problems are listed below.

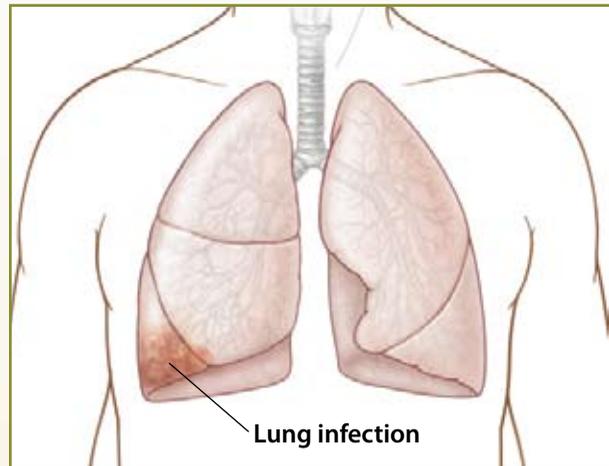
Masses

A mass is a lump of abnormal tissue. It can be **benign** (not cancerous) or **malignant** (cancerous). If a mass is found in the lung or chest, the doctor will want to take a **biopsy** (tissue sample) of it. This tissue sample helps the doctor determine if the mass is cancerous. Depending on the mass, it may need to be removed.



Infections

Infections are illnesses caused by bacteria, viruses, or fungi. Examples of lung infections include tuberculosis and pneumonia. Lung infections can irritate the airways. They can also cause fluid to build up in the lungs or chest. Some lung infections are contagious. This means they can travel from an infected person through the air to infect another person. Most lung infections can be treated with antibiotics or other medications.



Diseases

Smoking is often the cause of lung diseases. For example, smoking can lead to chronic obstructive pulmonary disease (COPD). COPD refers to a group of diseases that destroy the lungs and make it hard to breathe. COPD can include emphysema, chronic bronchitis, and chronic asthma. Certain non-smoke-related factors, such as exposure to asbestos, can also cause lung disease. Other conditions called interstitial lung diseases can lead to scarring of the lungs.

Bronchoscopy

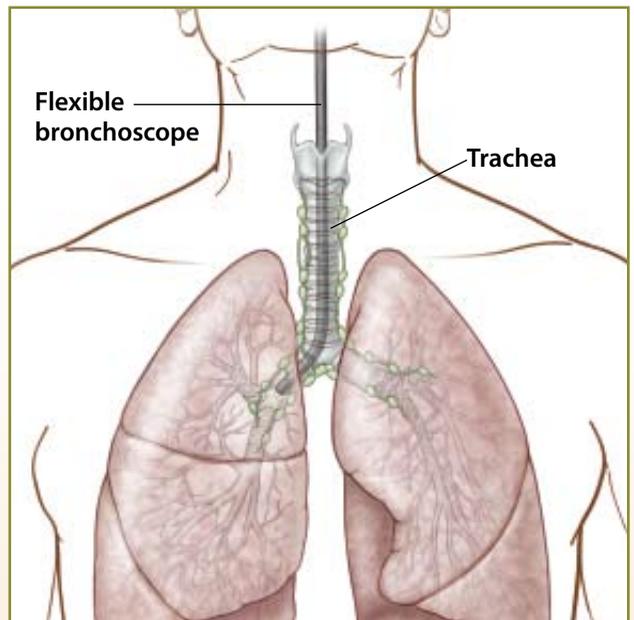
With bronchoscopy, the doctor can view the airway and take a biopsy if needed. A bronchoscopy allows the doctor to look directly into breathing passages. This is done using a bronchoscope (a thin, flexible, hollow lighted tube that lets the doctor see inside the lung). It is passed into the body through the nose or mouth. If a biopsy is needed, small instruments may be passed through the scope. These may be used to remove a small tissue sample. Small brushes may also be used to get a sample. The area may be washed in saline (salt-water) and the fluid tested for problems. Bronchoscopy can also be used to diagnose and stage cancer.

Transbronchial Biopsy

Transbronchial biopsy (TBB) is a procedure used mainly to biopsy tissue near the airway. This is done using a bronchoscope and tiny forceps. The forceps are passed through the scope into the airway, and a sample is taken. The forceps are pulled back up through the scope. X-rays are often taken after the procedure.

