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Ureteric Stent Insertion

What is a ureteric stent?

The ureter is a muscular tube which connects the kidney with the bladder. Occasionally, this tube can become blocked for a variety of reasons (such as a kidney stone or a tumour). When this happens, urine will not be able to pass from the kidney to the bladder and instead accumulates within the kidney itself.

This may eventually lead to problems, most notably infection due to stagnation of urine within the kidney.

To relieve this blockage, a stent (which is a long hollow pipe) can be inserted into the ureter to relieve the blockage and thus allow urine to drain freely into the bladder again.

How to prepare for the procedure

This procedure is usually performed in an urgent or semi-urgent setting and you will usually already have been admitted to hospital prior to the procedure.

It is important to disclose with the doctors taking caring of you whether you are on certain medications (especially blood thinners like Warfarin or Aspirin) prior to the procedure as these may need to be temporarily stopped and then re-started after the intervention.

What does the procedure involve?

The procedure will take place within an interventional room equipped with angiographic equipment. You will initially be taken to the Recovery Area (adjacent to the operating room) where you will be asked to change into a surgical gown. Your belongings will also be kept in a safe room. You will then be asked to wait within this room until you are called from the operating theatre, at which point you will be taken theatre by a theatre nurse on a stretcher.



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A small tube (or cannula) will be inserted into your hand or arm (if this has not been done already) – this will allow the team to give you antibiotics before the procedure to minimize the risk of infection.

You will be placed face-down (or almost completely face-down) on the operating table. The kidney(s) requiring the nephrostomy will be scanned using an ultrasound machine initially. The area involved will then be thoroughly scrubbed and draped. The radiologist performing the procedure will then proceed to give you some local anaesthetic in the skin and deeper down towards the kidney – this should dull all subsequent pain though you may still feel some pushing and pulling sensations.

A hollow needle is then passed through the anaesthetized area at your flank and advanced until it enters the problematic kidney (all the while being visualized using the ultrasound machine). Once the needle is in position, a guidewire is passed through the needle and advanced through the ureter past the site of blockage. The ureteric stent is then passed over the wire and advanced until it lies within the length of the ureter and traverses the blocked segment. A few X-rays will be taken at the same time to confirm the correct position of this tube in the kidney – the radiologist will also inject a few milliliters of contrast material through the tube itself to better visualize its exact location within the kidney and to check whether this flows freely into the bladder once the stent has been deployed.

Following this, a small tube (called a nephrostomy tube) might be inserted to externally drain any accumulated urine within the kidney temporarily. This tube is not permanent and will be removed as soon as it is no longer needed.

The whole procedure usually lasts around 20 – 30 minutes.



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What happens after the procedure?

You will be initially taken back to the Recovery Area where you will be monitored for an amount of time following the procedure to ensure you remain well.

Eventually once you are deemed well enough, you will be taken back to the ward where you were admitted to rest. Your parameters and general condition will be continuously monitored.

The length of your hospital stay and the amount of time you will need with the tube in place depends on the reason why the tube was inserted, and the doctor taking care of you will be able to offer from information in this regard.

What are the risks of this procedure?

Every procedure carries a small number of risks which might or might not occur. In the case of ureteric stent insertions, the following might be seen:

- Discomfort at insertion site (usually short-lived and resolves after a few days).
- Inability to insert the stent during the procedure (if this happens, the urologists may opt to insert the stent from the bladder using a special scope at a later date).
- Bleeding (at the site where the needle entered the kidney).
- Infection (of the kidney being treated).
- Blockage of the tube or stent (this may happen immediately or after several days following the procedure).
- Leakage of urine around the drainage tube (this results in a collection of urine around the kidney within the abdomen. If large, this collection may need to be surgically removed).



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What should I keep in mind if I am going home with the nephrostomy tube still in place?

The following points should be kept in mind to ensure optimal post-procedural care:

- Avoid lying down on the procedure site. If possible, try to sleep on the opposite side of where the tube is fixed.
- Try to keep the area where the tube is coming out as dry and clean as possible. You may bathe or shower normally 48 hours following the procedure, but always try to keep the area as dry as possible. After 14 days, you may wet the area but try to avoid swimming while the tube is in position.
- If you experience a high temperature, back pain, redness or swelling around the tube, leakage of urine from the drainage site, poor (or absent) drainage or if your tube falls out, you should contact your doctor immediately.

Compiled by Dr. Simon Gatt