

Transjugular Intrahepatic Portosystemic Shunt (TIPS)

What is a TIPS procedure?

A transjugular intrahepatic portosystemic shunt (TIPS) is a non-surgical procedure where a new connection (a “shunt”) is made between a blood vessel that goes into the liver (“portal vein”) and a blood vessel that drains out of the liver and back to the heart (“hepatic vein”).

A doctor connects these two veins by placing a small tube, known as a stent, through the liver. This is usually done by going down through the large jugular vein in your neck. The shunt then remains in place permanently.

You may need this procedure if you have severe liver problems and portal hypertension.

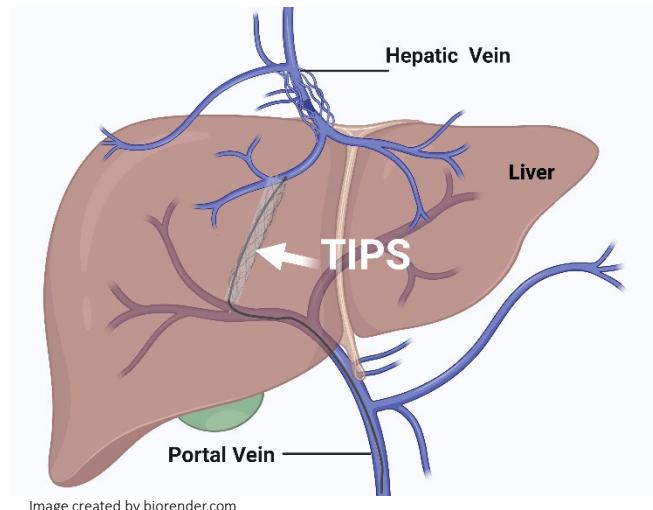
What is portal hypertension?

Blood normally flows easily through the liver from the portal vein into the hepatic vein. But in some people with liver disease, the liver can become scarred and stiff (“cirrhosis”). This damage compresses the blood vessels running through the liver and restricts their blood flow. This in turn leads to a build-up of pressure in the portal vein, which is known as portal hypertension.

Having high pressure in the portal vein can cause complications for all your organs. Some of these complications can be life-threatening, especially internal bleeding. Bleeding can happen if you have swollen varices, which are varicose-like veins in your oesophagus (food pipe) or stomach. Another common complication of high blood pressure in the portal vein is a build-up of fluid in your abdomen (belly), known as ascites.

Why do you need a TIPS?

A TIPS is done to lower the blood pressure in the portal vein and control any complications it may cause.



There are several reasons why your doctor may recommend you have a TIPS procedure:

- If you are bleeding from varices in your oesophagus or stomach and this can't be stopped in another way
- If you have fluid in your abdomen (ascites) that can't be controlled by taking water tablets, or if other types of treatment aren't working anymore.

Your doctor may also recommend you have a TIPS for other less common problems.

Who will be doing the TIPS procedure?

A trained specialist doctor known as an interventional radiologist will carry out your TIPS procedure using imaging techniques such as X-ray and others to guide what they're doing. TIPS can be done either under a general anaesthetic, where you are completely unconscious, or with local anaesthetic and sedation to make you sleepy.

What are the risks of TIPS?

Possible risks of this procedure include:

- Hepatic encephalopathy: this is mental confusion caused by a build-up of toxins, which in some cases can lead to coma. Hepatic encephalopathy can affect your driving, so if you experience it after the TIPS procedure and you are a licensed driver, you'll need to inform the department of transport in your state
- Worsening of your liver function: some patients can have this temporarily, but severe deterioration can lead to death
- Damage to blood vessels or bile ducts: you may need further procedures to manage this damage if it occurs
- Fever
- Bruising and soreness in the neck or groin where needles were inserted
- Worsening of your kidney function: this can be caused by the contrast dye used during the procedure
- A reaction to medicine or the contrast dye used during the procedure.

In rare cases, patients may develop heart problems, or their stent may become blocked or infected. Very rarely, patients may bleed internally into their abdomen (belly).

What happens before a TIPS?

By law, the doctor who treats you has to get your written consent to do the TIPS procedure before you have it.

Your doctor will usually recommend you have imaging of your liver with a CT (computed tomography) or MRI (magnetic resonance imaging) scan and a heart scan (echocardiogram) to make sure you are well enough to have the procedure.

Your doctor might ask you to stop taking any medicines, including things like drugs, supplements or herbs you take without a prescription, and other medicines, like blood thinners, a few days before the procedure.

When your doctor is assessing you before the procedure, you need to tell them if you have any diseases or allergies, particularly if you know you have an allergy to contrast dye injections.

What happens during the procedure?

The procedure will be done in a sterile (completely clean) interventional radiology room. While you are under anaesthetic, the doctor will insert a thin hollow needle into your jugular vein, usually on the right side of your neck. Using X-ray and ultrasound imaging to guide what they're doing, the doctor will pass a wire through a small flexible tube called a catheter into the jugular vein and then down into the portal vein. The doctor might also need to insert another needle into your groin to inject dye into the blood vessels so they can clearly see where to place the TIPS. Once the TIPS is placed where it should be, this forms a new channel, and an expandable stent is left permanently in place to keep the channel open.

The radiologist will measure the pressure in your portal vein to make sure the procedure worked properly and the pressure in your portal vein has come down.

Will it be painful?

You won't feel any pain during the procedure because you'll be under anaesthetic. There's usually no pain after the procedure, but you may be sore or bruised where the needles were inserted for a few days.

What happens after the procedure?

After the procedure, you'll recover in your hospital room. Your doctor might recommend an overnight stay in a high-dependency unit, where you'll be watched more closely than on a general ward. You'll be monitored for bleeding, and you'll have to keep your head raised.

A small plastic catheter will be left in your neck for about 24 hours after the procedure, then removed before you go home.

You'll be able to go home when you feel better, which may be the day after the procedure or a few days later.

Your treating doctor will probably recommend having an ultrasound after the procedure to make sure the stent is working properly. You'll also be asked to have another ultrasound 7 days later to make sure that blood is still flowing well through the stent.

It can take up to 6 months to gain the full benefits of the TIPS. If your TIPS was for treating ascites, you might need

to take water tablets during this time, but you probably won't need to have any further drainage of your ascites.

This fact sheet gives general information only about the TIPS procedure. It does not replace personal advice from your medical practitioner. If you have any questions or need advice, please speak with your doctor.

Acknowledgements

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