Having a TIPSS procedure in your liver to treat high blood pressure in the portal vein

Radiology Department

Information for Patients

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Introduction

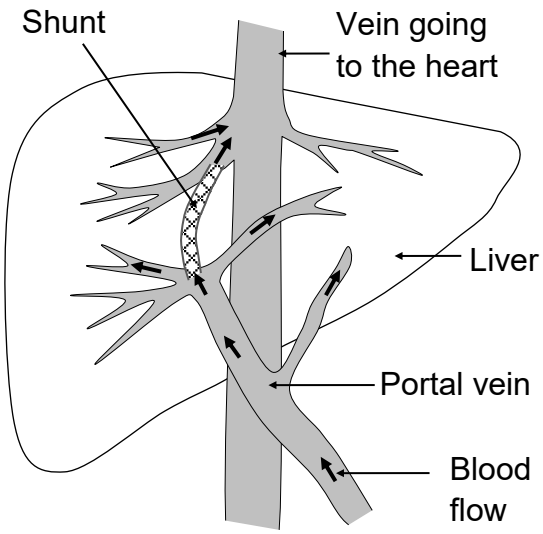
Please read all of this leaflet. It tells you about your procedure. It has important information and instructions.

What is a TIPSS?

TIPSS stands for **t**ransjugular **i**ntrahepatic **p**orto**s**ystemic **s**hunt.

The best way to tell you about TIPSS is to tell you what the letters stand for.

- **T** is for **transjugular.** We start by putting a thin, hollow needle into the jugular vein in your neck. We put a guide-wire through this.
- **I** is for **intrahepatic.** This means the procedure is done within your liver. We push the guide-wire from your neck to your liver.
- **PS** is for **portosystemic.** The procedure is done to join up the vein that goes to the liver (portal vein) to a vein that goes to the heart (a systemic vein).
- **S** is for **shunt.** This channel between the portal vein and systemic veins is called a shunt. A stent (metal tube) will hold the shunt open. This means some of your blood can bypass the liver and go back to the heart.



Health information and support is available at www.nhs.uk or call 111 for non-emergency medical advice

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Why do I need a TIPSS?

The disease in your liver is blocking the flow of blood. This is causing high blood pressure in your portal vein.

High blood pressure in the portal vein can cause:

- extra veins to grow in your tummy, like varicose veins
- bleeding into your stomach or food pipe (oesophagus) from the extra veins
- being sick with blood (vomiting blood)
- extra fluid inside your tummy (ascites)

The portal vein carries blood from your bowel to your liver. The liver filters the blood and removes any waste products from it. Blood then goes through blood vessels called systemic veins towards your heart.

We do a TIPSS procedure to connect your portal vein to a systemic vein. This lets some of your blood go through a shunt between the 2 veins. This is instead of going through the smaller blood vessels in your liver. This helps to lower the blood pressure in your portal vein.

Are there any other treatment options?

The hospital doctors looking after you (gastro-enterologist or surgeon) will have tried non-invasive ways of stopping the bleeding, or lowering this high blood pressure in your portal vein. These may not have worked.

Doctors could do an open operation. This would divert blood in the portal vein and lower the pressure. You would get the same result as a TIPSS does. But, the open operation has more risks than the TIPSS procedure.

What if I am taking blood thinners?

If you are taking medicine that thins the blood (anticoagulants or antiplatelets) you may need to stop taking it. Or, you may need or take a different one for a few days.

Please call the radiology department for advice as soon as possible. The phone number to call is on your appointment letter. It is also at the end of this leaflet. We will ask you what blood thinning medicine you are taking, how much you take (the dose), and what you are taking it for.

Common examples of these drugs include aspirin, warfarin, clopidogrel (Plavix®), apixiban (Eliquis), edoxaban (Lixiana), rivaroxaban (Xarelto), ticagrelor (Brilinta), dalteparin, enoxaparin and heparin.

If you are on Dalteparin or Heparin injections then these need to be stopped for 24 hours before your procedure.

Important information before you have X-rays with contrast liquid:

The contrast liquid used in your procedure has iodine in it. Your kidneys remove iodine from your body. It comes out in your pee (urine). If you have kidney dialysis, this will remove the iodine.

Please tell the X-ray staff when you arrive if:

- **You are allergic to iodine or rubber (latex)**, or have any other allergies or have asthma.
- **You have had a reaction in the past to a contrast liquid injected into a vein (intravenous contrast).** This is the dye used for kidney X-rays, CT scanning and X-rays of your heart and blood vessels.
- **You are on kidney dialysis or have any problems with your kidneys**.
- **You have diabetes.**
- **There is any chance that you might be pregnant.**

How do I get ready for the TIPSS procedure?

