

Transjugular Intrahepatic Portosystemic Shunt Placement (TIPS Procedure)

This handout tells you how to prepare for a transjugular intrahepatic portosystemic shunt (TIPS) placement. This procedure is done in Interventional Radiology.

Benefits

- To allow blood to flow more freely through the liver back to your heart. It creates a new pathway between two main veins in your liver. A metal stent is placed in the pathway to keep it open.
- To decrease the amount of fluid in the abdomen (ascites). TIPS is helpful when other attempts to decrease the amount of fluid have failed.
- To lower the risk of GI bleeding (bleeding into the stomach or intestines). If you have had problems with GI bleeding, you may need a TIPS to lower the risk of life-threatening bleeding.

The liver has many jobs. One of its jobs is to filter the blood. The liver has many small blood vessels that bring blood through the liver to filter out toxins. When you have scarring in the liver (cirrhosis) the blood cannot flow through the liver as well as it should. This can lead to a buildup of pressure in the veins leading into the liver. If the pressure is high enough, these veins can bleed (GI bleeding) and fluid from these veins can leak into the abdomen (ascites).

When you have a TIPS, a new path is created in the liver to allow blood to flow through the liver better. The intent of a TIPS is to reduce the risk of GI bleeding and the amount of ascites fluid. The TIPS will not help the liver work better though. If the liver has problems with its other jobs, such as helping blood to clot, filtering toxins or helping with digestion, you will still have those problems after the TIPS.

Before the Procedure

To prepare for the TIPS, you may need several tests and procedures. These tests may be done in advance or on the day you come to the hospital:

- **Blood tests** – to measure how well your liver and kidneys are working and how well your blood clots.
- **CAT scan or ultrasound of your abdomen** – to make sure it is safe to do the TIPS and to help the doctors plan where to insert the TIPS.
- **Paracentesis** – if you have fluid in your abdomen (ascites). To test the fluid for infection. If there is infection, it must be treated before the TIPS.
- **Echocardiogram** – to measure how strong your heart is. This will help find out if your chance of heart failure is low enough to do the TIPS safely.

If you are taking “blood thinning” medicines (aspirin, Plavix[®], Eliquis[®], Xarelto[®], warfarin, or Coumadin[®]), we will ask you to stop taking these before the TIPS. **You must let your doctor know if you take these medicines.**

You should also tell the Interventional Radiology staff if you are allergic to x-ray dye, antibiotics, anesthetics, or any other medicines. Tell them if you have diabetes and take Glucophage®, metformin, or Glucovance®.

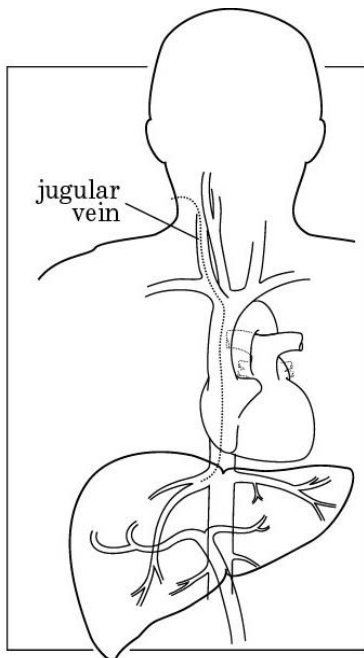
TIPS Placement

We will take you to an Interventional Radiology procedure room. A member of the anesthesiology team will meet you and talk to you about getting medicine to put you to sleep for the TIPS. Once you are asleep the procedure will start.

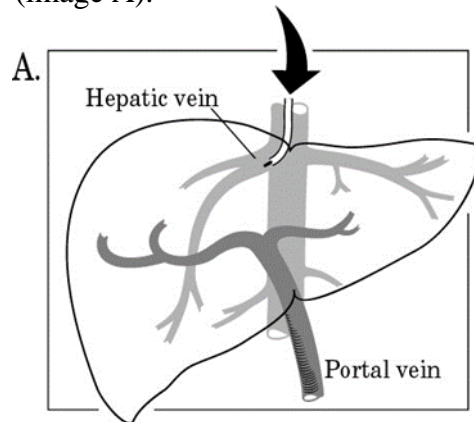
TIPS Procedure

The pictures in this handout show how we do the TIPS. You will be asleep during the TIPS. We do the whole procedure using fluoroscopy, real time x-ray on TV screens to guide the interventional radiologist.

