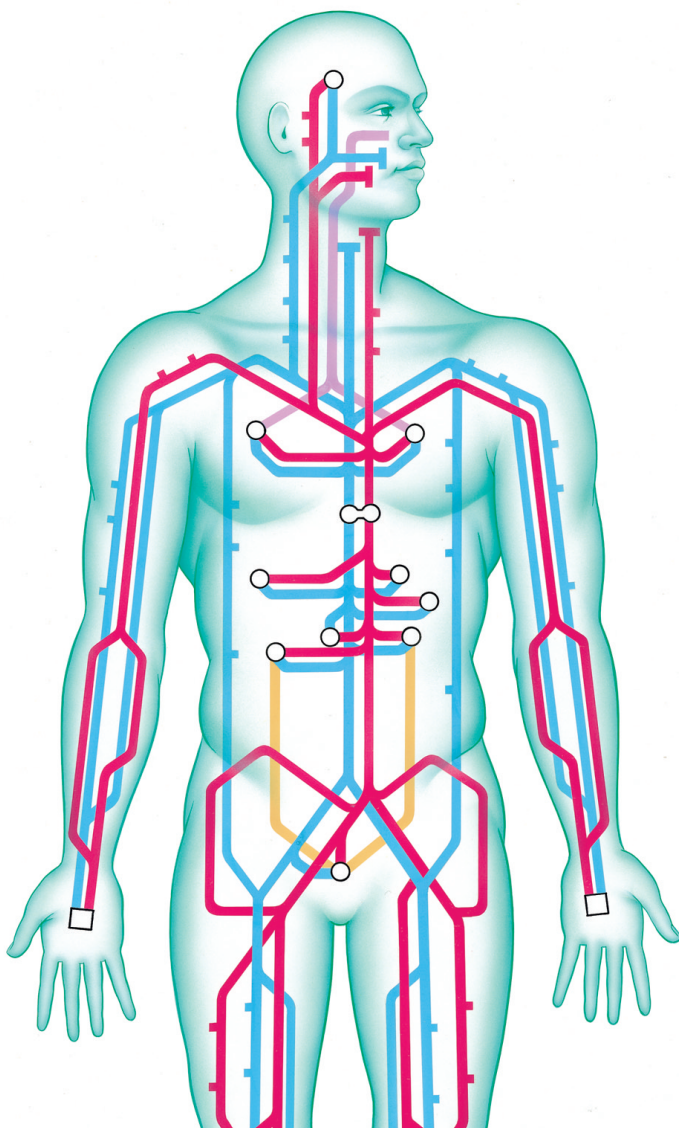


## PERCUTANEOUS BILIARY DRAINAGE



MEDICAL IMAGING  
INFORMATION FOR PATIENTS

## **Introduction**

This booklet tells you about the procedure known as percutaneous biliary drainage, explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such discussion.

If the percutaneous biliary drainage is being done as a pre-planned procedure, you should have plenty of time to discuss the matter with your consultant, and perhaps even your own GP. If you need the procedure as an emergency, there may be less time for discussion, but nevertheless you should have had sufficient explanation before you sign the consent form to the procedure.

## **What is percutaneous biliary drainage?**

One of the normal functions of the liver is to produce bile. This drains through a series of small tubes or ducts, and eventually into one larger tube, the common bile duct, which then empties into the duodenum, which is the first part of the bowel after the stomach. If the bile duct becomes blocked, the bile cannot drain normally, and jaundice develops. This is potentially a very serious condition, which needs to be treated. It used to be necessary to have an open operation to relieve the blockage. Now, it is possible to insert a fine plastic drainage tube, called a catheter, through the skin using only a tiny incision, into the obstructed bile duct to allow the bile to drain externally. This procedure is called percutaneous (meaning 'through the skin') biliary drainage.

Once a drainage catheter is in the bile duct, it is usually possible to pass it through the obstruction and into the duodenum. Once across the obstruction, the radiologist can place a metal or plastic tube called a stent into the bile duct, allowing the bile to drain internally in the normal way. This may be done as a separate procedure, one or two days after the first part, or it may follow on directly.

## **Why do I need percutaneous biliary drainage?**

Other tests that you have probably had performed, such as an ultrasound scan or a CT scan, have shown that the bile duct has become blocked. The commonest causes of obstruction are gallstones and inflammation around the pancreas, but these other tests may not have shown the actual cause in your case. Indeed, the underlying cause of the obstruction may become evident only when biliary drainage has been carried out.

It may be possible to relieve the blockage by passing a flexible telescope, or endoscope, into the duodenum, and inserting a drainage catheter into the bile duct that way. An open operation may still be necessary in some cases. However, in your case, it is felt that percutaneous biliary drainage is the most appropriate treatment option.

### **Who has made the decision?**

The doctors in charge of your case, and the radiologist who will be doing the percutaneous biliary drainage, will have discussed the matter, and feel that this is the best treatment option. However, you will have the opportunity to have your opinion taken into account and if, after discussion with your doctors, you do not want the procedure carried out, then you can decide against it.

