Percutaneous Liver or Lung Biopsy

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 a biopsy done as a pre-planned procedure, then you should have plenty of time to discuss the situation with your consultant and the consultant radiologist who will be doing the biopsy, and perhaps even your own GP. If you need the biopsy done as a relative emergency, 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 a pathologist, an expert in making diagnoses from tissue samples, can examine it under a microscope. 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 tissue inside your body that requires further investigation. From the scan, it is not always possible to say exactly what the abnormality is due to, and the simplest way of finding this 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 that this is the best thing to do. However, you will also have the opportunity for you 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 consultant radiologist. Consultant 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, ultrasound room or else a “special procedures” room.

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 have 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 and a member of the medical team will insert a needle into a vein in your arm, which can be used to give pain relief or sedation.

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 tell your doctor about this.

What actually happens during a percutaneous biopsy?

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

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

The consultant radiologist will use the ultrasound machine or the CT scanner to decide on the most suitable point for inserting the biopsy needle. 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?

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.

There will be a nurse, or another member of clinical staff, standing nearby helping to look after you. If the procedure does become painful for you, then they will be able to arrange more pain relief or sedation 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 your bed or 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. There may be a period afterwards where you will remain nil by mouth, just as a precaution, this will depend on your type of biopsy.

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 results of the biopsy before you leave, as it may take a minimum of 10 days for the pathologist to do all the necessary tests on the biopsy specimen.

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 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 major problems, but if it causes the lung to collapse, then the air will need to be drained, either with a needle, or with a small tube, put in through the skin.

Despite these possible complications, percutaneous biopsies are normally very safe, and are designed to save you from having a bigger procedure.

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 consultant radiologist doing your biopsy may be able to give you some idea as to the chance of obtaining a satisfactory sample.

Finally

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.

Consent

Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

A 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.

Sources of information

This leaflet is based on information from the Clinical Radiology Patients Liaison Group (CRPLG) of The Royal College of Radiologists and the British Society of Interventional Radiology (BSIR) who have given their permission for it to be reproduced.

Important information

Please remember that this leaflet is intended as general information only. It is not definitive. We aim to make the information as up to date and accurate as possible, but please be warned that it is always subject to change. Please, therefore, always check specific advice on the procedure or any concerns you may have with your doctor.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team on 01323 417400 Ext: 5860 or by email at: **esh-tr.patientexperience@nhs.net**

Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 01424 755255 Ext: 2620

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

The following clinicians have been consulted and agreed this patient information:
Dr Giles; Consultant Radiologist, Dr Mo Faris; Consultant Radiologist, Dr Neal Barlow; Consultant Radiologist

The directorate group that have agreed this patient information leaflet:
Julia Barbour; Specialist Matron, Interventional Radiology, Dr Justin; Consultant Radiologist

Next review date: August 2016
Responsible clinician: Tracianne Walter; Specialist Sister, Radiology