Laparoscopic Nephroureterectomy (Removal of Kidney and Ureter through Keyhole Surgery)

Patient Information

Urology Department
This leaflet has been written to answer questions that you may have about your operation. If any further questions are raised after reading this information, please speak to our Urology Nurse Specialist, telephone 01942 264491 or make an appointment to speak to your consultant, whilst on the ward before your operation.

**What is a Laparoscopic Nephroureterectomy?**

![Image of kidney and ureter with labels: Kidney, Ureter, Bladder, Prostate, Urethra]

Most people have two kidneys that filter blood and produce urine. The term nephrectomy means removal of a kidney. Nephroureterectomy means removing both the kidney and the ureter (tube that carries the urine from the kidney to the urinary bladder). A kidney and ureter can be removed either using an ‘open’ surgical approach or using ‘keyhole’ (laparoscopic) surgery.

Open surgery to remove a kidney and ureter involves making two large cuts on the side (one about 15 to 16 cm and second incision approximately 8 to 10 cm) with problems such as pain, a hospital stay of seven to 10 days, and a prolonged time off work (at least 12 weeks). The laparoscopic method of kidney and ureter removal uses three or four 1 cm cuts (2 cm incisions). A thin tube with a light and camera on the end (a laparoscope), and surgical instruments can then be passed through these incisions. The camera sends images to a TV screen so that the surgeon can see the kidney and surrounding tissue.
One of the incisions will be enlarged (6 to 7 cm) to enable the surgeon to remove the kidney and ureter. If it is difficult to perform the operation well using this approach it will be completed by using a conventional traditional incision. The likelihood of this is approximately 10%. Prior to removing the kidney we may have a look inside your bladder with another telescope (cystoscope) and may have to perform a small cut around the area where the ureter enters the bladder to help remove the whole ureter.

There are two approaches to removing the kidney laparoscopically. The first approach is called trans-peritoneal which is the most common method going through the front of the abdomen. The second approach is called retroperitoneal where the kidney is approached from the side of the abdomen. Your surgeon will decide on the most appropriate way to approach and remove the kidney.

A Laparoscopic Nephroureterectomy is performed under a general anaesthetic. You will meet the anaesthetist on the day of your operation and he or she will discuss the anaesthetic with you. You should expect to stay in hospital for two to four nights.

The Laparoscopic method of kidney and ureter removal has been shown to cause less blood loss and fewer complications than the open method, and also has a shorter recovery time. The open surgical approach to kidney removal is now only used for complicated cases. NICE (National Institute for Clinical Excellence) have issued guidance regarding Laparoscopic Nephrectomy (removing kidney) and Laparoscopic Nephroureterectomy (removing the ureter, the tube that carries urine from the kidney to the urinary bladder) which are now considered standard procedures.

Why do I need a Nephroureterectomy?
A kidney and ureter may need to be removed for a number of reasons. These are outlined below:

- The kidney may be only partially working or not working at all with the ureter being dilated and not draining the kidney properly. If left in place it can be a source of repeated infections and pain

- A cancer (Transitional cell carcinoma) arising within the kidney or the ureter may have been diagnosed. The usual treatment for this is to remove the affected kidney along with the ureter

The reason for removing your kidney and the ureter will be discussed with you. Before the operation is carried out it is usual to perform various scans and blood tests so that the surgeon has as much information about the diseased or cancerous kidney and ureter as possible. These tests also make sure that the remaining kidney is working normally. Providing that the remaining kidney is functioning normally you will not need to make any changes to your lifestyle (e.g. diet) or activities after the operation.
What are the benefits?

- If the kidney is a source of infection the operation will remove the source.

- If the operation is for a cancer in the kidney or the ureter the operation will aim to remove the cancer thus preventing it from spreading further.

What is the alternative?

- An open operation

What are the risks and side effects of Laparoscopic Nephroureterectomy?

Any operation and anaesthetic carry risks. These risks are generally small and not performing the operation may carry a greater risk. Risks relating to the anaesthetic can be discussed with the anaesthetist who will be looking after you during the operation, and who will normally visit you beforehand.

Possible risks and side effects from the procedure are outlined below. However, if you have any concerns, please discuss them with nursing and medical staff as it is important that you understand what is going to happen to you. You will be asked to sign a consent form before undergoing the operation but you may withdraw your consent at any time.

**Common side effects**

Some patients experience temporary shoulder tip pain and abdominal bloating for 24 hours after the operation. This may be due to inflation of the abdominal cavity with gas during the operation. Using the retro-peritoneal approach decreases this side effect. Mild painkillers are usually adequate to control the pain.

**Occasional risk**

- Occasionally after this operation, infection, or a hernia, may occur in one or more of the incisions requiring further treatment. This happens very rarely when the surgeon uses the retro-peritoneal approach

**Rare risk**

- Bleeding can occur during the surgery such that the surgeon has to abandon the keyhole approach and use the open method of kidney removal. If this occurs a blood transfusion may be required.

- During the operation the lung cavity may be entered and this is repaired during the procedure without any extra incisions

**Very rare risk**

- Recognised (and unrecognised) injury to surrounding organs or blood vessels may occur, requiring conversion to the open surgical approach, or deferred to a later date.
• Injury to the bowel (intestine) which may lead to life threatening infection (sepsis) requiring further surgery and a fashioning of a stoma (collection of intestinal contents into a bag).

