

# Liver Biopsy – image guided

## Information for patients

This leaflet explains liver biopsies. It covers what to expect, including the benefits, the potential risks and the alternatives.

Before the biopsy, a clinical staff member will explain the procedure to you in detail. This leaflet is not meant to replace that discussion. If you have any questions or concerns, please do not hesitate to talk to the doctors or nurses who are caring for you. It is important that you feel well informed before agreeing to the biopsy and signing the consent form.

### Confirming your identity

Before you have a treatment or procedure, our staff will ask you to confirm your name and date of birth and check your ID band. If you do not have an ID band, we will ask you to confirm your address. If we do not ask these questions, then please ask us to check. Ensuring your safety is our primary concern.

### What is a liver biopsy?

It is a procedure where we take a small piece of tissue (biopsy) from your liver using a special needle. We put the needle in through a small cut in your skin and into your liver, usually on the right side of your upper abdomen. We only take a tiny piece of tissue, about half the size of a matchstick, and it will not affect how your liver works.

Image guided means that we will use images from an ultrasound or CT scan machine to guide the needle to ensure the sample is taken from the correct place.

### Why do I need a liver biopsy?

You usually have a liver biopsy for one of three reasons:

- To diagnose the type of liver condition causing you to have abnormal liver function tests or an enlarged liver.
- To work out the amount of any injury to your liver.
- To diagnose any liver tumours or growths that imaging tests have shown up.

Your doctor will discuss with you why they are recommending you have this procedure.

## What are the risks of having a biopsy?

All medical and surgical procedures can cause complications, even though every effort is made to prevent them.

- **Bleeding:** The risk of a liver biopsy causing a significant bleed is about one in every 1,000 cases. If you have lots of bleeding after the biopsy, you may need a blood transfusion. You may also need a CT scan of your abdomen to find out where the bleeding is coming from and a special x-ray procedure (embolisation) or surgery to stop and prevent more bleeding. Severe bleeding can make your liver function worse (one in 1,000 cases) and cause death (one in 10,000 cases). Rarely, bleeding can block the bile ducts draining your liver and cause jaundice. You may also find that your stools (poo) are black for a while after having the biopsy. This is caused by a blood getting into your intestines and is normal.
- **Pneumothorax:** The lower parts of your lungs lie close to your liver. This means that, very rarely, the biopsy needle may make a hole in your lung and cause an air leak. This is called a pneumothorax. If this happens, you may find it a little harder to breathe. Small air leaks usually get better without treatment. If we suspect a pneumothorax, we will keep you in hospital overnight for observation and chest x-rays to monitor its size. In some cases, you may need to stay in hospital and have a special drain (thin plastic tube) put in to remove the air leak.
- **Organ injury:** Other possible but very rare complications include making holes in other organs which lie close to your liver, such as your gallbladder, kidney or bowel. If this happens, you may need to have an operation.
- **Procedure failure:** We use image guidance (ultrasound or CT) to ensure we take the right amount of – and the correct type of – liver tissue during the biopsy. Rarely, after the tissue has been looked at, you may need to have another biopsy at a later date to take more samples.
- **Radiation exposure:** We do most liver biopsies using ultrasound (US) guidance, so you are not exposed to radiation. Sometimes we use computerised tomography (CT) guidance. This involves a dose of radiation that is about the same as a CT scan of your abdomen.

## What are the benefits?

The biopsy gives your doctor more detailed information about your liver condition and helps them to plan the best treatment for you.

## Are there any alternatives?

The only alternative is a surgical liver biopsy. You have this under general anaesthetic, so you are asleep. Your doctor will discuss this with you as well as the option of not having a biopsy.

## Consent

We must by law obtain your written consent to any operation and some other procedures, including a liver biopsy, beforehand. Staff will explain the risks, benefits and alternatives before they ask you to sign the consent form. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to speak with a senior member of staff again. We will inform your GP that you have had this procedure unless you specifically instruct us not to.

## When and where will I have my liver biopsy?

We aim to carry out your liver biopsy as soon as possible after receiving the request from your doctor. You will have the biopsy at one of the two places:

- Interventional Radiology Department, 1st Floor, Denmark Wing, King's College Hospital (KCH), Denmark Hill; or
- Interventional Radiology Department, 1<sup>st</sup> Floor, South Wing, Princess Royal University Hospital (PRUH).

## How can I prepare for my biopsy?

**Important: Ideally, you need to live within 30 minutes' travelling time of your nearest hospital and have access to a phone in case you need urgent treatment after you have gone home.**

**Pre-assessment appointment:** We will arrange for you to have a pre-assessment appointment with the Interventional Radiology Nurse, either in person or by phone. The nurse will ask you questions about you, your health and the medications you take. They will take a blood sample to check that you are in good general health and how well your blood clots. You usually have the blood test in our department at either King's College Hospital or the PRUH, but sometimes you may have it taken at your local GP.

After your pre-assessment, we will arrange a date and time for your liver biopsy. We usually let you know the appointment details the same day as your pre-assessment.

