

Procedure Information Sheet- Percutaneous Nephrolithotomy (PCNL)

1. Introduction

1.1. Percutaneous nephrolithotomy (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.

2. The procedure

- 2.1. The procedure was performed under general anesthesia, doctor will insert an endoscope into your bladder and pass a catheter into the ureter for injection of contrast material.
- 2.2. Your doctor will make a small cut on your back and pass a needle through the skin to the kidney. The needle tract will then be dilated.
- 2.3. Special instruments will be passed through the dilated tract and your doctor will use these instruments to break the stones and take them out.
- 2.4. After the operation, a tube may be placed via the tract into the kidney and a urinary catheter is generally required.
- 2.5. X-ray guidance is required throughout the operation.

3. Risk and complication

3.1. Common risks and complications

- 1.1.1. Wound pain.
- 1.1.2. Infection.
- 1.1.3. Bleeding / Hematuria.
- 1.1.4. Residual stone fragments requiring additional or ancillary procedures.

3.2. Uncommon risks and serious consequences

Possible uncommon risks include:

- 3.2.1. Injury to adjacent organ, including perforation of gastrointestinal tract (<1%), pleural cavity and lungs (1-3%), spleen and liver.
- 3.2.2. Unintended perforation of urinary tract.
- 3.2.3. 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).
- 3.2.4. Failure to create a suitable tract to the kidney or unable to perform stone retrieval.
- 3.2.5. Ureteric obstruction due to migration of stone fragment. Conversion to open surgery or other interventional procedure.
- 3.2.6. Sepsis (1-2%).
- 3.2.7. Impairment or loss of kidney function.
- 3.2.8. Mortality (<0.5%).

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

4. Preparation before the procedure

- 4.1. Patient will be asked not to eat or drink for 6-8 hours (or instructed by Doctor) before operation.
- 4.2. Your doctor will tell you whether you should continue your regular medications during the fasting period or may give you other instructions.
- 4.3. Inform your doctor if you are pregnant.
- 4.4. Inform your doctor of any medical condition (for example diabetes, heart diseases, high blood pressure, etc.) and any medications you are currently taking.
- 4.5. Some drugs including blood thinners & aspirin may need to stop before operation.

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5. After the procedure

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

5.1. You can expect mild pain at the incision area.

5.2. You may have intravenous fluid prescribed for you and doctor will put you back to your normal diet when your conditions have improved.

5.3. You are encouraged to do deep breathing and coughing exercise to prevent chest infection.

5.4. Blood stained urine is expected to come out from both the kidney drain and the urinary catheter for a few days.

6. Follow up

6.1. Please follow the instructions for wound care and attend the follow up appointment given to you upon discharge.

6.2. If serious events develop after discharge, you should contact your doctor in-charge or seek urgent medical advice at the nearest Accident and Emergency Department.

7. Remark

7.1. The above mentioned procedural information is by no means exhaustive, other unforeseen complications may occur in special patient groups or different individual. Please contact your physician for further enquiry.

8. References

8.1. Hospital Authority(Smart Patient Website). Retrieved from:

<http://www21.ha.org.hk/smartpatient/SPW/en-US/Self-Care-Tips/OTP/List/?guid=3de5a30d-89a9-42c4-a1da-2a61d9aeb287>