Having a liver biopsy

Information for patients

What is a liver biopsy?
Liver biopsy is a procedure where a needle is used to remove a small piece of tissue from your liver for examination in the laboratory. This examination is usually done using some form of imaging guidance, such as x-ray, CT scan or ultrasound.

Why do I need a liver biopsy?
Your doctor has recommended that you have a liver biopsy because tests have suggested that your liver may not be working properly. For example, a blood test might show that your blood contains abnormally high levels of liver enzymes or an ultrasound scan could suggest that the liver is swollen.

Examining liver tissue under the microscope in the laboratory is the best way to determine whether the liver is healthy or damaged. Having the test will help your doctor to make a correct diagnosis and plan the most suitable treatment for you.

What are the risks and benefits of having a liver biopsy?
The benefit of a liver biopsy is that it is a safe and quick procedure, which will provide important information about your condition.

Although complications can occur, they are rare and are as follows:

- 0.03 to 0.7 per cent risk of bleeding into the abdominal cavity; 0.059 to 23 per cent risk of bleeding into the liver
- 0.059 to 0.2 per cent risk of bleeding into the biliary tree (tubes which drain bile from the liver into the bowel)
- 0.056 to 22 per cent risk of pain in the first 24 hours after the biopsy, usually in the right shoulder only
- 0.08 to 0.28 per cent risk of puncture of the lung or gallbladder
- 0.03 to 0.22 per cent risk of infection
- 0.04 per cent (or one in 2,500 patients) risk of reaction to the contrast medium (commonly known as X-ray dye which is clear fluid containing iodine used in some types of liver biopsy). The risk of a very serious reaction (anaphylactic shock) needing emergency treatment is 0.0004 per cent (or one in 250,000 patients).

The use of some form of imaging guidance, such as x-rays or ultrasound, helps to minimise the risk of complications. The radiologist (specialist doctor) will discuss these risk factors with you again before starting the procedure and they will be happy to answer any questions you may have.
Are there any alternatives to this test?
No. A liver biopsy will only have been requested if your doctor felt that it is the best way to find out more information about your condition. Your doctor will be happy to discuss the procedure with you beforehand.

Is there anything I need to do before my liver biopsy?
If you are an inpatient, your ward doctor and/or nurses will see you before you come to the imaging (x-ray) department for your liver biopsy. You will need a test to check your blood’s ability to clot prior to the examination.

If you are an outpatient, your appointment letter will advise you to come straight to the imaging (x-ray) department or to the day case ward. You will need to arrange for someone to take you home afterwards, preferably by car. You will also need to arrange for someone to stay with you overnight. Please make sure that you have access to a telephone when you return home. If you have been unable to make these arrangements, please speak to the nursing staff.

- You can take all your medications as usual, except blood-thinning tablets. If you take blood-thinning medications, such as warfarin, aspirin, plavixor or clopidogrel, you must tell your doctor as you may be advised to stop taking them for some time before you have your liver biopsy.
- Please continue to take any other medications as normal, unless you have been advised otherwise.
- You may be asked not to eat or drink anything for four hours before your appointment time. Your doctor or ward nurse will advise you.
- It is very important that you have had your blood taken recently, as the results of these tests will tell us how well your blood clots. Please note that we will not perform your liver biopsy without having normal results from your blood tests.
- Please also let us know if you are allergic to any medications before you have your liver biopsy.
- If you are diabetic, please tell the ward staff so that they are aware of your condition. If you are diabetic and have been asked not to have anything to eat and drink before your appointment, please do not take your morning diabetes medication, or you will risk having a ‘hypo’.
- It is sometimes necessary for patients to stay in hospital overnight after having a liver biopsy because of unexpected difficulties. Please allow for this possibility.

If you are pregnant or think you may be pregnant, you must tell the imaging staff so that appropriate protection or advice can be given about your treatment.

What if I cannot keep my appointment?
Please contact us as soon as possible. We can then offer this date to another patient and agree a new appointment date and time with you. You will find the appropriate telephone number on your appointment letter.
What happens on the day of my appointment?

There are two ways of obtaining the tissue from your liver. The first method is through your skin directly into your liver (known as ‘percutaneous’), and the second is through a vein in your neck (known as ‘transjugular’). Your doctor and the radiologist will discuss the best approach for your condition before you come to the imaging department.

The procedure will be discussed with you in detail and you will be asked to sign a consent form. This is to make sure that you understand the risks and benefits of having the test.

You will be asked to change into a hospital gown. Staff in the imaging department will then check your details and examine you before taking you into the x-ray room.

The imaging staff will ask you to lie on the x-ray table before connecting you to a monitor, which will record your blood pressure and pulse throughout the procedure.

If you are having a percutaneous liver biopsy

We will ask you to lie on your back, with your right arm above your head. The radiologist will use the ultrasound machine to identify and mark the area (site) where the biopsy is to be taken from. This will then be cleaned with antiseptic fluid and covered with a sterile sheet. The radiologist will use a fine needle to inject local anaesthetic to numb the biopsy site. This will sting for a moment before the skin goes numb.

The radiologist will make a tiny incision (cut) near your ribcage. They may ask you to hold your breath for five to ten seconds while the biopsy needle is inserted through the skin and a sample of liver tissue is taken. This is done under ultrasound guidance so that the doctor can see where the needle is going.

