

Ultrasound-Guided Kidney Biopsy

What to expect and how to prepare

This handout explains what an ultrasound-guided biopsy is, how it works, how to prepare, what to expect during and after the procedure, how to get the results, and when to call for help.

What is an ultrasound-guided biopsy?

An *ultrasound* scan takes pictures of your body's organs and tissues using sound waves. A kidney *biopsy* is the removal of a small piece of kidney tissue from your body. A needle is the easiest way to remove this tissue safely. The tissue sample is then sent to the lab to be examined.

To do a needle biopsy:

- The kidney doctor (or Radiologist) will insert a needle through your skin and into your tissue.
- Ultrasound will be used to guide the biopsy needle into the kidney.
- An automated needle will be used to take the tissue sample.

How does the procedure work?

The *sonographer* (ultrasound technologist) uses a *transducer* to send sound waves into your body. A transducer is a hand-held device that sends and receives sound waves.

After gel is applied to your skin, the sonographer presses the transducer against your skin. As the sound waves bounce back from your body's fluids and tissues, a picture of your kidney shows on a monitor.

During an ultrasound-guided kidney biopsy, you will lie on a table on your stomach. You will need to hold still for up to an hour or longer.



Talk with your doctor if you have any questions or concerns about your biopsy.

How should I prepare for the scan?

- Have nothing by mouth for **at least 6 hours** before your scan.
- If you have diabetes and take insulin, talk with your doctor who manages your diabetes. You may need to adjust your insulin, since you will not be able to eat for 6 hours before your scan.
- Take your other regular medicines as prescribed by your doctor, unless your doctor or the Radiology staff has told you otherwise. It is important that your blood pressure is under control for the biopsy so be sure to take your blood pressure medicines.
- If your blood pressure is not controlled, talk with your kidney doctor about this before the scan. Sometimes the scan will have to be delayed until your blood pressure reaches a safe range.
- If you take aspirin or another *anticoagulant* medicine (blood thinner), you will need to talk with your kidney doctor about how to manage these medicines. Usually we do not do a kidney biopsy until you have been off aspirin and clopidogrel (Plavix) for at least 7 days. If you are on other blood thinners, they may need to be adjusted or changed before the scan.
- Plan to bring someone with you to drive you home after your scan. **You cannot drive yourself after the biopsy.**
- *For women:* Tell your kidney doctor or the sonographer if there is any chance you may be pregnant.

How is the ultrasound-guided biopsy done?

- You will be asked to change into a hospital gown before your scan. All of your belongings will stay with you during your visit.
- The Radiology nurse will insert an *intravenous* (IV) line into a vein in your hand or arm. You may receive fluids or medicine through the IV. You may also be given a mild *sedative* (calming medicine) through your IV to help you relax.
- The sonographer will help place you on the ultrasound table. Pillows will be used to help you hold the correct position during your scan.
- The first few scans will show us the biopsy area and the safest way to reach this area. After these scans:
 - The needle insertion site will be marked on your skin.
 - Your skin around the insertion site will be scrubbed and disinfected, and a sterile drape will be put over it.
 - A local *anesthetic* (numbing medicine) will be injected. This will quickly numb the area so that you do not feel any pain from the incision or the biopsy needle.

- A small incision will be made in your skin. The biopsy needle will be inserted through this incision.
- You will be asked not to move or cough during your scan. You will also be asked to hold your breath at different times. It is very important that you try to hold your breath each time you are asked to. It will ensure that the needle is getting tissue from the right area.
- Your doctor will use the ultrasound image to help guide the needle to the correct site and remove a small amount of tissue. Several tissue samples may be needed. This often requires only 1 skin puncture.
- When the doctor is taking the tissue sample, the needle will make a loud clicking sound.
- After all the samples are taken, the needle will be removed.
- When bleeding at the incision site has stopped, a bandage will be placed over your incision.
- After your biopsy, you will go to the limited-stay area. There, nurses will monitor you to make sure there are no complications. You will have to lay flat on your back for at least 4 hours. Most patients are monitored for 4 or more hours before they leave the hospital.
- If there are any complications, such as bleeding, you may need to stay overnight in the hospital so that we can monitor you.

What will I feel during the procedure?

- When you receive the local anesthetic to numb your skin, you will feel a slight pin prick from the needle. You may feel a burning sensation as the medicine is injected and takes effect. The area will become numb in a short time.
- You may feel pressure from the doctor's hands or from the biopsy needle itself.
- You may feel a brief period of nausea when the biopsy is taken.

What should I expect after the procedure?

- Usually, patients may remove their bandage the day after their procedure.
- You may bathe or shower as normal the day after your biopsy.
- Do **not** do heavy physical exercise such as heavy lifting, a lot of stair climbing, or sports activities the night of your biopsy and for 5 full days afterward.

- You may return to your normal activities 2 days after your biopsy, if you feel up to it.
- Talk with your kidney doctor if you plan to travel by air within 24 hours after your biopsy.
- Your biopsy site may be sore as the local anesthesia wears off. It should start to feel better 12 to 48 hours after your procedure.

When to Call for Help

- You may have some blood in your urine after your procedure. If this lasts for more than a day, or if you have problems emptying your bladder, call your doctor.
- It is common to have some bleeding around the kidney at the biopsy site. Severe bleeding from a biopsy is rare. It occurs in less than 3% of patients (less than 3 out of 100). Some symptoms that might be signs of bleeding are:
 - Pain where the biopsy was taken
 - Rapid pulse (heart rate)
 - Overall weakness
 - Pale skin

If you have any of these symptoms, go to the nearest emergency room or call 9-1-1. Call your doctor as soon as you can after you have received emergency treatment.

Who interprets the results and how do I get them?

The *pathologist* (a doctor who specializes in diagnosing diseases) will send a detailed report to your doctor who did your biopsy. It may take a few days to a week, or more, for your doctor to get the *pathology report*. This report gives the details about what was found when the biopsy tissue was examined. Your referring doctor or nurse will talk with you about these results.

What else do I need to know?

The kidney doctor who does the procedure, or an assistant, will explain this procedure to you in detail before your biopsy begins. They will describe how it is done and possible complications. They will also give you instructions and self-care tips for after your biopsy.

Be sure to ask all the questions you may have. You will need to sign a consent form that says you understand what you talked about and that you agree to have this procedure.

Questions?

Your questions are important. If you have questions about your kidney biopsy, please call the Harborview Medical Center Renal Clinic at 206-744-8998 weekdays from 8 a.m. to 4:30 p.m.

After hours and on weekends and holidays, call 206-744-3000 and ask for the Renal Fellow on Call to be paged.