

## TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS/DIPS)

### What is a TIPS?

A transjugular portosystemic shunt is a tract, or tunnel, created within the liver to connect two veins within the liver, the portal vein and the hepatic vein.

The portal vein carries blood to the liver from the stomach, intestines, and other gastrointestinal organs. The hepatic vein takes blood from the liver and returns it to the central circulation.

A TIPS procedure is sometimes used for patients that have portal hypertension, meaning increased pressure in the portal vein. This is often caused by cirrhosis, or scarring of the liver. Portal hypertension can cause blood to flow backward from the liver into the veins of the spleen, stomach, lower esophagus, and intestines, causing enlarged blood vessels. This can cause bleeding and accumulation of fluid in the chest (hydrothorax), or abdomen (ascites).

During the TIPS procedure, an interventional radiologist accesses the venous system through the jugular vein (neck vein) and the femoral vein (groin vein). Under a special type of x-ray called fluoroscopy, a tunnel is created thru the liver to connect the portal vein with the hepatic vein. A stent is placed in this tunnel to keep it open. Contrast, or x-ray dye, is used to visualize the veins under the fluoroscopy. You will be given sedatives or anesthesia during the procedure. Most patients will stay one night in the hospital and go home the next morning.

### What are common indications for a TIPS/DIPS?

- Variceal bleeding: abnormal bleeding from veins that drain the stomach, esophagus, or intestines into the portal vein.
- Portal gastropathy: engorgement of veins in the wall of the stomach that can bleed.
- Ascites or hydrothorax: severe and/or recurrent accumulation of fluid in the abdomen or chest.
- Budd-Chiari Syndrome: a blockage or severe narrowing in one or more hepatic veins that carry blood back from the liver back to the heart.

### How does a TIPS/DIPS work?

The tunnel that is made in TIPS/DIPS reroutes some of the blood flow from the portal vein to the central circulation, and reduces the abnormally high blood pressure in the veins of the stomach, esophagus, bowel and liver. This reduces the risk of bleeding and fluid accumulation.

### **What will happen on the day of the procedure?**

You will be admitted through the outpatient department at Sacred Heart Medical Center. A nurse will start an IV, send a blood sample for lab work, and fill out your health information in your chart.

The interventional radiologist who will do your procedure will come talk with you before the procedure and answer any additional questions you may have.

When it is time for the procedure, you will be taken to the Radiology department. You will receive moderate sedation or general anesthesia.

The procedure will take about 2 hours. You will be in the procedure room for 2-3 hours. When you wake up you will have a bandaid on your neck and groin. The access sites are so small, no sutures are necessary.

After the procedure you will go to a bed in the hospital to recover. Most patients will spend the night after the procedure to treat any side effects and make sure there are no complications

### **What will I expect after I go home?**

You may feel tired for a few days after the procedure. The more you over do activities, the longer it takes to feel back to normal.

You may have a bruise on your neck and/or groin.

You may have mild abdominal pain after the procedure. Severe pain should be reported to your physician.

You may return to normal activities in 7-10 days after the procedure.

### **What are the benefits and risks of the procedure?**

#### **Benefits:**

- The TIPS/DIPS is a minimally invasive surgery to treat portal hypertension, with a shorter recovery time and less risks than open surgery.
- You can continue to be a transplant surgery candidate after a TIPS/DIPS.
- Studies have shown that this procedure is successful in reducing variceal bleeding in more than 90 percent of patients.

#### **Risks**

- There is a risk of infection, bruising, or bleeding any time the skin is penetrated. This can be at the access site or anywhere within the system treated. There is a very small risk of damage to the blood vessels during the procedure.
- There is a small risk of an allergic-type reaction to the contrast, or x-ray dye. It is important to report allergies or prior reactions to contrast.



- The contrast can be damaging to kidneys, especially in patients with unhealthy kidneys, diabetes, or renal failure.
- The stent can become narrowed or blocked in the months after treatment, which may require another procedure to open the stent up again.
- Shunting of blood past the liver can lead to build up of toxins in the blood that cause confusion (called encephalopathy), or increased pressure on the heart (congestive heart failure).