

What is a Transjugular Intrahepatic Portosystemic Shunt (TIPS)?

A transjugular intrahepatic portosystemic shunt (TIPS) is a tract created within the liver using x-ray guidance to connect two veins within the liver. The shunt is kept open by the placement of a small, tubular metal device commonly called a stent.

During a TIPS procedure, Interventional Radiologists use image guidance to make a tunnel through the liver to connect the portal vein (the vein that carries blood from the digestive organs to the liver) to one of the hepatic veins (three veins that carry blood away from the liver back to the heart). A stent is then placed in this tunnel to keep the pathway open.

Patients who typically need a TIPS have portal hypertension, meaning they have increased pressure in the portal vein system. This pressure buildup can cause blood to flow backward from the liver into the veins of the spleen, stomach, lower esophagus, and intestines, causing enlarged vessels, bleeding and the accumulation of fluid in the chest or abdomen. This condition is most commonly seen in adults, often as a result of chronic liver problems leading to cirrhosis (scarring of the liver).



The benefits of this procedure far outweigh the risks, but as always, a thorough discussion with your physician is the best way to understand your options.

To schedule a private consultation with our Interventional Radiologists, who are experts in TIPS procedures, please call **317.621.5555**.

To learn more about TIPS, please visit: www.radiologyofindiana.com



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TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS)



A Patient's
Guide to TIPS

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What are some common uses of the procedure?

A TIPS is used to treat the complications of portal hypertension, including:

- Severe ascites (the accumulation of fluid in the abdomen) and/or hydrothorax (in the chest).
- Variceal bleeding, bleeding from any of the veins that normally drain the stomach, esophagus, or intestines into the liver.
- Portal gastropathy, an engorgement of the veins in the wall of the stomach, which can cause severe bleeding.

How is the procedure performed?

Image-guided, minimally invasive procedures such as TIPS are performed by a specially trained Interventional Radiologist in an interventional radiology suite. Some Interventional Radiologists perform this procedure using conscious sedation and others use general anesthesia.

You will be positioned on your back, and will be connected to monitors that track your heart rate, blood pressure and pulse during the procedure.

A nurse or technologist will insert an intravenous (IV) line into a vein in your hand or arm so that sedative medication can be given intravenously.

The area of your body where the catheter is to be inserted (usually in the right neck) will be shaved, sterilized and covered with a surgical drape.

Your physician will numb an area just above your right collarbone with a local anesthetic.

A very small skin incision is made at the site.

Using ultrasound, the doctor will identify your

internal jugular vein, which is situated above your collarbone, and will insert a catheter (a long, thin, hollow plastic tube) into the vessel.

Using real time x-ray guidance, your doctor will then guide the catheter into one of the veins in the liver. Pressures are measured in the hepatic vein and right heart to confirm the diagnosis of portal hypertension, and also to determine the severity of the condition. Access is then gained from the hepatic vein into the portal system using a TIPS needle. A stent is then placed extending from the portal vein into the hepatic vein. A balloon on a catheter is used to expand the stent open to its full diameter.

The balloon is then deflated and removed along with the catheter. Subsequently, pressures are measured to confirm that your portal hypertension has been adequately treated. Special imaging is performed to confirm satisfactory blood flow through the TIPS.

All devices are removed from the vein in your neck and pressure will be applied to prevent any bleeding. The opening in the skin is covered with a bandage. No sutures are needed.

You will be admitted to the hospital following your procedure where you will be closely observed.

This procedure is usually completed in an hour or two but may take up to several hours depending on the complexity of the condition and vascular anatomy.

What are the Benefits versus Risks, for this Procedure?

Listed are the benefits of the Transjugular Intrahepatic Portosystemic Shunt (TIPS)

- It is a minimally invasive procedure that provides

the same benefits as a surgical shunt or bypass, which is more invasive and has more complications.

- This procedure has a very high success rate and it has a very short recovery time, compared to a surgical shunt.
- The frequency that you require paracentesis or thoracentesis should be significantly decreased, or possibly eliminated.
- The TIPS procedure involves placing a stent inside the liver; thus, if you have a transplant it is removed with your liver.

Following are the risks of the Transjugular Intrahepatic Portosystemic Shunt procedure:

- In rare cases, bleeding during or after the procedure may require a transfusion, and in rare cases, could be fatal.
- Since a skin incision is made to insert the catheter, there is a chance of infection at the catheter insertion site.
- Since a catheter is placed in the vein for stent placement, there is a risk of damaging or rupturing the blood vessel.
- The tunnel created between the portal vein and hepatic vein may become narrowed over time which might require a simpler version of the procedure to be repeated.

Very rare complications of TIPS may include infection of the stent, heart arrhythmias, congestive heart failure, damage to hepatic artery, severe liver injury and/or complete occlusion of the stent.