



Having a kidney biopsy

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Introduction

This information leaflet will help you if your doctor advises you to have a kidney biopsy, also called a renal biopsy. Please read it and talk to your doctors and nurses.

Reasons for a kidney biopsy

A biopsy is recommended when blood and urine tests show a problem with the way your kidneys work. A biopsy can give a diagnosis on the cause of the kidney problem, identify if the problem is advancing, and if so, how quickly. It can also help your doctors to advise on the best treatment for you.

The following problems are the most common reasons for a biopsy to be performed but not everyone with these problems needs a biopsy:

- protein in the urine (called proteinuria)
- blood in the urine (also called haematuria). A biopsy for haematuria is usually only suggested if there is also proteinuria present
- raised creatinine levels in the blood which identify problems with kidney function (causing a build-up of waste products in the blood)

If you are being seen as an outpatient, your kidney doctor will usually discuss the reasons for doing a biopsy and what the procedure involves whilst you are in the clinic.

What is a kidney biopsy?

A kidney biopsy is a procedure in which two to four small pieces of tissue (about half a matchstick in size each) are removed from your kidney using a special needle. As most kidney diseases affect both kidneys it is only necessary to take a biopsy from one of your kidneys (usually the left). The tissue is then processed and examined using a microscope. Biopsies can be taken from your own (native) kidney or from a transplant kidney.

What preparations are needed before my kidney biopsy?

Before having the kidney biopsy a number of tests are needed;

- blood pressure to ensure it is lower than 160/90mmHg
- urine sample to make sure there are no signs of infection
- blood tests to see how well your blood clots and reduce the risk of bleeding, and an
- ultrasound scan of your kidneys to check the position and size of your kidneys.

How urgent is my kidney biopsy?

- **If you are having a routine biopsy**, you will be asked to attend the 'Biopsy Clinic' for the above tests. The biopsy clinic is managed by kidney doctors and you will have another opportunity to discuss the biopsy procedure.
- **If a biopsy is needed urgently**, the tests can be performed when you are at the outpatient clinic or can be taken whilst you are an inpatient.

Will I need to stay in hospital overnight?

You will be advised to stay overnight in hospital following your kidney biopsy if;

- your kidney function is below 30ml/min or,
- you live more than 45 minutes away from the QE Hospital or,
- you require medications that may affect your clotting and cannot be stopped before your biopsy or,
- you do not have a responsible adult staying with you overnight.

An overnight stay is taken as a precautionary step to ensure that if any complications arise, they can be managed expediently.

Special considerations about medications before my biopsy

- To lower the risk of bleeding, you will usually be asked to stop taking certain medications for a week before the biopsy.
- **You should tell us if you take aspirin, rivaroxaban (Xarelto), apixaban (Eliquis), clopidogrel (Plavix), warfarin, dipyridamole (Persantin) or ticagrelor (Brilique).**
- It may not be possible to stop these medications in exceptional cases such as a recent thrombosis or blood clot, or if you have had a recent coronary angiogram requiring a coronary artery stent placement within the last 12 months.
- If any of the above medications has been stopped, then you will be advised when to restart them. Depending on the medication, this may not be until at least 7 days after the biopsy. If you are uncertain when you should restart medication, ask your kidney consultant or the doctor performing the biopsy.
- **Please take your blood pressure medication on the morning of your procedure.** If your blood pressure is too high on the day of the biopsy, the procedure may be cancelled, your medications altered and another date will be booked.
- **You should not eat for 6 hours before your biopsy. Clear fluids can be taken up to 2 hours before the procedure.** This is because a mild sedative is used during the procedure to make you feel more comfortable. You can take your medications (ensuring to avoid ones that have been paused) 2 hours before the procedure with a small amount of water.

What happens on the morning of my kidney biopsy?

- Biopsies are usually performed using light sedation plus local anaesthetic. In order to be able to safely receive sedation, you should not eat for 6 hours beforehand. Clear fluids can be taken up to 2 hours before the procedure.
- Remember to take your blood pressure medications in the morning, ideally before you leave home. If you are an inpatient, the nursing staff will administer them to you.
- If you are attending as an outpatient, you will usually be admitted to Ambulatory Care in the morning.
- You will be asked to put on a gown.
- You will be taken to the Renal Procedure Room on ward 301 for the biopsy.
- The doctor performing the biopsy will explain the procedure once more and ask you to sign a consent form.
- The biopsy procedure normally takes around 30 minutes.

How is the biopsy procedure done?

- If you are having a biopsy taken from one of **your own kidneys** you will be asked to lie flat on your front with a cushion placed under your tummy for support.
- Getting into the correct position is an important part of the procedure. If you think that you may not be able to lie on your front, tell your kidney doctor in advance.
- If you have a **transplanted kidney**, you will be asked to lie on your back for the biopsy.
- Once in position, the kidney is located with the ultrasound machine and the biopsy site is cleaned with an antiseptic solution and covered with a sterile towel.
- A mild sedative injection will be administered. You will be awake during the procedure but feel comfortable.

