

PCNL (Percutaneous Nephrolithotomy)

PCNL (Percutaneous Nephrolithotomy) Video

Who is suitable for Percutaneous nephrolithotomy (PCNL)?

Those experiencing symptoms related to kidney stones including

- Back or flank pain
- Sweating and nausea
- Blood in the urine
- Those who have tried other non-surgical treatments that have not worked
- Those who have kidney stones that are too large to pass without intervention
- Percutaneous nephrolithotomy (PCNL) is generally reserved for stones larger than 1.5cm, multiple or complex stones (staghorn)

What are the advantages of Percutaneous nephrolithotomy (PCNL)?

- Only a very small single skin incision (~1cm) is required for keyhole access
- Gives the surgeon a direct view of the urinary tract
- Very large stones are able to be cleared efficiently in one procedure
- Stone fragments can be retrieved and analyzed to determine composition – this can assist in developing future stone prevention strategies
- Can be performed as combined approach incorporating ureteroscopy with 2 surgeons for complex stones

How is Percutaneous nephrolithotomy (PCNL) performed?

- The procedure is performed under general anaesthetic and generally takes 1-2 hours to complete, depending upon the size, number and position of the stones
- Under xray guidance, a needle is passed directly into the kidney; the tract is then gently dilated to allow the insertion of a temporary sheath to allow direct access to the stone
- A small telescopic instrument (nephroscope) is passed directly into the kidney
- The stone is located and fragmented or can be disintegrated with holmium laser or ultrasound
- Stone fragments are then removed by the surgeon
- In most cases, a temporary soft rubber tube (nephrostomy) is left in place overnight to allow urine drainage and to minimize bleeding
- In other cases, a temporary internal stent may be placed in the ureter in order to ensure good urine drainage

What to expect after Percutaneous nephrolithotomy (PCNL)?

- Most patients will remain in hospital for one night
- If you have a stent in place, you will need to return to have it removed after a week or so – this is a very minor procedure performed under sedation with a small telescope (flexible cystoscope)
- It is not uncommon to see some blood in the urine in the days following the procedure. You may also feel the urge to urinate frequently if you have a stent in place
- Most patients will have some discomfort in the flank area for a few days following the procedure
- The risk of major bleeding or kidney damage is uncommon
- It is important to drink plenty of water to help with flushing the stone fragments out through the urine
- Normal light activities can be commenced within 2-3 days
- You should avoid any strenuous activity for 4 weeks following this procedure to minimize the chance of bleeding

Percutaneous nephrolithotomy (PCNL) outcomes

- Percutaneous nephrolithotomy (PCNL) is a safe and effective procedure for the treatment of large or complex kidney stones
- Resolves the common symptoms associated with kidney stones
- Percutaneous nephrolithotomy (PCNL) allows the vast majority of patients to be cleared of stones with one procedure

Post-Operative Care Instructions

What to expect:

- When you wake, you will have a small tube in place (nephrostomy tube) in your back/flank area. This is typically removed 1-2 days following surgery.
- You may also have a temporary ureteric stent in place (internal), to assist your kidney to drain urine down into the bladder. This is typically removed 1-2 weeks following surgery.
- You may also have a urinary catheter in place, which allows your doctor to monitor your urine output. This will be removed prior to discharge.
- You can expect to have some pain in the flank area, which can be controlled with medication.

Return to activity:

- Driving – no driving for at least 1-2 weeks, or until you are comfortable to do so
- Work – you will require at least 1-2 weeks off work, possibly longer depending on your occupation
- Nephrostomy Site Care (your nurse will assist with this)
 - The bag must be kept below the level of your kidney at all times
 - You may shower with your nephrostomy tube in place, however take care to pat the area dry immediately after showering. Do not take a bath/soak while the tube is in place
- Lifting – avoid heavy lifting for 2 weeks following your procedure
- Activities – walking is fine and encouraged following your procedure, however you should avoid strenuous activity and straining to open your bowels for 2 weeks following your procedure

- Sex – avoid for 2 weeks following the procedure.

Pain Management:

You may take ibuprofen or paracetamol if you are experiencing discomfort. Stronger pain relief may be provided if necessary.

Head to your nearest hospital emergency department if you:

- Have severe pain that cannot be controlled with medication
- Notice that a large amount of urine is leaking from your nephrostomy site
- Are unable to urinate
- Are unwell with a high fever

Follow-Up Information:

Our rooms will contact you to arrange a follow-up appointment with your urologist, typically 1-2 weeks after your procedure.

Your follow-up appointment is on: _____ at _____.

Contact Information:

If you have any questions or concerns that are not addressed here or in the procedure information available on our website melbourneurologycentre.com.au contact our rooms on 1300 702 811 or [\[email protected\]](#)

Post-Operative information for this procedure can be found here: [PCNL \(Percutaneous Nephrolithotomy\) Post-Operative Care Instructions](#)

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Vincentini, F. C., Mendes Gomes, C., Danilovic, A., Chedid Neto, E. A., Mazzucchi, E., Srougi, M., (2009), Percutaneous nephrolithotomy: current concepts, Indian Journal of Urology, 25(1), [\[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2684301/\]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2684301/), accessed

25/02/21.

Ghani, K. R., Andonian, S., Bultitude, M., Desai, M., Giusti, G., Okhunov, Z., Preminger, G.M., de la Rosette, J., (2016), Percutaneous nephrolithotomy: Update, trends and future directions, European Urology, 70(2),

[<https://www.sciencedirect.com/science/article/abs/pii/S0302283816001664>],
accessed 25/02/21.