You need to be an inpatient in the hospital (overnight stay).

You will need blood tests the day before the procedure. You may need to have the fluid (ascites) in your tummy drained out.

On the day of your procedure:

- Please have a bath or shower in the morning before your procedure if you can.
- Do not wear contact lenses.
- Do not wear jewellery except for a plain wedding band only.
- Do not wear make up, nail polish or acrylic/gel nails.

Eating and drinking instructions:

- **Do not eat for 6 hours** before your procedure.
- **6 hours before your procedure**, you can still drink clear liquids like water, squash, or see-through drinks that are not fizzy. This is up to 2 hours before the procedure.
- **When there is 2 hours** to go before your procedure, you can take sips of water up to 170ml per hour. This is until you are about to go for your procedure. If you are in hospital the nursing staff can give you a cup with 170ml water.

If you are ill and the procedure is being carried out as an emergency you may not be eating anyway.

What happens before the procedure?

We will give you antibiotics to help prevent infection.

You will have a general anaesthetic. This means you will be asleep and you will not feel anything during the procedure. The anaesthetist will care for you throughout the procedure.

What happens during the TIPSS procedure?

- The procedure will usually take place in the X-ray department.
- You will lie on the X-ray table flat on your back.
- We put a blood pressure cuff (strap) on your arm. We also put a small peg on your finger. These will all be attached to a monitoring machine. This is so we can check your blood pressure, your heart rate and your heart health.
- Everything will be kept clean (sterile). We clean the skin of your neck with antiseptic. We cover some of your body with sterile sheets.
- The skin and deeper tissues over the vein will be numbed with local anaesthetic. This gives you pain relief when you wake up from the anaesthetic.
- We will put a thin needle into a vein in your neck. We will then put a thin guide-wire through the needle and push a plastic tube called a catheter (about the size of a very long piece of spaghetti) over the wire. We push them through until they reach your liver veins.
- We will inject a colourless liquid that shows up on X-rays (contrast) through the catheter. We will take X-ray pictures. This will show the veins in your liver. This helps us to get the catheter in the right place.
- We will put a needle down the catheter and push it between the liver and portal veins. This means we can connect them.
- We will put in a catheter with a small balloon on it. This goes in the liver between the veins. We inflate the balloon to stretch the veins and create a channel (shunt).
- We will put a stent in the shunt. We expand it to keep the shunt open. The stent stays in your vein and becomes part of your vein wall.

How long will the procedure take?

Every patient's situation is different. It is not always easy to know how difficult or how straight forward the procedure will be.

The procedure may take 1 hour but it can take up to 3 hours.

What happens after the procedure?

We will take you to a recovery area.

Nurses will do routine checks, such as taking your pulse and blood pressure. This is to make sure that there are no problems. They will also look at the skin entry point to make sure there is no bleeding from it.

We will take you back to your ward when you have recovered from the general anaesthetic.

You will stay in bed for a few hours until you have recovered.

You may feel some soreness in your neck where the needle was inserted.

Once you have recovered from the procedure, you will probably feel no different than you did before. Hopefully the bleeding which was part of your problem should no longer happen, or the fluid in your abdomen should begin to drain away.

If you have any problems after the procedure please speak to the staff on the ward or your radiology nurses.

If you have any problems after the procedure when you have gone home please see your GP or call the NHS helpline on 111.

Advice to follow after having a general anaesthetic:

General anaesthetics can affect your memory, concentration and reflexes for 24 to 48 hours (1 to 2 days). Please rest for at least 24 hours.

For 24 hours:

- If you are going home you must have a responsible adult to take you home and stay with you for the first 24 hours
- **Do not** drive a car or any other vehicle or ride a bicycle.
- **Do not** drink alcohol.
- **Do not** smoke.
- **Do not** operate any machines or do anything that needs skill or judgement.
- **Do not** make important decisions or sign any documents.
- **Do not** climb ladders.
- **Do not** do any strenuous exercise or heavy lifting

Are there any risks or complications?

As with any procedure there is a risk of complications. Below are the most common risks and complications. The chance of these happening is different for each person. We will talk to you about your risks before you sign the consent form.

- **Pain or discomfort** at the skin entry point in the side of your neck. It can be sore for 1 or 2 days.
- **Bleeding or bruising:** you should expect some bruising and tenderness around the skin entry point.
- **Injury to a blood vessel:** there is a small risk of injury to a blood vessel (vein or artery) during the procedure. This could happen to the internal jugular vein where the needle and guide-wire goes in. Or, it could happen to the major blood vessels in your neck (carotid artery) next to it. Or, it could happen to the blood vessels in the liver (inferior vena cava, hepatic veins or portal veins). If the injury causes a lot of bleeding we may need to do another procedure to fix it.
- **Infection** requiring treatment with antibiotics. We will give you antibiotics before the procedure to reduce your risk of infection. Life threatening reaction to infection can happen after TIPSS.

