



Manchester
Urology

Percutaneous Nephrolithotomy

An Information Leaflet (*Written May 2008*)



What is a percutaneous nephrolithotomy (PCNL)?

Percutaneous means “through the skin”.

Nephrolithotomy means the removal of kidney stones.

The kidney is one of a pair of organs situated at the back of the abdomen. It performs several functions, including regulating fluid and elimination from the body. Sometimes stones may form in the kidney and may cause pain, infection and/or a blockage of the urine transport to the bladder. A percutaneous nephrolithotomy is one way to remove kidney stones and to treat these symptoms.

To begin with, a telescopic examination of the bladder (cystoscopy) is performed, after which a catheter (soft narrow hollow tube) is inserted into the tube which carries urine from the kidney to the bladder (ureter). This catheter helps us to identify where the stones are located and another catheter is then inserted into the bladder to help us monitor your urine output during and after the operation.

When the stone is located, your position is changed, so that the surgeon can get to your kidney through the side of your back. A special needle is used to gain access into the kidney through the skin. A narrow plastic sheath is then passed down to the kidney and special instruments are then used to break up and remove the stones. X-rays are used for guidance throughout the procedure (it is therefore important to let us know before the operation, if you think you may be pregnant).

What are the benefits?

To treat the symptoms caused by kidney stones, e.g. pain, infection and/or obstructed kidney.

The small incision made by the needle, means a shorter stay in hospital than if an open procedure (large incision in the abdomen) is performed.

Are There Any Risks Involved?

Common

- *Catheter draining urine from the bladder;* this can cause

some irritation and you may experience some stinging when you pass urine following its removal which is usually 2 to 4 days after the operation.

- *Blood in the urine.*
- *Infection;* this may be at the small wound site or in the urine. If you experience prolonged stinging on passing urine, feel feverish or notice redness or pus at the wound site, contact your GP as soon as possible as you may require antibiotics.
- *Stent causing irritation, urgency and frequency;* a plastic tube (stent) may be left in the ureter to aid passage of any remaining stone fragments and to prevent obstruction. This is removed a few weeks after the operation under a local anaesthetic in your local urology department.
- *Pain;* if you experience any pain after the procedure, do not hesitate to request painkillers from the nurses looking after you.

Occasional

- *More than one puncture site;* sometimes it may be necessary to gain access via more than one puncture site.
- *Further treatment required;* the success rate of this procedure is typically 90%, although there is no guarantee of removal of all stones and you may need further procedures or operations to be stone free.
- *Recurrence of new stones.*

Rare

- *Kidney bleeding;* rarely, severe kidney bleeding can occur which requires blood transfusion or further surgery.
- *Damage to other organs;* the lungs, bowel, spleen or liver may be damaged during this procedure and may require further surgery.
- *Kidney damage or infection.*
- *Over-absorption of irrigating fluids;* the irrigating fluids (used to wash away stone fragments during the operation) may be over-absorbed into the blood stream, causing strain on your heart function.



What are the alternatives?

- Lithotripsy – this is shockwave treatment of kidney stones via ultrasound equipment.
- Open surgical removal of stones, requiring a larger incision in the abdomen or on the side of the affected kidney.
- Do nothing, although this may affect your health.

How long will I be in hospital for?

You will normally stay in hospital for 3 to 4 days but this can vary from patient to patient.

What happens to me when I arrive at the ward?

You will usually come into hospital on the day of your operation.

You will meet the nursing staff who will be looking after you and an anaesthetist, who will discuss your options for pain relief following the operation and also talk to you about the anaesthetic you will have.

On the day of the procedure

You should have nothing to eat or drink for several hours before the operation. If you would normally take tablets during this time, please ask at the pre-operative assessment clinic which you should continue to take.

Before going to the operating theatre, you may be asked to take a bath or shower and change into a theatre gown.

Any make-up, nail varnish, jewellery (except your wedding ring), dentures and contact lenses must be removed.

What happens after the procedure?

When you come out of theatre, you will be transferred to the recovery area before you are transferred back to your ward. You may still be very sleepy at first and may be given oxygen through a face mask.

After the operation you will have an intravenous drip (tube in a vein in your arm) giving you fluids, for approximately 24 hours, to ensure you do not become dehydrated.

You will be able to start taking drinks and a light diet the day after your operation.

You will have a catheter in your bladder to drain urine into a drainage bag. This usually stays in for approximately 2 to 4 days, depending on your progress. You may find that you experience some stinging when you pass urine following removal of the catheter. This should settle after a couple of days and is helped by drinking plenty of fluids.

You will have a special tube in your side, leading to your kidney (nephrostomy tube) which is used for the temporary drainage of urine. This also stays in approximately 2 to 4 days.

You may experience a degree of discomfort after the operation and should request painkillers to minimise any pain you may have.

You will be encouraged to mobilise around the ward, as soon as possible. This is to prevent the complications which very occasionally occur after any operation. These include;

- Deep vein thrombosis (DVT), which is the formation of a blood clot in the veins of the leg. You may receive a blood thinning injection on the days you are in hospital to help prevent this.
- Chest infection. This can be prevented by regular deep breathing exercises after the operation and if required a physiotherapist will assist you with these breathing exercises.



Discharge arrangements

It will be necessary to arrange for a responsible adult to collect you from hospital and take you home.

If there are any concerns about your wound site or if you have any stitches to be removed, a District Nurse visit may be organised by the ward nursing staff or you may be requested to visit the practice nurse at your GP's surgery.

Any new medication prescribed for you during your hospital stay will be supplied for the first seven days following discharge. Your GP will provide any necessary medication after this period.

Day to day living

You should be able to return to normal activities one to two weeks after the operation, although this will differ from patient to patient and you should rest whenever you feel the need to.

You should check with your car insurance, as to when you would be covered to drive following this type of operation.

If there is a problem

If you have any problems following this procedure please contact your GP as soon as possible.



For further information or to arrange an appointment with a consultant, please call: 0800 656 9616

Adebanji A.B. Adeyoju

Alexandra Hospital
Mill Lane, Cheadle, Cheshire SK8 2PX
Ryley Mount
432 Buxton Road, Hazel Grove, Stockport SK2 7JQ
a.adeyoju@manchesterurology.org.uk

Gerald Collins

Alexandra Hospital
Mill Lane, Cheadle, Cheshire SK8 2PX
Spire Regency Hospital
West Street, Macclesfield, Cheshire SK11 8DW
g.collins@manchesterurology.org.uk

Richard Brough

Alexandra Hospital
Mill Lane, Cheadle, Cheshire SK8 2PX
Highfield House
442 Buxton Road, Stockport SK2 7JB
Spire Regency Hospital
West Street, Macclesfield, Cheshire SK11 8DW
r.brough@manchesterurology.org.uk

Neil Oakley

Alexandra Hospital
Mill Lane, Cheadle, Cheshire SK8 2PX
Thornbury Hospital
312 Fullwood Road, Sheffield
S10 3BR (South Yorkshire)
n.oakley@manchesterurology.org.uk

Stephen Brown

Alexandra Hospital
Mill Lane, Cheadle, Cheshire SK8 2PX
Ryley Mount
432 Buxton Road, Hazel Grove, Stockport SK2 7JQ
s.brown@manchesterurology.org.uk

Patrick O'Reilly

Highfield House
442 Buxton Road, Stockport SK2 7JB
p.oreilly@manchesterurology.org.uk