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Insertion of a percutaneous nephrostomy

Interventional Radiology

Patient Information



NHS

Introduction

Your doctors have recommended that you have a procedure known as a percutaneous nephrostomy. The aim of this procedure is to relieve the blockage affecting the drainage of urine from your kidney into your bladder. They will have weighed the benefits of having this procedure against the possibility of complications. Your doctor will have discussed these with you. If you are still unsure about the benefits of having the procedure, please ask.

This leaflet explains what the procedure involves and the possible risks and complications you may experience.

Whether you are having the percutaneous nephrostomy as a planned or an emergency procedure, it is important that you fully understand what is involved before you sign the consent form.

What is a percutaneous nephrostomy?

The urine from a normal kidney drains through a narrow, muscular tube (the ureter) into the bladder. When that tube becomes blocked (for example, by a stone, a blood clot or by a mass pressing against it), the kidney can quickly become affected, especially if there is also infection present. While an operation may become necessary, it is also possible to relieve the blockage by inserting a fine plastic tube called a catheter, through the skin, into the kidney, under local anaesthetic. This catheter allows urine to drain from the kidney into a collecting bag, outside the body. This procedure is called a percutaneous (through the skin) nephrostomy (a tube put into the kidney).

Why do I need a percutaneous nephrostomy?

Other tests will have shown that the ureter leading from your kidney to your bladder has become blocked. However, the cause of the blockage may not be obvious. If left untreated, your kidney will become damaged.

Who has made the decision?

The doctors in charge of your care, and the doctor carrying out the percutaneous nephrostomy will have discussed your situation, and feel that this is the best treatment option for you. However, you will also have the opportunity for your opinion to be considered, and if, after discussion with your doctors, you do not want the procedure, you can decide against it.

Who will be doing the percutaneous nephrostomy?

A doctor called a radiologist will carry out the procedure. Radiologists have special training and expertise in using x-ray and scanning equipment and in interpreting the images produced. They need to look at these images while carrying out the procedure. Radiologists are the best people to insert needles and fine tubes into the body, through the skin, and place them correctly. They will be assisted by radiology nurses and radiographers who will look after you throughout the procedure.

Where will the procedure take place?

Generally this procedure is carried out in the x-ray (radiology) department, in a screening room, which is adapted for specialised procedures.

How do I prepare for a percutaneous nephrostomy?

- If not already an inpatient, you will need to be admitted to the hospital as an inpatient, a day before or on the day of the procedure.
- You must not eat for six hours before the procedure, although you will be allowed to drink clear fluids up till two hours before the procedure.
- You will need to have had some blood tests beforehand (within 7 days of your procedure date), to check that you do not have an increased risk of bleeding.
- If you take any medication that thins your blood, you should call the radiology department to inform them, as you may need to stop the drug before the procedure.
- You should not bring any valuables with you in case of loss or theft.

Can I bring a relative or friend?

You may bring someone with you, but for safety reasons they can only accompany you into the x-ray room in very special circumstances.

When you arrive at the hospital

- Please report to the day care area.
- A small tube (cannula) will be placed in a vein in your arm, so that you can be given fluids and receive medication while in the x-ray department.
- You will be allocated a bed, although you may not go there until after the procedure.
- We will ask you to change into a hospital gown.
- When the time comes for your procedure, you can either walk to the x-ray department or be taken there on a trolley.
- When you arrive at the x-ray department, a nurse will greet you and the radiologist will explain the procedure and discuss it with you before you sign the consent form. If you have any questions, this is a good time to ask the radiologist.
- If you have any allergies, you must tell your doctors. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-ray and CT scans) also let your doctors know.

What actually happens during a percutaneous nephrostomy?

- You will lie on the x-ray table, generally flat on your stomach, or nearly flat. We will try to make you as comfortable as possible before the procedure begins.
- We may attach monitoring devices to your chest, arm and finger, and you may receive oxygen through small plastic tubes in your nose.

