

## Percutaneous Biliary Drain

*This handout explains the purpose of a Percutaneous Biliary Drain. It describes what you can expect before, during, and after treatment.*



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### What is a percutaneous biliary drain?

Your doctor has asked us to place a *drain* (small plastic tube) into your body through the skin on your abdomen into the *biliary tree* (system of vessels that transport bile) within your liver. The word *percutaneous* means “through the skin.”

An *interventional radiologist* will do this procedure. This doctor or advanced practice provider has special training doing procedures that are guided by live X-rays, *computed tomography* (CT) scans, or *ultrasound* (sound waves that create images of the inside of the body). Placing the drain using live images is safer and involves less recovery time than regular surgery.

### Why do I need a drain?

- **Biliary obstructions:** Blocks in the biliary system. This system includes the gallbladder and bile ducts. These blocks can cause liver problems, infections, or both.
- **Cholangitis:** If you have a bile infection, a drain may be used to remove infected bile.

### Are there any risks in having the drain placed?

Most times, placing a percutaneous biliary drain is a very safe procedure. The benefits usually far outweigh the risks.

But, unexpected events can occur. The most common problems are:

- Bleeding, if a blood vessel is damaged
- Blood infection, if bacteria get into the blood stream
- Skin infection if the catheter stays in a long time
- Injury to a nerve or vital organ such as the bowel

Your doctor will talk with you about your risks. Please be sure to ask any questions you have.

## How long will I need the drain?

How long the drain must stay in place depends on where it is placed and what problem it is treating. Sometimes, drains must stay in for weeks or months. We will remove the drain as soon as it is safe to do so.

Over time, drains can get clogged. If your drain needs to be in place for many months, it will need to be replaced about every 2 to 3 months.

## Before Your Procedure

The nurse will call you within five days of your procedure. They will give you important instructions and answer any questions you have.

- If you do not understand English well enough to understand the instructions from the nurse or the details of the procedure, tell us right away. We will arrange for a hospital interpreter to help you. A family member or friend **cannot** interpret for you.
- Most patients need blood tests done before this procedure. We may be able to do your blood tests when you arrive for your procedure. We will tell you if we need a blood sample before that day.
- If you take any blood-thinning medicines (such as Coumadin, Lovenox, Fragmin, or Plavix), you may need to stop taking the medicine for 3 to 9 days before your procedure. Do NOT stop these medicines unless your doctor or nurse has told you to do so. We will give you instructions as needed.
- You must arrange for a responsible adult to drive you home after your procedure and stay with you the rest of the day. You **cannot** drive yourself home or take a bus, taxi, or shuttle.

## 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.

## The Day of Your Procedure

To prepare for sedation, follow these instructions exactly:

Starting at midnight, the night before your procedure

- Do not eat or drink anything.
- Do not take any of the medicines that you were told to stop before this procedure.
- If you must take medicines, take them with only a sip of water. Do not skip them unless your doctor or nurse tells you to.
- Do not take vitamins or other supplements. They can upset an empty stomach.

Bring with you to the hospital a list of all the medicines you take.

Please plan to spend most of the day in the hospital. If there is a delay in getting your procedure started, it is usually because we need to treat other people who have unexpected and urgent health issues. Thank you for your patience if this occurs.

## At the Hospital

A staff member will give you a hospital gown to put on and a bag to put your belongings in. You may use the restroom at that time.

A staff member will take you to a pre-procedure area. There, a nurse will do a pre-procedure assessment. A family member or friend can be with you in the pre-procedure area.

An IV line will be started. You will be given fluids and medicines through the IV.

An interventional radiology specialist will talk with you about the procedure, answer any questions you have, and ask you to sign a consent form, if you have not already done this.

## Your Procedure

- Your nurse will take you to the radiology area. This nurse will be with you for the entire procedure.
- If needed, an interpreter will be in the room or will be able to talk with you and hear you through an intercom.
- You will lie on an X-ray table in a position that allows for placement of the drain.
- We will take X-rays so that your doctor can clearly see where to place the biliary tube.
- We will place stickers on your body. These stickers connect to a monitor and help us keep track of your heart rate.
- You will have a cuff around your arm. It will inflate from time to time to check your blood pressure.
- A radiology technologist will clean your skin around the procedure area with a special soap. Tell this person if you have any allergies. The technologist may need to shave some hair in the area.
- Members of the medical team will ask you to confirm your name and will tell you what we plan to do. This is for your safety.
- Your nurse will give you the sedation medicine through your IV to make you feel sleepy and relaxed before we begin.
- Your doctor will apply a local anesthetic (numbing medicine) to the place where the tube will come out of your skin. You will feel a burning for about 5 to 10 seconds, but then the area will be numb. After that you should feel only pressure, but not sharp pain.

- Your doctor will guide a needle to the area where the drain will be placed. Then the doctor will replace the needle with a plastic drain tube. The tube will be secured on your skin with stitches and then covered with a dressing. A bag is usually added to the end of the tube to catch any fluid.

## After Your Procedure

- We will watch you closely for a short time in the Radiology department. When you are ready to leave Radiology:
  - If you are an outpatient, you will go to another unit in the hospital. A nurse on that unit will monitor you.
  - If you are an inpatient, you will return to the unit you were on before the procedure.
- You will most likely be able to eat and drink. Your family may visit you.
- If you are an outpatient, you will be able to leave the hospital when we know your tube is working well, and when you are fully awake and can eat and walk.
- Problems after this procedure are rare. But if they occur, you may need to stay in the hospital so that we can keep watching you or treat you.
- Before you leave the hospital, your nurse will tell you what activities you can do, how to take care of your drain, and other important instructions. **It is a good idea to have a family member or friend with you when the nurse gives you these instructions.** This person can help you remember the instructions later.

## When You Get Home

- Relax at home for the rest of the day. Make sure you have a family member, friend, or caregiver to help you.
- You may feel drowsy or have some short-term memory loss.

For 24 hours after your procedure, do **not**:

- Drive a car
- Use machinery
- Drink alcohol
- Make important decisions or sign legal documents
- Be responsible for the care of children, pets, or an adult who needs care.

- Shower or take a bath
- After 24 hours, you may shower, but be sure to protect the insertion site from getting wet. **Do NOT take a bath.** It is important that the insertion site always stays dry. See “Dressing Care” below.

## Medicines

- Resume taking your usual medicines as soon as you start to eat. Take only the medicines that your doctors prescribed or approved.
- Most people have only minor pain after this procedure. If your doctor says it is OK for you to take acetaminophen (Tylenol), this should ease any discomfort you have.
- If your doctor expects you to have more severe pain, you will receive a prescription for a stronger pain medicine. Call us if your pain is not controlled with your prescribed medicines. (See phone numbers on the last page of this handout.)

## Caring for Your Drain

- Caring for your new tube is very important. The tube must drain well and the entry site must stay clean to avoid infection.
- Change your dressing every 5-7 days, or sooner if it gets wet or dirty.

## Dressing Care

- You will be given a supply of dressings when you leave the hospital. You will need to get dressing supplies on your own after this. Your nurse in the clinic or post-procedure area can advise you on where to get more supplies.
- You may shower after 24 hours, but you will need to cover your dressing with plastic wrap or Aqua Guard patches to keep the dressing dry and intact. Always cover your drain tube site when showering.
- Do not take a bath, sit in a hot tub, go swimming, or immerse your body in water while you have a drain in place.
- You may keep the dressing on for up to 5-7 days, but you will need to change it sooner if the dressing becomes loose, wet, or soiled.

## Steps to Change the Dressing

Carefully remove the dressing. Be careful not to dislodge the tube. **Do NOT use scissors to remove the dressing.**

1. Inspect the site. Look for any redness, or drainage coming out around the drain tube.
2. You may gently clean around the tube with mild soap and water. Pat dry. Do not apply lotion, ointment, or powder around the drain tube.

