



Liver biopsy

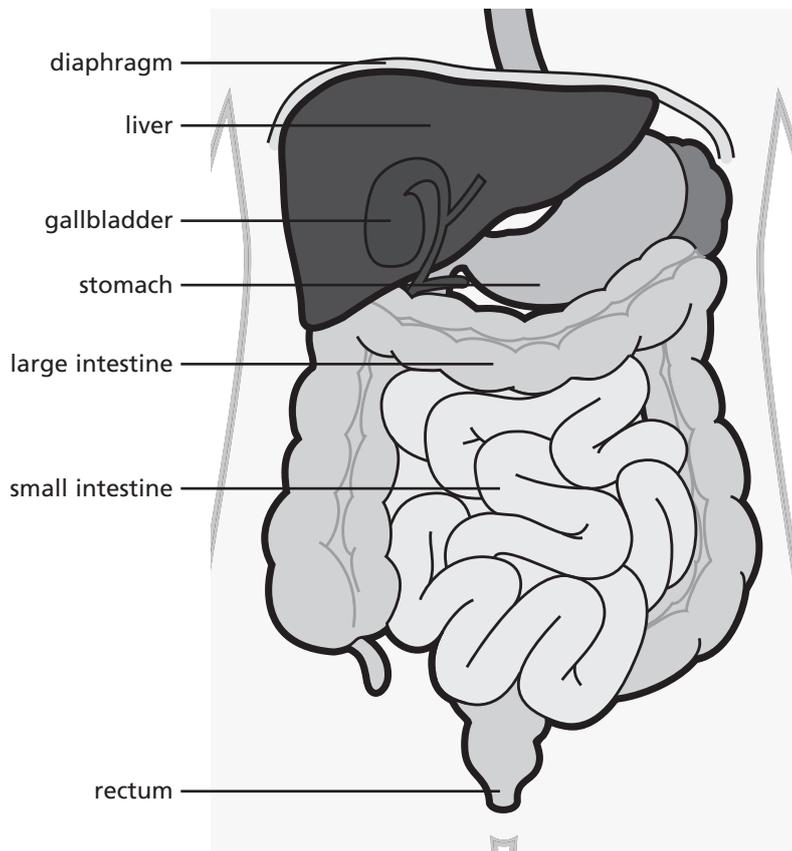
This leaflet explains what happens when your child needs to come to Great Ormond Street Hospital (GOSH) for a liver biopsy.

The liver is the largest organ in the body and is located in the top right hand side of the abdomen. It makes proteins that travel around in the blood, and also breaks down waste products so they can be passed out in urine (wee) or faeces (poo).

What is a liver biopsy?

A liver biopsy is a short procedure to remove a small piece of liver tissue. It can then be examined under a microscope and tested chemically in the laboratories.

Most liver biopsies at GOSH are carried out by inserting a needle through the skin (percutaneously). A small number of liver biopsies are 'transjugular', that is, the liver is approached via a vein in the neck rather than through the skin.



Why does my child need this procedure?

A liver biopsy is usually suggested when a child has an abnormally large liver or abnormal blood results, which indicate that the liver is not working properly. A liver biopsy can also be used to monitor disease, for instance hepatitis, or the effects of treatment, such as chemotherapy. The doctors can tell a certain amount by examining your child's blood, but there is some information that can only be obtained by a liver biopsy – for example the diagnosis of some metabolic disorders. The reason for your child's biopsy will be discussed with you fully by your child's doctors.



Percutaneous liver biopsy is not possible in some children so they will need to have a transjugular liver biopsy instead. This is usually suggested if your child has blood clotting problems that cannot be corrected for the procedure. This is usually decided during a previous outpatient appointment.

What happens before the biopsy?

You will already have received information about how to prepare your child for the procedure in your admission letter. You may need to come to GOSH before the procedure so that your child can have a pre-admission assessment to check that they are well enough. The appointment may involve taking blood samples and other tests. We need to be sure that your child's blood clots properly so we will take a small blood sample for testing. This is because healing after the procedure relies on blood clotting.

If your child is taking certain medicines on a regular basis, these may need to be stopped a few days before the liver biopsy is due to take place. Ibuprofen and other non-steroidal anti-inflammatory drugs (NSAIDs) need to be stopped three days beforehand. The nurses will confirm this at the pre-admission assessment.

The doctor will explain the procedure in more detail, discuss any worries you may have and ask you to sign a consent form giving permission for your child to have the procedure. If your child has any medical problems, please tell the doctors.

Your child will need to have a general anaesthetic for this procedure. It is important that your child does not eat

or drink anything for a few hours before the anaesthetic. This is called 'fasting' or 'nil by mouth'. Fasting reduces the risk of stomach contents entering the lungs during and after the procedure.