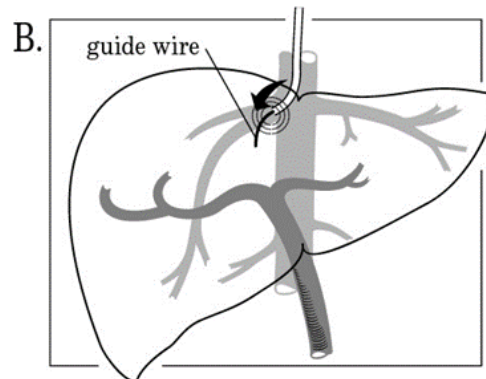
1. The first step is to insert a small needle into the jugular vein (see image below).



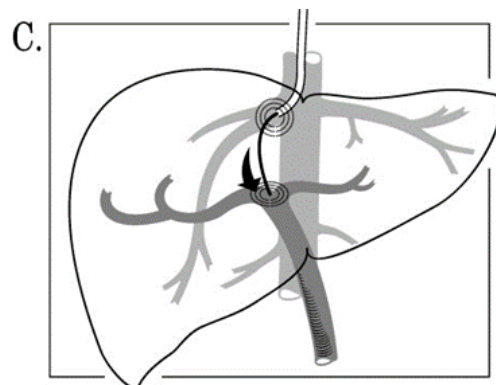
2. The needle is then exchanged for a guidewire and a small catheter, which are advanced into the hepatic vein (image A).



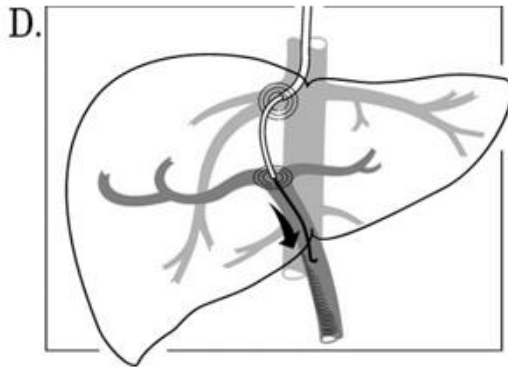
3. A guiding needle is pushed through the liver to "create the path" to get into a branch of the portal vein (image B).



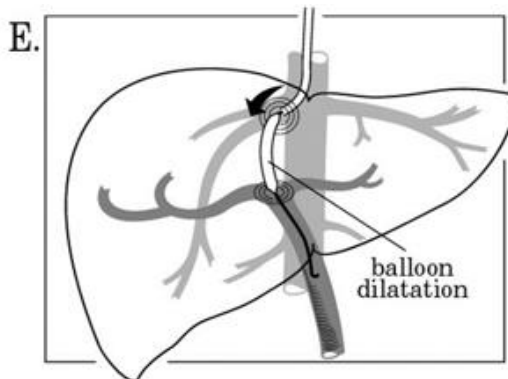
4. The guidewire is advanced into the portal vein further to maintain access (image C).



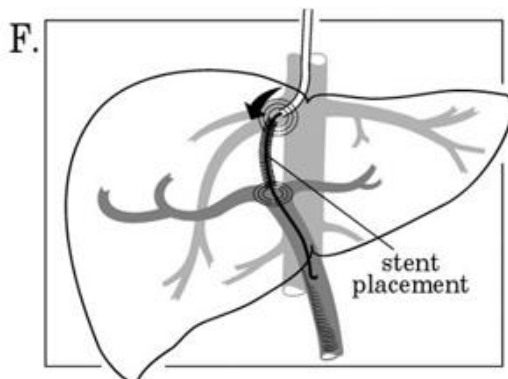
5. A balloon catheter is advanced over the wire and into the portal vein (image D).



