

**PATIENT
LABEL**

Date inserted:

Discharge Date:

Volume of fluid in Balloon:



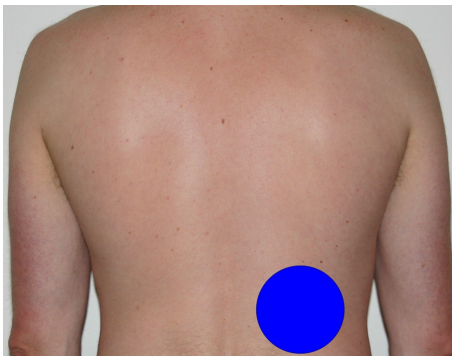
Nephrostomy – Patient Information Leaflet

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What is a nephrostomy?

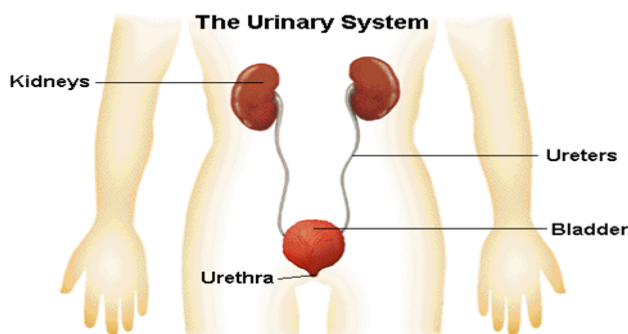
A nephrostomy is a thin, plastic tube (catheter) which is inserted through the skin on your back into your kidney to create an artificial opening in your kidney which allows urine to be drained by a different route. It is used to relieve a build-up of urine in the kidney which can happen due to a blockage, and prevents the kidney from being damaged. It involves placing a thin tube called a catheter, about 30 cm in length, from the kidney to exit through the skin surface overlying your kidney. The tubes are designed to stay in place for a number of months and can be temporary however if the obstruction has not resolved in this time, these tubes can be permanent for long term management when all else has failed. The initial tube inserted is thin and called a pigtail catheter and this may be changed to a larger softer catheter called a Foley catheter, which is similar to a bladder catheter, if it is to be in for long-term use. Both types of catheter will be attached to a drainage bag which will be secured to your back, waist or leg and urine is drained directly from one or both kidneys into the drainage bag outside your body. The urine bag has a tap so you can empty it. You may still pass urine in a normal way even when you have a nephrostomy tube in one or both of your kidneys.



The circle shows the site of exit on the skin surface of a right kidney nephrostomy catheter.

The Urinary system, location and function of the kidney.

The urinary system is made up of several different parts including the kidneys, the ureters, the bladder and the urethra. The kidneys sit at the back of the body, one on each side, just underneath the ribcage.



They filter your blood to remove waste products which is changed into urine. Urine is

usually carried from each kidney through a fine tube called a ureter to the bladder where it is stored. When you are ready to pass urine, it leaves the bladder through a tube called the urethra. The urethra opens immediately in front of the vagina in women and at the tip of the penis in men. The length of the adult kidney is 8-11cm, weighing approximately 120 grams. Kidneys are essential for our survival, this importance is highlighted by the fact that despite their small proportion (about 0.5% of your total body weight), they receive around 15% of the total blood volume that is pumped out of the heart. Most of us have two kidneys, but many people manage normally with just one and may be completely unaware that they have one missing. Our capacity to cope with only one is the reason why people are able to be kidney donors.

One of the kidneys main functions is producing urine to be eliminated from the body; however they also perform several other very important tasks such as they aid in blood pressure control and maintaining the composition of the chemicals in our body and is why they are essential to our existence.

Why do I need a Nephrostomy

A nephrostomy is usually needed due to:

- A blockage caused by a stone within the ureter causing urinary obstruction
- Benign strictures (narrowing of the ureter) causing a blockage
- Access for other procedures e.g. ureteric stent placement and stone retrieval.
- Obstruction or blockage caused by tumours or a tumour in or around the ureter or bladder pressing on the ureter and causing urine to back up in the kidney.
- To divert the urine from the renal collecting system in an attempt to heal fistulas which are abnormal communications between the collecting system and other structures e.g. bowel, vagina.
- Treatment of urinary tract obstruction related to pregnancy.
- Treatment of complications related to renal transplants.