**Drugs and alcohol:** Do not use any recreational drugs or drink alcohol for 24 hours before the biopsy.

**Medications:** Please make sure the doctor or nurse knows if you are taking any of the following:

- Blood-thinning medications (anticoagulants) – aspirin, clopidogrel, warfarin, apixaban, rivaroxaban, edoxaban, ticagrelor, prasugrel, phenprocoumon, acenocoumarol, dagibatran, argatroban, heparins, fondaparinux, enoxaparin.
- Anti-inflammatory medications: ibuprofen (Nurofen), diclofenac (Voltarol), naproxen, mefenamic acid, celecoxib, etoricoxib.

Usually, you will need to stop taking these medications a few days to a week before the biopsy. But do not stop them on your own without talking to your liver doctor first. They will tell you when to stop and when it is safe to start taking them again.

If in doubt, please bring with you all the medications you are taking, whether they have been prescribed for you or you have bought them over the counter at your local chemist store.

## **Will I be admitted to hospital for the biopsy?**

You will have your biopsy as a day case patient, a 23-hour patient or a TCI patient. We explain what this means below. We will let you know which one applies to you:

1. **Day case patient:** You will have the biopsy in the morning and, if everything is normal and you are stable, you will be discharged home later in the day. Please arrive at Interventional Radiology at 8am so you can be admitted to the unit.
2. **23-hour bed patient:** You will come into the Interventional Radiology department in the morning, at about 9am. The nurses will confirm with the bed manager that there is a bed available before we can go ahead with the biopsy. This means that there is a chance your procedure will be cancelled if there is no bed available for you. If this happens, we will make another appointment for you to have your biopsy.
3. **To come in (TCI) patient:** You will be admitted to the hospital the day before your procedure and stay overnight before your biopsy. Rarely, you may be admitted on the morning of your procedure. The bed manager will call you to let you know when to arrive and which ward to go to.

## **What happens on the day of the biopsy?**

**Eating and drinking:** Have a light breakfast at about 5am but do not eat anything after this time. You can drink clear fluids up to **two hours** before your biopsy.

**Medications:** Keep taking your regular medications, except for any blood-thinning ones. Remember to take your blood pressure medication on the morning of the procedure (if applicable). If your blood pressure is too high on the day of the biopsy, you might need to have the procedure on another day.

**What to bring with you:** Please bring a small overnight bag, all your medications and something to read, as a small number of patients (fewer than 5%) need to stay overnight after the procedure.

**What not to bring with you:** Do not bring valuables, jewellery or large sums of money with you. If this unavoidable, please ask a relative or friend to take them home for you. The hospital cannot accept liability for the loss of items that are not handed in for safekeeping.

## **What happens before my biopsy?**

One of our nurses will ask you to change into a gown. They will check your blood pressure, heart rate and temperature, and ask you some questions. They will put a small, thin tube called a cannula into a vein in your hand or arm so we can give you medications such as pain relief if you need them during or after the biopsy.

If you are admitted, the ward staff will ensure that you are ready for the procedure and will escort you to Interventional Radiology where you will have the procedure.

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

An Interventional Radiologist – a specialist doctor trained in image-guided procedures – will carry out your biopsy. They will explain the procedure to you, ask for your consent and then do your liver biopsy.

They will ask you to lie on your back and will clean the area. They will use an ultrasound or CT scan machine to guide the needle and give you a local anaesthetic. You might feel a brief sting before the area gets numb.

The doctor will then make a small cut (less than 1cm) and put a needle in to take the sample from your liver. They will ask you to hold your breath for a few seconds as they take the sample. At this point, you might hear a clicking sound.

The doctor may take two or three samples to ensure there is enough tissue for analysis. Afterwards, they will cover the cut with a watertight dressing to help it heal.

## **Will the biopsy hurt?**

The procedure should generally be painless, apart from the brief sting you feel when you have the local anaesthetic injection.

You might find the position the doctor asks you to lie in during the biopsy uncomfortable for a short while.

Straight after the biopsy you may feel a little discomfort at the biopsy site and in your shoulder. We will give you painkillers to ease this. Please do not take painkillers containing aspirin or any anti-inflammatory drugs, such as ibuprofen (Nurofen), naproxen or diclofenac (Voltarol) for two weeks after your biopsy.

## **How long does the procedure take?**

It takes about 30 minutes, but you will be in the Interventional Radiology Department Day Case Unit until about 4pm to allow you to fully recover. If you have been admitted to the hospital, you can go back to the ward to continue your recovery about 30 minutes after the end of the procedure.

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

You will be asked to lie on your right side or on your back for at least three to four hours. You will then rest in bed for another two to three hours to help the wound site heal. The radiologist and nurses will tell you for exactly how long. They will monitor you while you are recovering, to make sure there are no complications.

Once they are sure you are ok, you will be able to sit up for about an hour and then slowly stand and walk around the Day Case Unit thereafter.

We will give you hot drinks and a sandwich to eat. If you need any special food, please bring this in with you as we are unable to provide it.

