Kidney Biopsy
Information for patients

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Introduction

This leaflet is about the procedure known as kidney biopsy. Its aim is to explain what is involved and what the possible risks are. It is not intended to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

If the biopsy is being performed as a planned procedure, you should have plenty of time to discuss the situation with your consultant and the doctor who will be doing the biopsy and perhaps even your own GP. If you need the biopsy more urgently, there may be less time for discussion, but nonetheless, **you should feel you have been given as much information and explanation as you need before you sign the consent form.**

What is a kidney biopsy?

Many kidney problems can only be diagnosed by examining a small piece of kidney tissue using a microscope. The tissue sample is taken using a special needle pushed through the skin of your back. This procedure is known as a kidney biopsy. Most kidney disorders affect both kidneys equally and a sample from just one kidney will be enough to tell us the cause of your kidney problem.

Who will be doing the biopsy?

A kidney specialist (Consultant) or a trainee kidney specialist (Specialist Registrar) will be responsible for carrying out the procedure. The doctor performing the biopsy may be different to the doctor who recommended the procedure to you, but they will be happy to answer your questions.

Where will the biopsy take place?

The biopsy will usually be done in the Minor Operations room in the Renal Centre at Southmead Hospital. The room has an ultrasound machine that will be used to determine the position of the kidneys within your body. Occasionally the procedure is done while you are on a bed in the ward and the ultrasound machine is brought to the bedside.
How do I prepare for biopsy?

You will be admitted into one of the inpatient wards. You will have some blood and swab tests performed to check that you do not have an increased risk of bleeding nor are at risk of any infections; these may already have been done in an earlier visit to the outpatient department. You should inform the doctor if you are taking medication that prevents clotting of the blood such as warfarin, aspirin, dipyridamole or clopidogrel. You should usually not have taken warfarin, aspirin or clopidogrel for 1 week before the biopsy (but the precise timing of when you should stop will be discussed with you, according to the reason for taking these drugs). The biopsy is usually done under a local anaesthetic, so you will remain awake. You can eat and drink normally before and after the biopsy is done.

What happens during the biopsy?

Because the kidneys are located near your back, the biopsy is carried out with you lying on your tummy. An ultrasound scan will be used to decide on the best point for insertion of the biopsy needle. The doctor will select which kidney to biopsy.

The skin over your back just below the ribs is cleaned with antiseptic solution and covered with a sterile towel. Some local anaesthetic is injected into the skin; this may sting a little at first. More local anaesthetic is then put into the muscle of the back. When the skin and tissues are completely numb, the doctor locates the kidney with ultrasound and then takes the biopsy with a needle. A small (less than 1 cm) incision is made in the skin to allow the passage of the biopsy needle.

Because kidneys move when you breathe, you are usually asked to take a breath in and to hold it for a few seconds while the biopsy is taken. You may hear a clicking sound when the biopsy needle is activated.
To ensure that there is enough tissue for the pathologist to examine, it is usual to take 2 or 3 pieces of kidney. Sometimes it may be necessary to pass the biopsy needle several times to be sure enough tissue is obtained.

Once the biopsy is done, the injection site will be covered with a small dressing and you will return to the ward or Day Case Unit.

**Will it hurt?**

Some people find lying on their front for a period of time uncomfortable, but this is not usually a problem for the short time that a biopsy takes. When the local anaesthetic is injected, it will probably sting to start with, but this wears off very quickly and the skin and deeper tissues should then feel numb. You may be aware of the needle passing into your body, but this usually does not cause pain.

**How long it will take?**

Everyone’s situation is different and it is not easy to predict how straightforward or complex a procedure will be. Preparation for the biopsy might take several minutes but the needle is in your body for a very short time. The whole procedure may be over in less than 30 minutes.

**What happens after the biopsy?**

Following the biopsy you will return to the ward or Day Case Unit where you will rest in bed for 6 hours. This involves 2-3 hours lying flat and then 3 hours sitting up. Your blood pressure and pulse will be measured frequently at first and then at longer intervals. During this time you should be able to eat and drink. When the local anaesthetic wears off, you may feel some pain in the back at the needling site; please ask the nurse for a painkiller if you need it.

The first urine you pass after the biopsy should be given to the nurse to check if there is any bleeding. If all remains well, you may be allowed home on the same day as the biopsy, but you should be prepared to stay in hospital overnight.
You should avoid strenuous activity, heavy lifting or contact sports for 48 hours after the biopsy.

For urgent biopsies, preliminary results may be available within 24-48 hours. For less urgent biopsies, the full results will be available for discussion at your next clinic visit. Unfortunately, it is not possible to be certain that there is enough tissue to give a clear result until the pathologist has examined the biopsy, and occasionally the biopsy will need to be repeated later.

**If you develop pain around the kidney or see any blood in your urine, you should contact us straight away for advice.**

**Are there any risks or complications?**

As with any medical treatment, there are some risks or complications that can arise from a kidney biopsy. Your doctor has recommended the procedure because the benefits of information that the biopsy will provide outweigh the risks to you.

**The types and approximate frequency of the main complications are shown below:**

- In approximately 5 out of 100 biopsies, there may be visible bleeding in the urine or discomfort due to bruising around the kidney. These problems usually settle on their own, although painkillers may be needed for a time.

- **Rarely** (fewer than 1 in 100 biopsies) there is more bleeding that requires a blood transfusion. If bleeding persists, additional scans may be required. In fewer than 1 in 1,500 biopsies, the bleeding may continue and require urgent X-ray tests; a more complex radiological procedure may then be needed to identify the cause of the bleeding and to stop it. This involves X-ray doctors passing a catheter through the blood vessel in your groin, advancing this up to your kidney blood vessels to identify the
bleeding vessel and then injecting some glue-like material
to plug the bleeding point. This procedure is known as
‘embolisation’.

- Extremely rarely (fewer than 1 in 3,000 biopsies),
bleeding may be difficult to control or there may be
damage to another organ. Under these circumstances, an
urgent operation and even removal of the kidney might
be needed. Although deaths have occurred following
complications of biopsies, this is extremely rare.

What are the alternatives to a kidney biopsy?
A biopsy is usually the definitive test to explain what is wrong
with your kidneys and is usually performed because the
other tests have not provided the answer. Without a biopsy
your doctor may not be able to advise the best treatment for
you. Your doctor should be able to tell you what changes in
treatment could be made for your kidneys if you decide not to
have a biopsy taken.

Finally…
Some of your questions should have been answered by this
leaflet, but remember that this is only a starting point for
discussion about your treatment with doctors looking after
you.

If you agree to have the biopsy, you will be asked to sign the
hospital’s consent form which will state that you have received
information about the procedure and have discussed it with
your doctor.

Make sure that you feel satisfied that you have received
enough information about the procedure before you sign
the consent form.
References


The National Kidney Federation
www.kidney.org.uk/

NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution
If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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