You will be informed the night before the procedure of the time that your child should be 'nil by mouth' – in other words, have nothing to eat or drink before the anaesthetic. Fasting times are provided in your admissions letter – in broad terms, this is six hours for food (including milk), four hours for breast feeding and two hours for clear fluids before the procedure.

It is equally important to keep giving your child food and drink until those times to ensure they remain well-hydrated and get adequate nutrition. This may involve waking your child in the night to give them a drink which we recommend.

Some children are at risk of low blood sugar levels when they do not eat or drink, so they will be given a glucose solution through a 'drip' (intravenously).

Please follow these instructions carefully, otherwise your child's procedure may be delayed or even cancelled.

What does the biopsy involve?

While your child is under anaesthetic, the doctor will carry out an ultrasound scan to find the best place from which to take the biopsy.

Percutaneous liver biopsy

A local anaesthetic injection will be used to numb the skin over the liver, before the doctor makes a small incision. A needle will be inserted into the liver and



two or three small samples are removed through the needle. These will then be sent to the laboratories for detailed examination. The area will be covered with a dressing, which you should keep clean and dry for two to three days after the procedure.

Transjugular liver biopsy

A local anaesthetic will be injected over a vein in the neck before the doctor makes a small incision in the skin. A soft plastic catheter is threaded into the vein and passed through the blood vessel system until it reaches the liver. Small samples of tissue can be removed through the catheter, which can then be sent to the laboratories for detailed examination. The neck incision is closed with a sticky paper stitch.

Are there any risks involved?

Every anaesthetic carries a risk of complications, but this is very small. Your child's anaesthetist is an experienced doctor who is trained to deal with any complications. Sometimes after a general anaesthetic, a child may feel sick and could actually vomit. Your child may also complain of a headache, sore throat and feeling dizzy and may be upset. These side effects are usually short lived.

Liver biopsy carries some specific risks. Pain is the most common side effect of liver biopsies. Usually, it is a dull ache rather than a sharp pain, often felt in the right shoulder, rather than the abdomen. Regular pain relief is usually enough to deal with this discomfort.

There is also a small risk of significant bleeding. If this occurs, it usually starts within a few hours of the biopsy, but can rarely happen up to 15 days after the procedure. Your child will be closely monitored for the first few hours after the procedure to reduce this risk.

What happens after the biopsy?

Your child will be able to recover from the biopsy on the ward and may be sleepy for a few hours as the anaesthetic wears off. Your child's blood pressure, pulse and breathing rate will be monitored every 15 minutes initially, then less frequently as your child recovers. The local anaesthetic given during the procedure will start to wear off a few hours after the biopsy, but we will give your child pain medicines to keep them comfortable.

Your child should remain in bed for 24 hours after the biopsy and ideally, he or she should lie on the right hand side as much as possible. However, in our experience, it can be difficult to persuade some children to stay in bed for this long, so please bring in any books or games to keep your child occupied.

Your child will be allowed to visit the toilet under supervision of a nurse or responsible family member, as long as his or her vital signs (blood pressure, pulse and breathing) are stable. Towards the end of your child's stay, we will encourage them to get out of bed and walk around. Your child should be well enough to go home within 24 hours of the biopsy.



When your child goes home...

The biopsy site may feel uncomfortable for a day or two afterwards. Your child may need paracetamol, given according to the instructions on the bottle, unless you have been advised otherwise. Before you go home, the doctor will advise you about re-starting your child's regular medicines.

The dressing can be removed three days after the procedure. Your child should avoid any contact sports, particularly rugby, and swimming, for six to eight weeks after the biopsy. Younger children should also avoid any rough and tumble play for six to eight weeks. This will give the biopsy site a chance to heal completely, reducing the risk of any internal bleeding.

**If you have any questions,
please telephone 020 7405 9200
and ask for the ward from which
your child was discharged**

When will we hear the results of the biopsy?

The initial results of the biopsy are usually available within a couple of days, but more complicated tests can take longer. All the biopsy results will be given to you at your child's next outpatient appointment, but if there is a need to change your child's treatment before this time, you will be contacted directly by a member of your child's team at GOSH or via your family doctor (GP).

You should call your GP or the ward:

- **If the biopsy site is still painful after more than three days after the biopsy was taken and normal pain relief does not work**
- **If the biopsy site is red or 'angry'-looking**
- **If your child develops a high temperature, and is not eating**

Notes

Compiled by the Interventional Radiology team and Kingfisher Ward in collaboration with the Child and Family Information Group

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