3. Place a split gauze around the drain tube. Then place a solid gauze over the top of the split gauze.
4. You may cover the gauze with Tegaderm or use tape to secure the gauze to the skin.

## Emptying Your Drainage Bag

You will need to empty your bag before it becomes  $\frac{1}{2}$  full. If you were not told to record the amount of fluid, you can empty the bag into the toilet. If you were told to record the amount of fluid in the bag:

- When you empty the bag, make note of the total amount of fluid (output).
- Record your output every day. Bring this written record when you come to the clinic for tube evaluations.

## Bag Change

A drainage bag will be placed on your drain after your procedure. No bag change is typically required unless the bag leaks or becomes damaged.

## Flushing Your Tube

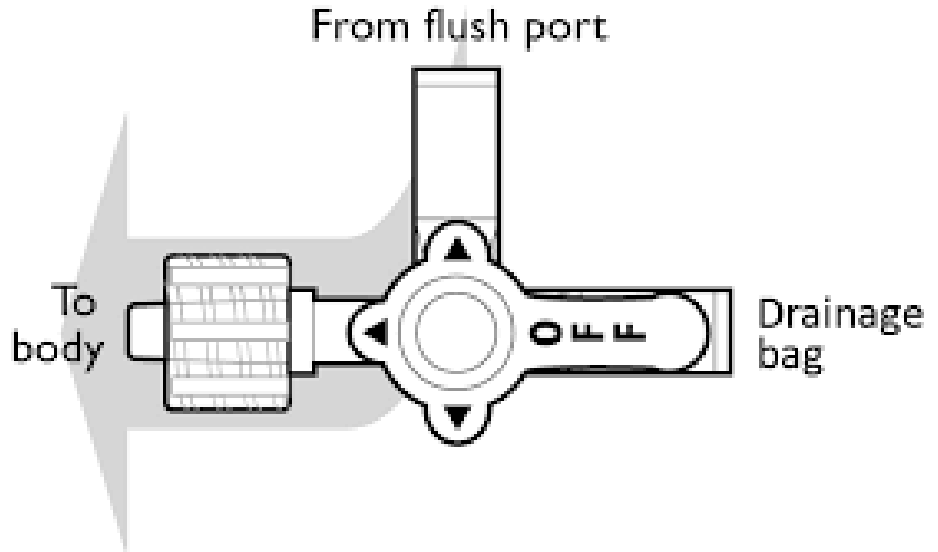
Some (but not all) tubes need to be flushed every day to keep them from clogging. Your doctor will tell you if your tube needs to be flushed and how often.

- Your nurse will show you and your caregiver how to flush your tube if flushing is needed. We will make sure you understand how to do this before you go home.
- If your tube has a 3-way stopcock (valve):
  - You can choose to flush it without removing the bag.
  - The stopcock switch is the longest part of the stopcock. It points to the channel that is off. It may be marked with the word “OFF.”

## How to Flush Your Tube

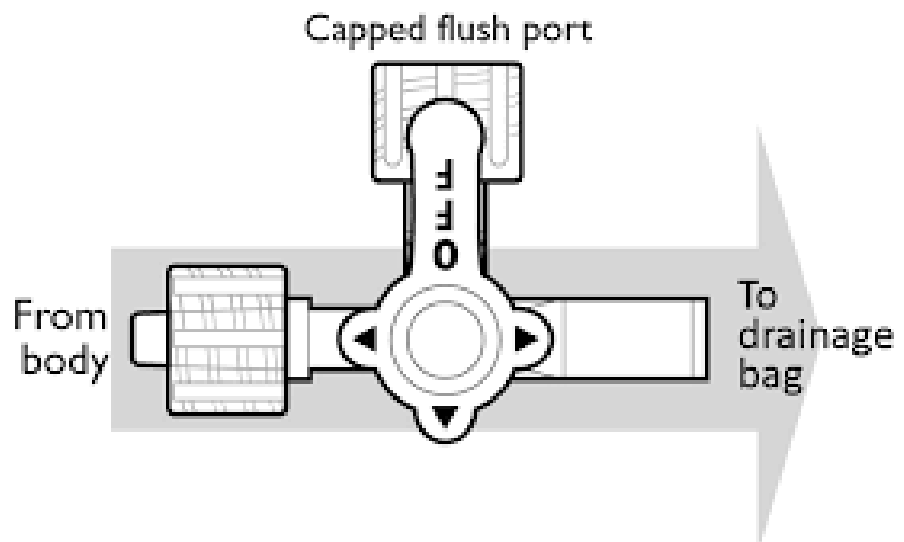
1. Turn the switch so it points to the drainage bag (*see drawing below*). The word “OFF” (which is on the longest part of the stopcock) will be closest to the drainage bag. This position allows you to inject fluid into the tube from the flush port.

