

Interventional Radiology: Transjugular Liver Biopsy

How to prepare and what to expect

This handout explains how to prepare for and what to expect when having a transjugular liver biopsy

What is a liver biopsy?

During a liver biopsy, a special doctor called an *interventional radiologist* takes a small sample of tissue from the liver. This tissue is studied and tested in the lab.

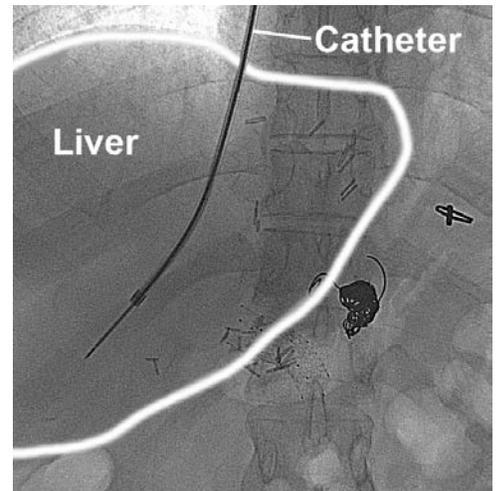
The sample of liver tissue can be taken either through the skin of the abdomen (*percutaneous*) or through a *jugular vein (transjugular)*. Jugular veins are large veins in the neck that move blood from the head, brain, face, and neck back toward the heart.

Why do I need a liver biopsy?

You may need a liver biopsy for one of these reasons:

- Blood tests show that you may have chronic liver disease. A liver biopsy tells your doctors more about this disease and how much damage has been done to your liver.
- As a liver transplant patient, you will have many liver biopsies. The biopsy is one of your regular screening tests. It helps your doctors see if rejection is present. It can also help find the cause of abnormal liver tests.

Your doctor believes that it is safer to do a transjugular liver biopsy than to insert a needle directly into your abdomen (*percutaneous*). It may be that you have a problem with blood clotting or a large amount of fluid in your abdomen.



This X-ray was taken during a transjugular liver biopsy. It shows the catheter (dark line) entering the liver.

What happens during the procedure?

In a *transjugular* liver biopsy, a thin tube is inserted through a large vein in your neck and passed down into your liver (*hepatic*) vein.

During the procedure:

- *Ultrasound* is used to find your jugular vein. We then inject a *local anesthetic* (numbing medicine) at that place.
- Next, your doctor will insert a *catheter* (tube) into your jugular vein. X-rays will help your doctor guide the tube into the hepatic vein.
- A special device is then inserted through the catheter and into your liver. This device allows the doctor to take tissue samples. Your doctor will most likely take 2 to 3 samples.

If there is bleeding during a transjugular liver biopsy, the blood most often goes directly into the hepatic vein, not into body tissue in the area.

Are there risks involved?

All medical procedures involve some risk. But, less than 5% of patients (fewer than 5 out of 100 patients) have problems after a liver biopsy.

The main concern is bleeding into your abdomen. Most times, this bleeding is **not** life-threatening.

Your doctor will talk with you about your risks. Please ask any questions you have. Make sure all of your questions are answered.

Before Your Procedure

Arrival Time

If you are an *outpatient* (not staying overnight in the hospital), a nurse coordinator will call you the afternoon before your procedure. If your procedure is on a Monday, the nurse will call you the Friday before. The nurse will:

- Tell you when to arrive at the hospital
- Remind you what to do on the morning of your procedure
- Answer any questions you have

Interpreter Services

If you do not understand English well enough to understand these instructions or the details of the procedure, tell us **right away**. We will arrange for a hospital interpreter to help you. This service is free. **A family member or friend may not interpret for you.**

Allergies

If you have ever had an allergy or bad reaction to *contrast* (X-ray dye), please call our Interventional Radiology Nurse Coordinator (see numbers on the last page). You may need medicine for this allergy before the procedure.

Medicine to Protect Your Kidneys

If we need to give you *contrast* (X-ray dye) for the procedure and your kidneys are not working normally, we may prescribe a medicine for you to take before and after your procedure. This medicine will help protect your kidneys.

Blood Test

You most likely will need blood test done within the 14 days before your procedure. Sometimes, we do this when you arrive for your procedure. We will tell you if we need to draw blood before that day.

