

Transjugular intrahepatic portosystemic shunt (TIPS)



Information for patients

This leaflet tells you about TIPS, why your doctor has recommended one for you and how it is performed. It explains the risks of the procedure, what follow-up is required and alternative options. This leaflet is not a replacement for a discussion with your doctor about this procedure.

Confirming your identity

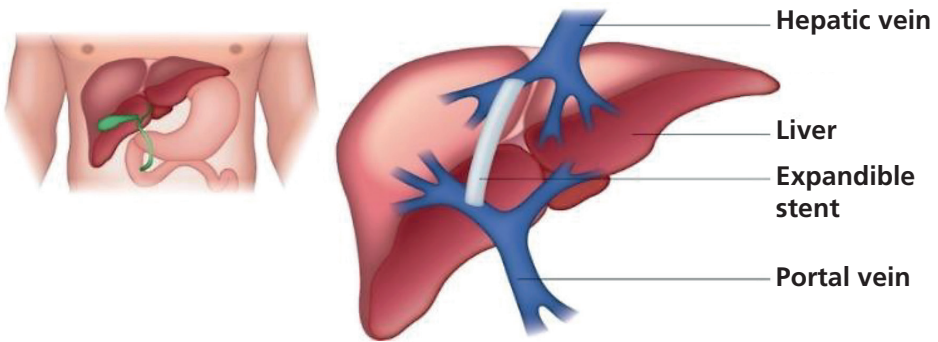
Before you have a treatment or procedure, our staff will ask you your **name** and **date of birth** and check your **ID band**. If you don't have an ID band we will also ask you to confirm your address.

If we don't ask these questions, then please ask us to check.

Ensuring your safety is our primary concern.

What is a TIPS?

A transjugular intrahepatic portosystemic shunt (TIPS) procedure involves placing a small, covered, expandable metal stent (diameter approximately 1 cm) between two large blood vessels in the liver. This creates a new channel which acts as an internal 'bypass' between the vein supplying blood to the liver (portal vein) and the veins draining blood from the liver (hepatic veins) back to the heart. A TIPS is used to manage portal hypertension.



What is portal hypertension?

Blood normally enters the liver from the portal vein and flows easily through the liver into the hepatic vein. In patients with liver disease, the liver can become scarred and stiff, which makes it more difficult for blood to flow through. This means pressure will build up in the portal vein.

High pressure in the portal vein causes enlarged varices (varicose-like veins in your abdomen, gullet and stomach, which can cause bleeding) and ascites (fluid build-up in the abdomen).



Why might you require a TIPS?

The two main reasons a TIPS is performed are:

- if you have had bleeding from varices in the gullet (oesophagus) or stomach
- if you have ascites (fluid in abdomen) which is not controlled by water tablets

Your doctor may recommend a TIPS for other less common problems caused by portal hypertension and they will discuss this with you.

Are there any alternatives?

Your doctor will discuss the reasons they are recommending a TIPS for you. This will usually be because the risks of continuing with current treatments are higher than the risks of a TIPS.

If you choose not to have a TIPS then your doctor would recommend continuing the current treatments for ascites or varices which may include:

- treatment for varices using a procedure called an endoscopy (where a camera is inserted into the gullet and stomach) and varices are injected or banded to try and stop bleeding
- repeated drains inserted into the abdomen to remove ascites

Please discuss these options with your consultant who will explain if any are suitable for you.

Who will be doing the TIPS procedure?

At King's a TIPS is performed under general anaesthetic. Your anaesthetic will be given by an anaesthetist who is a specialist in caring for people having operations and procedures.

The TIPS procedure is carried out by an interventional radiologist, who is a specialist in performing procedures guided by X-rays.



When and where will the procedure take place?

You will receive a letter with the date and time of the TIPS procedure. The procedure will take place in the Interventional Radiology Department, 1st floor Denmark Wing, King's College Hospital (Denmark Hill). The bed manager will call you the day before the procedure and you will be admitted to a bed on the Liver Ward the night before the procedure.

