



# Breathing and lung function tests

## Tests to get samples from your lungs

If your doctor wants to know more about the inside of your lungs, they might do further tests. There are several tests to look inside your lungs:

- bronchoscopy
- biopsy
- video-assisted thoracoscopy (VATS)

### Bronchoscopy

#### What is a bronchoscopy?

A **bronchoscopy** is a test used to look into your lungs to see if there is anything abnormal and to get samples of your lungs to be analysed.

A thin, flexible tube called a fibre-optic bronchoscope is used. It has a light and a very small camera at one end so that the person doing the test can see your airways. The tube is passed through your nose or mouth, down your windpipe and into your lungs. Local anaesthetic is used to make this as comfortable as possible and you may also have some medication to make you feel sleepy.

#### What's it used for?

Health care professionals may use a bronchoscopy to

- look at the cells in the lung – **bronchial washing** is where small amounts of saline (salt water) are washed into the lung and then sucked back out again. This takes up some lung cells to be sent to a laboratory for analysis. Analysis can show if there is inflammation and indicate if there is an infection. Bronchial washing can also be helpful to look for evidence of cancer cells
- take tiny **biopsies** from the airways or from the lung tissue itself to help to make a diagnosis
- take samples from lymph nodes in the lung using tiny needles. This is called **transbronchial needle aspiration**

#### How can I prepare for a bronchoscopy?

You'll receive a letter from the hospital telling you how to prepare for your bronchoscopy. You need to avoid all food and drink and stop smoking for a few hours before the test. You may also need to stop taking certain medications. Your letter will give more detailed instructions. Read it carefully.

Make sure you have someone who can take care of you after the test. Because you'll be sedated, you will need someone to take you home. You won't be able to drive or operate machinery for 24 hours afterwards.

## What happens during a bronchoscopy?

The team doing the bronchoscopy will explain to you why they're doing it and what will happen. They'll ask you to fill in a consent form. Ask them about any concerns you have and let them know if you're anxious. Medication can be adjusted to take this into account.

Before your bronchoscopy, your blood pressure, pulse and oxygen levels will be checked. You'll be asked to remove glasses and dentures, if you wear them.

You will be given some local anaesthetic spray, so your mouth and throat are numb.

People are often given some sedation for the test. This is usually an injection that makes you sleepy. Quite often people can't remember anything about the test afterwards.

Once you are comfortable and the anaesthetic is working the bronchoscope is inserted through your nose or mouth, down into your lungs. The tube has a camera on the end so the doctor can see inside your lungs. Your doctor might flush some water through the tubing, to remove cells for laboratory tests.

Sometimes a biopsy is undertaken at the same time as a bronchoscopy.

A bronchoscopy usually takes 15-20 minutes. Afterwards, you'll need to recover for up to an hour before being taken home.

## EBUS (endobronchial ultrasound) bronchoscopy

This type of bronchoscopy uses a special type of bronchoscope with ultrasound, to see inside your lungs and take a tissue sample. It's often used to get a sample from the lymph nodes in the lungs. It can give clearer results than a normal bronchoscopy.

An EBUS is done under sedation and takes up to an hour. Afterwards, you'll need to recover for up to 2 hours before being taken home.

## When will I get the results?

You may not get the results straight away. You'll be given an appointment with your doctor to discuss the results.

## CT guided lung biopsy

### What is a lung biopsy?

Your health care professional might want to remove a small piece of tissue or some cells for testing. This is called a biopsy.

A lung biopsy is when the tissue or cells are taken from the lungs.

### What's it used for?

If there is an abnormal area in the lung seen on a scan, a biopsy is one way to obtain samples for analysis to find out what it is.

## How can I prepare for a lung biopsy?

You'll get a letter from the hospital with instructions. You'll also receive an information sheet that tells you more about the procedure and the risks involved. Make sure you read it carefully. You'll need to have a blood test before your lung biopsy, to check that your blood is clotting properly.

## What happens during a lung biopsy?

The person doing the biopsy will explain about what the procedure involves and any risks. Just before the biopsy, you'll be given a cannula in your arm, so that you can have a sedative if needed. You'll probably be given a local anaesthetic so the procedure is as comfortable as possible. Sometimes the procedure is done under a general anaesthetic.

A needle is inserted through your skin into your lung using a CT scan as a guide.

A small amount of tissue will be removed. This doesn't usually hurt. When enough tissue has been removed, your wound site will be dressed.

After the procedure, you'll need to recover for 4-5 hours before going home, and rest for 24 hours before going back to work.

### What is a video-assisted thoracoscopy (VATS)?

A **video-assisted thoracoscopy or VATS** involves surgery under a general anaesthetic to get a larger piece of lung tissue. A surgeon makes keyhole incisions in your chest to remove tissue samples from your lungs. You'll stay in hospital for a few days for this test.

## Lung biopsy and pneumothorax

Occasionally the biopsy causes a small amount of air to leak and the lung to collapse away from the chest wall. This is called a **pneumothorax** ([blf.org.uk/pneumothorax](https://www.blf.org.uk/pneumothorax)) and may need to be treated by putting a small tube into the chest to allow the air to escape. If this happens you will probably need to stay in hospital for a few days afterwards.

## When will I get the results?

You won't get the results straight away. You'll be given an appointment with your doctor to discuss the results, and what happens next.

Get in touch with us to find support near you.

Helpline: **03000 030 555**

Monday to Friday, 9am-5pm

Ringing our helpline will cost the same as a local call.

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We value feedback on our information. To let us know your views, and for the most up to date version of this information and references, call the helpline or visit **blf.org.uk**