

## Angiography: Percutaneous or Transjugular Liver Biopsy

### *How to prepare and what to expect*

*This handout explains how to prepare and what to expect when having a percutaneous or transjugular liver biopsy*

### **What is a liver biopsy?**

During a liver biopsy, your doctor takes a small sample of tissue from your liver. This tissue is studied and tested in the lab.

### **Why do I need a liver biopsy?**

Your provider will check the option below that applies to you.

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

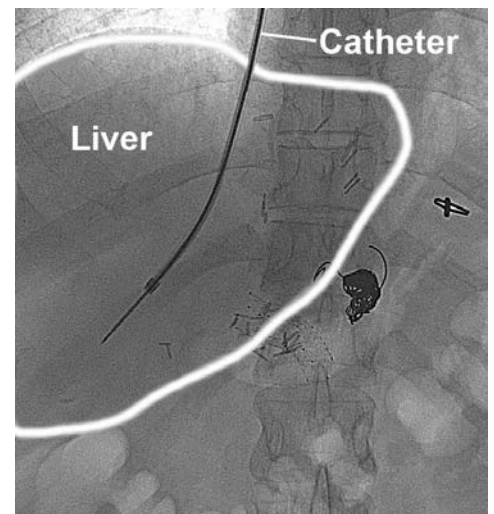
### **How is a liver biopsy done?**

A sample of liver tissue can be taken either through the skin (*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.

#### **Percutaneous Liver Biopsy**

A percutaneous biopsy is the most common way to get a sample of liver tissue. An ultrasound of your upper abdomen is done to find the best place to do this biopsy. During the procedure:

- Your doctor will use ultrasound to guide the catheter to your liver.



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

- A local anesthetic is injected into your skin and toward the liver.
- Your doctor then inserts a needle through your skin and into your liver.
- A special device is inserted through the needle. This device removes small samples of your liver tissue.
- Your doctor will most likely take 2 to 3 tissue samples.

### **Transjugular Liver Biopsy**

Your doctor may advise that you have a transjugular liver biopsy if you have a problem with blood clotting or a large amount of fluid in your abdomen. The biopsy is done by an *interventional radiologist*, a doctor who specializes in this type of procedure.

During a transjugular liver biopsy:

- Ultrasound is used to find your jugular vein. We then inject a local anesthetic 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 a large vein in your liver.
- 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 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 concerns are addressed.

### **Before Your Procedure**

#### **Arrival Time**

If you are an *outpatient* (not staying 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**

Please have a family member or friend tell us right away if you:

- Do not understand or read English well
- Need help reading these instructions or understanding the details of the procedure

If needed, we will arrange for a hospital interpreter to help you. This service is free.

**A family member or friend may not interpret for you.**

## **Blood Tests**

You most likely will need blood tests done within 14 days of your procedure. We may do this when you arrive for your procedure. We will let you know if we need a blood sample before procedure day.

## **Allergic Reaction to Contrast**

If you have ever had a bad reaction to *contrast* (X-ray dye) or other products that contain iodine, **call our nurse at one of the phone numbers on the last page of this handout.** You may need medicine for this allergy before the procedure.

## **If You Take a Blood-thinning Medicine**

If you take Lovenox, Coumadin, Plavix, or another blood-thinning medicine, you may need to stop taking it before your procedure. The length of time depends on the medicine you are taking. Some patients may need to stop taking their medicine for only 12 hours. Others may need to stop taking it for 5 to 7 days before the procedure.

If you have not been told when to stop taking your blood-thinning medicine, contact your primary care provider or the clinic that prescribed your medicine. Tell them you are having this procedure and ask when to stop taking your blood-thinning medicine.

**IMPORTANT:** If you have ever had a heart stent, prosthetic heart valve, or a pulmonary embolism, or if you have atrial fibrillation with a history of a stroke, **contact the provider who prescribes your blood-thinning medicine.** Ask how to change your dose before the procedure.

## **If You Have Diabetes**

If you take insulin or oral diabetes medicines, we will explain how to hold or adjust your dose for the day of your procedure.

## Sedation

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

Conscious sedation may not be a safe option for you if you have certain health conditions. Tell us **right away** if you:

- Have needed anesthesia for basic procedures in the past
- Have *sleep apnea* or other breathing problems (you might use a CPAP or BiPAP device while sleeping)
- Use high doses of prescription painkiller
- Have severe heart, lung, or kidney disease
- Cannot lie flat on your back 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

- You may eat as usual.
- Make plans for a responsible adult to drive you home after your procedure and stay with you the rest of the day. **You may not drive yourself home or take a bus, taxi, or shuttle by yourself.** If you need to take a bus, taxi, or shuttle, a responsible adult must ride with you.
- Plan to spend most of the procedure day in the hospital. If there is a delay in getting your procedure started, it is usually because we need to treat other people with unexpected and urgent problems. Thank you for your patience if this occurs.