If you are admitted to the hospital, you will return to the ward and stay overnight for monitoring. Do not get up until the nurses have said it is safe for you to do so. They will give you painkillers if you need them. It is important to let them know if you are in pain so they can help you.

Sometimes you may need another ultrasound scan to check the biopsy site before you are discharged home.

## **When can I go home?**

**If you have been admitted to hospital:** If there are no complications, you may be discharged the day after the biopsy.

**If you are a day case patient:** If there are no complications, you will be able to go home later in the afternoon on the day of your biopsy.

**Important: A relative or a friend (responsible adult) must collect you from the hospital, take you home by car or taxi (not public transport) and stay with you overnight. You must not drive any vehicle for 24 hours after the procedure and you must make sure you feel well enough to drive after that time.**

## **How do I care for the cut?**

You will have a small dressing over the biopsy site which you can change if necessary. If the dressing is heavily soiled, you can use a plaster to cover the cut instead. Keep the site dry for at least 48 hours, then remove the dressing and wash the area with soap and water. Avoid using lotion or powder. Make sure the cut has healed before bathing or soaking it in water.

## **When can I exercise and go back to work?**

For the next one to two weeks, avoid heavy lifting, contact sports and strenuous exercise. When you can go back to work depends on the type of job you do. If it involves heavy lifting, you may need to take a week off. If not, you should be able to return to work two to three days after the biopsy.

## **When can I start taking blood thinners again?**

If you are taking anticoagulants, your clinical team will let you know when it is ok to start taking them again.

## **What should I do once I am home?**

Rest for the rest of the day and possibly for the next day, depending on how soon you recover.

Take your normal painkillers if you have any pain. But please do not take painkillers containing aspirin or any anti-inflammatory drugs, such as ibuprofen (Nurofen), naproxen or diclofenac (Voltarol) for two weeks after your biopsy.

You must not travel by plane for at least a week after your biopsy. If you wish to fly in less than a week, please discuss this with your hospital doctor.

## **What should I look out for after the procedure?**

If there are problems after the biopsy, they usually happen while you are still in hospital. But if you do have problems, please follow our advice below.

### **Bleeding from the cut**

Bleeding is rare, but if you do have any, press on the wound site for about 10 – 20 minutes and it should stop.

### **Severe pain, discomfort or fevers**

If you have any of the following:

- severe pain from the puncture site
- any discomfort which is getting worse rather than better
- fevers (cold or hot sweats)

Contact the liver unit on **020 3299 4000** and ask to speak to the Liver Registrar On-Call or call your GP (home doctor).

**If you feel very unwell, call 999 or go to your nearest Emergency Department (ED/A&E).**

## **When will I get the results?**

The doctor who referred you for the biopsy usually discusses your results with you at your next clinic appointment. Please contact them for an outpatient appointment soon after leaving our department. It usually takes about 7 – 10 working days to get the results. They may take longer if the results are complicated.

If your biopsy was urgent or the result shows that you need treatment before your next appointment, the Liver doctors will contact you. Please make sure we have your current phone number before you go home from hospital.

## What should I do if I cannot come for my biopsy?

Please let us know as soon as possible by contacting the Interventional Radiology Department, so we can arrange another date and time. This also enables us to offer your appointment time to someone else.

King's College Hospital, Denmark Hill, tel: **020 3299 3490**, **020 3299 6730** or **020 3299 3280**

## Who can I contact with queries or concerns?

If you have any questions about your liver biopsy, please contact the Interventional Radiology Nurses:

- King's College Hospital, Denmark Hill, tel: **020 3299 3490** or **020 3299 2060**, Monday to Friday, 9am – 5pm
- Princess Royal University Hospital, Orpington, tel: **01689 863671**, Monday to Friday, 9am – 5pm

## More information and support

- King's College Hospital: [www.kch.nhs.uk](http://www.kch.nhs.uk)
- NHS: [www.nhs.uk](http://www.nhs.uk), tel: 111
- British Liver Trust: [www.britishlivertrust.org.uk](http://www.britishlivertrust.org.uk), tel: 01425 463080
- British Society of Interventional Radiology: [www.bsir.org](http://www.bsir.org) (click on Patients, click on patient information leaflets, select leaflet)

## Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

## PALS

The Patient Advice and Liaison Service (PALS) offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you.

PALS at King's College Hospital, Denmark Hill, London SE5 9RS:  
Tel: **020 3299 3601** Email: [kch-tr.palsdh@nhs.net](mailto:kch-tr.palsdh@nhs.net)

You can also contact us by using our online form at [www.kch.nhs.uk/contact/pals](http://www.kch.nhs.uk/contact/pals)

PALS at Princess Royal University Hospital, Farnborough Common, Orpington, Kent BR6 8ND  
Tel: 01689 863252  
Email: [kch-tr.palspruh@nhs.net](mailto:kch-tr.palspruh@nhs.net)

**If you would like the information in this leaflet in a different language or format, please contact PALS on 020 3299 1844.**

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PL1219.1 November 2024  
Review Date November 2027

Networked Care  
Comms: 4175