You may experience some discomfort or a dull pain and will be aware of some pressure and pushing. You will also hear a clicking sound when the biopsy device is used to take the sample. The radiologist may need to take more than one sample to make sure that there is sufficient tissue for testing.

If you are having a transjugular liver biopsy

This is done by inserting a catheter (small, plastic tube) into the vein on the right side of your neck. We will ask you to lie on your back on the x-ray table, with your arms by your sides. The radiologist will use the ultrasound machine to identify and mark the area (site) where the tube goes into the neck. This area will then be cleaned with antiseptic fluid and covered with a sterile sheet. The radiologist will use a fine needle to inject local anaesthetic to numb this site. This will sting for a moment before the skin goes numb.

The radiologist will make a tiny incision (cut) and place a special needle followed by a fine wire into the vein in your neck. The needle will be removed and a small catheter (fine, plastic tube) will be placed over the wire. The catheter will then be guided down through the vein and into your liver. The radiologist will inject contrast medium (x-ray dye which contains iodine) to highlight the blood vessel on the x-ray screen and to confirm that the catheter is in the correct position. As the dye is being injected, you may experience a warm sensation in your abdomen (tummy). This is normal and will only last for a short time.
A biopsy needle will then be inserted via the catheter down into the liver, where a small sample of liver tissue will be taken. This is a safe method for patients with blood clotting problems, as any bleeding that might occur does so back into the vein.

**With both types of biopsy**, once the samples have been taken, the skin will be cleaned and a small dressing placed over the wound.

Liver biopsies take approximately 20 to 30 minutes to complete. Any discomfort usually disappears after the biopsy has been carried out, but can occasionally last for a further one to two hours. If you do experience any pain you **must** tell your doctor or ward staff, who may be able to give you some medication to relieve your discomfort.

**What happens afterwards?**
You will need to rest in bed for at least four to six hours after your biopsy. If you had a **percutaneous** liver biopsy, we will ask you to lie on the biopsy site. If you have had a **transjugular** liver biopsy, you will be able to sit up after the procedure. This helps to minimise the risk of bleeding.

During this time, a nurse will check and record your blood pressure, pulse, respiration (breathing) rate and the biopsy site at regular intervals to detect any early signs of bleeding or other complications. You will be able to have something to eat or drink after your biopsy unless advised otherwise by your doctor. Please note that if you need to use the toilet, you will have to use a bedpan while you are on bed rest.

If you are an outpatient, you will be able to go home once the doctor is satisfied with your condition. If you are an inpatient, a porter will take you back to your ward.

**When will I get the result?**
This will depend on the type of biopsy you have had, but it is usually within five to ten working days. Your doctor or the ward staff will give you more information.
Is there anything I need to watch out for at home?
You may have a small amount of bruising or discomfort where the biopsy needle was inserted. In addition, there may be some pain in your right shoulder - this can be relieved with simple analgesia (painkillers). Your team of doctors will advise you on when to start taking your blood thinning tablets again.

However, if you notice any swelling or redness around the biopsy site, have a high temperature or fever, or continue to have pain, you should contact your GP or go to your nearest A&E department, as you may have an infection.

When can I get back to my normal routine?
You should be able to resume all your usual activities the day after your appointment. However, you should not attempt any heavy lifting or strenuous physical activity for at least a week. The doctor will give you further advice about this.

Contact details
Please do not hesitate to contact our imaging departments if you have any queries or concerns:

- **Charing Cross Hospital**: Fulham Palace Road, London W6 8RF
  Telephone: 020 3311 1863

- **Hammersmith Hospital**: Du Cane Road, London W12 0HS
  Telephone: 020 3313 3389

- **St Mary’s Hospital**: Praed Street, London W2 1NY
  Telephone: 020 3312 6418

How do I get to the hospital?
You are advised to travel, if possible, by public transport when visiting our hospitals. Car parking is severely limited and you may find it very difficult to find a place to park near the hospital.

The nearest tube stations for **Hammersmith Hospital** are East Acton and White City (both on the Central Line) and Wood Lane (Hammersmith & City Line). Buses that stop outside the hospital are numbers 7, 70, 72, 272 and 273.

The nearest tube stations for **Charing Cross Hospital** are Hammersmith (District, Piccadilly and Hammersmith & City lines) and Barons Court (District and Piccadilly lines). Buses that stop outside the hospital are numbers 190, 211, 220 and 295.

The nearest tube stations for **St Mary’s Hospital** are Paddington mainline station, while Paddington and Edgware Road tube stations are about five minutes’ walk away. St Mary’s Hospital is served by bus routes 7, 23, 27, 36, 205, 332 and 436.

How do I make a comment about my visit?
We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any suggestions or comments about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on 020 3313 0088 (Charing Cross, Hammersmith and Queen Charlotte’s & Chelsea hospitals), or 020 3312 7777 (St Mary’s and Western Eye hospitals). You can also email PALS at pals@imperial.nhs.uk. The PALS team will
listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to express your concerns in writing to:

Complaints department
Fourth floor
Salton House
St Mary’s Hospital
Praed Street
London W2 1NY

Alternative formats
This leaflet can be provided on request in large print, as a sound recording, in Braille, or in alternative languages. Please contact the communications team on 020 3312 5592.

Wi-fi
We have a free and premium wi-fi service at each of our five hospitals. Look for WiFiSPARK_FREE or WiFiSPARK_PREMIUM