
Percutaneous removal of kidney stone(s): procedure-specific information

What is the evidence base for this information?

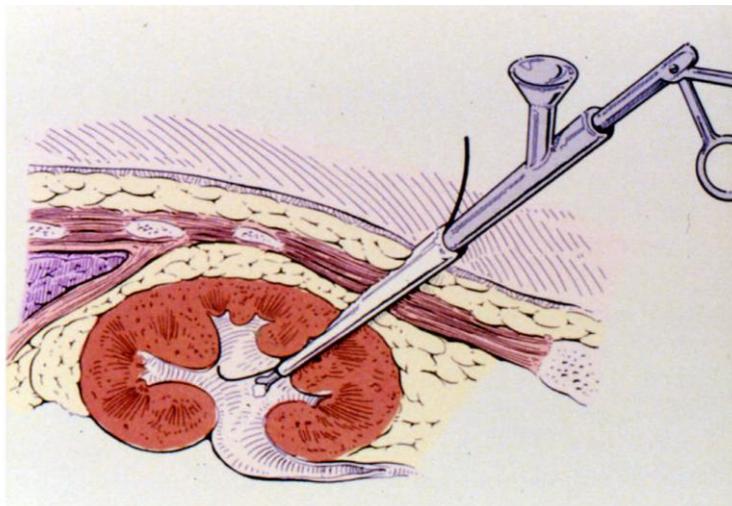
This leaflet includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and evidence-based sources; it is, therefore, a reflection of best practice in the UK. It is intended to supplement any advice you may already have been given by your GP or other healthcare professionals. Alternative treatments are outlined below and can be discussed in more detail with your Urologist or Specialist Nurse.

What does the procedure involve?

Disintegration & extraction of kidney stones with a telescope placed into the kidney through a small puncture in the back. This usually includes cystoscopy and x-ray screening

What are the alternatives to this procedure?

External shock wave treatment, open surgical removal of stones, observation



What should I expect before the procedure?

If you are taking Aspirin or Clopidogrel on a regular basis, you must discuss this with your urologist because these drugs can cause increased bleeding after surgery. There may be a balance of risk where stopping them will reduce the chances of bleeding but this can result in increased clotting, which may also carry a risk to your health. This will, therefore, need careful discussion with regard to risks and benefits.

You will usually be admitted on the same day as your surgery. You will normally receive an appointment for pre-assessment, approximately 14 days before your admission, to assess your general fitness, to screen for the carriage of MRSA and to perform some baseline investigations. After admission, you will be seen by members of the medical team which may include the Consultant, Specialist Registrar, House Officer and your named nurse. An X-ray may be taken in advance of surgery to confirm the position of your stone(s).

You will be asked not to eat or drink for 6 hours before surgery and, immediately before the operation, you may be given a pre-medication by the anaesthetist which will make you dry-mouthed and pleasantly sleepy.

If you are admitted on the day before surgery, you will normally be given antibiotics into a vein to prevent any infection at the time surgery.

Please be sure to inform your Urologist in advance of your surgery if you have any of the following:

- an artificial heart valve
- a coronary artery stent
- a heart pacemaker or defibrillator
- an artificial joint
- an artificial blood vessel graft
- a neurosurgical shunt
- any other implanted foreign body
- a prescription for Warfarin, Aspirin or Clopidogrel (Plavix®)
- a previous or current MRSA infection
- high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human-derived growth hormone)

What happens during the procedure?

Normally, a full general anaesthetic will be used and you will be asleep throughout the procedure.

You will usually be given injectable antibiotics before the procedure, after checking for any allergies.

The operation is usually carried out in a single stage. First, a small tube is inserted up the ureter into the kidney by means of a telescope passed into the bladder. You are then turned on to your face and a puncture track into the kidney is established, using X-ray guidance. Finally, a telescope is passed into the kidney and the stone(s) extracted or disintegrated. A catheter is usually left in the bladder at the end of the procedure together with a drainage tube in the kidney.

It may be necessary to puncture the kidney at more than one site if you have many stones scattered throughout the kidney.

What happens immediately after the procedure?

On the day after surgery, a further X-ray is normally performed to assess stone clearance. Occasionally, it may be necessary to perform an X-ray down the kidney drainage tube using contrast medium. If the X-ray is satisfactory, the tube in your kidney and the bladder catheter will be removed. There is often some leakage from the kidney tube site for 24-48 hours and you will be only discharged once this leakage has resolved.

The average hospital stay is 4-5 days.

Are there any side-effects?

Most procedures have a potential for side-effects. You should be reassured that, although all these complications are well-recognised, the majority of patients do not suffer any problems after a urological procedure.

Please use the check boxes to tick off individual items when you are happy that they have been discussed to your satisfaction:

Common (greater than 1 in 10)

- Temporary insertion of a bladder catheter and ureteric stent/ kidney tube needing later removal
- Transient blood in the urine
- Transient raised temperature

Occasional (between 1 in 10 and 1 in 50)

- Occasionally more than one puncture site is required
- No guarantee of removal of all stones & need for further operations
- Recurrence of new stones
- Failure to establish access to the kidney resulting in the need for further surgery

Rare (less than 1 in 50)

- Severe kidney bleeding requiring transfusion, embolisation or at last resort surgical removal of kidney.
- Damage to lung, bowel, spleen, liver requiring surgical intervention.
- Kidney damage or infection needing further treatment
- Over-absorption of irrigating fluids into blood system causing strain on heart function

Hospital-acquired infection (overall risk for Addenbrooke's)

- Colonisation with MRSA (0.02%, 1 in 5,000)
- Clostridium difficile bowel infection (0.04%; 1 in 2,500)
- MRSA bloodstream infection (0.01%; 1 in 10,000)

(These rates may be greater in high-risk patients e.g. with long-term drainage tubes, after removal of the bladder for cancer, after previous infections, after prolonged hospitalisation or after multiple admissions)

What should I expect when I get home?

