

Drainage of blocked bile ducts by interventional radiology

This leaflet gives information on percutaneous (through the skin) biliary drainage. It also provides information on the benefits, risks, any alternatives and what you can expect when you come to hospital. If you have any further questions please speak to the Interventional Radiology doctor or nurse caring for you.

What are bile ducts?

Bile is the golden yellow/dark green fluid which is produced continuously in the liver. Normally, bile passes out of the liver through progressively larger tubes (the bile ducts) to be stored in the gall bladder, which is attached to bottom of the liver. The concentrated bile is then released down a single larger tube (common bile duct) into the small bowel, where it plays an important role in helping to digest food.

What causes blocked bile ducts?

Bile ducts can be blocked by a variety of causes. These include benign (non-cancerous) and malignant (cancerous) causes. Common benign causes are gall stones or previous liver surgery. Common malignant causes are liver cancer and cholangiocarcinoma (bile duct cancer).

What are the symptoms of blocked bile ducts?

Bile normally drains into the small bowel. If bile cannot drain into the small bowel, it will build up, causing jaundice. Jaundice can cause your skin and the whites of your eyes to turn yellow. Jaundice can also cause itching, discomfort and lack of energy. Eventually this can reduce your liver function. If the blocked bile ducts becomes infected (called cholangitis), you can become very sick with high fevers and shaking. Vomit, poo and urine may also become a different colour. Percutaneous biliary drainage will allow the bile to drain out of the body and will help to improve these symptoms.

What is percutaneous biliary drainage?

Percutaneous biliary drainage is a specialised procedure performed by interventional radiologists. The procedure is performed in the interventional radiology (IR) operating theatre using ultrasound and X-rays. Percutaneous biliary drainage allows the blocked bile ducts to be drained directly through the skin overlying the liver and out of the body.

What are the benefits of percutaneous biliary drainage?

Percutaneous biliary drainage is a minimally invasive treatment for relieving a blocked bile duct. The procedure is a safe and accepted method to drain obstructed bile ducts.

What are the risks of percutaneous biliary drainage?

Serious risks and complications are rare. However, as with any invasive procedure, some risks or complications may occur. The IR doctor will explain these to you clearly during the consent process:

- **Infection** in the liver or in the blood - we will give you antibiotics before the procedure to help prevent this. If you already have an infection, the drainage will help to improve your symptoms.
- **Bleeding** from your liver or bile duct - this is uncommon and usually stops by itself. Occasionally more active treatment will be needed, but this would be performed by the IR doctor.
- **Bile leak/peritonitis** - bile is very irritant and can damage the skin around the drain. Rarely, some bile may leak into the tummy cavity (peritoneum). Significant bile leakage is rare, but can be painful. If this occurs, further drain insertions or surgery may be required.

Are there any alternatives?

Your referring doctor has recommended that percutaneous drainage would be the best option for you. Endoscopic drainage (using a special telescope through the mouth) is sometimes possible. However, endoscopy is not suitable for many patients or certain types of bile duct blockage. Sometimes patients having a percutaneous drainage procedure may have previously had a failed endoscopic drainage.

What is the role of interventional radiologists?

Interventional radiologists are specialised doctors who perform procedures all over the body. They use different imaging machines, such as X-ray or ultrasound guidance to show them exactly where to go inside the body. Using X-ray or ultrasound avoids the need for large surgical incisions. Most IR procedures are performed through the skin using a small needle. IR procedures are generally very safe, as important structures can be clearly seen in real time.

Interventional radiology doctors work in a team along with IR specialist nurses and radiographers. The whole team will look after you during your procedure and recovery.

How can I prepare?

Most patients having this procedure are already staying in hospital. Before the procedure, you will need to have some blood tests, but most patients will already be having regular tests.

The IR doctor and nurse will see you before the procedure. They will assess your health and answer any questions that you or your family have. Your IR doctor and nurse will want to know what medications you are taking, so expect to be asked this. It is useful to carry a list of your medications or a recent prescription with you. They will let you know which of your normal medicines you can take.

Fasting instructions

Please do not eat or drink anything for six hours before the procedure. This means that you cannot suck on sweets or chew gum. You are allowed to drink water up to two hours before the procedure. The IR doctor and nurse will advise you on this. It is important to follow these instructions to avoid delay or cancellation of your treatment.

Giving my consent (permission)

The staff caring for you will ask your permission to perform the percutaneous biliary drainage. You will be asked to sign a consent form that says you have agreed to the procedure and that you understand the benefits, risks and alternatives. If there is anything you do not understand or you need more time to think about it, please tell the staff caring for you.

It is your decision. You can change your mind at any time, even if you have signed the consent form. If you change your mind, let staff know immediately. Your wishes will be respected at all times. If you would like more information about our consent process, please speak to a member of staff caring for you.

What happens during the procedure?

You will be asked to lie on your back for the procedure. During the procedure, the nurses will attach some monitoring equipment to you (blood pressure cuff, heart monitor) so that you are continuously monitored during the procedure.

Percutaneous biliary drainage involves the placement of a small, flexible plastic drainage tube directly through the liver and into the bile ducts. The drain(s) will be placed either between the lower right hand ribs or through space between the ribcage at the top of tummy. Sometimes the drain can be passed through the blockage and into the small bowel (called an internal/external drain). Sometimes the drain cannot pass the blockage and is left upstream of the blockage (external drain).

Whichever drain you have, after the procedure one end of the drain tube will remain in the bile duct and the other end sits outside the skin. The drain tube outside the skin will be connected to a drainage bag which collects the bile.

Imaging of the bile ducts, also known as a percutaneous transhepatic cholangiogram (PTC) is carried out while drainage is being performed and is used to guide future treatment.

The procedure is usually performed under sedation (medicines given into the vein to make you feel relaxed), along with strong pain killers. You will also be given local anaesthetic to numb the skin around the drain. Occasionally, some patients have general anaesthetic, but usually this is not necessary. The procedure usually takes 1-2 hours.

What happens after the procedure?

After the procedure, you will be taken to the IR recovery area. Your nurse will let you know when you can start to eat or drink. The drainage tube will be checked frequently and you must be careful not to dislodge it. There may be yellow/green/brown bile from the drain, or it might be capped off. Your family and friends may also visit you on the ward during visiting hours.

The IR doctor will discuss with your referring doctor when the drain tube can be removed. In some cases, this may need to stay in for few days or several weeks. Some patients can go

home with the tube in place. If this is the case, your ward doctor or nurse will tell you what to look out for including fever, pain, dislodged tube or leaking around the tube.

If and when your drain is no longer required, you will be asked to return to the IR department for the drain to be removed. Removal is a much simpler procedure than insertion.

Contact us

If you have any questions or concerns about having a percutaneous biliary drainage, please contact the Interventional Radiology (IR) Department:

Guy's Hospital on 020 7188 5576 or 020 7188 5525.

St Thomas' Hospital on 020 7188 5479 or 020 7188 7188 extension 51861.

(Available Monday to Friday, 9am to 5pm).

Out of hours, please leave a message and a member of staff will call you back in working hours; alternatively please contact your GP or NHS 111.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

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