

Patient information

Transjugular Intrahepatic Porto-Systemic Shunt (TIPSS)

Interventional Radiology Department

This leaflet tells you about the procedure known as TIPSS. It explains what is involved and what the possible risks are. It is not meant to be a substitute for informed discussion between you and your doctor but can act as a starting point for such a discussion.

If you are having the procedure performed as a pre-planned operation then you should have plenty of time to discuss the situation with the consultant radiologist and the consultant who referred you for the procedure.

Your own family doctor (GP) may be able to give you some general advice. If you need the procedure as a relative emergency then there may be less time for discussion, but nonetheless, **you should have had sufficient explanation before you sign the consent form.**

What is TIPSS?

The best way of describing what TIPSS is, is to explain what the letters stand for.

T is for Transjugular.

This means that the radiologist will put a fine, hollow needle into the jugular vein in your neck while you are sedated. Through this needle he, or she, will pass a fine, thin wire in a straight line until it reaches the veins from your liver. This is much easier than you would imagine. Over this wire the radiologist will pass a fine plastic tube called a catheter, about the size of a very long piece of spaghetti.

I is for Intrahepatic.

The catheter the radiologist has inserted will be passed down one of your liver veins into the liver itself. The radiologist will then take the wire out and insert a long curved needle.

PS is for Porto-Systemic.

The long needle will be pushed from your liver vein, (or **Systemic** vein) into your **Portal** vein, which lies close to it. It is this portal vein which has become partially blocked up by your liver disease. Because of the blockage, there is high blood pressure in this part of your circulation, and this procedure is designed to relieve this.

S is for Shunt.

Once the needle has been passed between your liver vein and the portal vein, a wire will be passed through the needle and the needle withdrawn.

Over the wire the radiologist will pass a metal spring called a stent. This stent will expand to create a channel between the two veins. Blood will then flow from the high-pressure portal vein into the low-pressure liver (or systemic) vein. The high pressure in the portal vein, which is causing your problem, will consequently be reduced, back towards normal.

Why do I need TIPSS?

Normally, the nutrients in food are absorbed from the bowel, and carried back in blood vessels towards the liver. The largest of these vessels is called the portal vein. Once the nutrients reach the liver, they can be stored and then used. The liver also removes waste products. The disease in your liver is blocking the flow of blood like a dam, and is causing the blood pressure in the portal vein to rise.

Because of this, you may have developed extra veins inside your abdomen, like varicose veins, which may have bled into your stomach, or your gullet. You may have vomited blood. You may also have excessive fluid inside your abdomen.

Your Gastroenterologist or your surgeon will have tried other methods of stopping the bleeding, or lowering this high portal blood pressure. These probably have not worked. An open operation is possible to divert blood in the portal vein and lower the pressure, and this produces the same result as a TIPSS does. However, the open operation is considered much more dangerous than TIPSS. It is possible that you are also being considered for a liver transplant.

What are the benefits of having TIPSS?

TIPSS reduces the high pressure in the veins and reduce the chance of more bleeding.

What are the risks of having TIPSS?

- Perhaps the biggest problem is being unable to place the stent between the two veins. This can happen sometimes because the liver disease has made the liver very hard, and the needle will not pass through it. If this happens, you may need the open operation. Sometimes, even though the TIPSS has been performed satisfactorily, bleeding can continue. This is because the high pressure in the portal vein has made the veins very delicate. If this happens, you may need to go back to the X-ray department and have these veins blocked off with little metal coils. This is a fairly simple procedure and does not require a general anaesthetic.
- Because patients with jaundice are likely to have difficulties with blood clotting, there may be some bleeding from the liver, where the needle was pushed between the two veins. On very rare occasions this may require a blood transfusion. If the bleeding continues, the bleeding blood vessel may need to be blocked off. Again, this is a very simple procedure and will not require a general anaesthetic.
- You may also develop a bruise in your neck, which can be a bit sore for a day or two.
- Because the liver takes waste products out of the blood stream, if too much blood bypasses the liver, the waste products can remain in the blood and can cause you to become confused. If this happens you may require the diet mentioned previously, and if it is severe it may be necessary to block off the TIPSS on purpose.

Important

If you have any allergies, you must let your doctor know. If you have previously reacted to intravenous contrast medium, the dye used for kidney X-rays and CT scanning, then you must also tell your doctor about this.

What anaesthetic will be used?