When you leave hospital, you will be given a "draft" discharge summary of your admission. This holds important information about your inpatient stay and your operation. If, in the first few weeks after your discharge, you need to call your GP for any reason or to attend another hospital, please take this summary with you to allow the doctors to see details of your treatment. This is particularly important if you need to consult another doctor within a few days of your discharge.

When you get home, you should drink twice as much fluid as you would normally to flush your system through and minimise any bleeding. You should aim to keep your urine permanently colourless to minimise the risk of further stone formation.

It may take at least 2 weeks to recover fully from the operation. You should not expect to return to work within 10 days, especially if your job is physically strenuous.

What else should I look out for?

If you develop a fever, severe pain on passing urine, inability to pass urine or worsening bleeding, you should contact your GP immediately. Small stone fragments may also pass down the ureter from the kidney, resulting in renal colic; in this event, you should contact your GP immediately.

Are there any other important points?

You can prevent further stone recurrence by implementing changes to your diet and fluid intake. If you have not already received a written leaflet about this, contact your named nurse, the Specialist Nurse in outpatients or your Consultant.

Driving after surgery

It is your responsibility to ensure that you are fit to drive following your surgery. You do not normally need to notify the DVLA unless you have a medical condition that will last for longer than 3 months after your surgery and may affect your ability to drive. You should, however, check with your insurance company before returning to driving. Your doctors will be happy to provide you with advice on request.

Is there any research being carried out in this field at Addenbrooke's Hospital?

There is no specific research in this area at the moment but all operative procedures performed in the department are subject to rigorous audit at a monthly Audit & Clinical Governance meeting.

Who can I contact for more help or information?

Oncology Nurses

- Uro-Oncology Nurse Specialist

01223 586748

- Bladder cancer Nurse Practitioner (haematuria, chemotherapy & BCG)
01223 274608
- Prostate cancer Nurse Practitioner
01223 247608 or 216897 or bleep 154-548
- Surgical Care Practitioner
01223 348590 or 256157 or bleep 154-134

Non-Oncology Nurses

- Urology Nurse Practitioner (incontinence, urodynamics, catheter patients)
01223 274608 or 586748
- Urology Nurse Practitioner (stoma care)
01223 349800

Patient Advice & Liaison Centre (PALS)

- Telephone
+44 (0)1223 216756 or 257257
+44 (0)1223 274432 or 274431
- PatientLine
*801 (*from patient bedside telephones only*)
- E mail
pals@addenbrookes.nhs.uk
- Mail
PALS, Box No 53
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

Chaplaincy and Multi-Faith Community

- Telephone
+44 (0)1223 217769
- E mail
derek.fraser@addenbrookes.nhs.uk
- Mail
The Chaplaincy, Box No 105
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

MINICOM System ("type" system for the hard of hearing)

- Telephone
+44 (0)1223 274604

Access Office (travel, parking & security information)

- Telephone
+44 (0)1223 586969

What should I do with this form?

Thank you for taking the trouble to read this information sheet. If you wish to sign it and retain a copy for your own records, please do so below.

If you would like a copy of this form to be filed in your hospital records for future reference, please let your Urologist or Specialist Nurse know. If you do, however, decide to proceed with the scheduled procedure, you will be asked to sign a separate consent form which will be filed in your hospital notes and you will, in addition, be provided with a copy of the form if you wish.

I have read this information sheet and I accept the information it provides.

Signature.....Date.....

How can I get information in alternative formats?

Please ask if you require this information in other languages, large print or audio format: 01223 216032 or patient.information@addenbrookes.nhs.uk

- Polish** Informacje te można otrzymać w innych językach, w wersji dużym drukiem lub audio. Zamówienia prosimy składać pod numerem: 01223 216032 lub wysyłając e-mail: patient.information@addenbrookes.nhs.uk
- Portuguese** Se precisar desta informação num outro idioma, em impressão de letras grandes ou formato áudio por favor telefone para o 01223 216032 ou envie uma mensagem para: patient.information@addenbrookes.nhs.uk
- Russian** Если вам требуется эта информация на другом языке, крупным шрифтом или в аудиоформате, пожалуйста, обращайтесь по телефону 01223 216032 или на вебсайт patient.information@addenbrookes.nhs.uk
- Cantonese** 若你需要此信息的其他語言版本、大字體版或音頻格式，請致電 01223 216032 或發郵件到: patient.information@addenbrookes.nhs.uk
- Turkish** Bu bilgiyi diğer dillerde veya büyük baskılı ya da sesli formatta isterseniz lütfen su numaradan kontak kurun: 01223 216032 veya aşağıdaki adrese e-posta gönderin: patient.information@addenbrookes.nhs.uk
- Bengali** এই তথ্য বাংলায়, বড় অক্ষরে বা অডিও টেপে পেতে চাইলে দয়া করে 01223 216032 নম্বরে ফোন করুন বা patient.information@addenbrookes.nhs.uk ঠিকানায় ই-মেইল করুন।



Addenbrooke's is smoke-free. You cannot smoke anywhere on the site. Smoking increases the severity of some urological diseases and increases the risk of post-operative complications. For advice on quitting, contact your GP or the NHS smoking helpline free on 0800 169 0 169

Document history

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