Urology Department

Laparoscopic radical removal of the kidney and ureter: 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 urologist or nurse specialist as well as the surgical team at Addenbrooke’s. Alternative treatments are outlined below and can be discussed in more detail with your Urologist or Specialist Nurse.

What does the procedure involve?
This involves removal of the kidney (and surrounding fat), and ureter for suspected cancer of the surface lining of the kidney and/or ureter. It requires the placement of a telescope and operating instruments into your abdominal (tummy) cavity using 3-5 small “keyhole” incisions to disconnect the kidney. The lower ureter is detached with a ‘cuff’ of bladder wall, using a telescope passed into your bladder. Sometimes, a separate open incision (cut) is needed to remove the lower ureter; this depends on the site and extent of the tumour.

What are the alternatives to this procedure?
- Open nephroureterectomy – removing the whole kidney and ureter through one (or more) abdominal or loin incisions
- Endoscopic treatment – using instruments passed up from your bladder and laser or diathermy treatment to the tumour
- Observation alone – leaving the tumour in your kidney and observing it for signs of enlargement
- Palliative treatment – using treatments including radiotherapy or chemotherapy to control symptoms such as bleeding, if surgery is not appropriate or deemed to hazardous

What is laparoscopic surgery?
Laparoscopy (otherwise known as “keyhole surgery”) is a form of minimal access surgery. This involves performing operations that are traditionally done by an “open” method but using “keyholes” instead. A number of urological procedures are now being performed by this method routinely. It has been shown to be safe and effective for kidney surgery. Your urologist will discuss the details of the procedure with you whilst you are an outpatient, outlining the procedure as part of your consent. You should be aware that there is a small chance (less than 5%) that your procedure may need to be converted to an open procedure. For this reason, if you are insistent that you would not agree to an open operation under any circumstances, we would not be able to proceed with the laparoscopic operation.
What should I expect before the procedure?

You will normally undergo pre-assessment on the day of your clinic or an appointment for pre-assessment will be made from clinic, to assess your general fitness, to screen for the carriage of MRSA and to perform some baseline investigations.

You will usually be admitted on the same day as your surgery. After admission, you will be seen by members of the surgical team that may include the Consultant, junior urology doctors and your named nurse.

One important thing that you must do is to prepare yourself to mobilise immediately after the operation. You should try to walk at least 10 lengths of the ward before your operation.

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.

You will be given elasticated (TED) stockings that will help prevent thrombosis (clots) in the veins.

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, Rivaroxaban, Dabigatran, Apixaban, Edoxaban or Clopidogrel, Ticagrelor or blood thinning medication
- 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. In some patients, the anaesthetist may also use an epidural anaesthetic that improves or minimises pain post-operatively.

You will be transferred to the operating theatre on your bed and you will be taken first to the anaesthetic room. They may put a drip in to your arm to allow them to access your circulation during the operation. You will be anaesthetised and taken into the operating theatre. During the surgery you will be given antibiotics by injection; if you have any allergies, be sure to let the anaesthetist know.
Your abdominal (tummy) cavity will be distended (inflated) using carbon dioxide gas. The kidney and most of the ureter are usually dissected free through several keyhole incisions. The lower ureter is disconnected either using a telescope through the bladder or with a separate incision into the lower abdomen. The kidney and ureter are usually removed from your abdomen by extending one of the keyhole incisions.

A bladder catheter is normally inserted, to monitor urine output and allow the bladder to heal, and a drainage tube is usually placed through the skin into the bed of the kidney.

The procedure normally takes 3-4 hours to complete, depending on complexity.

What happens immediately after the procedure?

It is fine, and in fact you will be encouraged, to eat and drink as soon as you feel able to after surgery. You will be encouraged to get up and about as soon as possible after surgery. This helps to prevent blood clots forming in your legs, chest infection from developing, and also decreases any disturbance to your bowel function.

The wound drain will need to remain in place for 24 to 48 hours in case urine leaks from the bladder.

The catheter will need to remain in place for up to 10 days after surgery to keep the bladder empty and give it chance to heal. You will go home with the catheter in place and will be taught how to take care of it by the nurses before you go home. Arrangements will be made to remove your catheter in the urology clinic, usually after an X-ray (cystogram) to ensure the bladder is fully healed. Just before the catheter is taken out, an anti-cancer drug (Mitomycin C) is instilled into your bladder and left for 1 hour before it is drained and the catheter removed. The expected hospital stay is three to four days. Some patients are able to go home earlier.

