Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Undergoing an Ultrasound Guided Liver Biopsy

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Patient Information

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Introduction

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

This procedure will be performed in the X-Ray Department.

The X-Ray Department is also known as the Radiology or Imaging Department. It is the facility in the hospital where Radiological examinations of patients are carried out. These examinations use a range of X-Ray equipment, such as a Computed Tomography (CT) scanner, an ultrasound machine, or a Magnetic Resonance (MR) Imaging scanner.

Radiologists are doctors specially trained to interpret images; they can also carry out more complex examinations. Radiologists are supported by Radiographers, who are trained to take X-Rays and perform other imaging procedures, and also Radiology Nurses, who are trained to care for patients having radiological procedures.

What is a liver biopsy?

A liver biopsy is a procedure to take a small sample of tissue from your liver. The Ultrasound machine is used to look at your liver during the procedure, so that the Radiologist can see exactly where to collect tissue from.

Why do I need a liver biopsy?

You have been referred for a liver biopsy because:

- your symptoms indicate there may be an issue with your liver
- blood tests or scans (Ultrasound, CT or MR scans) suggest you have liver disease; sometimes it is not possible to tell what the cause is, if based on these tests alone

- there appears to be a lump on your liver. This will have been seen on previous scans, and a sample of tissue is needed to identify what it is
- an assessment is required to clarify the amount of scarring (known as fibrosis) in the liver due to certain diseases
- the stage or progression of a known liver condition needs further assessment

Your doctor will have discussed with you, or written to you, about the need for a liver biopsy.

By obtaining a sample of the liver tissue, it can be analysed in the pathology laboratory for more information.

Occasionally it is not safe to carry out the liver biopsy.

Reasons could include:

- if your blood tests show that the blood is too ‘thin’
- if there is fluid around the liver (ascites)

These problems would need to be corrected before a biopsy can be performed, and your doctor will advise on how this needs to be done.

In most situations, there are no good alternatives to liver biopsy.

If the only information which is required from the liver biopsy is the amount of scarring in your liver, then specific blood tests or a special test known as a Fibroscan can sometimes be performed. However, these tests may be less reliable than a liver biopsy. Your doctor will have considered the possibility of alternatives before suggesting that you have a liver biopsy.

If you have any questions regarding this, please discuss them with your doctor.

Where will the procedure take place?

It will take place in the X-Ray Department, in a room that is adapted for specialist procedures.

Who will be performing the liver biopsy?

An Interventional Radiologist will perform the procedure. These practitioners have special expertise in using specialist equipment and in performing these types of procedure.

How do I prepare for a liver biopsy?

You will be contacted by telephone before your procedure. This is to obtain more information about you, to discuss your medication and to answer any questions you may have.

You will be advised to continue taking your normal medication until the day of the liver biopsy, that is, unless they belong to one of the groups of medication listed below:

1. Diuretics or "water tablets" - as your liver biopsy will be scheduled for the morning, it may be better if you leave them till after the procedure.

2. Anticoagulants (Warfarin / Apixaban / Rivaroxaban / Edoxaban).

3. Antiplatelets (Aspirin / Clopidogrel).

4. Diabetic medications (Insulin injections or diabetic tablets).

You will be given instructions about the above medications during the phone call to discuss your liver biopsy appointment.

A liver biopsy is usually performed as a day case, but in some circumstances, you may be asked to stay overnight in hospital for observation.

On the day of the procedure, a member of staff will show you into the Intervention Suite

- you will have been asked to fast, usually from 2am on the day of your biopsy.
- you will be asked to put on a hospital gown.
- a small tube called a cannula will be inserted into your arm, and a blood sample will be taken.

If you have any allergies, you **MUST** let the X-Ray staff know.

What actually happens during a liver biopsy?

The Radiologist will explain the biopsy procedure: how the biopsy will be performed, and the risks involved. They will then ask you to sign the consent form, to give your permission for the biopsy to go ahead.

