

What is a renal biopsy?

Your doctor has referred you for a renal biopsy. A renal biopsy is where a small piece of kidney tissue is removed so that it can be checked for any abnormalities or diseases. Looking at the renal tissue itself is the best way to see how much damage there is and what is causing it to be damaged.



To perform the biopsy, a special needle is inserted into the kidney to take a small sample to send to the laboratory for testing. The procedure is performed by a specialist doctor, called a radiologist, using ultrasound or CT to guide the positioning of the needle. The sample is then sent off to be examined by a specialist doctor, called a pathologist, under a microscope. The information from this procedure helps your doctor with a diagnosis, and to plan any treatment that you may require. A renal biopsy may not give a definitive answer and you may need more tests.

How long will the procedure take?



The preliminary imaging (CT or ultrasound) and preparation including cleaning the skin and giving local anaesthetic may take about 10 minutes. The actual biopsy takes less than a minute, although a few samples may be required. The whole procedure is usually completed in 20-30 minutes.

You will be observed after the biopsy by our nurse for up to 4 hours.

Is there any special preparation required?

You will be required to fast (go without food and water) for 4–6 hours before a renal biopsy. This will make it less likely that you will feel sick during the biopsy, and is needed if you are going to receive sedation for the procedure. You should discuss with our staff at the time of booking.

A renal biopsy can be uncomfortable and may be painful. You may wish to ask a relative or a friend to attend the appointment with you if you think that you may need support before or after the procedure; however, they will not be allowed to stay with you during the procedure. You may wish for someone to drive you home. If you have sedation, you must have someone to drive you home.

When booking your appointment, it is essential that you inform our staff if you have any allergies, take blood thinning medication, or are pregnant or breastfeeding.

Please list, or bring, all of your prescribed medications, including those medications that you buy over the counter at the pharmacy, herbal remedies and supplements.

If you take blood thinning medication, you may need to stop taking these for a few days or reduce your dose. **It is very important that you do not stop any blood thinning medications or change the dose without consulting with our radiology clinical staff and your own doctor.** They will give you specific instructions about when to stop and re-start the medication. These drugs are usually prescribed to prevent stroke or heart attack, so it is very important that you do not stop taking them without being instructed to do so by your doctor or our clinical staff, or both. Aspirin is usually not stopped.

In the days prior to the procedure, a blood test may be required to check your blood clotting. You should continue with pain medication and all other medications as usual.

What do I need to do on the day of the procedure?

On the day of your appointment, please ensure you bring:

- Your referral form (if you have it)
- All previous relevant scans or x-rays
- Medicare and healthcare cards (e.g. DVA card or concession card)
- List of all medications

What happens during the procedure?

A preliminary ultrasound or CT scan is carried out to plan the best way to perform your biopsy. A sonographer or CT radiographer will be present during the preliminary scanning, and the radiologist may also be present. Once the plan is decided, the nurse or radiologist will clean the surface of the skin where the needle will be inserted using an antiseptic solution, and a sterile drape will be applied to the area to reduce the risk of infection. The radiologist and nurse will dress themselves in sterile gloves and possibly, a gown.

You may be given some sedation before and during the procedure if needed. To prevent discomfort, the radiologist will give some local anesthetic to numb the area where the biopsy needle will be inserted. The biopsy needle is inserted using CT or ultrasound to guide it to the desired position.

The biopsy is usually carried out with you holding your breath from time to time, under the radiologist's instruction. You may hear a clicking noise when the samples are taken. It is common for two to three samples to be collected. Some gelatin foam may be injected into the biopsy site to help prevent bleeding. This gelatin is an animal product: please discuss with our staff if you have a religious or ethical objection to using this product. After sufficient tissue samples are obtained, firm pressure is applied with a gauze bandage to the entry site on the skin where the biopsy needle was inserted. You will then be taken to a recovery room, where you will be monitored by our nurses for a number of hours.

Are there any after effects from the treatment?

There is sometimes some bruising in the area that has been biopsied, and it may feel a bit tender for several days. You may also experience a dull, one-sided ache in your upper abdomen, side or back.

What happens after the procedure?

Our staff will provide you with clear written instructions on ways to look after yourself following the biopsy. This includes information such as avoiding strenuous activity for a few days, arranging a follow-up appointment with your referring doctor and how to look after the biopsy site.

What are the benefits?

If there is an area of concern in your kidney, biopsy samples of this area are taken for examination by a pathologist. CT- or ultrasound-guided biopsy is a method of gaining accurate information without the need for an operation to surgically remove the tissue for testing.

Are there any risks?

In referring you for this procedure, your doctor believes that the benefits of this procedure for you are greater than the risks. There are some risks and complications associated with a renal biopsy. The use of ultrasound or CT to guide the procedure minimises these risks.

- Bleeding is the most significant risk from renal biopsy. It may be serious and require further treatment or surgery. Blood transfusion might be necessary. You might have to stay in hospital until it has been successfully brought under control; the risk is about 1 in 50 patients.
- Everyone has an individual pain threshold so tell our nurse or specialist doctor, the radiologist, if you feel pain during the biopsy. You may experience pain at either the biopsy site or a dull, one-sided ache in your upper abdomen, side or back which may last for a couple of days after the procedure; this may require simple 'over the counter' pain medication such as paracetamol.

If you sometimes faint during medical procedures, please tell the nurse or radiologist before the biopsy starts. Some people may have an allergy to injected drugs (e.g., local anaesthetic), or the procedure may not be possible due to medical and/or technical reasons. There is a very small risk of infection; in the unlikely event that this occurs it can be treated with a course of antibiotics.

It is possible that an injury may occur to a nearby organ such as the bowel. This is uncommon.

Before the biopsy, our doctor, the radiologist, will discuss the procedure with you in detail, including any risks specific to you. You will be provided with the opportunity to ask questions. It may be necessary to do a formal consultation to ensure this procedure is the most appropriate for you.

When do I get the results?

The radiologist will send a report outlining the procedure to your referring doctor (this could be your family doctor, a surgeon or other specialist). It is important that you make a follow-up appointment with your referring doctor so that they can discuss the results with you.

The pathologist who studies the biopsy samples will provide a detailed report to your referring doctor. The pathology results are usually available and sent to your doctor within 3 days. Usually your doctor will already have made arrangements to discuss the results with you.

I still have questions, who can I ask?

Medical information can be complex, and you may receive information that you do not fully understand. It is important for you to consider the risks and outcomes of the procedure as well as your personal needs before making a decision to undergo the procedure.

If you have read this information and are still unsure if this is the correct procedure for you; before making a booking, you should discuss your questions or concerns with your referring doctor in the first instance. Your regular GP and/or your family may also be a useful resource. Your referring doctor can answer questions about the risks and benefits of not having the procedure and other options for treatment.

If you have questions before your appointment about what is involved on the day, our staff would be happy to assist. Please contact the imaging centre where you have made your appointment.