OPEN REMOVAL OF PART OF THE KIDNEY

Information about your procedure from
The British Association of Urological Surgeons (BAUS)

This leaflet contains evidence-based information about your proposed urological procedure. We have consulted specialist surgeons during its preparation, so that it represents best practice in UK urology. You should use it in addition to any advice already given to you.

To view the online version of this leaflet, type the text below into your web browser:

http://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Partial nephrectomy open.pdf

Key Points

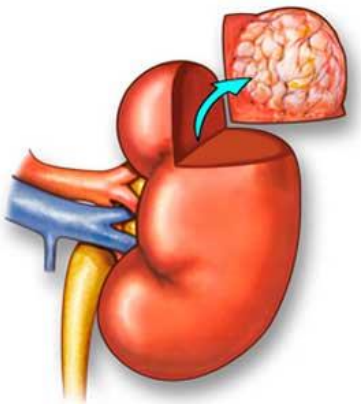
- The aim of open partial nephrectomy is to remove the part of your kidney containing a suspected cancerous tumour through an incision in your loin
- If successful, it allows better preservation of kidney function than complete removal of your kidney
- If partial removal is not considered feasible, or is felt to be unsafe, we may decide to perform complete removal of your kidney
- Bleeding, incomplete tumour clearance and urine leakage from the cut edge of the kidney are the major side-effects

What does this procedure involve?

Removal of part of your kidney, with its surrounding fat (pictured) for suspected cancer of the kidney, through an incision in your abdomen or loin.

What are the alternatives?

- **Observation alone** – leaving the tumour in your kidney and observing it carefully for any signs of enlargement
- **Open radical nephrectomy** – removing the whole kidney and its surrounding tissues through an abdominal or loin incision



- **Laparoscopic partial nephrectomy** – removing only the part of the kidney containing the tumour, using a telescopic (keyhole) technique and robotic assistance
- **Laparoscopic radical nephrectomy** – removing the whole kidney, using a telescopic (keyhole) technique; this can be performed using robotic assistance
- **Cryoablation** – freezing the tumour with cooled metal probes using CT guidance, telescopic (keyhole) techniques or direct puncture through your skin
- **Radiofrequency ablation** – using an electric current to "heat up" the tumour under X-ray control, without damaging the surrounding kidney

What happens on the day of the procedure?

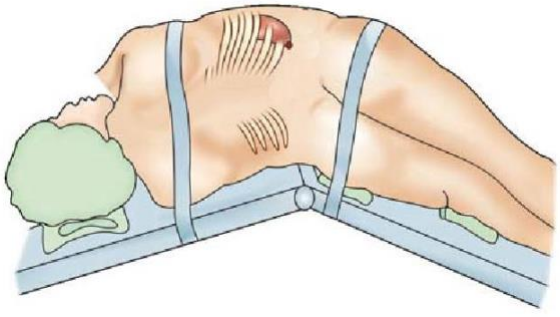
Your urologist (or a member of their team) will briefly review your history and medications, and will discuss the surgery again with you to confirm your consent.

An anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

We may provide you with a pair of TED stockings to wear, and we may give you a heparin injection to thin your blood. These help to prevent blood clots from developing and passing into your lungs. Your medical team will decide whether you need to continue these after you go home.

Details of the procedure

- we normally carry out the procedure under a general anaesthetic
- we usually give you an injection of antibiotics before the procedure, after you have been checked for any allergies
- we remove your kidney and upper ureter through an incision in your loin (pictured); occasionally, if the tumour is large, we may need to extend the incision into your abdominal area or chest



- we free your kidney and its surrounding fat, and remove the part of your kidney which contains the tumour, together with its surrounding fat

- sometimes, we put a stent into the drainage system of your kidney to help healing; we remove this telescopically at a later stage
- we close the wound with absorbable stitches (which normally disappear within two to three weeks) stitches or staples, and inject local anaesthetic into the wound for pain relief
- we put a catheter in your bladder to monitor your urine output; this is removed as soon as you are mobile
- we usually put a drain down to the area where the tumour was removed, to prevent fluid accumulation; this is removed when it stops draining
- the procedure takes from one to three hours to complete, depending on complexity
- you can expect to be in hospital for five to seven days

Following major abdominal surgery, some urology units have introduced Enhanced Recovery Pathways. These actually start before you are admitted to hospital. After your surgery, they are designed to speed your recovery, shorten your time in hospital and reduce your risk of re-admission.

We will encourage you to get up and about as soon as possible. This reduces the risk of blood clots in your legs and helps your bowel to start working again. You will sit out in a chair shortly after the procedure and be shown deep breathing/leg exercises. We will encourage you to start drinking and eating as soon as possible.

Are there any after-effects?

