

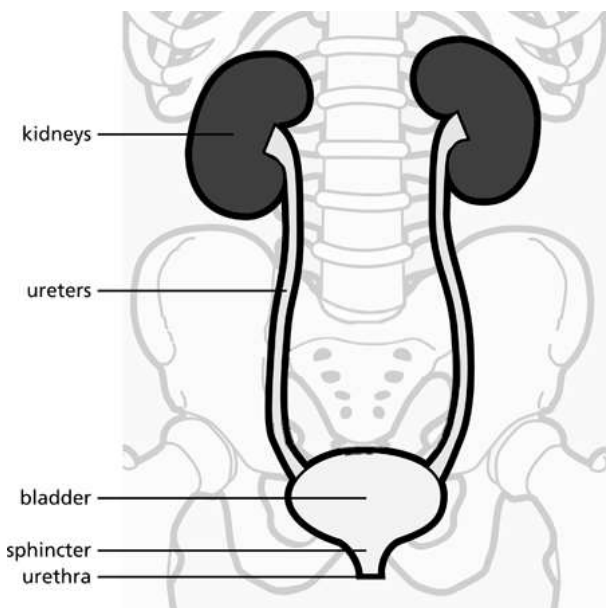


Kidney biopsy: information for families

A biopsy is a small sample of tissue taken from any area of the body so it can be examined under a microscope. A sample of kidney tissue may be taken using an endoscope (a thin, flexible tube with a bright light and camera). This information sheet from Great Ormond Street Hospital (GOSH) explains the kidney biopsy procedure and what to expect when your child comes to GOSH to have one. An Easy Read information sheet is also enclosed for your child.

A kidney biopsy is usually carried out to make a diagnosis or assess how the kidneys are responding to treatment. It may become necessary when blood and urine tests, ultrasound scans and other radiology imaging have not been able to give enough information about your child's kidney problem.

Some of the problems that might need a kidney biopsy include: recurrent episodes when blood can be seen in the urine, the presence of large amounts of protein in the urine such as in nephrotic syndrome and when kidney function has deteriorated rapidly and the cause is not known.



In children with a kidney transplant, a biopsy can identify why the kidney is not working well and what treatment is needed.

What happens before a kidney biopsy?

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. We will discuss with you whether or not your child needs to come in the night before or on the day of the biopsy and how long they should avoid fluid or food. Adults and some older children have kidney biopsies with a local anaesthetic, usually with Entonox® (the 'gas and air' women have during childbirth) whereas other younger children may have a full general anaesthetic. We will discuss with you the best approach for your child.

What does the biopsy involve?

Once your child is under general anaesthetic or has had Entonox®, they will lay on their left side if their own kidney (native kidney) is being biopsied. When a child has two kidneys, we usually take a biopsy from the one on the right hand side. If the biopsy is on a transplanted kidney, your child will lie on their back, as this makes it easier to reach the transplanted kidney. The exact position of the

kidney is confirmed using an ultrasound scan, which also identifies the best place to take the biopsy. This is usually at the lower and outer part of the kidney.

Local anaesthetic is injected under the skin at the biopsy site and along the path between the skin and the kidney. The only cut that is made is a tiny nick in the skin to allow the biopsy needle to enter more easily. This nick is 2mm to 3mm long and is so small that it does not need a stitch afterwards.

The biopsy needle has a hollow centre, and when it is removed, it brings a very fine core of kidney with it. This is about the size of a grain of rice and is approximately 1cm to 2cm long. This tiny piece of kidney will contain between 10 and 50 glomeruli, which are the little filtering units within the kidney. This will not affect kidney function as each kidney contains about a million glomeruli. Usually two or three samples are taken so that enough tissue is available for testing in our laboratories.

The samples of kidney tissue are given to a technician who looks at it under the microscope to make sure the sample is adequate. If the sample is too small, further samples will be taken during the same procedure. If the sample is just right, the technician will take it for processing.

