Laparoscopic Nephrectomy
(Removal of Kidney through Key-hole Surgery)

Patient Information

Urology Department
This leaflet has been written to answers questions that you may have about your operation. This leaflet is intended for use only after you have been seen by one of the Consultant Urologists. If there are any further questions after reading this information, please speak to the Urology Nurse Specialist telephone 01942 822370 or make an appointment to speak to your Consultant, whilst on the ward before your operation.

**What is a Laparoscopic Nephrectomy?**

Most people have 2 kidneys that filter blood and produce urine. The term nephrectomy means removal of a kidney. A kidney can be removed by either using an “open” surgical approach or using “keyhole” (laparoscopic) surgery. Open surgery to remove a kidney involves making a large cut on the side (approximately 18 cm) with associated problems such as pain, a hospital stay of 7 to 10 days, and a prolonged time off work. The more modern laparoscopic method of kidney removal uses 3 or 4 one cm cuts (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 pictures to a TV screen to enable the surgeon to see the kidney and surrounding tissue. At the end of the procedure one of the incisions will be enlarged (5 to 8 cm) to enable the surgeon to remove the kidney.

If it is difficult to perform the operation well using this approach, it will be completed by using a traditional incision (open surgery). The likelihood of this is approximately 2%.

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 remove your kidney.

A laparoscopic nephrectomy is performed under a general anaesthetic. You will meet the Anaesthetist on the day of your operation to discuss your anaesthetic requirements. You should expect to stay in hospital for two to four nights.

The laparoscopic method of kidney 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 and Laparoscopic Nephroureterectomy (removing the ureter, the tube that carries urine from the kidney to the urinary bladder) procedures which are now considered standard procedures.

Why do I need a Nephrectomy?
A kidney 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. If left in place, it can be a source of repeated infections and pain
- Infection may have damaged the kidney so that it requires removal
- A cancer arising within the kidney may have been diagnosed. The usual treatment for this is to remove the affected kidney
- If a cancer has been found in the kidney, it is occasionally necessary to remove the adrenal gland, which lies on top of the kidney, at the same time

The reason for removing your kidney will have been 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 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 of a laparoscopic approach?
- Shorter hospital stay (three to four days rather than seven to eight days)
- Less pain compared to open surgery
- Quicker recovery and faster return to work (six weeks rather than 12 weeks)
- Better cosmetic appearance
What is the alternative?

- An open operation

What are the risks and side effects of laparoscopic nephrectomy?

Any operation and anaesthetic carries risks. These risks are generally small and not having the operation may carry a greater risk.

Risks of the anaesthetic can be discussed with the anaesthetist who will be looking after you during the operation. Possible risks and side effects from the procedure are outlined below. However, if you have any concerns please do 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 sufficient 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. This may result in a change to open surgery or postponing the surgery until a later date.

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 specific to 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.

Pre-operative clinic
Before your operation, you will be invited to attend the pre-operative clinic at Royal Albert Edward Infirmary, Wigan.

You will have some blood taken for routine investigations and you will be asked some general questions regarding your health.

The enhanced recovery nurse
You may see the enhanced recovery nurse in the pre-operative clinic. The enhanced recovery nurse is a specialist nurse who is able to simplify your admission and can facilitate a quicker discharge. The specialist nurse will be able to answer any questions you have about your admission, will discuss discharge arrangements and talk you through your admission, length of stay and treatment on the ward.
How long will I have to stay in hospital?
Usually between two and three nights, although this can vary. As soon as you no longer need medical or nursing attention, you will be able to go home.

You may need to arrange for help at home as soon as possible after your discharge. Please let the enhanced recovery nurse know if there will be problems getting this help before you come into hospital. This would enable the nursing staff to get input from Social Services if needed.

What sort of anaesthetic will I have?
Most patients have a general anaesthetic but the anaesthetist will discuss this with you and, if required, may suggest an alternative type of anaesthetic.

