The British Association of Urological Surgeons

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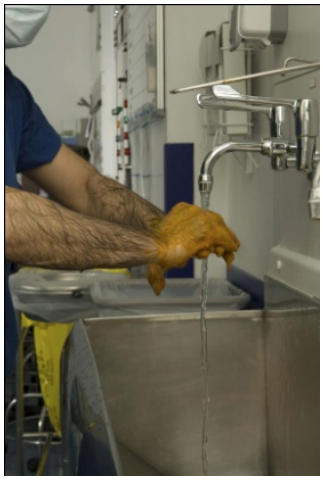
OPEN REMOVAL OF STONE(S) FROM THE KIDNEY

INFORMATION FOR PATIENTS

What evidence is this information based on?

This booklet includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and other sources. As such, it is a reflection of best urological practice in the UK. You should read this booklet with any advice your GP or other healthcare professional may already have given you. We have outlined alternative treatments below that you can discuss in more detail with your urologist or specialist nurse.



What does the procedure involve?

Removal of stone(s) from the collecting system of the kidney with incision(s) into the kidney.

What are the alternatives to this procedure?

Alternatives to this procedure include telescopic removal, laparoscopic removal, external shock wave treatment and observation.

What should I expect before the procedure?

You will usually be admitted to hospital on the same day as your surgery. You will normally receive an appointment for a "pre-assessment" to assess your general fitness, to screen you for MRSA and to do some baseline investigations. Once you have been admitted, you will be seen by members of the medical team which may include the consultant, specialist registrar, house officer and your named nurse.

You will be asked not to eat and drink for six hours before surgery. Immediately before the operation, the anaesthetist may give you a pre-medication which will make you dry-mouthed and pleasantly sleepy.

An X-ray to confirm the position of your stone(s) will normally be performed shortly before your operation.

You will be given an injection of a drug called Clexane under your skin. Together with elasticated stockings provided by the ward, this will help to prevent venous thrombosis (clots in your legs)

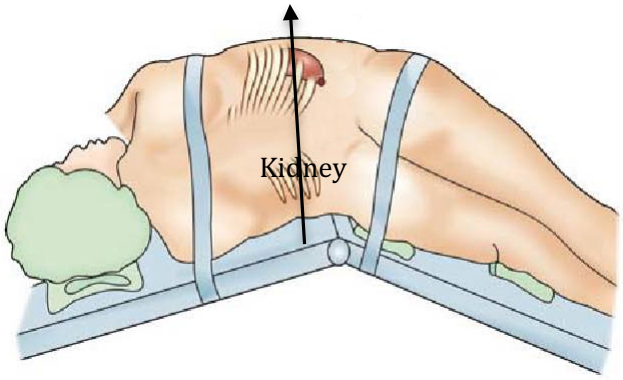
Please tell your surgeon (before your surgery) if you have any of the following:

- 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 regular prescription for a blood thinning agent such as warfarin, aspirin, clopidogrel (Plavix®), rivaroxaban, prasugrel or dabigatran
- A previous or current MRSA infection
- A high risk of variant-CJD (if you have had a corneal transplant, a neurosurgical dural transplant or injections of human-derived growth hormone).

When you are admitted to hospital, you will be asked to sign the second part of your operation consent form giving permission for your operation to take place, showing you understand what is to be done and confirming that you want to go ahead. Make sure that you are given the opportunity to discuss any concerns and to ask any questions you may still have before signing the form.

What happens during the procedure?

A full general anaesthetic is normally used and you will be asleep throughout the procedure. You will usually be given an injection of antibiotics before the procedure, after you have been checked for any allergies. The anaesthetist may also use an epidural or spinal anaesthetic to reduce the level of pain afterwards.



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

You are enormally positioned on your side (pictured) and a cut is made in your loin, just at the lower edge of your ribs. The exposes the kidney and then the surgeon makes an incision into the pelvis of the kidney. Some of the stones are removed through this incision while others need additional cuts into the kidney itself. This usually requires the artery to the kidney to be clamped for up to 30 minutes to prevent bleeding. We take contact X-rays at the time of surgery to confirm that we have removed all the stone(s).

A wound drain is usually inserted at the end of the procedure, together with a bladder catheter to monitor urine output; it may also be necessary to insert a drainage tube into the kidney itself (a nephrostomy).

What happens immediately after the procedure?

You should be told how the procedure went and you should:

- ask the surgeon if it went as planned;
- let the medical staff know if you are in any discomfort;
- ask what you can and cannot do;
- feel free to ask any questions or discuss any concerns with the ward staff and members of the surgical team; and
- make sure that you are clear about what has been done and what happens next.

We normally use absorbable stitches which do not require removal but, if absorbable stitches are not used, we will arrange for them to be removed on the ward or by your District Nurse after seven to 10 days.

You may have a further X-ray after the procedure to confirm that the stones have been completely removed. This also checks the position of the nephrostomy tube if one has been inserted. If stones remain in the kidney, we may try to dissolve them using irrigation through the nephrostomy tube.

The nephrostomy tube is normally be removed after seven to 10 days and we usually do an X-ray using dye through the tube before it is removed.

The average hospital stay is 10 days.

Are there any side-effects?

Most procedures have possible side-effects. But, although the complications listed below are well-recognised, most patients do not suffer any problems.

Common (greater than 1 in 10)

- Need to stent the ureter with a temporary plastic tube.
- Insertion of a nephrostomy tube.
- Further procedure to remove the ureteric stent, usually under local anaesthetic.
- Bulging of the wound due to damage to the nerves in the abdominal wall muscles.

