

Percutaneous Nephrostomy



PERCUTANEOUS NEPHROSTOMY

This brochure will provide you with essential information about having a percutaneous nephrostomy. It explains briefly what is involved, its benefits over other forms of treatment and some of the more salient risks. It is not meant to replace an informed discussion between you and your referring doctor or interventional radiologist who will be performing the procedure. If you have any questions regarding the procedure, do not hesitate to ask your referring doctor or the interventional radiology staff.

What is a percutaneous nephrostomy?

This is a minimally invasive procedure in which a thin tube called a catheter is inserted through a skin puncture into an obstructed kidney to allow drainage of urine. The urine which is drained will be collected in an attached drainage bag. This procedure is performed under image-guidance.

Why is a percutaneous nephrostomy necessary?

The most common reason for having a nephrostomy is blockage of the ureter. The urine from a normal kidney drains through a narrow muscular tube called the ureter to the bladder. When this gets blocked for a variety of reasons, the urine backs up in the kidney. The kidney function can get affected if this blockage is not relieved. If there is an infection, there is greater urgency to relieve this blockage.

Preparation for the procedure

A blood test may be required to test for any blood clotting problems.

If you are on any medication, kindly inform your referring doctor and the Radiology Department of this. If you are currently taking any blood thinners, this may have to be stopped for 3-5 days prior to the procedure. Your referring doctor will advise you on this. Similarly, diabetic medication may have to be halted until after the procedure as fasting may be required for the procedure.

In general, fasting 4-6 hours prior to the procedure is recommended. This is especially so if sedation or general anaesthesia is required.

Arrive early at the hospital as time is often required for registration, admission and other administrative details. If the procedure is to be performed as an outpatient, please arrive at least 20 minutes before your procedure time. If the procedure is to be performed as a day-case or inpatient, please arrive at least 2 hours before the procedure time.

What happens during a percutaneous nephrostomy ?

The procedure is performed in the Radiology Department by an Interventional Radiologist. This is usually performed under local anaesthetic. Occasionally, it may be performed with conscious sedation. This will be provided by an anesthetist who, in addition to sedating you, will also monitor your vital signs and breathing to ensure your stability and comfort throughout the procedure

The procedure is performed with you in a prone position. It is a procedure which is performed under sterile conditions. Local anaesthetic is injected into the surrounding area where the catheter will be inserted. A fine needle is then inserted under ultrasound and fluoroscopic (real-time X-ray imaging) guidance into the collecting system of the kidney. X-ray dye (contrast agent) will be injected to confirm successful entry into the collecting system of the kidney. The drainage catheter, called the

nephrostomy catheter, will then be inserted. This will then be secured to the skin at the puncture site and connected to a drainage bag to collect the urine which drains out of the kidney through this catheter.

After the procedure

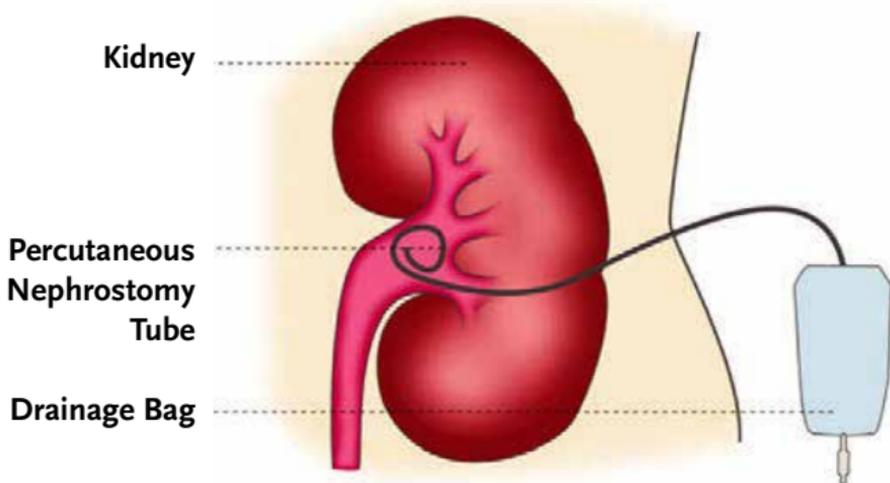
After a brief period of monitoring in the recovery area of the Radiology Department, you will be transferred back to your room where you will be monitored by the nursing staff.

Depending on the reason for its insertion, the nephrostomy catheter may differ in the period that it remains. Your referring doctor will determine how long this is required.

Care of the Nephrostomy Catheter

The clinic or ward nurses can show you how to care for the catheter.

- Keep the skin around the catheter dry. You can take showers but the area should be covered with a plastic wrap. If this area gets wet, the dressing should be removed and the skin dried before re-applying the dressing.
- Keep the skin around the catheter clean. The area should be cleaned daily and fresh dressing applied. Always wash your hands before cleaning the catheter site.
- Keep the skin around the catheter covered and change the dressing if this gets soaked or dirty.
- The catheter should be flushed daily with sterile saline. The hub of the catheter should be cleaned with a sterile swab before flushing.
- The drainage bag should be emptied regularly, so that it does not get too heavy as the weight may dislodge the catheter.
- The catheter should be changed every 2-3 months. Your referring doctor will schedule the catheter changes.



Benefits and Risks

BENEFITS

- Minimally invasive procedure.
- No general anaesthesia required.
- The catheter will relieve the obstruction to the flow of urine from the kidney to the bladder. In doing so, infection and pain from the obstruction will be relieved and the kidney function is preserved.
- Often, surgery or endoscopic stenting of the obstruction is not possible and a percutaneous nephrostomy is the only means of relieving the obstruction.

RISKS

Overall, the risks are low. Below is a list of some of the more salient risks.

- Bleeding at the puncture site or internal bleeding. This is usually self-limiting but rarely, transfusion and further intervention may be required to halt the bleeding.
- Any procedure which requires skin penetration and involving an in-dwelling foreign body, in this case, the catheter itself, carries a small risk of infection.
- If the urine in the blocked kidney is infected, there is a small risk that the infection may be released into the bloodstream during the procedure, making you unwell for a period. This may occur even though you are already on antibiotic cover.
- Urine leak from the kidney into the surrounding area, requiring further drainage
- Inadvertent puncture of neighbouring structures during the puncture into the kidney. This includes the liver, lung and bowel, resulting injury to these structures. Use of image-guidance makes this a very low risk of occurring.
- Pain or discomfort at the site of insertion
- Contrast allergy

In any procedure, there are risks, including death, which are rare and unpredictable. It is not possible to list every single risk. Any of these potential complications, both listed and not listed above, may require further surgical or interventional procedures for treatment.

Alternatives

There may be alternatives for treatment. Surgical or endoscopic means of relieving the obstruction may be possible. These should be discussed with your referring doctor.

Ureteric Stenting

In some cases, if the blockage is long term or permanent, there may be an option to insert an internal drainage tube into the ureter. This is called a stent. It usually extends from the kidney, down the ureter and past the obstruction, into the bladder. If this can be successfully performed, the nephrostomy catheter and drainage bag may not be necessary. Do note that a ureteric stent also requires regular changing, every 2-3 months. Changing of a ureteric stent is more difficult than a nephrostomy catheter. Your referring doctor will be able to discuss this option with you.

I have read and understood the contents of this brochure, including the risks and benefits. Questions concerning the procedure have been answered to my satisfaction. Alternatives to the procedure have been discussed.

Patient's Name & signature

Date

Staff's Name & signature

Date

Interpreted by (if any) _____



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