

Percutaneous nephrostomy

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Aim of the patient information

This patient information tells you about having a percutaneous nephrostomy. It explains what is involved and what the possible risks are. It is not meant to replace discussions between you and your doctor, but can act as a starting point. If you have any questions about the procedure please ask the doctor who has referred you or the Interventional Radiology department.

What is a percutaneous nephrostomy?

A nephrostomy is an ultrasound and X-ray guided procedure in which a fine plastic tube (catheter) is placed through the skin percutaneously into your kidney to drain your urine. The urine is collected in an attached drainage bag.

Why do you need a nephrostomy?

The most common reason for having a nephrostomy is blockage of the ureter. Normally urine from the kidney drains through a narrow muscular tube (the ureter) into the bladder. When the ureter becomes blocked, the kidney rapidly becomes affected, especially if infection is present. If left untreated, your kidney will become damaged. A nephrostomy drain will relieve the symptoms of blockage and keep the kidney working.

Who has made the decision?

The consultant in charge of your care and the interventional radiologist performing the procedure feel that this is the best option. However, you will also have the opportunity for your opinion to be considered and if, after discussion with your doctors, you no longer want the procedure, you can decide against it.

Are there any risks?

A nephrostomy is a safe procedure, but as with any medical procedure there are some risks and complications that can arise.

The main risk is bleeding from the kidney. It is common for the urine to be bloody immediately after the procedure. This usually clears over the next 24 to 48 hours. On rare occasions, the bleeding may be more severe and require a transfusion. Very rarely the bleeding may require another surgical operation or radiological procedure to stop it. A small bruise (haematoma) around the site of the catheter can occur, but

this is quite normal. The bruise might be sore for a few days but will disappear in a few weeks.

The urine in the kidney may be infected. This can generally be treated satisfactorily with antibiotics, but occasionally you can feel unwell after the procedure. There can be a small skin infection at the catheter site which can usually be treated with antibiotics. There is always a small risk of sepsis (infection within the blood) when infections are present.

Sometimes there is a leak of urine from the kidney, resulting in a small collection of urine inside the abdomen. If this becomes a large collection, it may require draining.

There are important structures near the kidneys e.g. bowel, lung, liver, spleen. That is why this procedure is performed using image guidance so these can be avoided. It is very important that you try to remain as still as possible, otherwise there is a small risk that these structures could be injured.

Very rarely, the interventional radiologist will be unable to place the nephrostomy (catheter) satisfactorily in the kidney. If this happens, you may require a small operation to overcome the blockage or a repeat procedure.

During the procedure you will receive a dose of radiation as a result of the X-rays used. There is a possible risk of cancer induction from exposure to X-rays. However, we are constantly exposed to radiation from the air we breathe, the food we eat, the ground and from space. This is known as background radiation and has a cancer risk of around 1 in 10,000 per year. Having the procedure could result in you receiving an additional dose of radiation equivalent to a few years of background radiation. The associated risk of possible cancer induction from receiving a dose of radiation equivalent to a few years of background radiation is considered to be low. Your doctor has agreed that this procedure is the best examination for you compared with others and that the benefit of having it outweighs the risks from radiation.

In extremely rare cases, usually in those patients who are very unwell, a severe complication such as a significant bleed or sepsis can lead to death.

Despite these possible complications, the procedure is normally very safe and will almost certainly result in an improvement in your medical condition. Leaving a kidney blocked can be extremely detrimental to your health.

Are you required to make any special preparations?

A percutaneous nephrostomy usually requires an overnight stay in the hospital and is carried out under local anaesthetic. If you are not already an inpatient you will be asked to attend the ward early in the morning so all required paperwork can be completed. You will also be asked not to eat for four hours before the procedure, although you may take small sips of water up to an hour prior to the procedure. You may receive an antibiotic prior to the procedure.

You may be sent a blood form and asked to arrange a blood test prior to the procedure to check your bloods are within safe limits to have the procedure.

If you are taking anti coagulation or anti platelet medication, such as warfarin, you will be given instructions detailing if this medication needs to be stopped and for how long. If you have not been given this information please contact the Interventional Radiology department.

If you have previously had a reaction to the dye (contrast agent) or a local anaesthesia please contact the Interventional Radiology department.

Who will you see?

A specially trained team led by an interventional radiologist who has special expertise in reading the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

Where will the procedure take place?

In the Interventional suite, which is located within the X-ray department and is similar to an operating theatre.

What happens during the procedure?

Before the procedure, a member of the interventional team will explain the procedure and ask you to sign a consent form. Please feel free to ask any questions that you may have and remember that even at this stage, you can decide against going ahead with the procedure if you so wish.

On the ward you will be asked to get undressed and put on a hospital gown. A small cannula (thin tube) may be placed into a vein in your arm in case you need any medication.

You will lie on the X-ray table, generally flat, or nearly flat on your stomach. The X-ray machine will be positioned above you. You will have monitoring devices attached to your arm, chest and finger.

A nephrostomy is performed under sterile conditions and the interventional team members performing your procedure will wear sterile gowns and gloves. Your skin at the region of interest will be cleaned with a cold antiseptic and you will be covered with sterile drapes.

The skin and deeper tissues will be numbed with local anaesthetic. A small incision will be made. Using ultrasound guide a needle will be placed inside the kidney. A dye (contrast agent), which usually contains iodine, is injected to identify the correct location on X-ray. When the needle is in the correct position, a guide wire will be inserted to allow the small plastic tube (catheter) to be placed. This catheter will then be fixed to the skin surface with a dressing and attached to a drainage bag. You will then be assisted back on to your hospital bed.

Will it hurt?

Unfortunately, it may hurt a little for a very short period of time. Pain can be controlled with painkillers if necessary. When the local anaesthetic is injected, it will sting for a short while, but this soon wears off. Later, you may be aware of the needle and the catheter passing into the kidney and sometimes this is painful, especially if the kidney was sore to start with. 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 is different and it is not always easy to predict, however, expect to be in the radiology department for about an hour.

What happens afterwards?

You will be taken back to your ward. Nursing staff will carry out routine observations. You will generally be required to stay in bed, initially lying flat. If you have an issue lying flat please contact the Interventional Radiology department. After which you will be allowed to sit up, then to walk around the ward, until you have recovered.

The nephrostomy catheter remains in place in your body for the time being and will be attached to a drainage bag. You will be able to carry on a normal life with the

catheter in place. The bag needs to be emptied fairly frequently, so that it does not become too heavy.

How long will the tube stay in?

This is a question that can only be answered by the doctors looking after you. It may only need to stay in a short time, for example, while a stone passes naturally, 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 at all.

If the catheter stays in for a long time it has to be changed regularly, usually every 8 to 12 weeks. This procedure is done as an outpatient within the Interventional Radiology department and usually only takes 30 minutes, though completing the paper work can take longer. It is not painful as no new incision is required. Please ensure that you have an appointment for your catheter ex-change on your discharge. Catheter ex-changes can also be arranged by contacting the Interventional Radiology department directly.

If you have any concerns after discharge; for non-urgent issues between 9am to 5pm Monday to Friday please contact the Interventional Radiology department. If this is not possible, for non-urgent issues please contact your GP or 111, for urgent issues please come to A&E.

Finally, some of your questions should have been answered by this patient information, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

Interventional Radiology

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