

## **Percutaneous Nephrolithotomy (PCNL) 經皮腎鏡取石手術**

### **Introduction**

PCNL is one of the treatment options for renal stone and ureteric stone disease. As a minimally invasive procedure, it involves the passing of a medical instrument through the skin into your kidney to remove the stones.

### **The Procedure**

- X-ray and/or ultrasound guidance is required throughout the operation.
- Your doctor will first insert an endoscope into your bladder and pass a catheter into the ureter for the injection of contrast material.
- Your doctor will make a small cut on your back/flank and pass a needle through the skin to the kidney. The needle tract will then be dilated.
- Special instruments will be passed through the dilated tract, and your doctor will use these instruments to break the stones and take them out.
- After the operation, a ureteric stent and/or a tube via the tract into the kidney may be placed, and a urinary catheter is generally required.

### **Risk and Complication**

#### ***Common Risks and Complications***

Like any invasive procedures, PCNL carries some risks:

- Bleeding
- Infection
- Wound pain
- Residual stone fragments requiring additional or ancillary procedures

#### ***Uncommon Risks & Serious Consequences***

Possible uncommon risks include:

- Injury to adjacent organs, including perforation of the gastrointestinal tract (<1%), pleural cavity and lungs (1-3%), spleen and liver
- Unintended perforation of urinary tract
- Bleeding causing haematoma and clot retention, that requires blood transfusion (10-30%), radiological or surgical intervention (1-3%) and even a possibility of

nephrectomy (removal of the entire kidney)

- Failure to create a suitable tract to the kidney or unable to perform stone retrieval
- Ureteric obstruction due to migration of stone fragment
- Conversion to open surgery or other interventional procedure
- Sepsis (1-2%)
- Impairment or loss of kidney function
- Mortality (<0.5%)

This list is not exhaustive and not all rare complications can be listed.

### **Before the Procedure**

- Inform your doctor if you are pregnant.
- Inform your doctor of any medical condition (for example, diabetes, heart disease, high blood pressure, etc) and any medications (especially anticoagulants) you are currently taking.
- You would be assessed for medical fitness for the surgery by your doctor, including a series of blood tests, urine tests, and X-ray examinations.
- You must not eat or drink anything within 6 hours before the procedure (or as specified by your doctor).
- Your doctor will tell you whether you should continue your regular medications during the fasting period or may give you other instructions.
- Prophylactic antibiotics will be given to reduce the risk of infection.

### **After the Procedure**

Your doctor and nurses will closely monitor your blood pressure, pulse, level of pain, and for signs of bleeding.

- You can expect mild pain in the incision area.
- You may have intravenous fluid prescribed for you, and the doctor will put you back to your normal diet when your conditions have improved.
- You are encouraged to do deep breathing and coughing exercises to prevent chest infection.
- Blood-stained urine is expected to come out from both the kidney drain and the urinary catheter for a few days.
- The kidney drain and urinary catheter will be removed as soon as your condition allows for it.

- If a ureteric stent is placed, please be reminded to attend the scheduled appointment for removal of the ureteric stent.

### **Follow Up**

You will be discharged when your doctor deems you fit to return home. Please follow the instructions for wound care and attend the follow-up appointment given to you upon discharge. If serious events develop after discharge, you should seek urgent medical advice at the nearest Accident and Emergency Department.

### **Remarks**

This is for general information only, and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your doctor.