

Nephrostomy and ureteric stenting

The main purpose of **nephrostomy** and/or **ureteric stent placement** is to relieve pressure on the kidneys due to blockage of the tubes (the ureters) that drain urine from the kidneys to the bladder. At first, the pressure is relieved by placing a tube (called a nephrostomy) through the skin into the kidneys so that the urine can flow out of the body into a collection bag. In a lot of cases, it is possible to pass another tube (a ureteric stent) through the same opening in the skin from the kidney to the bladder so that the urine can drain normally on the inside, without an external bag. Placing a nephrostomy tube may also be required as a part of a procedure to remove stones from the kidney, or to divert urine away from holes in the ureters or bladder caused by stones, cancer or surgery. Placement of a nephrostomy tube or ureteric stent can be temporary or permanent, depending on the condition.

What are the benefits?

This is a quick, minimally invasive procedure with a low complication rate. It immediately relieves pressure on the kidneys so that they can return to normal function.

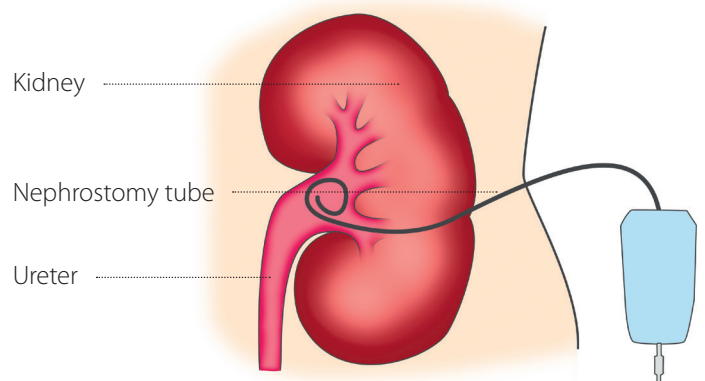
How should I prepare for the procedure?

Before having your nephrostomy catheter or ureteric stent placed, you will have specific blood tests to make sure your blood is clotting normally. If you are on anticoagulation medications, you will be instructed to stop taking them for a period of time. You should also not drink or eat anything after midnight the night before the procedure.

The procedures

The urinary system can be drained with a catheter (tube) in two ways, either via a **nephrostomy catheter** or **ureteric stent (or a combination of both)**.

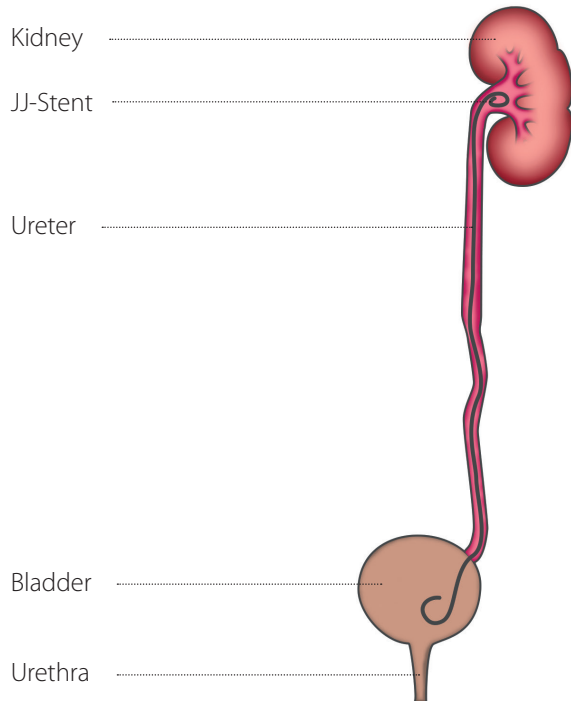
- A **nephrostomy catheter** placed to relieve pressure on the kidney and to drain infected urine, or, to drain urine from the kidney externally if the ureter is leaking following trauma. The nephrostomy is inserted through the skin of the back into the kidney. The inner end of the catheter forms a loop within the kidney and the other end extends outside the body and is attached to an external drainage bag.



A nephrostomy catheter

- A **ureteric stent** is placed if it is possible to get through the blockage in the ureter. The stent (usually a hollow tube) is directed through the blockage down to the bladder by the interventional radiologist, using x-rays for guidance.

One end of the catheter forms a loop in the kidney, and the other end loops within the bladder, allowing urine to drain directly around the obstruction from the kidney to the bladder. You will continue to pass urine as normal.



Ureteric stent

Once in the interventional radiology suite you will be placed on the procedure table face-down or on your side. You will probably receive some light sedation. After your skin has been sterilised and sterile drapes placed over you, your skin and underlying tissue will be numbed with local anaesthetic. The interventional radiologist will then use ultrasound to guide a needle into the kidney and use x-rays (fluoroscopy) to pass a wire through this needle either into the kidney itself or through the kidney into the ureter and down to the bladder. A tube can then be moved forward over this wire to its final position in the kidney or the bladder.

If you are having a nephrostomy, the part of the tube on the outside of your body will be fixed to the skin of the back and attached to a drainage bag. If a ureteric stent is placed, you may not need an external tube at the end of the procedure. The procedure will normally take less than an hour.

What are the risks?

There is a small risk of minor bleeding; significant bleeding requiring blood transfusions or surgery is rare. Less common complications are leakage of urine around the catheter inside the abdomen or blockage of the drainage catheter. If the blocked urine is infected before the procedure, septicaemia (infection in the bloodstream) can occur following insertion of the nephrostomy tube. Antibiotics are usually given before the procedure to prevent this complication.

What should I expect after the procedure?

What is the follow-up plan?

After your operation you will go back to the ward for monitoring. You will generally stay in bed for a few hours.

The drainage tube will remain in place for an amount of time determined by your doctor, and you will be given instructions about the proper care of the nephrostomy catheter when you go home. If a ureteric stent has been placed, a plan should be made for its removal or exchange after a period of time, usually six months, depending on why it was placed.

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