Occasional (between 1 in 10 and 1 in 50)

- Possibility of further stones.

Rare (less than 1 in 50)

- Severe kidney bleeding needing transfusion, embolisation or surgical removal of kidney.
- Long term drainage of urine from drain site due to slow healing of the opening in the kidney.
- Infection, pain or hernia of incision needing further treatment.
- Scarring or stricture of collecting system needing further surgery.
- Damage to lung, bowel, spleen, liver needing surgical intervention.
- Need to do further open surgery or radiological procedures to remove any remaining stone(s) .

- Anaesthetic or cardiovascular problems possibly requiring intensive care admission (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death).

Hospital-acquired infection

- Colonisation with MRSA (0.9% - 1 in 110).
- MRSA bloodstream infection (0.02% - 1 in 5000).
- Clostridium difficile bowel infection (0.01% - 1 in 10,000).

Please note: The rates for hospital-acquired infection may be greater in "high-risk" patients. This group includes, for example, patients with long-term drainage tubes, patients who have had their bladder removed due to cancer, patients who have had a long stay in hospital or patients who have been admitted to hospital many times.

What should I expect when I get home?

When you are discharged from hospital, you should:

- be given advice about your recovery at home;
- ask when you can begin normal activities again, such as work, exercise, driving, housework and sex;
- ask for a contact number if you have any concerns once you return home;
- ask when your follow-up will be and who will do this (the hospital or your GP); and
- be sure that you know when you get the results of any tests done on tissues or organs that have been removed.

When you leave hospital, you will be given a "draft" discharge summary. This contains important information about your stay in hospital and your operation. If you need to call your GP or if you need to go to another hospital, please take this summary with you so the staff can see the details of your treatment. This is important if you need to consult another doctor within a few days of being discharged.

You will feel slightly uncomfortable for at least six weeks after the procedure and you will need at least eight weeks off work after this operation.

Most patients with kidney stones have infection in the urine so you will be asked to continue taking antibiotics for several weeks.

After surgery through the loin, the abdomen around the scar will bulge due to nerve damage. This is not a hernia but it can be helped by exercising the muscles of the abdominal wall.

What else should I look out for?

If you develop a temperature, increased redness, throbbing or drainage at the site of the operation, please contact your GP.

If you develop any unexpected abdominal pain, loin pain or other symptoms, you should contact your GP immediately.

Are there any other important points?

A follow-up outpatient appointment will normally be arranged at six to eight weeks after the operation. A further kidney X-ray or radioisotope measurement of kidney function may be requested at that stage to assess the recovery of the kidney.

It is not unusual to experience twinges of discomfort which can go on for several months.

If there are any small stones remaining in your kidney, shockwave lithotripsy may be arranged at a later stage.

You can prevent further stone development by changing your diet and fluid intake. If you have not already received a written leaflet about this, contact the specialist nurse in outpatients or your urologist.

Driving after surgery

It is your responsibility to make sure you are fit to drive following your surgery. You do not normally need to tell the DVLA that you have had surgery, unless you have a medical condition that will last for longer than three 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 give you advice on this.

Is any research being carried out in this area?

Before your operation, your surgeon or specialist nurse will tell you about any relevant research studies taking place. In particular, they will tell you if any tissue that is removed during your surgery will be stored for future study. If you agree to this research, you will be asked to sign a special form giving your consent.

All surgical procedures, even those not currently undergoing research, are audited so that we can analyse our results and compare them with those of other surgeons. In this way, we learn how to improve our techniques and results; this means that our patients will then get the best treatment available.

What should I do with this information?

Thank you for taking the trouble to read this booklet. If you want to keep a copy for your own records, please sign below. If you would like a copy of this booklet filed in your hospital records for future reference, please let your urologist or specialist nurse know. However, if you do agree to go ahead with the scheduled procedure, you will be asked to sign a separate consent form that will be filed in your hospital records; we can give you a copy of this consent form if you ask.

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

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

How can I get information in alternative formats?

Please ask your local NHS Trust or PALS network if you require this information in other languages, large print, Braille or audio format.

Most hospitals are smoke-free. Smoking can make some urological conditions worse and increases the risk of complications after surgery. For advice on stopping, contact your GP or the free **NHS Smoking Helpline** on **0800 169 0 169**

Disclaimer

While we have made every effort to be sure the information in this booklet is accurate, we cannot guarantee there are no errors or omissions. We cannot accept responsibility for any loss resulting from something that anyone has, or has not, done as a result of the information in this booklet.

The NHS Constitution
Patients' Rights & Responsibilities

Following extensive discussions with staff and the public, the NHS Constitution has set out new rights for patients that will help improve your experience within the NHS. These rights include:

- a right to choice and a right to information that will help you make that choice;
- a right to drugs and treatments approved by NICE when it is considered clinically appropriate;
- a right to certain services such as an NHS dentist and access to recommended vaccinations;
- the right that any official complaint will be properly and efficiently investigated, and that patients will be told the outcome of the investigations; and
- the right to compensation and an apology if you have been harmed by poor treatment.

The constitution also lists patients' responsibilities, including:

- providing accurate information about their health;
- taking positive action to keep yourself and your family healthy.
- trying to keep appointments;
- treating NHS staff and other patients with respect;
- following the course of treatment that you are given; and
- giving feedback (both positive and negative) after treatment.

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