

Radiology department

Percutaneous biliary drainage and stent insertion

Introduction

This leaflet tells you about the procedures known as biliary drainage and stent insertion. It explains what is involved and the benefits and risks. It may make you think of things you would like to discuss with your doctor.

What is a biliary drainage?

One of the normal functions of the liver is to produce bile needed for the digestion of food. The bile drains through a series of small tubes or ducts, eventually into one larger duct (the common bile duct). The common bile duct empties into the first part of your bowel after your stomach, called the duodenum.

If the bile duct becomes blocked then bile cannot drain normally. The liver cannot function properly and jaundice develops. This is potentially a very serious condition which needs to be treated. As the bile is not excreted properly in the bowels, the stools turn paler, urine goes darker and the skin may start to itch all over.

It is possible to relieve the jaundice and the build-up of bile in the liver by putting a fine plastic drainage tube (catheter) through the skin into the obstructed bile duct. This allows bile to drain into a collection bag for a while. This is called a percutaneous, or through the skin, biliary drainage or PTC.

Once a drainage catheters in the bile duct, it is usually possible to pass it through the blockage and into your bowel. This allows the bile to drain in the normal way.

What to tell the doctor

- If you have any allergies.
- If you have had a previous reaction to intravenous contrast medium (the dye used for some X-rays and CT scanning).
- It is important to tell the doctor or the radiology department **before attending for admission**
- If you are taking medication to prevent blood clots. Below is a list of some of the medications which are used to thin the blood and help to prevent blood clots.

If you are currently taking any of these medications, please contact your referring doctor or the Radiology department on 0161 446 3325 as soon as possible, as these may need to be stopped prior to your procedure. Failure to do so may result in your procedure being postponed.

Apixaban Clexane Dabigatran Enoxaparin Rivaroxaban
Aspirin Clopidogrel Dalteparin Fragmin



What is a biliary stent?

Stents are flexible hollow tubes usually made of thin metal wire and between 6 and 10 centimetres long and 1 centimetre wide. A stent may be placed in the narrowed part of the your bile duct to hold it open. If you need a stent it may be done as part of the drainage procedure, or carried out a few days later.

Why do I need a biliary drainage (and) a stent insertion?

Other tests that you may have had, such as an ultrasound CT or MRI scan have shown that your bile duct has become blocked. This may be due to a tumour or swelling around the bile duct or sometimes gallstones. Your doctors will have discussed with you the likeliest cause of the blockage and the possible treatments.

Who has made the decision?

Your doctors and the radiologist doing the biliary stent and insertion will have discussed the situation with you and feel this is the best treatment option.

Agreeing to treatment

We will ask you to sign a consent form agreeing to accept the treatment that you are being offered. The basis of the agreement is that you have had The Christie's written description of the proposed treatment and that you have been given an opportunity to discuss any concerns. You are entitled to request a second opinion from another doctor who specialises in treating this cancer. You can ask your own consultant or your GP to refer you.

Your consent may be withdrawn at any time before or during this treatment. Should you decide to withdraw your consent then a member of your treating team will discuss the possible consequences with you.

Who will be doing the procedure?

A specially trained doctor called a radiologist. Radiologists have special expertise in using X-ray and scanning equipment, and also interpreting the images produced. They need to look at these images while carrying out the procedure, to make sure the drainage catheter and stent are positioned correctly.

Where will the procedure take place?

In the Integrated Procedure Unit (IPU) in the special X-ray procedure room.

How do I prepare for a biliary drainage and stent insertion?

You will be asked to attend the IPU and following your procedure, you will be admitted to one of the wards where you will stay for a couple of days. We will ask you not to eat for 6 hours beforehand, though you may drink water up to 2 hours before the procedure.

The doctor on the ward may prescribe antibiotics for you to have before the procedure.

We will ask you to put on a hospital gown.

You will need to have a small needle placed in your vein.

What actually happens during a biliary stent drainage and stent insertion?

- On arrival at the IPU you will have the opportunity to discuss the procedure with the radiologist. They will explain all the benefits and possible risks associated with this procedure, and you will be asked to sign a consent form.
- You will lie on the X-ray table, generally on your back. You will already have a cannula (needle) in the vein in your arm, so that you can be given a sedative and painkillers as needed. The sedative will make

you feel sleepy. You will also have monitoring devices attached to you. You will be given extra oxygen through small tubes in your nose.