Without insertion of a nephrostomy kidney damage can occur. If a ureter becomes blocked, urine cannot flow from the kidney to the bladder, which causes urine to build up in the kidney. When this happens the kidneys cannot work properly and may gradually stop working which can make you feel very unwell unless treated. A nephrostomy gives an alternative means for urine to be drained.

Many of the indications for a nephrostomy require that the procedure is performed within a few days to prevent permanent kidney damage occurring. The obstructed urine is stagnant and can become infected with bacteria which can spill into the bloodstream resulting in sepsis; therefore you may require nephrostomy insertion to be performed urgently.

You may need one nephrostomy tube or two depending on whether one or both ureters are blocked. If it is cancer causing the blockage, your ureters are more likely to become blocked if you have a cancer that started in the lower tummy (pelvis) and has spread within that

area. In women this may be a cancer of the bladder, cervix, womb or ovaries. In men, it may be a cancer of the prostate or bladder. In both men and women, it may be a cancer of the colon or rectum. Occasionally, a cancer which started in another part of the body spreads to the pelvis and blocks one or both ureters; the position of the blockage is usually confirmed on a scan.

The doctors in charge of your individual care will be able to explain the reason why you are having the procedure before it is performed.

How are my blocked kidney(s) diagnosed?

An obstructed kidney may be diagnosed by blood tests showing the accumulation of waste products in the blood, diagnostic scans such as ultrasound (US) or Computed Tomography (CT) or you may have noticed that you have not passed urine for some days.

Performing the procedure

Once the problem with your kidney(s) has been diagnosed, the doctors in charge of your care will discuss your case with an Interventional Radiologist, who will perform the procedure. As previously described, the procedure is then performed relatively urgently, usually within 1 to 3 days, depending upon your individual case and you will have the opportunity to discuss any concerns. The doctor performing the procedure will talk to you about the procedure and ask your consent. The procedure to insert a nephrostomy is carried out in the X-ray department using X-rays (known as fluoroscopy). The room resembles an operating theatre and can be intimidating but is necessary to prevent any possible spread of infection however you need not be alarmed.

You will be asked to lie on your front on the X-ray table. If necessary a doctor or nurse will inject painkillers or sedation using the tube (cannula) in your arm. Antiseptic cleaning solution is applied to the skin over the kidney, and sterile drapes are placed around this site. Local anaesthetic is injected into the skin over your kidney. This is often the part of the procedure that causes the most pain and is similar to the jag that dentists use but should be numb after a few minutes. You will still be aware of the area being touched throughout the procedure, but it should not be painful, if it is you should inform the nurse or doctor. Your pulse, heart rate, oxygen levels and blood pressure are monitored constantly throughout with special equipment.

Before starting to place the nephrostomy, the doctor will use a portable ultrasound machine to make a final check on the obstructed (blocked) kidney, and to decide where to place the catheter within the kidney. Once the catheter is in place, it will be secured to the skin and urine will then pass down the tube into a bag which will be attached. The procedure takes about 30 minutes however every case is different, and your kidney might prove difficult to

gain access to which would inevitably prolong the procedure but should not alarm you.

What happens after the procedure?

Following the procedure you return to the ward and you may require further pain relief for a day or two. You will have regular blood tests and possibly further scans to help decide treatment options. Most patients will pass some blood in the urine for a few days which is again to be expected and occasionally you may have some leakage of urine around the nephrostomy site.

Your nephrostomy tube will be secured in place and will exit the skin from the side of your back. The tube will be attached to a drainage bag, which is usually worn under your clothing and is strapped to your thigh or secured round your waist with a special belt. The drainage bag must always be kept at a level lower than the kidney. Your ward nurse will change the dressings as needed and show you how to empty the drainage bag and attach a new one to the end of the nephrostomy tube. If there is a lot of leakage, you may have a two piece bag attached at the nephrostomy site. At night time you can attach a larger drainage bag to save waking up to empty the smaller one.