  This is called severe sepsis. This is one of the leading causes of death in this procedure. Signs of infection are a high temperature and shaking. This will usually be found before you leave.
- Shunt **cannot be formed in the right place:** we may not be able to form the shunt in the right place. This can happen if the liver disease has made the liver very hard. It may not be possible for the needle to go through it. If this happens we will stop the procedure. You may need a different operation on another day. We will talk to you about this if it is needed.
- **You could develop a liver abscess. Or, your liver function could quickly go down (acute liver failure) over a few days or weeks.** Infection and sepsis may result in the formation of a liver abscess that may need to be drained. Your liver function may get worse straight after procedure. This should improve by itself. In rare cases it can result in death.
- **Disturbances in heart rhythm:** these disturbances can last a short time. They are usually caused by wires passing through the heart on the way to the liver during the procedure. The TIPSS procedure will redirect some of your blood to the heart and can cause heart failure. Your heart will have been assessed before the procedure. The risk of heart failure is low.
- **Side effects or reaction to contrast liquid:** Some patients may be allergic to the contrast liquid. You could get symptoms such as feeling or being sick (nausea or vomiting), or a rash. Any side effects usually happen within 20 minutes. If you get any of these symptoms at the hospital, tell the doctor, nurse or other staff looking after you. If you start to get symptoms at home you should contact your GP or call 111.
- **Brain dysfunction (encephalopathy) with symptoms like excessive drowsiness, sleepiness or problems in concentrating.** This may happen in up to 1 in 3 patients after a shunt is placed. Encephalopathy is usually manageable with the use of medicines and a low-protein diet. In rare cases, severe encephalopathy or even coma may develop. This is because some of your blood bypasses your liver. The liver normally takes waste products out

of the blood. If too much blood bypasses the liver through the shunt the waste products can stay in the blood.

- **Another procedure may be needed to narrow or block the shunt.** If you get confusion or go into a coma the shunt may need to be narrowed or blocked to limit the amount of blood flow through the channel.
- **Problems with blood clotting:** patients with jaundice are likely to have problems with blood clotting. There may be some bleeding from the liver where the needle was pushed between the 2 veins. On rare occasions this can need a blood transfusion or be fatal.
- **The TIPSS procedure may not stop your bleeding or reduce your fluid in the abdomen (ascites).** In 98 out of 100 patients, the shunt can be formed in the right place. But some patients keep on getting bleeding and a build up of fluid in the tummy. Between 60 and 80 out of 100 patients (60 to 80%) see an improvement in their symptoms.

Is TIPSS permanent and what happens next?

The shunt in the blood vessels in your liver will stay in for the rest of your life or until you have a liver transplant if that has been offered to you.

You will have ultrasound scans of your liver regularly to check if the shunt is still working and not getting blocked. The radiologist doing your scan will be able to see the shunt and see if it is becoming blocked. If you are having a liver transplant, the radiologist will regularly check the shunt until you have your transplant. If you are not having a liver transplant you may have to come for regular checks for at least 5 years.

If your shunt gets blocked you will need to have a procedure to unblock it. The radiologist will ask you to come to the Radiology Department for a day. They will do a procedure to unblock the shunt. This procedure will not need a general anaesthetic. The radiologist will use the veins in your neck to access the shunt in your liver again.

If you have any problems after the examination when you have gone home please see your GP or call NHS 111 for advice.

What are the risks from exposure to radiation in this procedure?

The main risk from exposure to X-rays is a higher risk of getting a cancer in the future. This risk is thought to be very small.

We are all exposed to natural background radiation every day of our lives. This comes from the sun, the food we eat, and the ground. Each test that uses X-rays gives a dose on top of this natural background radiation.

The risks of radiation are slightly higher for an unborn child. We must ask all patients age 10 to 15 years registered female and all patients aged 16 to 55 years about their periods and/or possibility of being pregnant.

The benefits of having this procedure are likely to outweigh any possible risks. The risks of not having the procedure could be greater. We try to keep your exposure to X-rays as low as possible.

What if I need to talk to someone?

If you have any questions or concerns, or cannot make the appointment:

Please call the Radiology department on **0116 258 8765** and select **option 7**. Monday to Friday 9am to 5pm, but not on bank holidays.

Any questions?

If you have any questions you can write them down. This is to remind you to ask when you come for your treatment.

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہِ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغةٍ أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل
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Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

Previous reference:

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