RADICAL OPEN NEPHRECTOMY (REMOVAL OF A KIDNEY FOR SUSPECTED CANCER)

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/Radical nephrectomy open.pdf

Key Points

- The aim of open nephrectomy is to remove a tumour-bearing kidney, and all its surrounding structures, through an incision in your abdomen (tummy) or loin
- In some cases, the adrenal gland and nearby lymph glands are also removed
- The procedure is normally well-tolerated with an average length of stay of around five to six days
- Recovery can be prolonged (up to two or three months)
- Bulging of your abdomen below the scar, due to damage to the nerves supplying the abdominal wall muscles, is common after the procedure
- Regular, long-term follow-up with scans is required after removal of a kidney tumour

What does this procedure involve?

Removal of your kidney, adrenal gland, surrounding fat and lymph nodes for suspected cancer of the kidney, using an incision in your upper abdomen (tummy) or loin (side).

What are the alternatives?

- **Observation alone** – leaving the tumour in your kidney and observing it carefully for any signs of enlargement

- **Laparoscopic radical nephrectomy** – removing the whole kidney and its surrounding tissues using a telescopic (keyhole) technique; this can be performed using robotic assistance
- **Open partial nephrectomy** – removing only the part of the kidney containing the tumour, through an abdominal or loin incision
- **Robotic-assisted partial nephrectomy** – removing only the part of the kidney containing the tumour, using a robotic-assisted laparoscopic (keyhole) technique

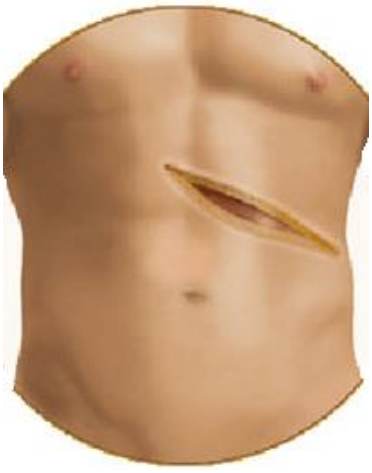
What happens on the day of the procedure?

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 and you will be asleep throughout
- we may give you an injection of antibiotics before the procedure, after you have been checked for any allergies
- we normally make an incision (pictured) across the upper part of your abdomen (tummy); sometimes, we make the incision in your loin (side) and we may have to extend it into your chest
- we remove the kidney with all its surrounding structures (in some cases, adrenal gland, fat and lymph nodes as well)
- we put a catheter into your bladder to monitor your urine output; this is normally removed as soon as you are mobile

- we sometimes put a tube through your nose into your stomach (a nasogastric tube) to prevent bloating of your stomach, especially if the procedure has proved particularly difficult
- we close the wound with stitches, clips or staples which are normally removed after five to seven days
- we normally put a drain down to the area where the kidney was removed, to prevent fluid accumulation; we take it out when drainage stops
- the procedure takes between one and 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
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

Chest infection		1 in 25 patients (4%)
Bleeding requiring transfusion or further surgery		Between 1 in 10 & 1 in 50 patients
Infection, pain or hernia at the incision site requiring further treatment		1 in 33 patients (3%)
Entry into your lung cavity requiring insertion of a temporary drainage tube		Between 1 in 10 & 1 in 50 patients
Need for further treatment for the kidney cancer		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)
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
The abnormality in the kidney may turn out not to be cancer		Between 1 in 50 & 1 in 250 patients
Dialysis may be required to stabilise your kidney function if your other kidney does not function well		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 discomfort in your incision for several days and twinges of discomfort may go on for several months
- your incision may take up to six weeks to heal completely
- you should continue to wear your TED stockings for 14 days after you get home
- 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
- 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

If you have had an incision in your loin, your abdomen below your scar often bulges as a result of nerve damage. This is **not** a hernia and can be helped by strengthening up your abdominal muscles with exercise.

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.