### **Who will be doing the percutaneous biliary drainage?**

A specially-trained doctor called a radiologist. Radiologists have special expertise in the use of X-ray equipment and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

### **Where will the procedure take place?**

Usually in the X-ray department, in a special 'screening room', which is adapted for specialised procedures.

### **How do I prepare for a percutaneous biliary drainage?**

You need to be an in-patient in the hospital. You will probably be asked not to eat for four hours before the procedure, though you may be allowed to drink some water. You may receive a sedative to relieve anxiety, as well as an antibiotic. You will be asked to put on a hospital gown.

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 scans), you must also tell your doctor about this.

### **What actually happens during a percutaneous biliary drainage?**

You will lie on the X-ray table, normally flat on your back. You will need to have a needle put into a vein in your arm, so that the radiologist can give you a sedative or painkillers. Once in place, this needle will not cause you any pain. You will also have a monitoring device attached to your chest and finger, and your blood pressure will be monitored.

The radiologist will keep everything as sterile as possible, and may wear a theatre gown and operating gloves. Your skin will be cleaned with an antiseptic solution, and most of the rest of your body will be covered with a theatre towel.

The radiologist will use the X-ray equipment or the ultrasound machine to decide on the most suitable point for inserting the fine plastic tube (the drainage catheter). This is normally inserted between two of your lower ribs, on the right side. Then your skin will be anaesthetised with local anaesthetic and a fine needle will be inserted into your liver.

When the radiologist is sure that the needle is in a satisfactory position in one of the bile ducts, a guide wire will be placed through the needle into the bile duct; this enables the plastic drainage catheter to be positioned correctly. The procedure may end at this stage, with the catheter being fixed to the skin surface, and attached to a drainage bag. Alternatively, it may be possible to advance the wire and catheter through the obstruction, so that the catheter drains the bile internally into the bowel in the normal way.

In some cases, a permanent metal tube, called a stent, may be placed across the obstruction to relieve the blockage. Even if this is done, a temporary external catheter may be left in place, attached to a drainage bag.

### **Will it hurt?**

Unfortunately, the procedure may hurt a little, but any pain you have should be controlled with painkillers. When the local anaesthetic is injected, it will sting at first, but this soon wears off and the skin and deeper tissues should then feel numb. Later, you may be aware of the needle and then the wire and catheter passing into the liver, and sometimes this is painful. There will be a nurse or another member of the clinical staff standing next to you and looking after you. If the procedure does cause you pain, they will be able to arrange for you to have more painkillers through the needle in your arm. Usually, placing the catheter into the liver takes only a short time, and once in place it should not hurt at all.

### **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 over in 45 minutes, or occasionally it may take 90 minutes, or even longer. As a guide, expect to be in the X-ray department for about an hour-and-a-half altogether.

## **What happens afterwards?**

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

If you have an external drainage catheter, attached to a bag, it is important that you take care of this. You should try not to make any sudden movements, for example getting up out of a chair, without remembering about the bag, and making sure that it can move freely with you. However, you will be able to lead a normal life with the catheter in place. The bag needs to be emptied fairly frequently, so that it does not become too heavy, and the nurse will want to measure the amount that is in it each time.

## **How long will the catheter stay in, and what happens next?**

These are questions that only the doctors looking after you can answer. It depends, for example, on whether you have a temporary external drainage catheter in place, or whether a metal stent has been placed across the blockage. You may require further X-rays or scans to check that the obstruction has been relieved, and to attempt to determine the cause of the obstruction.

## **Are there any risks or complications?**

Percutaneous biliary drainage is a very safe procedure, but as with any medical treatment, there are some risks and complications that can arise.

Perhaps the biggest problem that might arise is being unable to place the drainage tube satisfactorily into the bile duct. This is because, even though the duct is blocked, it may not have become abnormally wide, and it is difficult to place a needle into a normal-sized bile duct. If this happens, a surgeon may arrange another method of overcoming the blockage, which may involve surgery.

Sometimes there is a leak from the bile duct where the tube has been inserted, resulting in a small collection of bile inside the abdomen. This can be painful. Generally, once the catheter is draining bile satisfactorily, the leak should stop. However, if a leak becomes a large collection, it may require draining.

As patients 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 this may require a blood transfusion. On very rare occasions, this may become severe, and require an operation or another radiological procedure to stop it.

Despite these possible complications, percutaneous biliary drainage is normally very safe, and will almost certainly result in a great improvement in your medical condition. Very occasionally, an operation is required, but if the percutaneous biliary drainage had not been attempted, this operation would have been necessary anyway.

### **Finally....**

Some of your questions should have been answered by this booklet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you.

Do please satisfy yourself that you have received enough information about the procedure, before you sign the consent form.

Percutaneous biliary drainage is considered a very safe procedure, designed to save you having a larger operation. As with all operative procedures, some slight risks and complications are involved, and although it is difficult to say exactly how often these occur, they are normally minor in nature and happen only rarely.

If you require any further information about your procedure please contact (01302) 366666 and ask for bleep 1495.