The biopsy site will be covered with a dressing. The area usually oozes slightly straight after the procedure, but this will stop when pressure is applied to the site. Your child will then return to the ward where they need frequent observations of their heart rate, breathing and blood pressure to make sure their body has not been upset by the biopsy – very rarely a child can bleed after a kidney biopsy. For this reason, we need your child to lie as still as they can for four hours or more.

Are there any risks involved?

Some children may get a little bit of pain (like a bruise pain) over the biopsy site, but this is not usually serious. Paracetamol is usually enough to

help this. It is common to get a little bruising around the kidney which settles quickly. Children may see that their urine (wee) is slightly pink as commonly a small amount of blood leaks into the urine afterwards. This usually settles within the first 24 hours and is normal. Occasionally, heavier bleeding can cause blood clots to form in the urine.

Another very rare complication is the creation of a join between a small artery and a small vein, called a fistula, which can very occasionally cause bleeding and blood pressure problems. This can be diagnosed with an ultrasound and will usually need a 'keyhole' procedure to treat it.

Going home

You can take your child home about four to six hours after the biopsy if they are well after the procedure. This means that they should be eating and drinking and have passed urine (peed) that is not heavily blood stained on two occasions. We will check that the biopsy site looks fine and that their vital signs (blood pressure, pulse and breathing) are normal. If the biopsy took place late in the afternoon, your child may need to stay overnight and go home the following morning.

Keep the dressing dry and in place for two to three days after the procedure. This helps the biopsy site to heal and reduces the risk of scarring. The dressing can then be removed.

Your child may feel uncomfortable for a couple of days afterwards and may experience a dull ache in the area where the biopsy was taken. It is fine to give your child paracetamol (given according to the instructions on the bottle) unless you have been advised otherwise.

Your child's urine may look slightly pink afterwards due to a small amount of bleeding. This will usually settle down within 24 hours.

When you get home your child should take it easy and not run around or ride a bike for two weeks.

We advise that they stay off school for two days after the biopsy. Your child should avoid contact or impact sports such as rugby, football, trampolining or horse riding for the next four weeks to allow the kidney to heal properly.

You should call the ward if:

- Your child has obvious blood or clots in their urine (wee).
- The biopsy site is very painful – for example, normal pain relief is not helping and your child is unable to play, get up or walk in the days after discharge.
- There is any oozing or bleeding from the biopsy site

- Your child develops a fever

When will I get the results?

The biopsy is processed in three different ways. First of all, we look at it under a microscope. This may give us some information within a day or two. We then do special stains on the sample, which takes a bit longer, and electron microscopy, which takes longer again. We may have some results available while you are still in hospital, but would need to allow six weeks to be sure that the others are back. You need to make sure that when you leave the hospital, you have an appointment for six weeks or sooner if you are asked to do so.

Further information and support

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

Having a kidney biopsy



You are coming to hospital for a kidney biopsy (said: bye-opp-see). Your kidneys take water from your body and clean it. This removes any bad stuff and turns it into wee.



A biopsy is a tiny bit of body tissue. People in our laboratory (said: lab-orr-a-tree) look at it under a microscope (said: my-cro-scope). This helps the doctors work out how to look after you.



You may have an anaesthetic (said: ann-ess-thet-ick) for the biopsy. You will not be able to feel anything or know what is happening.



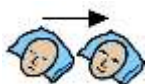
The doctor will use an ultrasound (said: ull-tra-sow-nd) scan to work out where to take the biopsy. The bit they will take is the same size as a grain of rice.



Usually they will take 2 or 3 bits. They send these to the laboratory. Scientists will look at the bits under a microscope. They will send a report of what they see to your doctor.



The doctor will put a plaster over the area.



You will come back to the ward to wake up from the anaesthetic.



You might feel a bit sore where the biopsy was taken. You can take pain medicine to help.



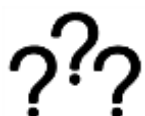
You can go home a bit later the same day. Keep the dressing dry for two days. Tell someone if there is anything making the plaster wet.



Your wee might look a bit pink for a few hours. This is normal. Tell someone if you see big red bits in your wee.



Your doctor will get a report of the results of the biopsy. They will discuss it with you in clinic as soon as possible.



Please ask us if you have any questions.