- The radiologist will keep everything as sterile as possible, and will wear a theatre gown and operating gloves. The skin on your back will be cleaned with antiseptic fluid (this is cold), and the rest of your body covered with a sterile theatre sheet.
- The radiologist will use either the x-ray equipment or the ultrasound machine to decide on the most suitable point for inserting the plastic tube (catheter), usually in your back, just below your twelfth rib. Your skin will be numbed with local anaesthetic, and a fine needle inserted into your kidney.
- When the radiologist is sure that the needle is in a suitable position, a guide wire will be threaded through the needle and placed in your kidney. The needle is then withdrawn and a fine plastic tube, called a catheter, is placed over the guide wire. This helps the radiologist to position the catheter correctly.
- The radiologist and radiographer use the x-ray equipment to make sure that the catheter and the wire are moved into the right position. Once in the correct place the wire is withdrawn. The catheter will be secured at the skin surface and the open end attached to a drainage bag.

Will it hurt?

Unfortunately, for a very short period of time it may hurt a little, but any pain you have should be controlled with painkillers. When the local anaesthetic is injected it will sting to start with, 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 catheter passing into the kidney and sometimes this is painful, especially if the kidney was sore to start with.

There will be a nurse, or another member of clinical staff, close by throughout the procedure. If the procedure becomes painful for you, they will be able to arrange for you to have more painkillers through the cannula in your arm. Generally, placing the catheter in the kidney only takes 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 straightforward the procedure will be. It may take 20 minutes, or very occasionally it may take longer than 90 minutes. As a guide, you can expect to be in the x-ray department for about an hour altogether.

What happens afterwards?

- You will be taken back to your ward on a trolley or bed.
- 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 need to rest in bed for a few hours, until you have recovered.
- You must not have anything to eat for the first hour after the procedure.
- If you are attending as an outpatient, it is unlikely that you will be ready to go home the same day. On most occasions it will be necessary to stay in hospital for a day or two.
- The drainage catheter stays 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, but the ward nurses will want to measure the amount in it each time.
- Usually the drainage catheter will be removed before you go home, but if you need to keep it in the ward nurses will teach you how to care for it.

How long will the catheter stay in?

These are questions which only the doctors 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. Taking the catheter out does not hurt.

Are there any risks or complications?

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

If your liver is being biopsied, then there is a risk of bleeding from the liver, though this is generally very slight. If the bleeding were to continue, then it is possible that you might need a blood transfusion. Extremely rarely, an operation or another radiological procedure is needed to stop the bleeding.

- Sometimes the doctor is unable to place the drainage tube satisfactorily in the kidney. If this happens, a surgeon will arrange another method of overcoming the blockage, this may involve an operation.
- Sometimes there is a leak of urine from the kidney, resulting in a small collection of fluid inside the abdomen. If this becomes a large collection, it may need draining.
- There may be slight bleeding from the kidney. On very rare occasions this may become severe and a surgical operation or another radiological procedure becomes necessary to stop it.
- Occasionally there may be infection in the kidney or in the space around it. This can generally be treated with antibiotics.
- Despite these possible complications, percutaneous biopsy is designed to save you from having a more complex procedure.

Despite these possible complications, the procedure will almost certainly result in an improvement in your medical condition. Occasionally, an operation is needed, but if the percutaneous nephrostomy had not been attempted, this operation would still have been necessary.

Contact details

If you have any questions or concerns about your procedure, or you are unable to attend for this appointment, please call:

The Radiology Department 020 7808 2571

Alternatively, please call:

The Royal Marsden Macmillan Hotline: 020 8915 6899
(available 24 hours a day, 7 days a week)

Call us straight away if you are feeling unwell or are worried about the side effects of cancer treatments.

This service provides specialist advice and support to all The Royal Marsden patients, as well as to their carers, and both hospital and community-based doctors and nurses caring for The Royal Marsden patients.

This leaflet has been developed from information produced by The Royal College of Radiologists and the British Society of Interventional Radiology.

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

Further information

For general information about Interventional Radiology and this procedure, you can visit the British Society of Interventional Radiology

website: www.bsir.org/patients/nephrostomy/

Notes and questions

References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

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Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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