

Radiology department

Percutaneous nephrostomy

Introduction

This leaflet tells you about the procedures known as percutaneous nephrostomy. 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 percutaneous nephrostomy?

When your kidneys are working normally, the urine from a normal kidney drains through a narrow, muscular tube called a ureter and then into the bladder. For different reasons, your doctor may ask for your urine to be drained directly from your kidney. This is done by inserting a fine plastic tube called a catheter, through the skin into the kidney. The catheter lets the urine drain from the kidney into a collecting bag, outside the body. The procedure is called a percutaneous (meaning through the skin) nephrostomy (meaning a tube in the kidney).

Why do I need a percutaneous nephrostomy?

If there is a blockage within the kidney, ureter or bladder which is stopping the urine from draining freely, the kidney may stop working as it should. If left untreated your kidneys may stop working altogether and this can cause very serious health problems.

Some treatments for cancer can damage the kidneys. Your doctor may have asked for this nephrostomy tube to help reduce that risk.

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	Dalteparin
Aspirin	Enoxaparin
Clexane	Fragmin
Clopidogrel	Rivaroxaban
Dabigatran	Warfarin



Who has made the decision?

Your doctors and the radiologist doing the percutaneous nephrostomy 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 percutaneous nephrostomy?

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. Radiologists are the best trained people to insert needles and fine tubes into the body and place them 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 percutaneous nephrostomy?

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 overnight. We will ask you not to eat for 6 hours beforehand, though you can drink clear water up to 2 hours before the procedure. We will ask you to put on a hospital gown.

What actually happens during a percutaneous nephrostomy?

- On arrival at the IPU you will have the opportunity to discuss the procedure with the radiologist or radiology nurse specialist.
- You will lie on the X-ray table, generally flat on your stomach. You will also have monitoring devices attached to you. You will have oxygen through small tubes in your nose.
- We may give you an injection of antibiotic in case the kidney is infected.
- We may give you sedation and painkillers to make you feel more comfortable.
- The radiologist needs to keep everything as sterile as possible, and will wear a theatre gown and gloves. The skin around the site will be swabbed with antiseptic and then most of the rest of your body will be covered with theatre towels.
- The radiologist will carry out an ultrasound scan to decide on the most suitable point for inserting the catheter. This is usually in your back, just below your ribs. Then your skin will be anaesthetised with local anaesthetic, and a fine needle inserted into the kidney.
- The radiologist will use the X-ray equipment and small amounts of dye to make sure that the catheter is moved into the correct position.
- When the radiologist is sure that the needle is in a satisfactory position, they will place a guide wire into the kidney, through the needle. The catheter is inserted over the guide wire and secured in place by an internal locking mechanism. The outside part of the catheter is then placed inside a drainage bag

which is stuck to the skin on your back. A leg bag can be attached to the bag on the back to make it more convenient for you to empty the urine.

Will it hurt?

You may feel some discomfort in the skin during the injection of the local anaesthetic but this soon wears off, and the skin and deeper tissues should then become numb. You may feel slight discomfort and the feeling of pushing as the catheter is inserted into the kidney.

There will be a nurse or another member of clinical staff looking after you. They can give you more sedation and painkillers if you are uncomfortable in any way.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how long it will take. As a guide expect to be in the X-ray department for about an hour and a half.

What will happen afterwards?

You will be taken back to the recovery bay on the IPU. You will stay there until an inpatient bed becomes available.

Nurses in recovery will carry out routine observations, such as your blood pressure and pulse, at regular intervals. You will generally stay in bed for a few hours until you have recovered.

The drainage catheter stays in place in your body for the time being and will be attached to a collection bag. You will be able to carry on a normal life with the catheter in place. However, it is important that you 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. The bag needs to be emptied fairly frequently, so that it does not become too heavy. The nurses will probably want to measure the amount of urine in it each time. The bags need to be changed twice weekly. This can be done either by the ward nurse when you are in hospital or the district nurses when you are at home.

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

These are questions which only the doctor looking after you can answer. It may only need to stay in a short time, or it may need to stay in for a much longer period to allow a more permanent solution for the blockage to be organised. Removing the catheter is usually painless.

Some catheters may be left in for a long period of time and need to be exchanged every 3 to 4 months to prevent blocking. This is usually a much simpler and quicker procedure than the original insertion.

Are there any risks or complications?

Percutaneous nephrostomy is a safe procedure, but there are some risks or complications.

- Perhaps the biggest problem is being unable to place the drainage tube satisfactorily.
- There may be slight bleeding from the kidney; the urine is usually blood-stained for a day or two following the procedure. On rare occasions the bleeding may become severe, and you may need a surgical operation or another radiological procedure to stop it.
- It is also possible to damage the kidney itself or the surrounding organs such as the liver, spleen or colon, or possibly collapse a lung if the tube passes higher than usual, but this is rare.
- Occasionally there may be infection in the kidney or in the space around it. Blood stream infection is a serious complication which can develop if the urine is infected. If this is the case, you may need a course of antibiotics.

However, significant complications are rare and the benefit of the nephrostomy outweighs the possible complications.

What are the benefits of the procedure?

The benefit is to prevent damage to the kidney, severe infection or kidney failure.

What are the alternatives?

Other treatment options include a ureteric stent (tube inserted from the bladder) or a surgical bypass.

What happens next?

- The nurse on the ward will help you to empty the bag which will be attached to the tube coming out of your back.
- The tube can be removed when it is no longer needed, but has to be replaced every 3 to 4 months if it needs to stay in longer.
- The tube may stop producing urine if normal drainage from the kidney to the bladder is restored with treatment. However, nephrostomy tubes may become blocked, in which they need to be changed urgently. The things to look out for are pain in the side, fever and chills.
- Foul smelling urine indicated infection and may happen before the tube blocks.

Your doctor will discuss other treatments you may need.

Further information

This is available from the radiology department on the telephone numbers below or from the following websites:

Macmillan Cancer Support: www.macmillan.org.uk

British Society of Interventional Radiology: www.bsir.org

If you have any problems or worries please contact:

From 9:00am to 5:00pm

The 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 on **0161 446 3658** (24 hours)

Notes:

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