

# Having a percutaneous lung biopsy

Imaging

## What is a percutaneous biopsy?

Percutaneous means through the skin.

A percutaneous biopsy is a way of taking a small piece of tissue out of your body, using a needle, through a tiny cut in the skin.

The tissue can be examined under a microscope by a pathologist, an expert in making diagnoses from tissue samples.

## Why do I need a percutaneous biopsy?

Other tests that you have had performed, such as chest x-ray or a CT scan, will have shown that there is an area of abnormal tissue inside your lung/chest.

From the scan, it is not always possible to say exactly what the abnormality is due to, and the simplest way of finding out is by taking a tiny piece of it away for a pathologist to examine.

## Who has decided I should have a percutaneous biopsy?

The consultant in charge of your case, and the consultant radiologist doing the biopsy will have discussed the situation and feel this is the best thing for you.

You can also discuss this with your consultant, and if you decide you do not want to have this carried out, then we will respect your views.

## Who will be doing the percutaneous biopsy?

A specially trained doctor called a radiologist. Radiologists are experts in examining the images produced by the CT scanner and x-rays. They need to look at these images while carrying out the biopsy.

## How do I prepare for a percutaneous lung biopsy?

Most patients will arrive in the morning and leave around 4pm.

**Some patients may need to stay overnight, so we advise all patients to bring an overnight bag.**

You may have a light breakfast before you come to the hospital and take any medication that you have been prescribed.

Please make arrangements to be taken home by car, and make sure that someone stays with you for the first night at home after your biopsy.

If you are on anti-coagulants (tablets that thin the blood like warfarin, clopidogrel, apixaban or rivaroxaban), your consultant should have discussed with you and arranged for these to be stopped in advance. If you are not sure, then please contact your consultant's secretary. You can contact them via the hospital main switchboard on **01273 696955**.

Alternatively, you can contact the booking team on **01273 523040**, option one, or email **[uhsussex.ct@nhs.net](mailto:uhsussex.ct@nhs.net)**

## What happens during a percutaneous biopsy?

1. You will lie on the CT scanning table, in a position that the radiologist has decided is the most suitable. The radiologist will use the CT scanner to decide on the most suitable point for inserting the biopsy needle.
2. The radiologist will keep everything sterile (to reduce the chances of getting an infection). Your skin will be cleaned with antiseptic and you may have some of your body covered with a theatre towel. Your skin will be made numb with a local anaesthetic.
3. The biopsy needle is inserted into the abnormal tissue. Multiple samples will be sent for pathological examination.

While the first part of the procedure may seem to take a while, the biopsy itself does not take very long (on average 30 minutes). The needle may be in and out so quickly that you barely notice it.

## Will it hurt?

Most biopsies do not hurt at all.

When the local anaesthetic is injected, it will sting to start with, but this soon passes, and the skin and deeper tissues should then feel numb.

Later, you may be aware of the needle passing into your body, but this is generally done so quickly that it does not cause any discomfort at all.

## How long will it take?

Everybody's situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. On average the procedure takes 30 minutes.

## What happens afterwards?

You will be kept under observation for two hours after the procedure.

You will generally stay in bed for the first hour, until you have recovered. You should tell the nurses if you are in pain or feel short of breath.

You will have a chest x-ray one hour after the procedure, unless the radiologist decides it is not necessary. If the CXR shows no sign of a pneumothorax (collapse of the lung), you will be given something to eat and drink.

All being well, you will be allowed home on the same day.

Do not expect to get the results of the biopsy before you leave, as it takes up to 18 days for the pathologist to do all the necessary tests on the biopsy specimens. There is usually a first report within eight days.

## Are there any risks or complications?

Percutaneous biopsy is a safe procedure and is considered low risk. The main risks are discussed below:

**Pneumothorax:** It is possible that air can get into the space around the lung, known as a pneumothorax.

This generally does not cause any real problems, although it may cause some discomfort breathing, or some shortness of breath. While one in four patients (25%) have a small pneumothorax, this fixes itself without any further treatment in most patients.

However, if it causes the lung to collapse (this happens in about 1 in 20 people), then it may be necessary to drain the air, either with a needle or a small tube put in through the skin.

If this happens, you will need to stay in hospital and have a tube inserted until the lung has re-inflated.

### Be aware,

If you develop a pneumothorax after the lung biopsy, you are advised against flying for seven days after the pneumothorax has healed. If you plan on flying in the next six weeks, please let the Radiologist know on the morning of the biopsy so this is discussed before proceeding.

**Bleeding:** One in ten people occasionally cough up a little blood. This may seem alarming but is rarely anything serious and soon settles down in nearly everyone.

**Unsuccessful sample:** Unfortunately, not all biopsies are successful. There are several reasons this may happen: sometimes the results are inconclusive because not enough tissue was taken, or the wrong bit of tissue was sampled; sometimes it is because the lung deflates early in the procedure meaning the biopsy cannot be done. In all, around 5% of procedures will not produce a result.

**Very serious complications:** These are rare, but include internal bleeding, air embolism or even death. This complication occurs in less than 1 in 1500 biopsies.

Major internal bleeding may require an operation to control the bleeding.

An air embolism is where air can leak from the lung into the blood circulation during the lung biopsy. This can cause chest pains or more serious problems like a heart attack or stroke.

Despite these possible complications, percutaneous biopsy is normally very safe and is designed to save you having a bigger and more risky procedure.

## **Who can I contact for further information and advice?**

You can contact the booking team on **01273 523040**, option one, or email [uhsussex.ct@nhs.net](mailto:uhsussex.ct@nhs.net).

Monday to Friday 8:00 am to 4:00 pm

**This leaflet is intended for patients receiving care  
in Brighton and Hove or Haywards Heath.**

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