

# Image Guided Biopsy

Information for patients, relatives and carers

(see separate leaflets for liver, renal [kidney], lung and bone biopsy)

① For more information, please contact:

## **Radiology Department**

**York Hospital,**  
Wigginton Road, York, YO31 8HE

Vascular Imaging Unit  
Telephone: 01904 726065

Or

**Scarborough Hospital**  
Woodlands Drive, Scarborough, YO12 6QL

Radiology Nurses  
Telephone: 01723 342304

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## **About this leaflet**

This leaflet tells you about the procedure known as image guided biopsy. It explains what is involved and what the possible risks are. It is not meant to replace the informed discussion between you and your doctor, but we hope you find the information helpful.

## **What is an image guided biopsy?**

A biopsy is a way of taking a small piece of tissue from your body through the skin (percutaneous) without the need for an operation.

The procedure is carried out using a local anaesthetic and involves inserting a needle into the area of interest. Images from either an ultrasound or CT (computer-assisted tomography) scanner are used to check the position of the needle. The samples are then sent to the pathology department to be examined under a microscope. This will allow an accurate diagnosis and treatment plan for you.

This document will give you information about the benefits and risks to help you make an informed decision. If you have any questions that this document does not answer, it is important that you ask your doctor or the healthcare team.

## **Why do I need a biopsy?**

You will probably already have had other tests, including an ultrasound or CT scan, which have suggested a potential abnormality. From these tests it is not always possible to diagnose the abnormality, and the best way to obtain an accurate diagnosis is to, take a tiny piece of tissue for the pathologist to perform tests on.

## **Who has made the decision?**

The doctors overseeing your care believe that an image-guided biopsy is the most effective way to diagnose your condition and determine the best course of treatment. They will discuss any alternative options with you and take your preferences into consideration. Should you decide, after these discussions, that you do not wish to proceed with the biopsy, you have the right to decline the procedure at any time.

This document provides information on the potential benefits and risks to help you make an informed decision about whether to move forward with the procedure. If you have any questions or concerns that this document does not address, please do not hesitate to ask your doctor or a member of the health care team.

## **What will happen if I decide not to have a biopsy?**

Your doctor may not be able to confirm what the problem is or how best to treat you. If you decide not to have a biopsy, you should discuss this carefully with your doctor.

## **What happens before the biopsy?**

The biopsy will be carried out under local anaesthetic, rather than a general anaesthetic, and you will be awake throughout. You may be advised to stop eating for four hours prior to the procedure, although you may still drink clear fluids up to two hours before the procedure.

If you are required to have blood tests prior to your procedure, you will be sent sample forms with instructions when to have these taken.

Some biopsies are performed as an outpatient. However, if you are required to be admitted to a ward in the hospital for your procedure, this will be requested with the hospital's bed managers. Unfortunately, we cannot guarantee that your biopsy will go ahead on the date that you are booked in times of high acute demand. Once you are admitted, a member of the medical staff will see you and take a short medical history.

The radiology pre-assessment nurses may phone you to discuss your procedure and answer any questions that you may have. Please let the healthcare team know if you could be pregnant.

The healthcare team will carry out several checks to make sure you have the correct procedure you came in for and on the correct side. You can help by confirming to your doctor and the healthcare team your name and the procedure you are having.

Once all your questions have been answered and you feel ready to go ahead with the procedure, you will be asked to sign the informed consent form giving your permission to go ahead with the biopsy. This is the final step in the decision-making process. However, you can still change your mind at any point.

Please remember that the hospital staff are there to help you. If you have any questions or worries at any stage, then please ask.

## **What should I do about my medication?**

Make sure your healthcare team know all about the medication you take and follow their advice. Particularly if you have had a previous heart attack, cardiac problems, stroke or clotting issues and take any medication that interferes with clotting of the blood.

If you do take warfarin, apixaban, clopidogrel, aspirin or other blood thinning, anti-platelet or anti-coagulant medication, let your doctor know at least seven days before the procedure, as this medication may need suspending.

Do not stop taking these drugs until you have received further instructions. If your medication is stopped before your biopsy, please make sure you ask the doctor or nurse looking after you before you leave hospital when to start taking it again.

Please bring all of your medications with you in their original containers.

## **What happens during the biopsy?**

The biopsy will be carried out in a Radiology Department in a scanning room. It will be performed by a radiologist, a doctor who specialises in examinations and procedures that use x-rays and scanning equipment. The type of imaging depends on where the abnormal tissue is in the body and which imaging the radiologist feels is best for you.

You may be asked to get undressed and put on a hospital gown. What happens depends on where the abnormal tissue is in your body and which type of imaging is being used. Usually, you will lie on your back or front in the position that the radiologist has decided is most suitable. The radiologist will explain this to you before performing the biopsy. It is important that you keep as still as possible during the procedure. You may be asked to hold your breath for a few seconds.

A radiology nurse will assist the radiologist and will care for you throughout the procedure. The radiologist will clean the area of the body where the needle will be inserted with antiseptic and cover the area with a sterile sheet. A biopsy is performed under sterile conditions, and the interventional radiologist will wear a sterile gown and gloves to carry out the procedure.

The radiologist will use an ultrasound probe, X-rays or the CT scanner to decide on the most suitable point for inserting the biopsy needle. The radiologist will inject a local anaesthetic into the skin near the point of insertion. The skin will sting for a few minutes before going numb.

The radiologist will make a small cut on the skin. They will insert a special hollow needle through the cut and into the abnormal tissue. You may experience a pushing sensation as the needle goes in, but it should not hurt. If you feel pain, then **please tell the radiologist** who may be able to give some more local anaesthetic.