The possible after-effects and your risk of getting them are shown below. Some are self-limiting or reversible, but others are not. We have not listed very rare after-effects (occurring in less than 1 in 250 patients) individually. The impact of these after-effects can vary a lot from patient to patient; you should ask your surgeon's advice about the risks and their impact on you as an individual:

After-effect	Risk
Pain or discomfort at the incision site	 Almost all patients
Temporary abdominal bloating (gaseous distension)	 Almost all patients

The abnormality in the kidney may turn out not to be cancer		Between 1 in 2 & 1 in 10 patients
Bulging of your abdominal wall below the wound due to damage to the nerves supplying the muscles		Between 1 in 2 & 1 in 10 patients
Bleeding, infection, pain or hernia at the incision site requiring further treatment		Between 1 in 10 & 1 in 50 patients
Removal of the whole kidney may be needed if partial removal is not thought to be possible		Between 1 in 10 & 1 in 50 patients
Urinary leakage from the cut edge of the kidney requiring further treatment (e.g. putting in a ureteric stent)		Between 1 in 10 & 1 in 50 patients
Bleeding requiring transfusion, embolisation or further surgery (including loss of the entire kidney)		Between 1 in 10 & 1 in 50 patients
Failure to remove all the tumour requiring close observation or further treatment at a later date		Between 1 in 10 & 1 in 50 patients
Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)		Between 1 in 50 & 1 in 250 patients (your anaesthetist can estimate your individual risk)
Entry into your lung cavity requiring insertion of a temporary drainage tube		Between 1 in 50 & 1 in 250 patients
Involvement or injury to nearby local structures (blood vessels, spleen, liver, lung, pancreas & bowel) requiring more extensive surgery		Between 1 in 50 & 1 in 250 patients

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is between 4 & 6%; this includes getting *MRSA* or a *Clostridium difficile* bowel infection. This figure is higher if you are in a "high-risk" group of patients such as patients who have had:

- long-term drainage tubes (e.g. catheters);
- bladder removal;
- long hospital stays; or
- multiple hospital admissions.

What can I expect when I get home?

- you will get some twinges of discomfort in your incisions which may go on for several weeks; this can used be controlled by simple painkillers such as paracetamol
- we normally arrange to remove any staples or stitches in your incision after seven to 10 days
- you should have recovered completely after three to four weeks
- most people can return to work at the end of this time
- you will be given advice about your recovery at home
- you will be given a copy of your discharge summary and a copy will also be sent to your GP
- any antibiotics or other tablets you may need will be arranged & dispensed from the hospital pharmacy
- if you have had a ureteric stent put in, we will arrange for this to be removed under local anaesthetic using a small, flexible telescope
- the pathology results on your kidney will be discussed in a multi-disciplinary team (MDT) meeting
- you and your GP will be informed of the results at the earliest possible opportunity
- we normally arrange a follow-up appointment for you once the pathology results are available

When your kidney has been removed through a loin incision, the abdominal wall below your scar will bulge; **this is not a hernia** but is caused by nerve damage. It can be helped by strengthening up the muscles of your abdominal wall. We can arrange for you to see a physiotherapist who will show you exercises to strengthen these muscles.

General information about surgical procedures

Before your procedure

Please tell a member of the medical team if you have:

- an implanted foreign body (stent, joint replacement, pacemaker, heart valve, blood vessel graft);
- a regular prescription for a blood thinning agent (e.g. warfarin, aspirin, clopidogrel, rivaroxaban, dabigatran);
- a present or previous MRSA infection; or
- a high risk of variant-CJD (e.g. if you have had a corneal transplant, a neurosurgical dural transplant or human growth hormone treatment).

Questions you may wish to ask

If you wish to learn more about what will happen, you can find a list of suggested questions called "Having An Operation" on the website of the Royal College of Surgeons of England. You may also wish to ask your surgeon for his/her personal results and experience with this procedure.

Before you go home

We will tell you how the procedure went and you should:

- make sure you understand what has been done;
- ask the surgeon if everything went as planned;
- let the staff know if you have any discomfort;
- ask what you can (and cannot) do at home;
- make sure you know what happens next; and
- ask when you can return to normal activities.

We will give you advice about what to look out for when you get home. Your surgeon or nurse will also give you details of who to contact, and how to contact them, in the event of problems.

Smoking and surgery

Ideally, we would prefer you to stop smoking before any procedure. Smoking can worsen some urological conditions and makes complications more likely after surgery. For advice on stopping, you can:

- contact your GP;
- access your local NHS Smoking Help Online; or
- ring the free NHS Smoking Helpline on **0300 123 1044**.

Driving after surgery

It is your responsibility to make sure you are fit to drive after any surgical procedure. You only need to contact the DVLA if your ability to drive is likely to be affected for more than three months. If it is, you should check with your insurance company before driving again.

What should I do with this information?

Thank you for taking the trouble to read this information. Please let your urologist (or specialist nurse) know if you would like to have a copy for your own records. If you wish, the medical or nursing staff can also arrange to file a copy in your hospital notes.

What sources have we used to prepare this leaflet?

This leaflet uses information from consensus panels and other evidence-based sources including:

- the Department of Health (England);
- the Cochrane Collaboration; and
- the National Institute for Health and Care Excellence (NICE).

It also follows style guidelines from:

- the Royal National Institute for Blind People (RNIB);
- the Information Standard;
- the Patient Information Forum; and
- the Plain English Campaign.

Disclaimer

We have made every effort to give accurate information but there may still be errors or omissions in this leaflet. BAUS cannot accept responsibility for any loss from action taken (or not taken) as a result of this information.

PLEASE NOTE

The staff at BAUS are not medically trained, and are unable to answer questions about the information provided in this leaflet. If you do have any questions, you should contact your urologist, specialist nurse or GP.