

# Kidney biopsy

## What is a kidney biopsy?

A biopsy is a microscopic examination of a small piece of kidney tissue that has been removed with a needle. It can help with diagnosis and choice of treatment. It may be recommended for any of the following conditions:

- Proteinuria – excessive protein in the urine
- Acute (short-term) kidney failure
- Chronic (long-term) kidney failure
- If a kidney transplant is not working well

The biopsy takes less than 60 minutes, but most patients will stay in hospital for 24 hours after the biopsy.

## Do I have to have a kidney biopsy?

Patients should discuss with their doctors the reasons for having a biopsy and the risks involved. This will help you to decide whether a biopsy is worthwhile.



## What are the preparations?

Patients must sign a consent form saying they understand the risks involved in this procedure.

Doctors should be aware of the patient's medications. Aspirin and other blood thinning medicines should be stopped for at least one week before the procedure.

## How is a kidney biopsy done?

Kidney biopsies are usually done in a hospital. The patient is fully awake with light sedation.

Patients lie on their stomachs to position the kidneys near the surface of their backs. Patients who have a transplanted kidney lie on their backs. The doctor cleans the area, and injects a local painkiller. An ultrasound machine is then used to find the kidney.

Patients hold their breath, for about 20 seconds, as the doctor uses a spring loaded instrument to insert the biopsy needle. This instrument makes a sharp clicking noise that can be a little startling. The needle may be inserted 2–3 times to collect the needed samples.

## What are the risks?

**Serious problems rarely occur, but they can include:**

- Bleeding around the kidney is very common (60–85% of patients). But this is painful in only 2%.
- Blood in the urine that you cannot see (35%).
- Blood in the urine that you can see (3%).
- Bleeding can occasionally be more significant and potentially life-threatening. Transfusion may be necessary, and embolisation (key hole surgery) or surgery for persistent or massive bleeding is required in <0.2% of patients. In extreme cases bleeding can lead to kidney loss or death (both probably <0.1%, i.e. 1 in 1000 patients). About 30% of major complications occur more than eight hours after a kidney biopsy.
- In 5% of patients, not enough tissue is obtained, and the biopsy will probably have to be repeated.

**Note:** infection is rare.

## What happens afterwards?

After the test, patients lie on their backs in the hospital for 6–8 hours. Transplant patients lie on their stomachs. During this time, nurses regularly monitor blood pressure and pulse rate. Every time the patient passes urine, a nurse will examine it for blood. After leaving hospital, patients should tell their doctors or nurses if they have any of these problems:

- Bloody urine more than 24hrs after the test
- Inability to urinate
- Fever
- Worsening pain in the biopsy site
- Faintness or dizziness

Patients should have a week off work, and avoid strenuous exercise for that week.

## How are the results reported?

The complete biopsy results usually take up to two weeks; but a preliminary report may be available in 24 hours. An appointment should be made to see your kidney doctor soon after the biopsy.

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