General anaesthesia is appropriate for this procedure. General anaesthesia is drug-induced unconsciousness. It is always provided by an anaesthetist, who is a doctor with specialist training.

Unfortunately, general anaesthesia can cause side effects and complications. Side effects are common, but are usually short-lived: they include nausea, confusion and pain. Complications are very rare, but can cause lasting injury: they include awareness, paralysis and death.

The risks of anaesthesia and surgery are lower for those who are undergoing minor surgery, and who are young, fit, active and well. For more information, please ask for a copy of the Royal College of Anaesthetists Patient Information "You and Your Anaesthetic".

If you are worried about any of these risks, please speak to your Consultant or a member of their team before you are due to have this treatment.

Getting ready for TIPSS

You need to be an inpatient in the hospital. You will probably be asked not to eat for several hours beforehand, although obviously if you are ill and the procedure is being carried out as an emergency you may not be eating anyway. You may receive a sedative to relieve anxiety, as well as an antibiotic. If you have any allergies you must let your doctor know.

If you have previously reacted to intravenous contrast medium, the dye used for kidney X-rays and CT scanning, then you must also tell your doctor about this.

The procedure

The procedure will be take place in the Interventional Radiology Theatres with in the main theatre complex in a special "screening" room, which is adapted for these specialised procedures. A specially trained doctor called an Interventional Radiologist will carry out the TIPSS. Interventional Radiologists have specialist expertise in using X-ray and scanning equipment and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

You will be taken to The Interventional theatre in a chair or on a trolley. You need to have a needle put into a vein in your arm or hand, so that you can have intravenous sedatives or painkillers. Once in place, this needle does not hurt.

In the Intervention Theatre department the anaesthetist, who you will have met already, will put you to sleep. However, if it has been decided not to use a general anaesthetic, then do not worry.

An anaesthetist, or the radiologist and other trained staff, will make certain that you are heavily sedated so that you do not feel any pain, and do not remember the procedure.

Once you are asleep, you will be monitored throughout the procedure and given oxygen. The Interventional Radiologist will keep everything sterile, and will wear a theatre gown and operating gloves. The skin of your neck will be cleaned with antiseptic and the rest of your body will be covered with a theatre towel.

When you wake up, if you have had a general anaesthetic you will be in the theatre recovery area. You will have a small needle in your arm, or hand, probably with a bag of fluid attached to it. You may feel some stiffness in your neck where the needle has been inserted.

Will it hurt?

If you have a general anaesthetic, apart from having a small needle put into the back of your hand, you should not feel any pain and you should not remember the procedure. In the same way, you should not feel any pain if you are sedated. There will be a nurse, or another member of staff, standing next to you and looking after you. If you are aware of any pain, then you can let them know, and they will arrange for you to have more painkillers or sedatives through the needle in your arm.

How long will it take?

Every patient's situation is different and it is not always easy to predict how complex or how straightforward the procedure will be. It may be all over in 45 minutes but it can take up to four hours.

After the procedure

- You will wake up in a theatre recovery ward if you have had a general anaesthetic. You will then be taken back to your ward on a trolley.
- Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure, to make sure that there are no untoward effects. You will generally stay in bed for a few hours until you have recovered. Once you have recovered from the procedure, you will probably feel no different than you did before, except that hopefully, the bleeding which was part of your problem should no longer happen, or the fluid in your abdomen should begin to drain away.
- It is possible that you will be asked to stick to a new diet. This may have a very low protein and salt content. You must talk to the dietician if such a diet is recommended. You will also be asked not to drink any alcohol.

What happens next?

The stent that the radiologist has put in betw your liver vein and your portal vein will stay in for the rest of your life. It can, however, become blocked and in order to prevent this the radiologist will ask you to attend the X-ray department regularly for ultrasound examinations to check your liver. With ultrasound, the radiologist will be able to see the TIPSS and see if it is becoming blocked.

If at any time he or she thinks it is, they will ask you to come to the X-ray department for a day and will perform a very simple procedure to unblock the TIPSS.

This procedure will not require a general anaesthetic. If you are having a liver transplant, then the radiologist will check the TIPSS until you have your transplant. If you are not having a liver transplant, you may have to come for regular checks for at least five years.

Feedback

Your feedback is important to us and helps us influence care in the future

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further Information

Department of Interventional Radiology

Tel: 0151 706 2744

Text phone number: 18001 0151 706 2744

Author: Imaging Department

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