



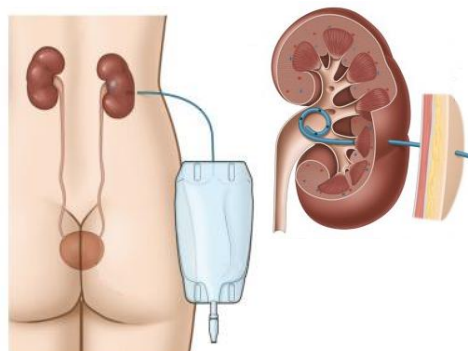
## Operation Information

### Percutaneous Nephrostomy (PCN)

#### Introduction

Percutaneous Nephrostomy (PCN) is a procedure which a small tube known as a pigtail catheter is inserted through the skin directly into the kidney. This allows the urine to drain out. It is also performed for tract creation for inserting devices, which can be used for stone removal, tissue taking for microscopic examination, dilatation of ureteric narrowing and ureteral stenting.

Percutaneous Nephrostomy is usually performed in the Department of Radiology under image guidance such as X-ray and ultrasound. This operation is performed by radiologists with special training in interventional radiology or by urologists.



Source:

<https://patients.uroweb.org/treatments/percutaneous-nephrolithotomy-pcn/>

#### Indications

1. Urinary diversion
  - to relieve urinary obstruction, urinary fistula, and leakage
2. Access to the collecting system
  - for investigation or intervention, e.g. stone removal, and dilatation of narrowed ureter

#### Outcomes

The expected outcome of this operation is relief of urinary tract obstruction or leakage, in order to prevent kidney damage and other complications.

#### Procedures

1. This operation is usually performed under local anaesthesia.
2. You are lying in a prone or slight slanting position.
3. The puncture site is at the flank region. A fine needle followed by a fine plastic tube is used to puncture the skin and enter into the body under image guidance (either X-ray or ultrasound).
4. When the needle tip is in the renal collecting system, a contrast medium is introduced through the needle to opacify the system.
5. A PCN drainage catheter is placed into the renal pelvis and the external part of the catheter is connected to a urine bag.
6. The drainage catheter is secured to the skin with sutures. The insertion site is protected with a sterile dressing
7. The operation usually takes 1 hour to perform. The duration of catheter insertion depends on your clinical condition and the subsequent management of the disease.

## **Possible Risks and Complications**

1. Haemorrhage
  - Small amount of blood in urine: very common, but self-limiting.
  - Bleeding requiring transfusion: 2.8%
  - Massive bleeding into the renal collecting system requiring surgery or occlusion of the bleeding artery through catheters: 1%
  - Bleeding into tissue surrounding the kidney: rare.
2. Pain: common
3. Catheter-related problems (obstruction, malposition, dislodgement): 12%
4. Infectious complications: 1.4-21%
5. Urine leakage outside the renal collecting system: less than 2%
6. Collection of air in pleural space: 1%
7. Death: very rare
8. Side effects of contrast
  - Hives, itchy, flu-like symptoms, and other anaphylactic reactions.
  - Steroid cover may be necessary for patients who have an allergic history
  - The overall adverse reactions related to iodine-base contrast medium are below 0.7%. The mortality due to reaction to non-ionic contrast medium is below 1 in 250,000.

\*\* The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all procedures are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising.

## **Pre-operative Preparations**

1. Good hygiene can prevent wound infection. Therefore, we advise you to clean up yourself on the day of the operation.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
3. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia.
4. Several drugs, herbs and supplements which influence coagulation ability should be withheld a few days before the operation.
5. Please inform the doctor and nurse if you are or might be pregnant, or if you breastfeed your baby.
6. Blood tests are performed to assess the liver and renal function, complete blood count and coagulation profile. Correction with transfusion of blood products may be needed before the operation.
7. Steroids may be prescribed for patients with an allergic history.
8. No food or drink six hours before the operation.
9. Intravenous access is established.
10. Prophylactic antibiotics may be administered before the operation.
11. Before the operation, a doctor will mark the side you are to be operated on. Please do not wash off the marking.
12. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
13. Please empty your bladder before the operation.

## **Post-operative Instructions**

1. Your vital signs (e.g. blood pressure, pulse), the catheter insertion site, as well as the color and output of urine are monitored closely.
2. Keep the drainage bag in a position below the kidney to prevent urine reflux.
3. Avoid pulling, kinking or bending the drainage catheter.
4. Please inform the nursing staff immediately if
  - the connection of the drainage catheter is loosened;
  - the drainage catheter is coming out;
  - bleeding or leakage from the puncture site, abdominal pain or any other concerns.
5. Keep the wound dressing clean and dry.
6. Diet can be resumed if the vital signs are stable.
7. Bed rest for at least 4 hours.
8. The length of hospital stay and the length of the drainage catheter stay vary. If you are going to be discharged home with the drainage bag, your nurse will tell you how to take care of the wound and the drainage system at home.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details  
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification