Introduction:
This leaflet tells you about the procedure known as percutaneous transhepatic (liver) cholangiogram and biliary drainage / stent. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

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

Once the drainage catheter is in the bile duct, it is generally possible to pass it through the obstruction and leave a permanent tube (called a stent) across the blockage, allowing bile to drain internally in the normal way. This may be done as a separate procedure, one to two days after the external drainage, or may be done at the same time.

Why do I need a percutaneous biliary drainage?
Other tests that you probably have had performed, such as an ultrasound or CT scan, have shown that the bile duct has become blocked. Sometimes it is possible to relieve the blockage by passing a flexible telescope, or endoscope, into the duodenum, and inserting a stent into the bile duct that way. An open operation may still be necessary in some cases. However, in your case it is felt that a percutaneous biliary drainage is the most appropriate option.

Who has made the decision?
Your consultant and the radiologist doing the percutaneous biliary drainage will have discussed your situation, and feel that this is the best option. You will have the opportunity for your opinion to be considered, and if after discussion with your doctors you do not want the procedure carried out, you can decide against it.

Where will the procedure take place?
Generally in the X-ray Department, in a special ‘screening’ room, which is adapted for specialised procedures.

Who will be doing the percutaneous biliary drainage?
A specially trained doctor called a radiologist. Radiologists have special expertise in using x-ray equipment, and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

How do I prepare for percutaneous biliary drainage?
You will need to be an in-patient. You will be asked not to eat for four hours beforehand, though you may be allowed to drink some water.

Prior to the procedure you will be given fluid through a drip. You will be asked to put on a hospital gown, before transfer to the X-ray Department on a trolley. You must tell the doctor about any allergies, especially any previous reactions to intravenous contrast medium, the dye used for x-rays and CT scanning. Let us know if you are taking any regular blood thinning medicines such as aspirin, warfarin, dipyridamole or clopidogrel.
What actually happens during a percutaneous biliary drainage?
You will lie on the x-ray table, generally flat on your back. You will have a cuff wrapped around your upper arm to measure your blood pressure. You may also have a monitoring device attached to your finger and oxygen given through small tubes or a mask.

The radiologist will keep everything as sterile as possible, and will wear a theatre gown and gloves. Your skin will be cleaned with antiseptic, and then most of your body covered with a theatre towel. You will be given sedation, which will make you feel sleepy and relaxed, but still able to communicate with the nurse and radiologist.

The radiologist will use the x-ray equipment or ultrasound machine to decide on the most suitable point for inserting the drainage catheter. This is generally between two of your lower ribs, on the right side. Then your skin will be anaesthetised with local anaesthetic, and a fine needle inserted into your liver. When the radiologist is sure the needle is in a satisfactory position in one of the bile ducts, a guidewire will be placed through the needle into the bile duct, this enables the drainage catheter to be positioned correctly.

The procedure may finish 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 guidewire through the obstruction and place a permanent tube, called a stent, across the blockage allowing bile to drain internally into the bowel in the normal way. Even if this is done, a temporary external catheter may be left in place and attached to a drainage bag.

Will it hurt?
Unfortunately it may hurt for a short period of time but patients rarely remember this. When the local anaesthetic is injected, it will sting to start with but this soon wears off leaving the skin and deeper tissues numb. You may be aware of the needle and then the wire and catheter passing into the liver and sometimes this is painful, but once in place it should not hurt at all. There will be a nurse or another member of the clinical staff looking after you.

If the procedure does become uncomfortable for you, then they will be able to arrange for you to have some painkillers.

How long will it take?
Every patient’s situation is different, and it is not always easy to predict how complex or straightforward the procedure will be. It may be over in half an hour or, occasionally, it may take longer than one hour. As a guide, expect to be in the department for about an hour altogether.

What happens afterwards?
You will be taken back to the ward on a trolley, and will need to rest in bed for a few hours until you have recovered. Routine observations, such as taking your pulse and blood pressure will be carried out to make sure there are no problems. If you have an external drainage catheter attached to a bag, it needs to be emptied fairly frequently so that it does not become too heavy, the nurses will want to measure the amount in it each time. You will be able to move about with the catheter in place but avoid sudden movements that can cause pulling, and always make sure that the bag can move freely with you. How long the catheter stays in depends on various factors, for example, on whether you have a temporary external drainage catheter in place, or if a stent was placed across the blockage. These are questions that only the consultant looking after you can answer. You may require further x-rays or scans and if you have both an external drain and stent, you will have the external drain removed in the X-ray Department. This does not hurt at all.

Are there any risks or complications?
Percutaneous biliary drainage is a safe procedure, but as with any medical treatment there are a few risks and complications.

Perhaps the biggest problem is being unable to place the drainage tube satisfactorily in the bile duct. This is because even though the duct is blocked it may not become abnormally wide and it is difficult to place a needle into a normal sized bile duct. If this happens, your consultant will arrange another method of overcoming the blockage.
Sometimes there is a small leak of bile from the bile duct where the tube has been inserted resulting in a small collection of bile in the abdomen. This can be painful. Once the catheter is draining bile satisfactorily the leak should stop. However, if this becomes a large collection it may require draining.

As patients with jaundice are more likely to have difficulties with blood clotting, there may be bleeding from the surface of the liver where the catheter is inserted. There is a 5% chance of major bleeding and 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, the procedure is normally safe and is carried out with no significant side effects and will 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, then this operation would have been necessary anyway.

Finally...
This leaflet should have answered some of your questions, but remember this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied with the information about your procedure before you sign the consent form.

We hope that you have found this information useful. If you have any questions, or you are worried about anything, please contact the X-ray Department at Chesterfield Royal Hospital on 01246 512627.