

Introduction

This leaflet tells you about the procedure known as percutaneous biopsy, explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor but can act as a starting point for such a discussion.

If you are having the biopsy done as a pre-planned procedure, then you should have plenty of time to discuss the situation with your consultant and the radiologist who will be doing the biopsy, and perhaps even your own GP. If you need the biopsy done as a relative emergency, and then there may be less time for discussion, but none the less **you should have had sufficient explanation before you sign the consent form.**

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 incision, 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 probably have had performed, such as an ultrasound scan or a CT scan, will have shown that there is an area of abnormal tissue inside your body. 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 radiologist doing the biopsy will have discussed the situation, and feel that this is the best thing to do.

However, you will also have the opportunity for your opinion to be considered, and if, after discussion with your doctors, you do not want the procedure carried out, then you can decide against it.

Who will be doing the percutaneous biopsy?

A specially trained doctor called a radiologist. Radiologists have special expertise in using x-ray and scanning equipment, and also in interpreting the images produced. They need to look at these images while carrying out the biopsy.

Where will the biopsy take place?

Generally in the x-ray department, either in the CT scanning room, or else a "special procedures" room, with an ultrasound machine. Occasionally, biopsies are performed using an ordinary x-ray machine.

How do I prepare for percutaneous biopsy?

You may need to be an in-patient in the hospital, although many biopsies can be performed as an outpatient.

You will probably have had some blood tests performed beforehand, to check that you do not have an increased risk of bleeding.

You will probably be asked not to eat for four hours beforehand, though you may be allowed to drink some water.

You may receive a sedative to relieve anxiety.

You will be asked to put on a hospital gown.

If you have any allergies, you must let your doctor know. If you have previously reacted to intravenous contrast medium, the dye used for kidney x-rays and CT scanning, then you must also tell your doctor about this.

Medication

The Radiologist will need to know all medication that you are taking, including anti-platelet drugs and anticoagulants. These are medicines that affect the way your blood clots.

Listed below are some drugs that the doctor will need to be informed about if you have been prescribed them:

Warfarin	Aspirin	Enoxaparin	Dalteparin
Clopidogrel	Tinzaparin	Bemiparin	Fondaparinux
Danaparoid	Dipyridamole	Coumarins	Acenocoumarol
Phenindione	Lepirudin	GP IIb/IIIa inhibitors	
Bivalirudin	Argatroban	Dabigatran	Rivaroxaban
Abciximab	Eptifibatide	Tirofiban	Plasugrel

The Radiologist will need to know if you have a hereditary bleeding abnormality or abnormal bleeding history after minor procedures such as dental extraction and further tests to assess your blood may be needed.

What actually happens during a percutaneous biopsy?

You will lie on the x-ray, ultrasound or scanning table, in the position that the radiologist has decided is most suitable.

You may need to have a needle put into a vein in your arm, so that the radiologist can give you a sedative or painkillers.

The radiologist will keep everything as sterile as possible, and may wear a theatre gown and operating gloves. Your skin will be cleaned with antiseptic, and you may have some of your body covered with a theatre towel.

The radiologist will use the ultrasound machine or the CT scanner to decide on the most suitable point for inserting the biopsy needle. Then your skin will be anaesthetised with local anaesthetic, and the biopsy needle inserted into the abnormal tissue.

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?

Bone biopsies may be painful and extra pain killers may be necessary at the time of the procedure.

On occasions it may be more appropriate to carry out the procedure under general anaesthesia. This is not infrequently the case in biopsy of the spine.

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.

There will be a nurse, or another member of clinical staff, standing next to you and looking after you. If the procedure does become painful for you, then they will be able to arrange for you to have more painkillers through the needle in your arm.

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 altogether.

What happens afterwards?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure to make sure that there are no problems. You will generally stay in bed for a few hours, until you have recovered.

If you have had a lung biopsy, then you will almost certainly have a chest x-ray performed at some stage.

What happens next?

All being well, you will be allowed home either on the same day, or perhaps the next. Do not expect to get the result of the biopsy before you leave, as bone biopsy specimens take longer to prepare and the result may take at least 2 - 3 weeks.

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 treatment.

If your liver is being biopsied, then there is a risk of bleeding from the liver, though this is generally very slight. If the bleeding were to continue, then it is possible that you might need a blood transfusion.

Very, very rarely, an operation or another radiological procedure is required to stop the bleeding.

If you are having a lung biopsy performed, then it is possible that air can get into the space around the lung. This generally does not cause any real problem, but if it causes the lung to collapse, then the air will need to be drained, either with a needle, or else with a small tube, put in through the skin.

Unfortunately, not all biopsies are successful. This may be because, despite taking every possible care, the piece of tissue which has actually been obtained is normal tissue rather than abnormal. Alternatively, although abnormal tissue has been obtained, it may not be enough for the pathologist to make a definite diagnosis. The radiologist doing your biopsy may be able to give you some idea as to the chance of obtaining a satisfactory sample.

Despite these possible complications, percutaneous biopsy is normally very safe, and is designed to save you from having a bigger procedure. Risk of death under 1:1000.

The risk of death from lung biopsy is about 1:750.

While generally safe, depending on the site for biopsy, there are outside possibilities of damage to bowel, bladder, gallbladder and abdominal solid organs requiring further intervention or surgery. Significant complication or death is extremely unusual.

Further Information

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. **Make sure you are satisfied that you have received enough information about the procedure, before you sign the consent form.**

Percutaneous biopsy is a very safe procedure, designed to save you having a larger operation. There are some slight risks and possible complications involved, but these are generally minor and do not happen very often.

For further information contact:-

Sister G. Kingsbury on:- 01873 - 732737
Radiology Department, Nevill Hall Hospital

or

Radiology Nurses on:- 01633 - 234327
Radiology Department, Royal Gwent Hospital

Modified with thanks from ©The Royal College of Radiologists, July 2000

This leaflet has been prepared by the British Society of Interventional Radiology (BSIR) and the Clinical Radiology Patients' Liaison Group (CRPLG) of the Royal College of Radiologists.

**"This document is available in Welsh /
Mae'r ddogfen hon ar gael yn Gymraeg".**