Consent

We must by law obtain your written consent to any operation and some other procedures beforehand. Staff will explain the risks, benefits and alternatives before they ask you to sign the consent form. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to speak with a senior member of staff again.

What happens before a TIPS?

- Before offering you a TIPS procedure, we will usually recommend imaging of your liver (a CT scan) and a heart scan (echocardiogram) to ensure you are well enough for the procedure.
- After agreeing to have a TIPS a date for the procedure will be offered to you. We will offer the next available date and try not to change this. However, occasionally we may need to change the date of your procedure to accommodate emergency procedures. If this happens, we will give you as much notice as possible.
- You may be prescribed rifaximin medication to start two weeks before your procedure. This medication helps to reduce the risk of hepatic encephalopathy (confusion or 'brain fog') sometimes associated with TIPS.
- Before coming for the TIPS you will need a pre-assessment visit with the Anaesthetic Team to discuss the anaesthetic with you.



- In some cases, you may also be offered a telephone consultation with one of the liver nurse specialists before your admission. This consultation is to review your current health, assess any signs of liver decompensation, and give you the opportunity to ask questions about the TIPS procedure.
- Please tell us if:
 - you have any allergies, particularly to contrast 'dye' injections
 - you might be pregnant
 - you take any blood thinning medication
- On the day before your procedure, you will be admitted to a bed on the Liver Ward and have some blood tests.
- You will be given a dose of antibiotics before the procedure to reduce the risk of infection.
- You must not have any food or drink for six hours before your anaesthetic.
- On the morning, you will be asked to remove all metal rings, prosthesis and make-up, and to put on a hospital gown before being brought down to the Interventional Radiology Department.

What does the procedure entail?

The TIPS procedure will take place in one of the interventional radiology rooms, under sterile conditions. While under anaesthetic, a thin hollow needle will then be inserted into the jugular vein, usually on the right side of the neck. With X-ray guidance, a wire is passed through the needle into the jugular vein and then into the hepatic (liver) veins. Over the wire, a catheter is fed through to the hepatic veins.

The radiologists will then identify the portal vein and insert a wire through the liver into it. This is usually done using ultrasound guidance. Occasionally another needle will need to be inserted into an artery in your groin to inject dye into the arterial system to help



identify the correct position for the TIPS. Once it is in the correct position, a channel is created, and an expandable stent is then left in position to keep it open. This is left permanently within the liver.

After completing the procedure, the radiologists usually measure the pressures to ensure that the procedure has worked, and the portal hypertension has improved. An access catheter (small plastic tube) is left in the neck vein for approximately 24 hours after the procedure.

Will it be painful?

As you will be under a general anaesthetic, you won't feel pain during the procedure. After the procedure, the sites where needles were inserted into the vein can be achy for a few days and can become bruised.

How long does it take?

The procedure normally takes between one to three hours.

What happens after a TIPS?

You will wake up in a recovery ward where you will be monitored until the effects of the anaesthetic have worn off. You will then be transferred back to the Liver Ward. Occasionally, we may recommend an overnight stay in a high dependency bed (HDU). You will normally go home within one to two days of the procedure.

You will usually be discharged home with water tablets, even if you were not able to have these before the TIPS. It can take up to six months to gain the full effects of the TIPS. If your TIPS was for ascites, you may need water tablets for this time, but you should not normally need to have another drain.

You will need to have an ultrasound scan at King's seven days after the TIPS has been inserted to ensure the blood is flowing well



through the stent. After this, you will require regular monitoring in the outpatient department and ultrasound scans to check that the TIPS is still working.

What are the risks of TIPS?

Hepatic encephalopathy (15 to 30%)

Hepatic encephalopathy means the effect of portal hypertension on brain function. If this occurs it can cause problems with sleep, changes in behaviour, confusion or drowsiness. Usually, this can be managed with medication. If severe, it may be necessary to deliberately narrow or block the TIPS. If you drive and experience hepatic encephalopathy after the TIPS procedure, you will need to inform the DVLA.