Blood-thinning Medicines

If you take a blood thinner such as Lovenox (enoxaparin), Coumadin (warfarin), or Plavix (clopidogrel), you may need to stop taking it for 1 to 10 days before the procedure. The length of time depends on which medicine you are taking. If you have not been told what to do, talk with your provider or the clinic that prescribes the medicine. Ask when to stop taking this medicine.

IMPORTANT: If you have ever had a heart stent, a prosthetic heart valve, or a pulmonary embolism, or if you have atrial fibrillation with a history of a stroke, you **must** contact the provider who prescribes your blood-thinning medicine. Tell them that you are having a medical procedure and ask what to do about your dose before your procedure.

Diabetes Medicines

If you have diabetes and take insulin or metformin (Glucophage), we will give you instructions about holding or adjusting your dose for the day of your procedure.

Sedation

Before your procedure, you will be given a *sedative* (medicine to make you relax) through an *intravenous line* (IV) in one of your arm veins. You will stay awake, but feel sleepy. This is called *moderate sedation*. You will still feel sleepy for a while after the procedure.

For some people, using moderate sedation is not safe. If this is true for you, you will need general *anesthesia* (medicine to make you sleep during the procedure).

Let us know **right away** if you:

- Have needed anesthesia for basic procedures in the past
- Have *sleep apnea* or chronic breathing problems (you might use a CPAP or BiPAP device while sleeping)
- Use high doses of an opioid pain medicine
- Have severe heart, lung, or kidney disease
- Cannot lie flat for about 1 hour because of back or breathing problems
- Have a hard time lying still during medical procedures
- Weigh more than 300 pounds (136 kilograms)

If you have any of these health issues, we may need to give you different medicines. Instead of a sedative, you might receive:

- Only a local anesthetic (numbing medicine), such as lidocaine.
- A local anesthetic and a single pain or anxiety medicine. This is called *minimal sedation*.
- *General anesthesia* (medicine to make you sleep). This medicine is given by an anesthesia provider.

Day Before Your Procedure

- Drink lots of fluids. You may eat as usual.
- If you are an *outpatient* (not staying in the hospital):
 - Plan for a responsible adult to drive you home after your procedure. **You may NOT drive yourself home or take a bus, taxi, or shuttle by yourself.** You may take a bus, taxi, or shuttle **if** you have a responsible adult to ride with you.
IMPORTANT: Your procedure will be rescheduled if you do not have a responsible adult to escort you home.
 - Also plan for a responsible adult to stay with you overnight.

Procedure Day

At Home

- Take your usual medicines on the day of the procedure, unless the doctor or a nurse tells you to hold them. (Some patients may need to stop taking their blood-thinning or other prescription medicines.)
- Do **not** take vitamins or other supplements. They can upset an empty stomach.
- Starting **6 hours** before your procedure, **stop eating solid foods.** You may have only *clear liquids* (liquids you can see through), such as water, broth, cranberry juice, or weak tea.

- Starting **2 hours** before your procedure, take **nothing** at all by mouth.
- If you must take medicines, take them with **only** a sip of water.
- Bring with you a list of all the medicines you take.
- Plan to spend most of the day in the hospital.

At the Hospital

- You may have been told to go to Outpatient Lab for a blood draw. Do this before you check in. The lab is on the 3rd floor of the hospital, next to Outpatient Pharmacy, near the Cascade elevators.
- Unless you are told otherwise, check in at Admitting on the 2nd floor, next to Radiology. Take the Pacific elevator to the 2nd floor. Admitting is on the right side of Radiology Department.
- After checking in, you will be told to go to Radiology Reception Desk.
- If there is a delay in starting your procedure, it is usually because we need to treat other people with unexpected and urgent problems. Thank you for your patience if this occurs.
- When we are ready to start your procedure, a staff member will:
 - Take you to a pre-procedure area
 - Give you a hospital gown to put on
 - Give you a bag for your belongings
- While you are in the pre-procedure area:
 - Your family or a friend can be with you.
 - A nurse will ask you some health questions, take your vital signs (such as heart rate), place an *intravenous* (IV) tube in your arm, and go over what to expect.
 - A radiologist or physician assistant will talk with you about the risk and benefits of the procedure. They will ask you to sign a consent form, if you have not already signed one.
 - If you are scheduled to have general anesthesia, the anesthesia care provider will meet you and go over your health history.
 - You will be able to ask any questions you have.

