



# Transjugular Liver Biopsy

**A transjugular liver biopsy involves obtaining a sample of tissue from inside the veins of the liver.**

**This handout covers how the procedure is done, how to prepare, what to expect, possible risks, and how to obtain results.**

When a person is diagnosed with liver disease, many tests are ordered to find out the cause and severity of the illness. One of the tests that can be very helpful is a liver biopsy. A liver biopsy is a diagnostic procedure used to obtain a small amount of liver tissue. This tissue can then be examined under a microscope to help identify the cause or stage of liver disease.

The most common way to get the liver sample is through a **percutaneous liver biopsy**. During this procedure, a small needle is inserted into the liver through the skin of the chest or abdomen. The special needle retains a small “worm-like” segment of the liver that can be studied in the lab.

Putting a needle through the skin into the liver can cause problems for people who have bleeding problems, as is often the case in liver disease. Another way to obtain the liver specimen is a **transjugular liver biopsy**. This procedure, also called a transvenous biopsy, may be required when the patient has a significant problem with blood clotting or a large amount of fluid within the abdomen.

During this procedure, a radiologist inserts a small tube into the jugular vein in the neck and uses X-rays to guide the tube into the primary vein in the liver. A small biopsy needle is then inserted through the tube and into the liver to obtain a sample of tissue.

The advantage of this method is that if there is bleeding from the site, the blood goes directly into the vein rather than outside of the bloodstream, resulting in minimal risk for blood loss.

## **What are some common uses of transjugular liver biopsy?**

Liver biopsy is often used to diagnose the cause of chronic liver disease. It is also used to diagnose liver tumors identified by imaging tests (such as ultrasound or CT scan). In many cases, the cause of the chronic liver disease is highly suspected on the basis of blood tests, but a liver biopsy is used to both confirm the diagnosis as well as the amount of damage to the liver. Liver biopsy is also used as a routine screening tool after liver transplantation to determine the cause of abnormal liver tests or if rejection is present.

## **How does the procedure work?**

The nurse will stay with you during the procedure to watch your blood pressure, heart rate and breathing rate, and to check your comfort level.

A radiology technologist will clean your neck with a special soap and have you turn your head away from the procedure area.

Angiography involves placing a long, slim tube (called a catheter) into a vein in your neck. To prevent you from feeling pain during catheter placement, you will be given a numbing drug at the neck site. You will also be given a drug through your IV to help you relax and feel as comfortable as possible.

The catheter will be placed and guided to the liver blood vessel. Contrast (X-ray dye) is then sent into your blood vessel. You may feel a warm to hot flush spreading all over your body when the contrast goes in. You may also feel like you have to urinate or have a bowel movement. These feelings are normal and should only last a few seconds.

X-rays are taken while the contrast moves through your blood vessel. The X-rays show the Interventional Radiologist where the catheter is in the liver. When the catheter is in the correct spot, a specialized needle is threaded into the catheter and a liver specimen is taken. It is normal to feel a pressure at the entrance site in the neck and slight pain in the liver where the biopsy is being taken.

Two to three specimens are taken and the catheter is removed. Pressure is held for a few minutes to prevent bleeding at the entry site.

## **How should I prepare for the procedure?**

Tell your healthcare provider if you have had any kidney problems or reactions to iodine-containing items such as contrast agent or seafood. If so, your primary health care provider will prescribe medicine for you to take before the procedure.

Eat a light meal the night before the procedure, but do not eat or drink after midnight. If you have a late afternoon appointment, you may have clear liquids for breakfast (such as apple juice, Jell-O, or clear broth), but nothing after that.

If you have diabetes, consult with your primary doctor about what you cannot eat and how you should control your diabetes medicines during the procedure.

## **What should I expect when I arrive at the hospital?**

Check in at the front desk in Imaging Services.

You will then change into a hospital gown. You will be given a bag for your belongings.

You will be taken to a special area where a nurse will see you and ask you questions about your health history.

An IV (intravenous line) will be started to give you fluid and medicine during the procedure.

The radiology doctor will talk to you about the procedure and obtain your consent. You will be able to ask any questions you have at this time.

## **What are possible risks of the procedure?**

The primary risk of liver biopsy is bleeding from the site of needle entry into the liver, although this occurs in less than 1% of patients. About a third to a half of patients will experience some pain after the biopsy.

Other possible complications include the puncture of other organs, such as the kidneys, lungs, or colon. Puncture of the gallbladder may be associated with leakage of bile into the abdominal cavity, causing peritonitis. Fortunately, the risk of death from liver biopsy is extremely low, ranging from .01% to .1%.

## Questions?

Call 206-598-6209

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC clinic staff are also available to help at any time.

Interventional  
Radiology/Angiography:  
206-598-6209

Imaging Services:  
206-598-6200

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## What should I expect after my procedure?

You will be watched closely for a short time in the Imaging Services department. Plan to stay for about 4 to 6 hours after your procedure.

Most patients then go to a Short Stay Unit within the hospital, unless your referring doctor has made other plans. Your family member or driver may go with you to this area.

You should be able to eat, drink, and take your normal medicines.

Your discomfort after the procedure should be minimal.

Before you leave, a nurse will give you a written plan to follow at home.

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