## Procedure Day

### At Home

- Other than the blood-thinning medicines or diabetes medicines that you were told to stop, take all of your other usual prescription medicines on the day of the procedure. Do **not** skip them unless your doctor or a nurse tells you to hold them.
- Do **not** take vitamins or other supplements. They can upset an empty stomach.
- Starting **6 hours** before your procedure, you may have **only clear liquids**. These are liquids you can see through such as water, broth, apple or 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.

### At the Hospital

- Unless you are told otherwise, check in at Admitting on the 3rd (main) floor of the hospital. Admitting is to the right and behind the Information Desk in the lobby.
- You may have been told to go to the Outpatient Lab for a blood draw. The lab is behind the Cascade elevators, next to the Outpatient Pharmacy. You can go to the lab either before or after you check in at Admitting.
- After checking in at Admitting and having your blood drawn, take the Pacific elevators to the 2nd floor. When you leave the elevator, turn left and check in at Radiology reception.
- A Radiology staff member will then:
  - 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:
  - A family member 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 IV tube in your arm, and go over what to expect.

- A radiologist or physician assistant will talk to you about the procedure. They will ask you to sign a consent form, if you have not already signed one, as well as answer any questions you have.
- A nurse will take you to the radiology suite. This nurse will be with you for the entire procedure.

## **Your Procedure**

- You will lie flat on your back on narrow bed. The X-ray machines will move around and over you.
- We will use these devices to monitor you during the procedure:
  - **Wires** on your chest will help us watch your heart
  - A **cuff** around your arm will let us check your blood pressure
  - **Prongs** in your nose will give you oxygen
  - A **probe** on one of your fingers will show us how well your body is using the oxygen
- The entire medical team will ask you to confirm your name, go over your allergies, and tell you what we plan to do. This is for your safety. We do this for every procedure and every patient.
- Your nurse will give you the sedative to make you feel drowsy and relaxed.
- If needed, an interpreter will be in the room or will be able to talk with you and hear you through an intercom.

## **If you are having a transjugular liver biopsy:**

- A radiology technician 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 spot, 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.

### **If you are having a percutaneous liver biopsy:**

- A radiology technician will use ultrasound to find the best place to insert the biopsy needle.
- A local *anesthetic* (numbing medicine) will be injected into your skin and tissue in that area.
- A small needle will then be inserted through your skin and into your liver.
- A special device will be inserted through the needle. This device removes small samples of your liver tissue. Your doctor will most likely take 2 to 3 tissue samples.

### **What happens after the procedure?**

We will watch you closely for a short time in the Radiology department.

#### **If You Are an Outpatient**

- You will then go to a short-stay unit in the hospital. A different nurse will monitor you there for about 4 hours. You will be able to eat and drink, and a family member or a friend may visit you.
- Your responsible adult may escort you home when you:
  - Are fully awake
  - Can eat
  - Can use the restroom
  - Can walk
- Problems with this procedure are rare. If they occur, we may need to keep you in the hospital overnight so that we can monitor or treat you.
- Before you leave the hospital, your nurse will tell you what activities you can do, teach you how to take care of your incision, give you other important instructions, and answer any questions you have.

#### **If You Are an Inpatient**

After we have watched you for a short time in the Radiology department, you will return to your hospital room. Your nurse will monitor you there for about 4 hours. You will be able to eat and drink, and your family or a friend may visit you.

#### **When You Get Home**

- Relax at home for the rest of the day. Make sure you have a responsible adult to help you.
- You may feel sleepy and have some mild memory loss. This should last only for rest of the day.

- For 24 hours, do **not**:
  - Drive a car or use machinery
  - Drink alcohol
  - Make important decisions or sign legal documents
  - Be responsible for the care of another person
- After 24 hours, you may shower or bathe.
- Most patients have only minor pain after this procedure. Take **only** the pain medicines that your doctor has prescribed or approved.
- Resume your usual medicines as soon as you start to eat.

### **When to Call**

Call us **right away** if you have:

- A lot of bleeding in your neck where the catheter was inserted
- Abdominal pain
- Dizziness

### **Who to Call**

Interventional Radiology Patient Coordinator .....206.598.6897  
 Procedure scheduling .....206.598.6209  
 After hours (between 5 p.m. and 7 a.m.), and on weekends and holidays  
*Ask for the Interventional Radiology Fellow on call* ..... 206.598.6190

### **If You Have an Urgent Care Need**

**Go to the nearest Emergency Room or call 911 right away. Do not wait to talk with one of our staff.**

### **Questions?**

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

UWMC Imaging Services:  
206.598.6200