In some cases longer term drainage can be achieved by insertion of a ureteric stent (a thin plastic tube between the kidney and the bladder). This may be inserted at the same time as the nephrostomy or a few days later and the nephrostomy catheter can then be removed. The decision may however need to be made to keep the nephrostomy catheter long term. The thin nephrostomy catheter initially inserted (pigtail catheter) should be planned to be exchanged for a softer wider catheter (Foley catheter) which is easier to manage at home and will last for up to 3 months. The Foley catheter may then be changed at home by your community nurse if they are trained to do this or will be changed by the x-ray department team until your nursing team are able to take over the changes.

Complications

Nephrostomy insertion is usually a safe and effective procedure, however as with any invasive medical procedure there is a small chance that the drainage cannot be performed and there is a small risk of complications. Overall, the risk of a complication from nephrostomy placement is about 5%. Those related to this procedure include:

- Infection- Drainage of an infected kidney often causes a transient deterioration in symptoms for an hour or two before improvement.
- Bleeding - This is potentially the most serious complication. The collecting system is very closely associated with blood vessels. The Radiologist will try to minimise the risk by aiming for a section of the kidney which has relatively few blood vessels.
- Pneumothorax- If the kidney is covered by lung there is a small risk of injury which

may cause the lung to collapse. This is rare and is usually treated by observation, but if it causes breathing problems then insertion of a drain may be necessary

- Damage to other organs- The bowel, spleen and liver lie close to the kidney but injury is rare.

Discharge Home

Before you go home, the nurses will give you advice on how to look after and cope with your nephrostomy. They should tell you about showering and what activities you can or cannot do while you have your nephrostomy. Arrangements will be made for a district nurse to check the tube, change your dressing and make sure you have enough drainage bags. You may decide to change the dressings yourself and your nurse can show you how to do this. It may help to have a relative or close friend there as well so that they know what to do in case you have any difficulties when you get home.

Prior to discharge:

- You or your carer must be trained how to look after the catheter which should include hand-washing, and no touch technique for the weekly change of leg bag if appropriate. You must also be made aware of any signs or symptoms to report to their community team.
- The Community nurse team must be contacted by your discharge ward and informed of your discharge and asked to visit the first day after your discharge. The volume of fluid in the Foley catheter must be checked by your nursing team every two weeks to reduce the risk of it falling out.
- Enough supplies for one week must be sent home with you as community teams only have patient specific supplies available which are ordered after they are informed of the discharge and can take up to a week to be available.

Coping at home with a nephrostomy

Once you are home you will be able to go out and about with your nephrostomy tube but you will need to avoid sudden movements that may tug on the tube. At first, bending or climbing stairs may be a bit uncomfortable and it may feel more comfortable if you place your hand over the nephrostomy. It might also take you a little while to find the most comfortable position to sleep in.

It is natural to feel worried about coping with a nephrostomy at home and it may seem difficult in the beginning but with help and support this should become easier.

Here are some important things to remember:

- Change the bags as often as your nurse or doctor has advised.
- Always wash your hands before and after you change the bag or the dressings.
- Contact your doctor or nurse immediately if there is blood in your urine, if it looks

cloudy or smells strongly or if it is painful when you pass urine the normal way. You may have a urinary infection that will need to be treated with antibiotics.

- Drink plenty of fluids. Aim to drink at least two litres per day (around four pints) to help reduce the risk of infection.
- Contact your doctor or community nurse immediately if the area around the tube becomes uncomfortable, looks red or swollen, or feels warm. These may be signs of an infection, which will need to be treated immediately.
- If the tube comes out, which is unusual but can happen if dislodged, or if it stops draining urine, **get in touch with your doctor or nurse straight away.**

Some patients may be able to attend their GP surgery practice nurse instead for their ongoing nephrostomy care however your community nurse will be your initial point of contact at home and they will give you their details on their first visit though their number can also be given to you by your GP surgery. Their office will usually have an answer machine to leave a message on when they are out on visits and they will get back to you on their return to the office or if more urgent care is needed such as the nephrostomy falling out, a mobile number is usually available to contact them on their rounds or you can contact your surgery. If out-with usual working hours, in the evening and weekends, contact should be made through NHS 24 on number 111.

If you are worried that something may be wrong with the nephrostomy, you should contact your doctor or nurse immediately.