As the needle is inserted, images are taken to check that the needle is in the right position. The radiologist will then take the biopsy. You will hear a click as the biopsy is taken. The needle will then be removed to take the tissue sample out of the needle. The radiologist may feel it is necessary to take further samples to make sure the laboratory have enough tissue to analyse. This involves putting the needle back down the same hole and should not cause any further discomfort.

Once the radiologist is happy that they have enough tissue then the biopsy site will be covered with a small dressing.

## **How long will it take?**

Every patient is different, and it is not always easy to predict. However, for ultrasound guided procedures, you should expect to be in the radiology department for about 30 minutes, and for CT guided procedures up to one hour.

## **What happens after the biopsy?**

The recovery process after a biopsy depends on the location of the abnormal tissue. Depending on these factors, you may either go home the same day or need to stay in a recovery area for a while. Generally, if the biopsy does not involve deeper structures, you will likely be able to go home straight after the procedure.

If after the procedure, you are taken back up to your ward, you will be advised to lie in your bed where you can rest. The nurses will carry out regular routine observations such as checking your pulse, oxygen levels, wound site and blood pressure. You will normally have to stay in bed for a few hours, and sometimes overnight. The recovery period depends upon the site that has been biopsied.

You will be allowed to eat and drink after 1 to 2 hours. You may need to take simple painkillers such as paracetamol to help relieve any discomfort. You will have a small dressing over the biopsy site. This can be removed the following day.

Most people do not have any problems. You should be able to return to driving, work and normal activities the next day unless you are told otherwise. We advise that you avoid very strenuous exercise, heavy lifting or contact sports for one week.

## **When do I get my results?**

It may take several days for the laboratory to do all the necessary tests on the biopsy specimen so do not expect the results straight away. Your results may need to be discussed at a Multi-Disciplinary Team (MDT) meeting before they are passed on to you. A follow up appointment will be made for you to speak with your referring doctor. The radiology department will not receive your results.

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

Image guided biopsy is a very safe procedure and is designed to save you from having a bigger procedure such as surgery. The healthcare team will try to reduce the risk of complications. However, as with all medical procedures that involve breaking the skin, there are some risks and complications can arise. You need to know about them to help you make an informed decision about the procedure. Knowing about them will also help to detect and treat any problems early.

If the biopsy involves deeper structures, there is a risk of bleeding from the biopsy site or from internal organs. This is generally very slight. If the bleeding were to continue (occurs in less than one percent or 1 in 100 patients), intravenous fluids or even a blood transfusion may be necessary. The likelihood of this is low. In the highly unlikely event of bleeding persisting for longer, then an operation or other radiological procedure may be required to stop the bleeding (occurs in about 1 in 200 people).

Other possible complications for all biopsies irrespective of their site, include:

- Allergic reaction to the equipment, materials or medication. The healthcare team are trained to detect and treat any reactions that might happen. Let your doctor know if you have any allergies or if you have reacted to any medications, tests or dressings in the past.
- Pain. The local anaesthetic and painkillers should help to keep you comfortable. If you have any pain during the procedure, let your doctor know. The procedure may result in a small scar at the site of the wound.

- Damage to nearby structures with the needle. This does not usually cause any serious problems, but you may need further treatment.
- Infection. You may need treatment with antibiotics. Let your doctor know if you get a high temperature or feel unwell.
- If your wound site becomes excessively bruised or a lump appears over the site, or if you develop a fever, have difficulty breathing, chills, dizziness, tenderness or severe pain at the site of the biopsy or in your chest, shoulder or stomach, please contact either your GP or the nearest Emergency Department and tell them you have had a biopsy.
- If your biopsy site starts to bleed lightly (e.g. marking the small dressing), this should stop quickly with rest. If the biopsy site starts to bleed heavily, call someone for help, lie flat and ask your helper to apply firm pressure over the bleeding point and phone 999 for medical assistance.

Any numbers above that relate to risk are from studies of people who have had this procedure. Your doctor may be able to tell you if the risk of a complication is higher or lower for you. Some complications can be serious and could even lead to death (this is extremely rare for superficial biopsies, and with biopsies involving deeper organs, an estimated risk of less than 1 in 1,000 cases). You should ask your doctor if there is anything you do not understand.

Unfortunately, not all biopsies are successful, and some biopsies fail to give an answer. This is usually because despite all the care taken in positioning the biopsy needle, the sample obtained is unsatisfactory. This may mean a repeat procedure is necessary if your consultant and the radiologist feel this is still the best way to make a diagnosis.

Despite these complications, the procedure is generally safe and will be beneficial in ensuring an accurate diagnosis of your condition. In most cases, the small risks are outweighed by the benefits of more accurate information about the suspected abnormality.

## **Finally**

We hope that this leaflet has answered many of your general questions. You should feel free to discuss the procedure, and the possible risks and benefits in your particular case with the medical team looking after you. Please make sure you are satisfied that you have received enough information about the procedure before you sign the consent form.

## **Tell us what you think of this leaflet**

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact: Dr Rajashekar Gali, Radiology, The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 726065.

## **Patient Advice and Liaison Service (PALS)**

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email [yhs-tr.patientexperienceteam@nhs.net](mailto:yhs-tr.patientexperienceteam@nhs.net)

An answer phone is available out of hours.

## **Teaching, training and research**

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

## **Leaflets in alternative languages or formats**

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website: [www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/](http://www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/)

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