

Transjugular Intrahepatic Portosystemic Shunt (TIPS)

Information for patients



Your liver doctor has recommended that you have a Transjugular Intrahepatic Portosystemic Shunt (TIPS). This leaflet will explain what this involves, the outcomes and the possible risks.

Why do you need this treatment?

The portal vein carries blood from the bowel to the liver where the blood is processed before draining from the liver into the heart. Blood normally flows smoothly through the tissues of the liver, but in patients with liver disease the liver can become scarred and there is resistance to normal bloodflow. This results in increased blood pressure in the portal vein which in turn can cause distended veins in the gullet or stomach (varices) or fluid accumulation in the abdomen (ascites).

Varices are very thin walled veins and can rupture causing vomiting of blood (haematemesis) which can be life threatening.

Ascites can cause uncomfortable distention of the abdomen and can result in other complications.

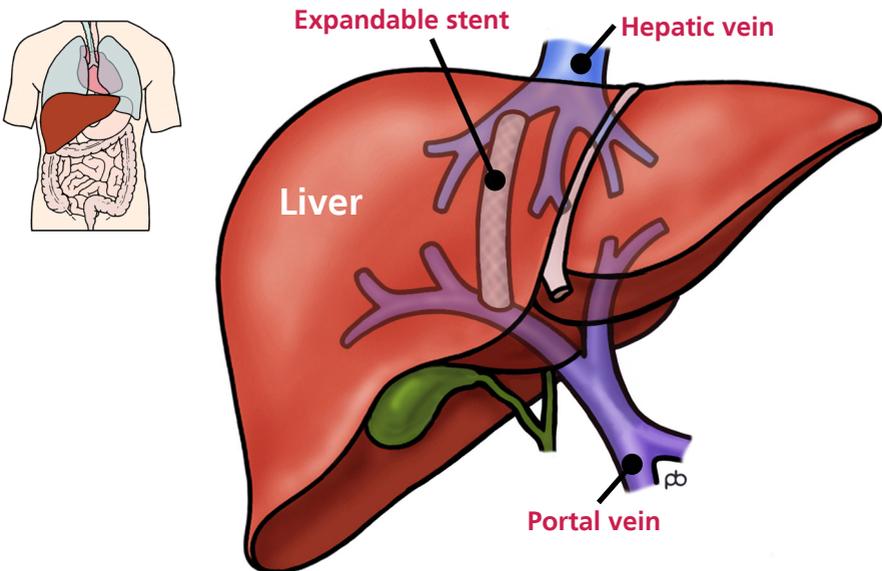
Usually your liver team will have identified that you have varices or ascites and that medication to reduce the blood pressure in the portal vein is not working well enough. You may well have been having endoscopic treatment of varices or drainages of ascitic fluid. In these circumstances we sometimes recommend TIPS as the next treatment step.

There are rare occasions when a TIPS is recommended in patients who have other complications of increased blood pressure in the portal vein. Sometimes people with a condition called Budd Chiari Syndrome or who have had a liver transplant need a TIPS.

What is a transjugular intrahepatic portosystemic shunt?

A transjugular intrahepatic portosystemic shunt (TIPS) is a procedure that creates an internal 'bypass' between the portal vein and the veins draining blood from the liver back to the heart (the hepatic veins). This reduces the blood pressure in the portal vein and allows blood to flow more freely back to the heart, bypassing the scarred liver.

Reduced pressure in the portal vein means varices are less likely to bleed (and may disappear) and ascites is less likely to accumulate. The picture shows a TIPS in place.



Are there any risks?

As with any procedure, there are small risks associated with having a TIPS procedure. There is a 1–2% risk of major complication, but in 98% of patients there is no problem.

The main risk is causing bleeding during the procedure. This may require a blood transfusion or, rarely, an additional X-ray guided procedure to identify and treat the bleeding site. Very rarely a surgical procedure is required to stop bleeding.

Occasionally, the bypass effect of the TIPS can cause deterioration in your liver function and can result in liver failure. This is due to the bypass carrying so much blood that liver does not get enough blood of its own to meet its needs. Liver failure after TIPS is often temporary as the liver recovers, but if it is severe or prolonged a further procedure to reduce or block the TIPS may be required. In about 1% of patients the liver does not recover, resulting in liver failure and death.

About one in ten patients become a little confused after a TIPS. This is called 'hepatic encephalopathy' and occurs because the blood from the bowel bypasses the liver and is not processed in the usual way. The resulting chemical changes in the circulation can affect brain function. Confusion after TIPS is often treated successfully by altering diet and by taking medication. Very occasionally (1% of cases), these measures may not work the TIPS may need to be reduced or blocked, as above.

A TIPS is usually performed under a general anaesthetic. An anaesthetist will discuss the anaesthetic and the risks of this with you prior to the procedure.

