

Kidney Biopsies

Introduction

If your doctor wants you to have a **kidney biopsy**, here are some things you should know. A kidney biopsy involves taking one or more tiny pieces of your kidney tissue to look at under a regular microscope and a highly specialized electron microscope. The kidney tissue is taken **Percutaneous (means through the skin) biopsy**: This is done using a needle placed through the skin over the kidney and guided to the right place in the kidney, usually with the help of ultrasound.

Reasons for doing a kidney biopsy

Some kidney problems can often be found by blood and urine tests, a sonogram (an image made by ultrasound) or other specialized x-rays, and a physical examination rather than a biopsy. But in some patients with certain types of kidney disease, and those with a kidney transplant that is not working properly, a correct diagnosis can only be made with a kidney biopsy.

Specific reasons to do a kidney biopsy include

- Blood in the urine (**hematuria**) or protein in the urine (**proteinuria**)
- Abnormal blood test results
- Acute or chronic kidney disease with no clear cause
- Nephrotic Syndrome (which happens when the filtering units of the kidneys are damaged)

A kidney biopsy may also help to find:

- A particular disease to see if it gets better with treatment or if it is getting worse. It may also show a problem that cannot be cured, but can be slowed down by other therapy.
- How much permanent damage has happened in the kidney.
- Why a transplanted kidney is not working well. It helps your doctor decide on further treatment.
- A kidney tumor.
- Other unusual or special conditions.

Your health care provider should explain about the kidney biopsy. You should know why it is necessary, the benefits and any risks. You will be asked to sign a consent (permission) form to make sure you are aware of any risks. Be sure you understand the risks before you sign the consent form. You may want to write down a list of questions about the biopsy.

Risks of kidney biopsy

The risks of kidney biopsy are very small, but they should be discussed with your health care provider. As in other medical and surgical procedures, certain complications may happen even though every effort is taken to prevent them. A blood transfusion may be needed if serious bleeding occurs. Rarely, surgery may be needed to fix a blood vessel that is damaged during the procedure.

How to get ready for the biopsy

For two weeks before the biopsy, you should not take aspirin, over-the-counter pain medicines such as ibuprofen, naproxen, Advil®, Nuprin®, or other medicines that may cause thinning of the blood. These medicines can change the way the blood clots and raise the risk of bleeding. Blood

and urine samples are usually taken before the kidney biopsy to make sure you do not have an infection or other condition. Your doctor may also want you to change other medications before the biopsy. You may be told to not eat or drink for eight hours before the procedure.

How the biopsy is done

A kidney biopsy is usually done in a hospital. An overnight stay may be needed to watch for any complications. You may be awake with only light sedation. You will be lying face down with a pillow under your rib cage. If the biopsy is done on a transplanted kidney, you will be lying on your back.

Percutaneous biopsy: The kidney is found using a sonogram, x-ray images, or both. Sometimes, an injection of dye into your veins may be needed to help the doctor find the kidney and important blood vessels.

Once the site for the biopsy is found, your skin is marked, then cleaned where the biopsy needle will be inserted. You will receive a local anesthetic to numb the area where the biopsy needle enters. You will be asked to take in a deep breath and hold it as the doctor puts in the needle. When the needle pushes through the skin to the kidney, you may feel a “pop” or pressure. It is important to stay still and to hold your breath (about 45 seconds or less). Sometimes two needle passes are needed to get enough tissue for diagnosis. When enough kidney tissue is taken, the needle is removed and a bandage is placed over the needle puncture site. The entire procedure, from start to finish, usually lasts about one hour. Sometimes the biopsy may take longer than an hour.

After the test

You may need to rest in bed for 12 to 24 hours after the biopsy, as directed by the doctor. Staying still on the bed helps to heal the site where the kidney tissue was taken and lessen the chance of bleeding. Your blood pressure and pulse are checked often to look for any signs of bleeding inside your body, or other complications. Blood tests are also done. You may eat and drink fluids after the biopsy. If your blood tests, blood pressure and pulse are stable, you should be allowed to leave the hospital the next day. Your doctor will talk to you about physical activity and things to watch for after going home from the hospital. Heavy lifting, strenuous exercise, including contact sports, and sexual intercourse should be avoided for two weeks after the biopsy.

Test results

After the tissue sample is taken, work to study the biopsy is really just beginning. There are specially trained pathologists and laboratories with specialized equipment for reading and interpreting kidney biopsies. You can ask your doctor about your choices for a laboratory and ask if they “specialize” in reading and interpreting kidney biopsies. You may also want to check with your insurance company about coverage for this service. It often takes three to five days to get the full biopsy results. In some cases, you may have a partial or full report within 24 hours or less.

Tell you doctor if you have any of the following after your procedure:

- Blood in your urine
- Not able to pass urine
- Worsening pain at the biopsy site
- Fever
- Feeling faint or dizzy

Before the biopsy:

- Talk with your health care provider to make sure you understand the need for the biopsy and the risks and benefits.
- Sign a consent form.
- Tell your doctor about any allergies you have and medicines you take.
- Avoid blood thinning medications.
- Avoid food and fluid for eight hours before the test.

After the biopsy:

- Follow your doctor's instructions.
- Rest in bed for 12 to 24 hours.
- Avoid blood thinning medications.
- Report any problems, such as: bloody urine more than 24 hours after the test, unable to urinate, fever, worsening pain, faintness or dizziness.

Things to Remember

More than 26 million Americans have chronic kidney disease, and most don't even know it. Millions more are at increased risk. The National Kidney Foundation, a major voluntary health organization, seeks to prevent kidney and urinary tract diseases, improve the health and well-being of individuals and families affected by these diseases, and increase the availability of all organs for transplantation. Through its affiliates and divisions nationwide, the foundation conducts programs in research, professional education, patient and community services, public education and organ donation.