
Having a percutaneous needle biopsy

Interventional Radiology

Patient Information



Introduction

Your doctor has suggested that you have a procedure known as a percutaneous needle biopsy. This leaflet explains what the procedure involves and the possible risks and complications you may experience. Your doctor will have discussed these with you. If you are still unsure about the benefits of having the procedure, please ask.

It is important that you fully understand what is involved before you sign the consent form.

What is a percutaneous needle biopsy?

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

Why do I need a percutaneous biopsy?

Other tests that you have probably had done, such as an ultrasound scan or a CT scan, will have shown that there is an area of abnormal tissue in your body. It is not always possible to say from the scan, exactly what the cause of the abnormality is. The simplest way of finding out is by removing a tiny piece of the affected tissue for a pathologist to examine.

Who has made the decision?

The consultant in charge of your case, and the doctor carrying out the biopsy will have discussed your situation, and feel that this is the best option for you. However, your opinion will also be considered, and if, after discussion with your doctors, you do not want the procedure, you can decide against it.

Who will be doing the percutaneous biopsy?

A doctor called a radiologist will carry out the procedure. Radiologists have special expertise in using x-ray and scanning equipment, and in interpreting the images produced. They need to look at these images

while carrying out the biopsy. They will be assisted by radiology nurses who will look after you throughout the procedure.

Where will I have the biopsy?

This procedure is usually carried out in the x-ray (radiology) department, using either a CT or ultrasound scanner to guide the doctor.

How do I prepare for the procedure?

- You may need to stay at the hospital as an inpatient, although often a biopsy can be carried out as a day case.
- You will need to have had some blood tests beforehand, to check that you do not have an increased risk of bleeding.
- You **must not** eat for six hours before the procedure, although you will be allowed to drink clear fluids up till two hours before the procedure.

Can I bring a relative or friend?

You may bring someone with you but for safety reasons they cannot accompany you into the x-ray room, though they may be permitted into the ultrasound room.

When you arrive at The Royal Marsden

- Please report to the day care area.
- On arrival you will have some routine blood tests. A small tube (cannula) will be placed in a vein in your arm, so that you can be given fluids and receive medication while in the x-ray department.
- You will be allocated a bed, although you may not go there until after the procedure.
- You will be asked to change into a hospital gown.
- When the time comes for your procedure, you can either walk to the x-ray department or be taken there on a trolley.
- When you arrive at the x-ray department, a nurse will greet you and the radiologist will explain the procedure and discuss

it with you before you sign the consent form. If you have any questions, this is a good time to ask the radiologist.

- If you have any allergies, you must tell your doctors. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-ray and CT scans), also let your doctors know.

What actually happens during a percutaneous biopsy?

- You will lie on the CT, x-ray or ultrasound scanning table, in the position that the radiologist has decided is most suitable.
- You will have monitoring devices attached to your arm and finger, and may be given oxygen through small tubes in your nose by a nurse who will be with you throughout the procedure.
- The radiologist will keep everything as sterile as possible, and will wear sterile operating gloves. Your skin will be cleaned with cold antiseptic liquid, and you will have some of your body covered with a sterile theatre sheet.
- The radiologist will use the ultrasound machine or the CT scanner to decide on the most suitable point for inserting the biopsy needle. The doctor will give you an injection of local anaesthetic which will cause some stinging initially then numbness. The biopsy needle will then be inserted into the abnormal tissue, and samples will be taken from this area.
- While the first part of the procedure may seem to take a while, actually taking the biopsy does not take very long and the needle may be in and out so quickly that you barely notice it.

Will it hurt?

Most biopsies hurt very little, if at all. When the local anaesthetic is injected, it will sting to start with, but this soon wears 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, close by throughout the procedure. If the procedure does become painful

for you, then they will be able to arrange for you to have more local anaesthetic.

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 or bed.
- 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 four to six hours, until you have recovered.
- If you have had a lung biopsy, then you will need to have a chest x-ray performed about four hours after the biopsy is completed.
- All being well, you will be allowed to go home either on the same day or occasionally the day after the procedure.
- It takes a few days for the pathologist to do all the necessary tests on the biopsy tissue, so you will receive your results after you leave the hospital.

Are there any risks or complications?

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

- 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. Extremely rarely, an operation or another radiological procedure is needed 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 a small tube, inserted into 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 of the chance of obtaining a satisfactory sample.

Despite these possible complications, percutaneous biopsy is designed to save you from having a more complex procedure.

Contact details

If you have any questions or concerns about your procedure, or you are unable to attend for this appointment, please call:

Chelsea 020 7808 2571

Sutton 020 8661 3222

Further information

For general information about the procedure you can visit The Royal College of Radiologists website.

www.rcr.ac.uk

Alternatively, please call:

The Royal Marsden Hotline: 020 8915 6899

(available 24 hours a day, 7 days a week)

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Telephone: Chelsea 020 7811 8438 / 020 7808 2083

Sutton 020 8661 3759 / 3951

Email: patientcentre@rmh.nhs.uk

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Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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