What happens during the procedure?

- The nurse will take you to the Radiology suite. This nurse will be with you for the entire procedure.
- If you need an interpreter, they will be in the room or will be able to talk with you and hear you through an intercom.

- You will lie flat on your back on an X-ray table.
- Wires will be placed on your body to help us monitor your heart rate.
- You will have a cuff around your arm. It will inflate from time to time to check your blood pressure.
- Prongs in your nose will give you oxygen. A probe on one of your fingers will show us how well you are breathing the oxygen.
- A radiology technologist will clean your skin with a special soap. We will then put special drapes over you to keep the area very clean.
- We will apply a local *anesthetic* (numbing medicine) to the skin on your neck. You will feel a sting for about 5 to 10 seconds. Then the area will be numb and you will not feel any sharp pain.
- The catheter will be inserted into your jugular vein and guided to your liver veins. Contrast is then injected through the catheter and into your blood vessel. Contrast helps images show more clearly on the X-rays.
- When the catheter is in the correct place, the special device is threaded into the catheter and the liver samples will be taken. You might feel pressure in your neck and in your liver.
- After the tissue samples are taken, the catheter is removed. We will apply pressure to your neck for several minutes to prevent bleeding.

What happens after the procedure?

You may be watched for a short time in the Radiology department. If you are:

- An outpatient, you will then be moved to a short-stay unit in the hospital.
- An inpatient, you will be moved to your hospital unit.

On the Short-stay or Inpatient Unit

- You will rest on a stretcher for 2 to 4 hours. You will need to rest with your head elevated 30° to 45°.
- You will be able to eat and drink.
- Your family member or friend will be able to be with you once you are settled in your room.
- Before you get up to walk, we will assess you to make sure you can walk safely. A nurse or patient care technician (PCT) will help you get out of bed. Most times, we will place a gait belt around your waist for extra safety.

If You Are an Outpatient

You will be able to go home once:

- You are fully awake
- You can eat, drink, and use the restroom
- Your nausea and pain are under control
- Your vital signs are stable
- You can walk normally
- You have a responsible driver to take you home
- You have a responsible person to stay with you at home overnight

Self-care

For 24 Hours

The medicine that you were given to make you sleepy will stay in your body for several hours. It could affect your judgment. You may also be lightheaded or feel dizzy.

Because of this, for 24 hours:

- Do **not** drive a car.
- Do **not** use machinery or power tools.
- Do **not** drink alcohol.
- Do **not** take medicines such as tranquilizers or sleeping pills, unless your doctor prescribed them.
- Do **not** make important decisions or sign legal documents.
- Do **not** be responsible for children, pets, or an adult who needs care.

To help your recovery:

- Do only light activities and get plenty of rest.
- A responsible adult should stay with you overnight.
- Eat as usual.
- Drink lots of fluids.
- Resume taking your usual medicines when you get home. Take only the medicines that your doctors prescribed or approved.
- Keep the bandage on your neck puncture site for 24 hours.
- After 24 hours you may remove the bandage and shower.
- You may place a Band-Aid over the puncture site for a few days.

For 24 to 48 Hours

- Keep your head above your heart.
- Avoid bending over at the waist.

For 48 to 72 Hours

- Do **not** lift anything heavier than 5 to 10 pounds (a gallon of milk weighs almost 9 pounds)

When to Call

Call one of the numbers listed below under “Who to Call” if you have any of these symptoms:

- Bleeding that gets worse, or your dressing becomes filled with blood
- Signs of infection at the puncture site: redness, warmth, tenderness, or discharge that smells bad
- Fever higher than 101°F (38.3°C)
- Chills
- New shortness of breath
- New chest pain
- Dizziness
- Vomiting

Urgent Care

Call 911 and go to the nearest emergency room if you have any of these symptoms:

- Chest pain
- Trouble breathing
- Slurred speech
- Balance problems or trouble using your arms or legs

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

UWMC Imaging Services:
206.598.6200

Who to Call

If you have any of the symptoms listed above, call us:

- Weekdays from 8 a.m. to 5 p.m., call the Interventional Radiology Nurse Coordinator at 206.598.6209.
- After hours and on weekends or holidays, call 206.598.6190 and ask to page the Interventional Radiology Fellow on call.