

# Percutaneous Lung Biopsy



## What is a percutaneous biopsy?

A needle biopsy is a way of taking a small piece of tissue out of your body, using only a tiny cut in the skin, so that it can be examined under a microscope by a pathologist, an expert in making diagnoses from tissue samples.

Because this biopsy is done through the skin, it is called a **percutaneous** biopsy.

## Why do I need a percutaneous biopsy?

Other tests that you have had performed, such as a 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 made the decision?

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. However, you will also have the opportunity to 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 have special expertise in interpreting the images produced

by the CT scanner and x-rays. They need to look at these images while carrying out the biopsy.

## **Where will the biopsy take place?**

The biopsy will take place on Level 5 of the Thomas Kemp Tower at the Royal Sussex County Hospital in Brighton.

The radiologist will decide whether it is easier to get the needle into the abnormal tissue using the CT scanner or an ultrasound machine.

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

Most patients (around 90%) will arrive in the morning and leave around 4pm. Since roughly 1 in 10 may need to stay overnight we advise all patients to bring an overnight bag. You may have a light breakfast and take any medication that you have been prescribed.

We do ask that all patients make arrangements to be taken home by car at 4pm, and ensure that someone stays with them for the first night at home following a biopsy.

If you are on anti-coagulants (tablets to thin the blood like warfarin or clopidogrel), your consultant should have arranged for these to be stopped in advance. If you are not sure, then do feel free to discuss with your consultant.

## What actually happens during a percutaneous biopsy?

You will lie on the CT or ultrasound scanning table, in a position that the radiologist has decided is the most suitable. The radiologist will use the CT or ultrasound scanner to decide on the most suitable point for inserting the biopsy needle.

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. Then your skin will be made numb with local anaesthetic. The biopsy needle inserted into the abnormal tissue and a tiny piece obtained, which would be sent for pathological examination.

While the first part of the procedure may seem to take a while, actually doing the biopsy does not take very long at all, and 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 off, 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?

Every patient's situation is different, and it is not always easy to predict how complex or how straightforward the

procedure will be. It may be over in 30 minutes, although you may be in the x-ray department for about an hour.

## **What happens afterwards?**

You will be kept under observation for four hours after the procedure. You will generally stay in bed for a few hours, 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 about four hours after the procedure, unless the radiologist decides it is not necessary.

## **What happens next?**

All being well, you will be allowed home on the same day around 5.00pm. Do not expect to get the results of the biopsy before you leave, as it takes up to two weeks for the consultant pathologist to do all the necessary tests on the biopsy specimens.

## **Are there any risks or complications?**

Percutaneous biopsy is a very safe procedure, but there are a few risks or complications that can arise, as with any medical treatments:

1. 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 on breathing or some shortness of breath. Although 1 in 4 patients have a small pneumothorax, this resolves without any further

treatment in most patients. However if it causes the lung to collapse (about 1 in 12), then it may be necessary to drain the air, either with a needle, or else with 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.

2. Occasionally you may cough up a little blood (1 in 10). This may seem alarming, but rarely is of any consequence and soon settles down in nearly all patients.
3. Unfortunately, not all biopsies are successful. There are several reasons this may happen. Sometimes the results are inconclusive because not enough, or the wrong bit of tissue has been sampled. Sometimes it is because the lung deflates early in the procedure meaning the biopsy cannot be done. In all, around 20% of procedures will not produce a result.

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

## Finally...

Most of your questions should have been answered, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you.

If you have any further questions you should contact your consultant:

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Alternatively you can speak to one of the nurses who care for lung biopsy patients by phoning 01273 696955 Ext.4240

Dr Nigel Marchbank  
Consultant Radiologist  
Royal Sussex County Hospital  
Brighton  
April 2012

If you do not understand this leaflet, we can arrange for an interpreter.

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Ref number: 294.1

Publication Date: April 2012

Review Date: April 2014