- A local anaesthetic is injected into the skin to make the area around the site feel numb. This will sting for a few moments at first and once the skin is numb, more local anaesthetic will be injected around the kidney.
- Once the area is numb the biopsy needle will then be passed and 2-4 samples will be taken to ensure there is enough tissue for diagnosis.
- As the kidneys move during breathing, you will be asked to hold your breath for a few seconds while the biopsy is taken. You do not need to hold your breath for a transplant biopsy.
- During the procedure, you may feel a pushing sensation and it can be uncomfortable but it is not usually painful.
- Once the sample is obtained, pressure is applied over the site to stop any bleeding and a dressing is placed.

What happens if it is not possible to get a sufficient sample?

Sometimes it proves difficult to remove a suitable piece of kidney tissue. This might be recognized during the procedure but sometimes it is only discovered afterwards when the tissue is examined under a microscope. In these cases, a member of the kidney team will talk to you about attending for another biopsy to be done by a consultant radiologist (X-ray specialist).

What happens after the procedure?

- After the biopsy you will be asked to rest in bed for at least 6 hours to reduce the risk of any bleeding. Bring a book or music to listen to.
- Your pulse and blood pressure will be monitored and the dressing checked for signs of bleeding.

- When you pass urine it will be tested for signs of bleeding. It is not uncommon for the urine to be bloodstained after the biopsy and this usually settles within 24 hours.
- You can eat and drink as normal after the procedure.
- As the anaesthetic wears off you may feel some pain or discomfort for which you can be given painkillers.
- If you feel well after the biopsy and have no pain or bleeding, you may be able to go home later that day.

Once home, please ensure the following;

- You must have someone to take you home and stay with you overnight.
- You should not drive home after the biopsy and you should only resume driving if you are confident that you are able to do so safely. If you are experiencing significant back pain after the biopsy, wait until this settles before driving.
- Heavy lifting and strenuous exercise or contact sports should be avoided for 2 weeks after the biopsy.
- You can shower and bathe as normal once you are home.

When do I restart paused medications?

- You can usually restart **aspirin**, **clopidogrel (Plavix)**, **dipyridamole (Persantin)** and **ticagrelor (Brilique)** 7 days after the biopsy.
- Specific restart advice will be given to you by your kidney doctor about **rivaroxaban (Xarelto)**, **apixaban (Eliquis)**, and **warfarin**. They are usually restarted 3-7 days after the biopsy. Please speak to your kidney doctor about this.
- If it is not clear then please contact the number at the end of this leaflet.

When will I find out the results of my biopsy?

For routine biopsies, a report is usually available 1-2 weeks later and your kidney doctor will have this when you come back to outpatients clinic. For urgent biopsies, a preliminary report will be provided on the same day or the following day although further details will usually come through a few days later. Your kidney doctor will tell you when to expect a report.

What are the risks of having a kidney biopsy?

As with any procedure there are some risks or complications that may happen from having a kidney biopsy.

These can include;

- back discomfort is experienced by 10% of people following a biopsy. This is caused by bruising around the kidney and will usually settle with painkillers and rest. If you get pain after the procedure, tell the nurses and doctors looking after you
- 1-3% of people have visible blood in their urine after a biopsy. Usually this settles by itself. In people who have visible blood in the urine, clots can form in the bladder and sometimes it becomes necessary to temporarily put a catheter in the bladder to help you pass urine
- in around 1% of people, the bleeding may be heavy enough to require a blood transfusion
- in less than 1% of people, further intervention may be required to stop the bleeding. This usually takes place in the X-ray department and involves a procedure to block the bleeding kidney blood vessel by passing a tube up from the blood vessel in your groin

If complications occur it is usually in the first few hours after the biopsy whilst you are in hospital.

It is rare for problems to occur later on, however if you do experience any of the following please contact the hospital;

- bright red blood in your urine
- unable to pass any urine
- fever or temperature
- worsening pain in your back or front on the side of the biopsy
- feeling faint or dizzy.

Contact details

You should contact the Renal Assessment Unit on the following numbers between 08:00–20:00 Monday to Friday and 08:00–16:00 on Saturday and Sunday (and bank holidays).

0121 371 3017

0121 371 3024

Outside these hours, call the hospital switchboard on:

0121 371 2000 and ask to be put through to the renal registrar on call.

Where can I find further sources of information?

Further information can be obtained from:

- The National Kidney Federation website www.kidney.org.uk
- West Midlands Renal Network website www.wmrn.co.uk
- Go online and view NHS Choices website for more information about a wide range of health topics www.nhs.uk/Pages/HomePage.aspx



The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit www.uhb.nhs.uk/health-talks.htm

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