2. Inject the amount of fluid your doctor told you to use. Most times, this is about 10 cc.



*In this drawing, the stopcock switch points to the drainage bag. (The word "OFF" is closest to the drainage bag.) This position allows you to inject fluid into the tube from the flush port.*

3. Turn the switch so it points to the flush port again (see drawing below). The word "OFF" (which is on the longest part of the stopcock) will be closest to the flush port. Your drain will now drain into the bag.





4. If your instructions include “clamping” the tube or allowing it to drain internally, turn the switch so it is pointed at your body. This means the word “OFF” (which is on the longest part of the stopcock) is closest to your body. This position closes the channel that drains from your body. **Use this position ONLY to change or empty the bag. This position prevents your tube from draining.**
5. Keep your dressing clean and dry. See “Dressing Care” on page 6.

### Activity

- Do not lift anything heavier than 10 pounds (4.5 kg) until your healthcare provider says it is OK. As an example, a gallon of milk weighs about 9 pounds.
- Do not do any strenuous activities, such as mowing the lawn, vacuuming, playing sports, or anything that will cause your tubing to be pulled or moved.
- Slowly increase your activity level with short, frequent walks 3 to 4 times a day.
- Do not drive while you are still taking pain medicine. Wait until your healthcare provider says it is OK to drive.
- Keep drainage bags and tubes away from pets and children.

### Home Care

- Eat your normal diet.
- Wear loose, comfortable clothes that will not pull or kink the drain.
- Check your dressing often to make sure the tubing is secure.
- Do not let the drainage bag hang freely, or it will pull on the drain. Keep it secured to your leg or hold it temporarily.
- Empty the drainage bag often to keep the weight of the bag from pulling on the drain. Empty the bag when it is 1/2 full.
- Always empty the bag before you go to bed.
- Wash your hands before and after emptying the bag.
- If you were asked to stop any medicines before the surgery, ask the healthcare provider when you may start taking them again. This is especially important in the case of blood thinners (anticoagulants or antiplatelet medicines).

## When to Call

Call us right away if:

- You have severe bleeding or there is new blood in your drainage bag.
- You have a fever higher than 101°F (38.3°C) or chills.
- You are vomiting.
- Your tube is leaking.
- Your tube comes out or moves.
- Your output stops or is much less than it has been. If this happens, call Interventional Radiology (see phone numbers below).
- Your output becomes bloody. If this happens call Interventional Radiology (see phone numbers below).

## Call 911 and go to the nearest emergency room if:

- You have chest pain
- You have trouble breathing
- You have slurred speech
- You have 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 – Montlake:**  
206.598.6209, option 2

**UWMC – Northwest:**  
206.598.6209, option 3

**Harborview Medical Center:**  
206.744.2857

**After hours and on weekends and holidays:**  
Call 206.598.6190 and ask to page the Interventional Radiology resident on call.

## Who to Call

### University of Washington Medical Center and Northwest Hospital

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department:

- Montlake: 206.598.6209, option 2
- Northwest: 206.598.6209, option 3

### Harborview Medical Center

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department at 206.744.2857.