During your procedure, a Radiology Nurse will connect you to a blood pressure (BP) monitor. Your blood pressure will be checked every ten minutes, and your pulse and oxygen levels will be continuously monitored throughout the biopsy.

The Radiologist will spread some gel on your skin and use the ultrasound probe to decide the best position from which to take the tissue sample. This will usually be on the right-hand side of the abdomen and below, or between the lower ribs.

The Radiologist will wear sterile gloves. They will clean the skin with antiseptic and inject local anaesthetic to numb the area. The biopsy needle will be inserted through the skin into your liver, and a sample will be collected.

During the biopsy, the Radiologist may ask you to hold your breath for a few seconds; this is because the liver moves slightly when you breathe.

One or two tissue samples will be taken, so as to ensure that the specimens provide as much information as possible.

Does it hurt?

When the local anaesthetic is injected, it will sting to start with, but this soon passes. The skin and deeper tissues should then feel numb. After this, the biopsy should not be painful.

You will be awake during the procedure, and you will be able to tell the Radiologist if you feel any pain, or if you become uncomfortable in any other way.

There will be a Radiology Nurse, standing next to you and looking after you.

Some people do have some discomfort at the site of the biopsy for the first 24-48 hours afterwards, but this is usually relieved by simple painkillers such as Paracetamol.

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. Generally, the procedure will be over in about half an hour, but you may be in the X-Ray Department for longer

What happens afterwards?

You will be taken to a ward on a trolley. Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure, so as to make sure that there are no untoward effects. They will also look at the area where the needle went into the skin to make sure there is no bleeding from it. You will generally stay in bed for 4 hours, until you have recovered. You will usually be allowed home on the same day.

You MUST have someone to escort you home and supervise you overnight.

Are there any risks or complications?

Liver biopsy is a safe procedure, but there are some risks and complications that can arise.

There is a risk that the liver biopsy can cause bleeding, but this usually stops by itself and very rarely requires blood transfusions.

It is possible that the needle can hit other structures in your abdomen, but this risk is minimised by using the Ultrasound to guide the needle. In very rare cases, an operation may be needed to deal with this complication.

Despite these possible complications, the procedure is normally very safe and is carried out with no significant side-effects at all.

What happens when I go home?

When you go home:

- you may eat and drink normally

- do not perform any lifting which may lead to straining, any lifting greater than 5kg, and any strenuous exercise for approximately one week
- remain off work for two to three days
- it is advisable to refrain from the consumption of alcohol for 24 hours
- you may shower but avoid having a bath for four days
- The following day, gently clean the site with soap and water. Then dry the area gently; the skin heals in approximately four days. Do not use cream or lotions near the puncture site

If you experience severe pain, fever, nausea or signs of bleeding, you should seek medical advice immediately.

When will I be told the results?

The samples that are obtained from the liver biopsy are then examined by a Pathologist (a doctor who identifies diseases by studying cells and tissues), using a microscope and various special techniques. This may take 2 weeks or more, depending on the complexity of the tests required.

The result will then be forwarded to your Consultant for review. Your Consultant will contact you or arrange to see you in clinic to discuss the findings.

Unfortunately, a liver biopsy may not provide enough information to make a definitive diagnosis every time, but it is successful in about 80 out of 100 patients (80%).

Contact

The X-Ray Department can be contacted directly on (01942) 778713, or via the hospital switchboard on (01942) 244000, and then ask to be put through to the X-Ray Department.

The department is open Monday to Friday 09:00 to 17:00.

Acknowledgements

This leaflet has been adapted from the British Society of Gastroenterology, the British Society of Interventional Radiology (BSIR) and the Clinical Radiology Patients' Liaison Group (CRPLG) of The Royal College of Radiologists.

Legal notice

Please remember that this leaflet is intended as general information only. It is not definitive, and the British Society of Gastroenterology, The Royal College of Radiologists, and the British Society of Interventional Radiology cannot accept any legal liability arising from its use. 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.



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