

# Percutaneous Nephrolithotomy

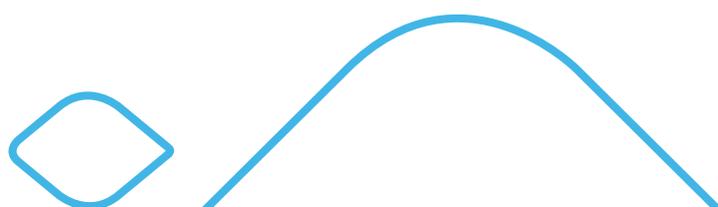
## (PCNL)

### Information for patients

Your consultant urologist has advised you that you need an operation to remove a stone from your kidney; this procedure is called a Percutaneous Nephrolithotomy (PCNL).

#### This leaflet explains:

- Why do I need a PCNL?
- What does the operation involve?
- What are the risks and side effects?
- Before your operation.
- The day of your operation.
- How long will the operation take?
- After the operation.
- Going home.
- At home.
- Contact details.



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## Why do I need a PCNL?

There are several ways of treating kidney stones and the final decision to perform a PCNL will be determined by the size, the number of the stones and their position. The technique offers the opportunity to remove a large amount of stone in a single operation. Previously, this procedure was done in the 'prone' or face down position. However, we are now offering this surgery in a supine position. That is, with you lying on your back throughout the procedure.

Less invasive procedures (flexible ureteroscopy or extracorporeal shockwave lithotripsy) may require multiple attempts in order to remove stones completely.

Open operations to remove stones are now rarely performed.

## What does the operation involve?

The operation is carried out under a general anaesthetic. In the first stage, using a flexible camera inserted through your urethra (the hole you pass urine through) and into your bladder, a small tube is inserted through the bladder up the ureter (the tube between the bladder and kidney) to the kidney.

Dye is injected up the tube so that the kidney is visible on x-ray. A small incision is made in your side. The radiologist will then place a needle into the kidney through your side, down which a wire is inserted. A balloon is passed over the wire and inflated to make a path into the kidney.

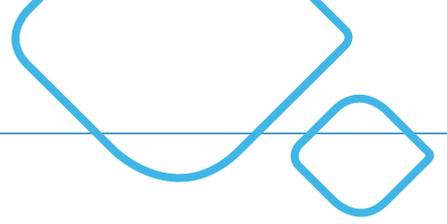
A plastic tube is inserted over the balloon and the balloon removed. Instruments can then be passed down the tube to remove the stone which is broken up using a laser device, a lithoclast (small pneumatic drill) or an ultrasound suction probe.

Afterwards, a plastic tube, called a ureteric stent, is inserted into your ureter to maintain drainage of the kidney. We normally use a stent which has a thread attached to its lower end that hangs out through your urethra. These stents can be removed easily by pulling on the thread. You need to take care not to inadvertently pull on these threads. This is typically removed 7-10 days after the procedure. Occasionally, depending on the complexity of your individual case, a temporary drainage tube called a nephrostomy tube is also inserted directly into the kidney.

## What are the side effects?

Any operation and anaesthetic carries risk. These risks are generally small and not doing the operation may pose a greater risk. Before you sign the consent form allowing the surgeon to perform this operation, he or she will outline the risks.





## Common risks

- Need for catheter post operatively.
- Pain from small cut in the side.
- Blood in the urine.
- Temporary fever.
- Mild urinary tract infection requiring antibiotics from GP.

## Occasional risks

- Not all stones may be removed, and additional surgery may be required.
- Bleeding requiring blood transfusion, <2% of cases.
- Following a successful operation, stones may recur in the future.

## Rare risks

- Need for more than one puncture to clear your stones (depending on the site of the stones).
- Severe bleeding requiring embolization of blood vessels, or, as a last resort removal of the kidney.
- Injury to the ureter or bladder.
- Damage to other organs such as lung, bowel, liver, or spleen requiring surgical intervention.
- Failure to establish access to the kidney necessitating further surgery.
- Severe infection causing sepsis.
- Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death).

## Before the operation

You will need to attend for a pre-operative assessment appointment approximately 7-10 days before your surgery, having already filled in a health screening questionnaire. This is to check that you are fit and well enough to have your operation. You may have blood tests as well as other investigations such as a urine test, heart tracing (ECG) or chest x-ray at this appointment.

You will need to bring a list of your regular medications with you to this appointment. If you take warfarin or any of the other blood thinning medications, you may need to come into hospital a few days before your operation or change the warfarin over to an injection a few days before you are admitted. You will be advised about this.

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## The day of the operation

You will usually be admitted on the day of your operation. You will receive a letter telling you what time to come into hospital and where to go. This letter will also advise you when you need to stop eating and drinking prior to the operation.

You will be advised whether to take your regular medications. You will see the anaesthetist and the surgeon who will go through the consent form for the surgery with you.

The ward staff will show you around the ward so that you are familiar with the facilities. They will also prepare you for the operation. You will be asked to put on a theatre gown and wear special stockings to reduce the risk of developing blood clots (DVTs) in your lower legs.

## How long will the operation take?

The operation usually takes 2-3 hours but can vary depending on the individual case.

## After the operation

You will wake up from your operation in the recovery room of theatres (although you may not remember this). The recovery room staff will look after you until you are ready to return to the ward.

You will have a dressing on your side where the incision was made. In the rare occasion a nephrostomy tube was inserted, you will also see this coming out from your side, draining urine which may be blood stained. You will normally have intravenous fluids (drip) into your arm that will give you fluid until you can drink normally. You can have some oral fluids soon after the operation, but you should be eating and drinking normally by the next day.

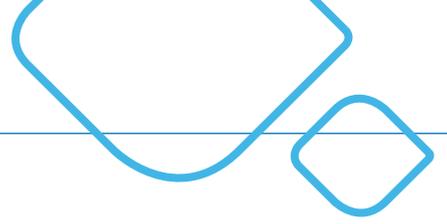
You will return from theatre with a small drainage tube (catheter), to drain urine from the bladder. This is usually removed on the first morning after surgery. You will also have a blood test the day after your surgery. If your blood tests are all fine, you pass urine well and you are well in yourself, you will be discharged the day after your surgery. You will then return 7-10 days later for removal of the ureteric stent.

## Going home

Before going home, you will be informed of the follow up arrangements. This will depend on whether the stone has been removed completely. If you are unsure, please ask the nurse who is looking after you.

You will be given an information leaflet about living with the stent. The ureteric stent may cause some pain on your side, urinary frequency and pain on passing urine.





## At home

You are advised to avoid heavy lifting for 4 weeks following surgery. However light activity such as walking is advised.

You should eat a healthy diet with plenty of fresh fruit and vegetables to keep your bowels regular. You should aim to drink at least 2 litres of water a day except if you have been previously told you have a heart problem and are on a fluid restriction

You can return to work when you feel fit and able, depending on what sort of work you do. Most people should be back to full physical activity 4 weeks after surgery.

## Contact details:

### **Urology Outpatients Department:**

01225 825990 (Mon-Fri 9am-5pm)

01225 824034 (Monday- Friday 9am-5pm)

### **Robin Smith Ward:**

01225 824402 (out of hours and weekend)

01225 824802 (out of hours and weekend)

**For emergencies call 111/999 or visit your local A&E department.**

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If you would like this leaflet in email form, large print, braille or another language, please contact the Patient Support and Complaints team on 01225 825656.

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