

Imaging department

Having a percutaneous transhepatic cholangiogram (PTC) and drainage

Information for patients

Introduction

This leaflet tells you more about having a percutaneous transhepatic cholangiogram (PTC) and drainage. Please feel free to ask our team any questions you have about the information below.

What is a PTC?

A PTC is a procedure to look at your bile ducts. These are the tubes in your liver along which bile flows into the bowel. Contrast medium (a clear dye containing iodine which shows up on X-rays) is injected directly into a bile duct in the liver through a thin needle inserted in the skin. The contrast allows detailed images of the bile ducts. Following this, another procedure will be performed depending on the findings:

- placement of a drainage tube (catheter) across the narrowing
- stretching (balloon therapy) of the narrowed area
- placement of a metal or plastic tube (stent) across the narrowing to keep the bile duct open

You will find more information about each of these procedures in the section of this leaflet called 'what happens on the day of my appointment?' The specialist imaging doctor (interventional radiologist) will discuss all of this with you before proceeding. They will be happy to answer any questions you may have.

Why do I need a PTC and drainage?

Bile is created in the liver and excreted into the intestines via the bile ducts. If bile cannot be removed from the body, it collects in the blood and is seen as a yellow discolouration of the skin and eyes (jaundice).

This examination will help your doctor to make the correct diagnosis and plan the most suitable treatment for relieving your jaundice.

What are the risks and benefits of having a PTC?

Although complications can occur, they are rare. There is a one in 1000 patients (or 0.1 per cent) risk of the following complications after PTC:

- bleeding: the liver is a large organ containing a lot of blood. Any operation or examination on the liver has some risk of bleeding. These risks will be kept to a minimum during PTC
- infection: we will give you antibiotics before the procedure to help minimise this risk
- reaction to the special dye containing iodine used in the examination (contrast medium). This is very rare and occurs in one in 40,000 patients (0.0025 per cent)

The use of imaging guidance such as X-rays or ultrasound during the procedure helps to minimise the risk of complications. The interventional radiologist performing the procedure will discuss the risk factors relevant to your condition with you before starting and will be happy to answer any questions you may have.

Are there any alternatives to this test?

You may have had other tests such as ultrasound, a test known as an ERCP, and CT scans. PTC will give different information and enable any additional procedures such as drainage or stent insertion to be done at the same appointment.

Is there anything I need to do before my PTC?

- you can take all your medications as usual, except **blood-thinning tablets** (such as **warfarin** or **clopidogrel**). If you take blood-thinning medications, it is very important that you inform your doctor or the imaging department staff before you come into hospital, as you may need to stop taking them before your appointment. This **excludes** aspirin, which you can continue to take as normal
- please let us know if you have any allergies before your appointment
- we may ask you not to eat anything or drink milk for four hours and stop drinking water two hours before your appointment time. Your doctor or nurse will advise you
- if you are **pregnant** or think that you may be pregnant, you must inform your referring clinician and the imaging staff so that appropriate protection or advice can be given about your appointment

What happens on the day of my appointment?

1. The interventional radiologist will discuss the procedure with you in detail and ask you to sign a consent form.
2. You will be asked to change into a hospital gown. Staff in the imaging department will then check your details before taking you into the examination room.

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3. A small plastic tube (cannula) will be inserted (usually into a vein in your arm) so that we can give you painkillers and sedation during the procedure. This is usually done on the ward before you attend. You will be given an antibiotic before your procedure to minimise the risk of infection.
 4. The imaging staff will ask you to lie on your back on the X-ray table before connecting you to a monitor which will record your blood pressure, pulse and oxygen levels throughout the procedure. The upper part of your abdomen will be cleaned with antiseptic fluid and covered with a sterile sheet (drape).
 5. The interventional radiologist will give you an injection of local anaesthetic to numb the area. When the area is completely numb, the radiologist will pass a long, thin, flexible needle through the skin and into the liver, using ultrasound and X-rays for guidance.
 6. You may feel some pressure or pushing at the insertion site to begin with, but this should not be painful. If it does become uncomfortable, tell the radiologist and they may be able to give you more local anaesthetic, sedation, or both.
 7. When the bile duct has been located, the interventional radiologist will inject contrast medium. You may be asked to hold your breath and keep still while X-ray pictures are taken. The interventional radiologist will have explained which of the following procedures you will have:

1. Biliary drainage

This is drainage of a blocked bile duct using a catheter (small plastic tube). The catheter is inserted into your liver during the PTC and connected to a drainage bag. The drainage bag is secured to your skin with stitches and covered with a dressing.

You will need to take care of the drainage bag and make sure that the tube does not bend (kink), or the bile will not be able to pass through. Please be careful that the tube does not get pulled, as this could cause it to fall out. The imaging nurse will explain how to take care of the tube.

You will then return to the ward. The ward nurse will measure and record the amount of bile collected in the bag. They will also change the drainage bag and the dressing on your wound every day.

Your doctor will review your condition. They will also decide when the catheter should be removed and when you can go home.

2. Biliary ballooning

This is when a special balloon is used to widen a narrowing (stricture) in the bile duct. The process also crushes any debris and stretches the narrowing to allow bile to drain freely.

A fine plastic catheter with a balloon attached to the end is inserted into the narrow part of the bile duct. The balloon is inflated using a pressure device. You may find this uncomfortable and experience some pain. This should only last for a short time and usually goes once the balloon has been deflated. Please let the nurse or doctor know if you have any pain so that they can give you painkillers to relieve this.

Once the narrowing is widened, the catheter will be exchanged for a drainage catheter. This will allow bile to drain into the collecting bag attached to the catheter. The drainage catheter may be left in for a few days or until your condition has improved.

You will need to take care of the drainage bag and make sure that the tube does not bend (kink) as bile will not be able to pass through. Please also be careful that the tube does not get pulled, as this could cause it to fall out. The imaging nurse will explain how to take care of the tube.

You will then return to the ward. The ward nurse will measure and record the amount of bile collected in the bag. They will also change the drainage bag and the dressing on your wound every day.

Your doctor will review your condition. They will also decide when the catheter should be removed and when you can go home.

3. Biliary stenting

In some cases, a permanent metal tube (called a stent) may be placed across the obstruction to relieve the blockage. An external drainage catheter may be left in place for a short period of time until your doctors are satisfied that the bile duct is working properly.

The stent will remain in your body permanently. The doctor will explain the procedure to you in greater detail and will be happy to answer any questions you may have.

If you have an MRI scan in future, you will need to tell the imaging staff that you have a stent inserted into your bile duct.

What happens afterwards?

You will be taken back to the ward where you will need to rest in bed for about six hours after your PTC. The nursing staff will continue to record your pulse and blood pressure during this time and will check and measure your drainage bag regularly (if you have one).

You can eat and drink normally unless instructed otherwise by your doctor. Please let the ward staff know if you feel unwell or feverish.

Is there anything I need to watch out for at home?

You may notice a small amount of bruising where the catheter was inserted. However, if you:

- notice any swelling or redness around the insertion site
- have a high temperature
- continue to experience pain

please either contact your GP or go to your nearest Emergency Department.

When can I get back to normal?

This will depend upon the individual. Your doctor will tell you.

What if I cannot keep my appointment?

Please contact us as soon as possible. We can then offer this date to another patient. We can also agree a new appointment date and time with you.

You will find the appropriate telephone number on your appointment letter.

How do I get to the hospital?

Please visit the Trust's website for more information about travelling to our hospitals:

www.imperial.nhs.uk/our-locations

Contact details

Please do not hesitate to contact our imaging departments if you have any queries or concerns:

- **Charing Cross Hospital:** Fulham Palace Road, London W6 8RF
Telephone: **020 3313 0077**
- **Hammersmith Hospital:** Du Cane Road, London W12 0HS
Telephone: **020 3313 0077**
- **St Mary's Hospital:** Praed Street, Paddington, London W2 1NY
Telephone: **020 3312 6418**

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3312 7777** (10.00 – 16.00, Monday to Friday). You can also email PALS at imperial.pals@nhs.net. The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street
London W2 1NY

Email: ICHC-tr.Complaints@nhs.net

Telephone: **020 3312 1337 / 1349**

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:
imperial.communications@nhs.net

Wi-fi

Wi-fi is available at our Trust. For more information visit our website: www.imperial.nhs.uk

Imaging department
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