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 shoulder tip pain
- Temporary abdominal bloating
- Recurrence of disease elsewhere in the urinary tract that requires regular telescopic examinations of the bladder for follow-up
Occasional (between 1 in 10 and 1 in 50)

- Bleeding, infection, pain or hernia of the incision requiring further surgery
- Bleeding requiring transfusion or conversion to open surgery
- Need for additional treatment for cancer after surgery

Rare (less than 1 in 50)

- Entry into the lung cavity requiring insertion of a temporary drainage tube
- Recognised (or unrecognised) injury to organs/blood vessels requiring conversion to open surgery (or deferred open surgery)
- Involvement or injury to nearby local structures (blood vessels, spleen, liver, lung, pancreas, bowel) requiring more extensive surgery
- Anaesthetic or cardiovascular problems possibly requiring intensive care admission (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)
- The histological abnormality in the kidney may subsequently be shown not to be cancer
- Persistent urine leakage from the bladder requiring prolonged catheterisation or further surgery

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?
Before you leave hospital, the team will ensure you are safe to be discharged home. When you leave hospital, you will be given a 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.

It will be at least 14 days before healing of the wound occurs but it may take up to 6 weeks before you feel fully recovered from the surgery. You may return to work when you are comfortable enough and your GP is satisfied with your progress. Many patients have persistent twinges of discomfort in the wounds that can go on for several months.

What else should I look out for?
If you develop a temperature, increased redness, throbbing or drainage at the site of the operation, increasing abdominal pain or dizziness, please contact your GP/Ward M4 (01223 348537)/ On-Call Urology Specialist Registrar (via hospital switchboard 01223 245151) immediately.
Any other post-operative problems should also be reported to your GP, especially if they involve chest symptoms.

**Are there any other important points?**

It will be at least 14-21 days before the pathology results on your kidney are available. It is normal practice for the results of all biopsies to be discussed in detail at a multi-disciplinary (MDT) meeting before any further treatment decisions are made. You and your GP will be informed of the results after this discussion.

An outpatient appointment will be made for you around 6 weeks after the operation when we will be able to inform you of the pathology results and give you a plan for follow-up. Once the results have been discussed, it may be necessary for further treatment but this will be discussed with you by your consultant or specialist nurse.

You will usually need to undergo regular bladder inspections to check that the growth that involved your kidney does not affect your bladder. Blood tests and scans will be done from time to time to monitor your remaining kidney.

**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.

**Privacy & Dignity**

Same sex bays and bathrooms are offered in all wards except critical care and theatre recovery areas where the use of high-tech equipment and/or specialist one to one care is required.

**Hair removal before an operation**

For most operations, you do not need to have the hair around the site of the operation removed. However, sometimes the healthcare team may need to remove hair to allow them to see or reach your skin. If the healthcare team considers it is important to remove the hair, they will do this by using an electric hair clipper, with a single-use disposable head, on the day of the surgery. Please do not shave the hair yourself, or use a razor for hair removal, as this can increase the risk of infection to the site of the operation. If you have any questions, please ask the healthcare team who will be happy to discuss this with you.

**References:**

NICE clinical guideline No 74: Surgical site infection (October 2008); Department of Health: High Impact Intervention No 4: Care bundle to preventing surgical site infection (August 2007)
Is there any research being carried out in this field at Addenbrooke’s Hospital?

Yes. As part of your operation, various specimens of tissue will be sent to the Pathology department so that we can find out details of the disease and whether it has affected other areas. This information sheet has already described to you what tissue will be removed. We would also like your agreement to carry out research on that tissue which will be left over when the pathologist has finished making a full diagnosis. Normally, this tissue is disposed of or simply stored. What we would like to do is to store samples of the tissue, both frozen and after it has been processed. Please note that we are not asking you to provide any tissue apart from that which would normally be removed during the operation. We are carrying out a series of research projects that involve studying the genes and proteins produced by normal and diseased tissues. The reason for doing this is to try to discover differences between diseased and normal tissue to help develop new tests or treatments that might benefit future generations. This research is being carried out here in Cambridge but we sometimes work with other universities or with industry to move our research forwards more quickly than it would if we did everything here.

The consent form you will sign from the hospital allows you to indicate whether you are prepared to provide this tissue. If you would like any further information, please ask the ward to contact your consultant.

All laparoscopic procedures are subject to continuous audit by the British Association of Urological Surgeons Section of Endourology. In addition, the National Institute of Health & Clinical Excellence (NICE) requires that we maintain a careful review of laparoscopic procedures.

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 274608 or 216897 or bleep 154-548

Surgical Care Practitioner  
01223 348590 or 256157 or bleep 154-351

**Non-oncology nurses**

Urology nurse practitioner (incontinence, urodynamics, catheter patients)  
01223 274608 or 586748 or bleep 157-237

Urology nurse practitioner (stoma care)  
01223 349800
Urology nurse practitioner (stone disease)
01223 349800 or bleep 152-879

Patient Advice & Liaison Centre (PALS)
Telephone: +44 (0)1223 216766

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: chaplaincy@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 217589

Access Office (travel, parking & security information)
Telephone: +44 (0)1223 596060

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…………………………………….
We are a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

Document history

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