- When you are sleepy the doctor will use ultrasound to decide on the best place to insert the catheter. This is done between two of your lower ribs, on your right side or in the midline of the tummy below the ribs. The skin over this area is cleaned with antiseptic fluid and you will be covered in sterile sheets.
- The doctor will give you an injection of local anaesthetic which will cause some stinging initially, but then the area will then go numb.
- A needle is then inserted into your liver guided by ultrasound and X-rays. Once the needle is in a satisfactory position, contrast (dye) is used to show up the bile ducts.
- A fine guide wire will be placed through the needle and used to guide a drainage catheter into your bile duct.
- The catheter will then be fixed to your skin surface with stitches and a drainage bag will be stuck to the skin over the catheter.
- In some cases a stent will be placed at the same time using the same puncture site, or you may return a few days later to have a stent placed. A temporary drain may be inserted for a few days after successful stent placement.

Will it hurt?

We will give you painkillers and sedation, so you should not usually feel much pain during the procedure.

You may have some discomfort as the catheters are passed into the bile ducts, but this wears off very quickly. If the blockage needs to be dilated this may hurt for a few seconds, but you will receive additional painkillers and sedation.

Sometimes there may be a small bile leak from the bile duct during or after the procedure. This can be quite uncomfortable. We will give you more painkillers to control any pain if needed.

If you do feel any pain, you must ask the nurses looking after you for some painkillers to keep it under control.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how long it will take. The procedure will probably take between 45 to 60 minutes. As a guide expect to be in the radiology department for about an hour and a half.

What will happen afterwards?

You will be taken back to the ward on a trolley once you are awake. Nurses on the ward will carry out routine observations, such as your blood pressure and pulse. You will generally stay in bed for a few hours, until you have recovered.

You may have some pain after the procedure, but you will be given painkillers for this.

How soon can I eat and drink?

Most people are able to drink fluids and have something to eat when they are fully awake.

How long will the drain stay in?

This depends on your condition and the reason you have the drain in, but normally just for a few days.

How long will the stent stay in?

It is a permanent stent. Most people are not able to feel it.

Are there any risks and complications?

Biliary drainage and stent insertion is considered a safe procedure, but there are some risks and complications, as with any medical treatment.

- Sometimes it is not possible to access the bile ducts. If this happens your doctors will arrange to repeat the procedure or another method to overcome the blockage.
- Infection can occur in bile ducts. If you are thought to be at risk then you will be given antibiotics to help prevent this. Rarely, if there is a lot of infection in the bile duct you could develop sepsis (spread of infection to the blood) after the procedure. Antibiotics should limit this.
- As people with jaundice are more likely to have difficulties with blood clotting, there may be slight bleeding from the surface of the liver where the catheter is inserted.
- On rare occasions a blood transfusion may be needed. On very rare occasions, the bleeding may become severe and you may need an operation or another radiological procedure to stop it.
- The stent may not expand fully and you might still have symptoms. This is treated in the Radiology department by placing a small balloon inside the stent and inflating it so that the stent expands fully.
- The stent may slip out of position or get blocked in the weeks or months after stenting. This may be obvious because your jaundice returns. We will see you and probably place another stent.

Despite these possible complications, the procedure is normally very safe, and the benefit of the biliary drainage and/or stent outweighs the possible complications.

What are the alternatives?

The major alternative to biliary stenting is surgical repair. This may not be an option for you as you may be considered too unwell for surgery.

Inserting the stent may not be possible due to previous surgery and may need to be done using an endoscope (ERCP). This is not available at The Christie. However, percutaneous biliary drainage is usually performed if ERCP is not suitable or available.

What happens next

The catheter is stitched to the skin and placed inside a drainage bag which is then attached to your skin. The drainage bag needs to be emptied regularly. The ward nurses must measure and record the amount of bile that is collected. If a lot of bile is drained you may have to have extra fluids through the cannula in your vein. Normal bile is a dark green colour. Sometimes it takes a few days for clear or pale bile to return to normal.

You may have to have further X-rays to check if the drain or stent is working, or a further procedure. Your drain may be removed at this time. This will be discussed with you during the procedure.

Further information

Macmillan Cancer Support: www.macmillan.org.uk

Cancer Research UK: www.cancerhelp.org.uk

British Liver Trust: www.britishlivertrust.org.uk

Digestive Disorder Foundation: www.digestivedisorders.org.uk

British Society Interventional Radiologists: www.BSIR.org

If you have any problems or worries please contact:

From 9:00am - 5:00pm:

Radiology department on **0161 918 2346**

Out of hours and weekends (for emergencies):

Ring The Christie on **0161 446 3000** and ask for the on-call radiologist.

The Christie Hotline: **0161 446 3658** (24 hours)

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham or Salford. Opening times can vary, please check before making a special journey.



Contact The Christie Hotline for
urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week