Technical failure (5%)

Some patients undergoing TIPS have an unsuccessful procedure as it is not possible to place the stent.

Worsening of liver disease (3 to 5%)

Some patients will experience a worsening in their liver function after the procedure. This can result in liver failure, which is often transient as the liver recovers, but if it is severe or prolonged 1% of cases can result in death.

Bruising (2%)

This can occur at the sites in the neck or the groin used to insert needles into the veins. This usually subsides in a day or two.

Injury to blood vessels or bile ducts (1 to 2%)

During the procedure, the needle or wire can puncture and injure other vessels in the liver. On rare occasions, additional procedures are required to manage this.



Bleeding into the abdomen (1%)

This can occur within the liver, as well as from the blood vessels feeding the liver and surrounding area. You may require a blood transfusion if the bleeding is severe. On very rare occasions, a second radiological procedure is required to identify the site of bleeding and to treat it (for example, embolisation).

Worsening kidney function (2%)

Your kidney function may deteriorate after a TIPS. This is usually reversible.

If any of these complications occur, then it is likely you will need to stay in hospital while these are managed appropriately. The team caring for you will keep you informed of any issues and discuss the treatments required.

Other useful information

Valuables

Please do not bring in valuables, jewellery, large sums of money or credit cards or electronic devices. If you cannot avoid bringing in valuables, please ask your relative or friend to look after them for you. If this is not possible, hand in any valuables to the nurse in charge on arrival to the ward. They will be listed and locked in a safe and you will be given a receipt. The hospital cannot accept liability for the loss of items that are not handed in for safekeeping.

What if I cannot keep my appointment?

It is important that if you cannot keep your appointment, you contact the liver bed managers on **020 3299 7722** to arrange an alternative appointment.



Who can I contact with queries or concerns?

If you have any questions about your procedure, please contact:

Radiology Nurses

Diagnostic & Interventional Radiology X-ray 2

1st Floor, Denmark Wing

Direct Line: **020 3299 2060**

If you have any questions about the TIPS (including after discharge from hospital), please contact:

Advanced Chronic Liver Disease Clinical Nurse Specialist

Direct Line: **020 3299 6882**

Email: kch-tr.kchaclid@nhs.net

Sources of additional information:

[Portal Hypertension - British Liver Trust \(britishlivertrust.org.uk\)](http://britishlivertrust.org.uk)

[Transjugular intrahepatic portosystemic stent-shunt in the management of portal hypertension – British Society of Gastroenterology \(bsg.org.uk\)](http://bsg.org.uk)

MyChart

Our MyChart app and website lets you securely access parts of your health record with us, giving you more control over your care. To sign up or for help, call us on **020 3299 4618** or email kings.mychart@nhs.net. Visit www.kch.nhs.uk/mychart to find out more.

Sharing your information

King's College Hospital NHS Foundation Trust has partnered with Guy's and St Thomas' NHS Foundation Trust through the King's Health Partners Academic Health Sciences Centre. We are working



together to give our patients the best possible care, so you might find we invite you for appointments at Guy's or St Thomas' hospitals. King's College Hospital and Guy's and St Thomas' NHS Foundation Trusts share an electronic patient record system, which means information about your health record can be accessed safely and securely by health and care staff at both Trusts. For more information visit **www.kch.nhs.uk**.

Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

PALS

The Patient Advice and Liaison Service (PALS) is a service that offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. They can also pass on praise or thanks to our teams.

Tel: **020 3299 4618**

Email: **kings.pals@nhs.net**

If you would like the information in this leaflet in a different language or format, please contact our Interpreting and Accessible Communication Support on 020 3299 4618 or email kings.access@nhs.net

This leaflet is available in digital format at:
www.kch.nhs.uk/document/tips