What are the alternatives?

There are open surgical operations that can be performed to achieve a similar result – though these are substantially more risky and invasive than a TIPS.

Some varices can be managed with injection of glue or the use of elastic bands inserted via a camera down the gullet into the stomach (endoscopy). Most patients with varices will have had several treatments like this before being referred for TIPS. If bleeding from the varices cannot be controlled with endoscopy, an emergency TIPS procedure may be needed.

Ascites can be managed with medicines or intermittent (or permanent) drainage of fluid from the abdomen (paracentesis). Most patients with ascites will be on a water tablet or will be having regular paracentesis.

Patients undergoing TIPS have usually had these other treatments tried with variable success. It is uncommon for the liver to recover spontaneously from scarring sufficiently for the TIPS to no longer be needed.

Do I need to make any special preparations?

We usually perform several tests on patients in whom we are planning a TIPS including heart scans and mental concentration tests. These help us to ensure that all patients are fit enough to undergo the procedure. These tests may be carried out from a clinic or as an inpatient prior to the procedure.

You need to be an inpatient for the procedure itself. You will be asked not to eat for six hours before the procedure, although you may drink clear fluids such as water up to two hours beforehand.

If you are taking diuretics (water tablets) we sometimes ask that you do not take these the day before and the day of the procedure. You should contact the hepatobiliary clinical nurse specialists (number at the end of this leaflet) to discuss this.

If you have any allergies or have previously had a reaction to the dye (contrast agent), you must tell the radiology staff before you have the procedure.

If your blood clotting is abnormal, you may be given special blood transfusions to try and correct this. If you have any concerns about having blood transfusions, you should discuss these with your ward doctors.

Who will I see?

A specially trained team led by an interventional radiologist will perform the procedure. Interventional radiologists are doctors with special expertise in using medical imaging techniques to undertake procedures through tiny pinholes in the skin.

You will also be able to discuss the procedure with the interventional radiologist beforehand and you can decide not to go ahead when you have considered all the alternatives.

An anaesthetist will discuss the general anaesthetic with you.

What happens during TIPS?

You will need to get changed into a hospital gown. A small cannula (thin tube) will be placed into a vein in your arm. This allows the anaesthetist to give you medicines to send you to sleep.

Once you are asleep, a small tube (catheter) is inserted into the vein at the side of the neck. X-ray equipment is used to guide the catheter into the hepatic vein in the liver. A needle is then used to create a track between the hepatic vein and portal vein, through the liver tissue. Once the track has been made, it is enlarged using a balloon and the enlarged track is kept open by inserting a fabric tube with a metal supporting scaffold (called a 'stent graft'). This is left permanently in the liver.

Will it hurt?

You may be sore at the side of your neck at the end of the procedure (once you are awake) but this will resolve over a few days. You should not normally experience any other pain.

How long will it take?

Every patient is different, and it is not always easy to predict; however, expect to be in the radiology department for about two to three hours. Occasionally some cases take significantly longer than this.

What happens afterwards?

You will be taken back to your ward on a trolley. You may feel a little groggy after the anaesthetic.

TIPS results in increased bloodflow back to the heart. After the procedure, you may experience some shortness of breath because of this. This can be treated with a short course of water tablets.

If the TIPS was placed to treat ascites, you may find that you pass increased amounts of urine for the first 24–48 hours. This is a good sign suggesting that the TIPS is working. You may, however, require a drip if you are unable to drink enough to replace the excess urine you are producing.

Your blood tests will be checked to make sure the liver is working properly after the TIPS for the first day or so. All being well, you will normally be discharged after about 2-3 days.

You will be asked to attend for scans of the TIPS at 6 and 12 months after the procedure to ensure it is working properly. If you live a long way from Leeds these scans can usually be undertaken at your local hospital.

If these scans detect narrowing of the TIPS over time a procedure to stretch the TIPS with a balloon may be required. About one quarter of people with a TIPS need an additional procedure to the TIPS over the remainder of their lifetime.

Finally

Some of your questions should have been answered by this leaflet. You will be able to discuss the procedure with the interventional radiologist performing it and with the ward staff. Make sure you are satisfied that you have received enough information about the procedure and that you are happy to proceed.

If there are any questions you would like to ask before you come for the procedure please get in touch.

Contact details

Radiology theatres:

St. James's University Hospital: **0113 206 6841**

Liver unit:

St. James's University Hospital - Ward 83: **0113 206 8283**

Hepatobiliary clinical nurse specialists:

0113 206 8601

Email: leedsth-tr.HPBnursesleeds@nhs.net

Or telephone Leeds Teaching Hospitals switchboard

0113 243 3144

Ask to speak to secretary of the consultant hepatologist (liver specialist) or hepatobiliary surgeon (liver surgeon) in charge of your care.



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