“CT & Ultrasound-Guided Imaging Biopsies”: A Guide for Patients

What is a Biopsy?

A biopsy is a medical procedure in which a needle is passed through the skin, using image guidance, into abnormal tissue in your body. Small samples of the abnormal tissue or fluid are then sent to the pathologist for analysis.

What is unique about image-guided biopsies?

An image-guided biopsy is performed by a specially trained radiologist using ultrasound, CT scan, or x-ray pictures to precisely guide a needle into the abnormal tissue or fluid with minimal risk of damage to adjacent organs.

Why should I have a biopsy?

The most common reason to need a biopsy is to identify the cause of abnormal tissue or fluid somewhere in your body. Imaging tests, such as mammography, ultrasound, CT scans, MRIs, and x-rays, can find abnormal tissue or fluid, but these tests alone cannot always tell your doctor what the cause is. A needle biopsy can determine the cause of the abnormal tissue. Your doctors need this information in order to provide you with the best care and treatment.

Is it Safe?

An image-guided needle biopsy, when performed by a specially trained radiologist is a safe procedure. Like all invasive procedures, complications and side effects may occur. These will be explained to you in detail by the radiologist before you give your consent.

Reference based on 2006 American Radiology Nurses Association guidelines
Will it hurt?

The radiologist will use a local anesthetic (numbing medication similar to Novacaine used by dentists). You may feel some pressure at the biopsy site during the procedure, but most patients experience minimal discomfort with the use of a local anesthetic. If needed your nurse can administer pain medication through your IV and, although rarely used, you may be given medication through the IV to help you relax.

What will happen during the procedure?

Upon arriving to the imaging department, you will meet the staff that will be with you during your procedure. You will have a Registered Nurse and 1-2 technologists specially trained in the area where your procedure will be done. The radiologist will explain the procedure, including the benefits and the risks, and then obtain a written consent after all your questions have been answered. You will have some initial imaging pictures taken for the radiologist to view before your procedure begins.

Once the procedure begins, your skin will be cleaned with an antiseptic solution and sterile towels are placed over the area to avoid infection. Local anesthetic (numbing medication) is injected into the skin. Once the area is numb, the radiologist passes a special type of needle through the skin into the area of abnormality. At this time, you may have more imaging pictures taken. These pictures will assure the radiologist that the needle is in the exact location of the abnormal tissue. The radiologist will then use the biopsy needle to remove a very small sample(s) of tissue (usually 1-5 samples are taken, depending on the procedure).

Most CT scan biopsies take 1-2 hours total time in the room. Most of this time is spent preparing you for your procedure. Ultrasound biopsies usually take 30-60 minutes total time in the room. The actual time it takes for the sample(s) to be obtained varies depending on the type of biopsy and can take anywhere from 5-30 minutes. Once the sample(s) have been taken, a bandaid will be placed on the biopsy site and the sample(s) will be taken to the laboratory.
How does this technique work? What does the radiologist see?

The radiologist is able to use the ultrasound, CT scan, or x-ray monitors to guide the needle through the skin into the area of abnormality. The ability to see the structures inside the body during needle passage permits the radiologist to accurately place the needle and avoid adjacent organs.

What happens after the procedure?

You will be taken back to your room for observation for approximately 2-5 hours. A Registered Nurse will monitor your vital signs and observe for any complications. A light meal will be given when you return to your room. You will go home after the observation period. A ride home is required only if medication was given to you through your IV during the procedure.

For lung biopsies only: After your procedure, you will go to an observation room on the 1st floor of the hospital for approximately 1 hour before going back to your room or you may be discharged home directly from the observation room.

How will I learn the results?

Immediately after the procedure, the sample(s) will be taken to the pathologist for analysis. Some initial results may be available to your doctor within 24 hours, but for the complete analysis, it will usually take 3 days. Your doctor who ordered the biopsy will get the results as soon as they are available and can relay them to you.

What if I have other questions?

If you have any questions, concerns, or need to reschedule your appointment, you may call (310) 784-6320 M-F from 8:00 am - 4:30 pm and speak to an Imaging RN.