• Problems with the anaesthetic or heart or blood vessel complications may occur, requiring admission to the Intensive Care Unit. Such complications include a chest infection, clot/s on the lungs or in the legs, a stroke or a heart attack. These are not specifically caused by laparoscopic procedures.

**What happens before the operation?**
You will usually attend a pre-assessment clinic before your operation. The purpose of this appointment is to organise any more tests that may be needed, and check your fitness for the operation. A member of the nursing staff and one of the doctors from the surgeon’s team will see you.

It is useful if you bring in a list of any medicines that you normally take at home, and let us know of any drug allergies you may have.

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, Dipyridamole or Clopidogrel (Plavix®).
- A previous or current MRSA infection.

If you are taking Warfarin it may be necessary to bring you into hospital a few days before your operation, or to change your Warfarin to an injection that can be given at home. We recommend that you stop Aspirin, Dipyridamole or Clopidogrel for at least a week before the operation.

You are normally admitted to hospital the day before your operation.

**Day of your admission to hospital**
Please bring a supply of your usual medicines to take whilst you are in hospital. When you arrive on the ward a member of the nursing staff who will also explain the layout of the ward will show you to your bed.
The day of your operation
Before your operation you should not have anything to eat or drink for at least six hours (nil by mouth) to reduce the risk of problems during the anaesthetic. You will be given an injection of heparin to reduce the risk of developing blood clots (DVT) in your lower legs.

Depending on what medicines you take, you may be asked to have your normal medicine regime, or some may be withheld and given to you after the operation. You will be asked to bathe before the operation, to put on a theatre gown and to wear some special stockings during and after the operation. These stockings are used to reduce the risk of developing blood clots (DVT) in your lower legs.

Nursing staff will be able to give an approximate time for your operation, but this time is only intended as a guide.

You will be taken from the ward to the operating theatre on your bed.

After the operation you will ‘come round’ in the recovery area and then be collected and taken back to the ward by a member of nursing staff once you are awake and comfortable.

How long will the operation take?
The operation usually takes two to three hours but can vary depending on the specific operation.

After the operation
You will have intravenous fluids (a drip) going into an arm vein. This will remain in place until you are drinking normally. You can start having some oral fluids immediately after the operation, and the drip can usually be removed the following day. Food can usually be started the day after the operation.

A drainage tube (catheter) to drain urine from the bladder will be inserted whilst you are under anaesthetic. This allows accurate measurements of your urine output. The urine may be bloodstained, but this is normal and will clear the following day. The catheter is usually kept in place for about five days. During the operation a wound drain is placed at the site of the kidney to drain away any blood. This will be removed when there is little or no drainage from it (usually the following day).

Following the operation it is usual to have mild shoulder or stomach pain for a couple of days. This pain is often described as a “wind-like” pain, and is due to the surgeon using gas to inflate your abdominal cavity so that he can visualise the kidney better. Most patients only need mild painkillers, but as in any surgery there may be more discomfort requiring stronger painkillers.

You may feel nauseated for 24 hours following the operation but medication can be administered to control this.
You will be encouraged to sit out of bed for short periods the day following the operation and to walk a short distance. On the second day after the operation you should be able to be out of bed most of the day and walking longer distances. The small wounds are closed with dissolvable stitches. Forty eight hours after the operation the dressings are removed, and the wounds covered with a protective plastic film so that you can bath or shower as normal.

If you recover well from the operation you may be sent home with the catheter in for a few days to allow the bladder to heal and close itself. We will then arrange for the district nurse to remove it.

**Going home**
Before going home you will be informed about follow up arrangements. Follow up will be dictated by the reason for the kidney removal. You may need medicines to take home, and will receive a two week supply of any medicines required.

**At home**
You may experience some discomfort at the incision sites, this will gradually disappear over a few weeks. It is sensible to avoid heavy lifting and driving for two to three weeks after the operation, since any sudden increase in abdominal pressure can cause pain in the wounds. Exercise should be increased gradually. Start with short walks and gentle exercise. Eat a healthy diet with plenty of fluids. Fresh fruit and vegetables are important to keep your bowels regular, as your bowel can be 'lazy' for several days after the operation. If you experience difficulty in passing urine you will have to either get in touch with us or attend the Accident and Emergency department.

You can return to work when you feel fit and, depending on your job, usually two to three weeks off work are needed. If you are unsure about your fitness to return to work please contact your GP. Sexual intercourse can be resumed three to four weeks after the operation.

After any surgery you may feel tired for a number of weeks. This is quite normal, but if you feel depressed it is important to let your GP know. You will then be reviewed in the Urology clinic in six weeks time.

**What should I do with this leaflet?**
We hope that the above information was helpful to you. You may retain this leaflet for further reading. If you require more information please speak to your Consultant.

If you 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.

You can contact the Urology Nurse specialist for further information, telephone number: 01942 264491
Comments, Compliments or Complaints

The Patient Relations/Patient Advice and Liaison Service (PALS) Department provides confidential on the spot advice, information and support to patients, relatives, friends and carers.

Contact Us

Tel: 01942 822376 (Monday to Friday 9am to 4pm)

The Patient Relations/PALS Manager
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Royal Albert Edward Infirmary
Wigan Lane
Wigan WN1 2NN

Ask 3 Questions

Become more involved in decisions about your healthcare. You may be asked to make choices about your treatment. To begin with, try to make sure you get the answers to three key questions:

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

This leaflet is also available in audio, large print, Braille and other languages upon request. For more information call 01942 773106.