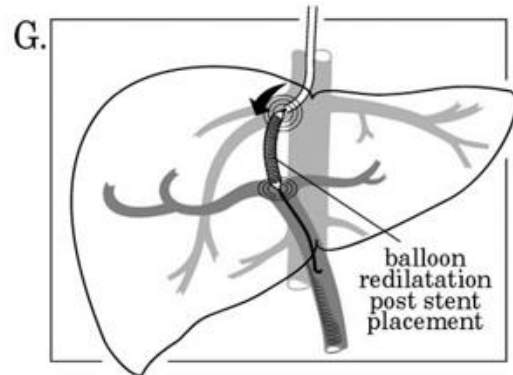
6. A balloon dilation or “angioplasty” is done to widen the newly created pathway (image E).



7. The metallic stent is inserted and positioned in the new pathway between the hepatic vein and portal vein (image F).



8. The balloon catheter is used again to make sure that the stent is wide open to allow blood to flow from the portal vein to the hepatic vein (image G).



9. As a final step, the catheters and wires are removed. Then a dressing is placed over the puncture site at the internal jugular vein.

Risks

The Interventional Radiology team will talk to you in detail about the risks before your TIPS. After you are aware of the risks, we will ask you to sign a consent form. Possible risks may include:

- Life threatening bleeding in the liver
- Infection
- Heart failure
- Worsening liver failure
- Increase in confusion (encephalopathy)
- Kidney problems

After the Procedure

We will admit you to an intermediate care unit (IMC) or intensive care unit (ICU). You will be watched closely overnight. Most people stay in the hospital 1 to 2 days.

Follow up

In 7 to 10 days after the TIPS, you will visit our Interventional Radiology Clinic and have an ultrasound. This makes sure that the TIPS shunt has good blood flow through it.

The TIPS is a little bit like plumbing that may have some debris built up in it as the blood flows through it. If this happens, there is a greater chance for GI bleeding or ascites to return.

After this visit, your ongoing follow-up will be with your hepatologist.

An ultrasound is scheduled every 6 to 12 months. This is done so that we can catch any narrowing of the TIPS early. If that happens, we may need to open the TIPS again as an outpatient visit using moderate sedation.

Clearing the TIPS

You will get a mild sedative. A balloon catheter is inserted into the vein in your neck. Under x-ray guidance we will advance the catheter down to the TIPS. Once in the shunt, we will inflate the balloon to clean out the TIPS. The catheter will then be removed from the vein in your neck and pressure will be held at the neck to make sure you don't have any bleeding there. You will be allowed to go home the same day with a driver to take you home.

It is important that you have regular ultrasound exams of the TIPS to be sure that the TIPS stays open.

Things to remember about TIPS:

- A TIPS shows up on x-rays.
- It is metal and may trigger electronic detection devices (i.e., in airports).

- This type of shunt is allowed in an MRI (Magnetic Resonance Imaging) machine.

When to Call

- If you have signs of infection at the puncture site in your neck, such as:
 - Redness or warmth
 - Pus-like drainage or bleeding
 - Excess swelling
 - Temperature (by mouth) greater than 100.4°F or 38°C for 2 readings taken four hours apart
- If you have severe pain or spasms in your belly.
- If you feel light-headed or faint.
- If you vomit blood or have blood in your stool.
- If you have a large weight gain over a short period of time (10 pounds in a week).
- If you notice an increase in your belly size (within a week).
- If you have new confusion.

Who to Call

Interventional Radiology Department
8:00 am to 4:30 pm, Monday – Friday
(608) 263-9729 option #3

After hours, weekends, and holidays, call **(608) 262-2122**. This is the paging operator. Ask for the Interventional Radiology 1st call. Leave your name and phone number with the area code. The doctor will call you back.

Toll free number is: **1-800-323-8942**.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 9/2022. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#4640.