Endobronchial Ultrasound

Endobronchial ultrasound (EBUS) is a type of bronchoscopy. With EBUS, the lungs and mediastinum are looked at using a flexible bronchoscope and ultrasound (images created using sound waves). Ultrasound guides the doctor and allows him or her to see through the airway walls. If a biopsy is needed, a thin needle is passed through the scope and a sample is taken. Masses both inside and outside the airway can also be biopsied with EBUS.



With bronchoscopy, a flexible scope allows the doctor to view and biopsy the airway.

Preparing for the Procedure

Before your procedure, do the following:

- Follow your doctor's instructions about eating and drinking.
- Tell your doctor about the medications you take. You may need to stop taking certain medications before the procedure, especially aspirin, Coumadin, or other blood thinners.
- Discuss any allergies and health problems with your doctor.
- Tell your doctor if you are pregnant.



Before the procedure, medication to help you relax is given through an intravenous (IV) line.

During the Procedure

You receive sedation (medication to help you relax) through an intravenous (IV) line. You may also receive **local anesthesia** (numbing medication) with a needle. If so, you will feel some stinging as the needle enters the skin. Then a special spray is used to numb your throat and nose or mouth. This is to help keep you comfortable and prevent coughing during the procedure. It is important to stay calm and try to relax during the procedure.

After the Procedure

You are sent to the recovery room until the sedation wears off. This takes about 1 to 2 hours. Once you are fully awake, you can be sent home. Plan for an adult family member or friend to drive you home from the facility. Your throat will be sore for a day or two. At first, there may be a small amount of blood in your sputum. This is normal. But this should go away after the second day. Acetaminophen can help relieve pain you may have. Talk to your doctor about using it or other medications for pain.

Risks and Complications

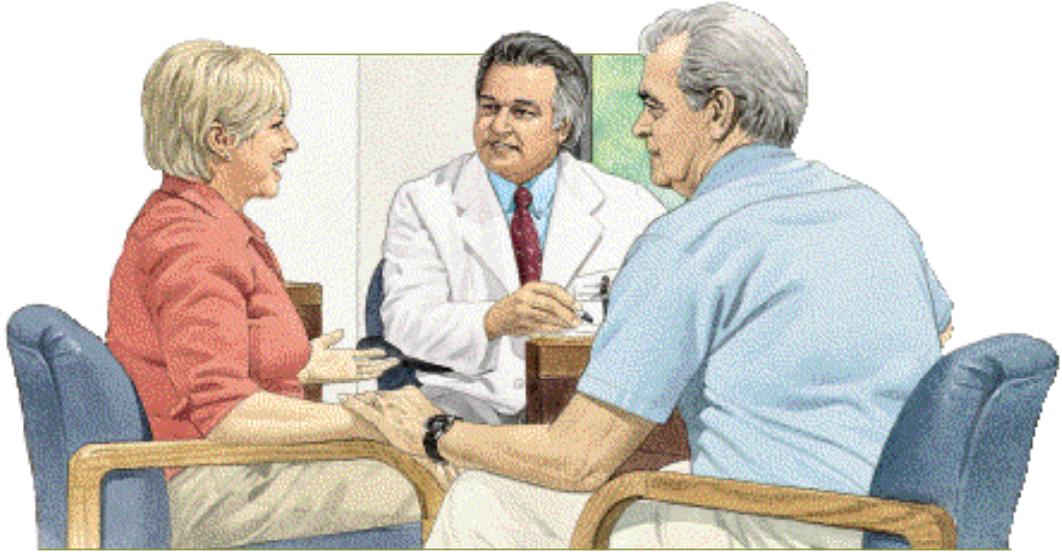
- Bleeding
- Infection
- Injury to vocal cords
- Pneumothorax (collapsed lung)

When to Call the Doctor

- Large amounts of blood in sputum
- Blood in sputum after two days
- Shortness of breath
- Chest pain
- Fever of 101.1°F (38.5°C) or higher
- Hoarseness that won't go away

Getting Your Test Results

It will likely take a few days to get back your test results. Your doctor will discuss the results with you in detail. He or she will explain any follow-up care or treatment you need. Be sure to share any concerns you have with your doctor.



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