What is an anaesthetist?
An anaesthetist is a doctor trained to perform anaesthetics who will make sure you remain well whilst your operation is carried out. He/she will also advise on the care you need immediately after your operation and prescribe the most appropriate pain relieving drugs for you.

Spinal anaesthetic
Using an injection in your back the lower part of your body is numbed, reducing the feeling in this area and taking away any sensation of pain. You will remain awake throughout the operation, but if you are anxious you may be sedated, so you are less aware of the experience.

General anaesthetic
This sends you to sleep so you don't feel, see or hear anything during your operation.

Are there any risks involved in having a general anaesthetic?
Most people are able to have a general anaesthetic, but there are some risks and complications. The majority of them are relatively minor and include soreness and swelling around the site of the intravenous injection, sore throat, nausea and vomiting and feeling “run down” for several days afterwards.

More serious complications are uncommon and are usually related to major procedures or to general poor health. Your anaesthetist will discuss any such risks with you before you have your operation.

If you are worried about anything relating to your anaesthetic, please talk it through with your anaesthetist. He/she will help you decide whether or not to go ahead with the general anaesthetic.
When do I meet my anaesthetist?
Your anaesthetist will usually come and see you before you go to theatre. He/she will ask some questions about your medical history, such as if you smoke or if you have any allergies etc. This helps the anaesthetist to build up an overall picture of your health before your operation and also helps him/her decide on the most appropriate type of anaesthetic for you.

Day of your admission to hospital

Admission day
On the day of admission you will be admitted to the Surgical Admission Lounge. You will book in with the admissions clerk and then the nursing staff will prepare you for theatre. The nurses will check your notes, blood tests, ECG's, X-rays, will ensure that your consent is correct and all your questions are answered. The nurse will provide you with a wristband for identification and complete an anaesthetic check list.

- Please have a bath or shower first thing in the morning.
- Please remove makeup, nail polish and jewellery.
- If you wear glasses, dentures or a hearing aid these can be removed either in the surgical admission lounge, or in the anaesthetic room.
- It is necessary to put tape over your wedding ring.
- You will be given a gown to wear, which ties at the back, and you can bring a dressing gown to put over the theatre gown whilst you are waiting for your operation.
- You will be fitted with your compression stockings.
- You will either walk or be taken to theatre on a trolley and then the nurse will return your property back to the surgical admission lounge.

Once in the theatre department you will be connected to a heart monitor (to check your heart while you are asleep) and an injection will be given to you in the back of your hand to send you to sleep.

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 oral fluids and diet immediately after the operation, and the drip can usually be removed the following day.

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 removed the following day. Occasionally 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 see 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. Please inform your nurse of this.

To help prevent blood clots (thrombosis) forming in your legs an injection to thin your blood will be given daily after your operation, until you are fully mobile. You will be asked to wear compression stockings to reduce the risk. You will be encouraged to sit out of bed and mobilise short distances, increasing the distance and frequency each day.

Breathing and mobility exercises
After your operation, when you may have had a general anaesthetic, you will have a surgical wound and become relatively immobile. This will increase your risk of developing a chest infection or blood clot (thrombosis).

You can help to prevent these complications and aid your recovery by using some of the advice in this leaflet, such as the following breathing exercises:

Breathing exercises
After an anaesthetic and while you are inactive, it is important to use your lungs well.

- Take a deep slow breath in through your nose,
- Hold for a count of two
- “Sigh” the air out.

Repeat this three times. Do this regularly until you are up and about. This exercise also helps to loosen phlegm and spit.
Circulation
Start this exercise immediately while sitting in bed to ensure good circulation in your legs.

Briskly circle or bend and stretch your feet from the ankle, for 20 to 30 seconds as often as possible.

The small wounds are closed with dissolvable stitches. 48 hours after the operation the dressings are removed, and the wounds covered with a protective plastic film so that you can bathe or shower as normal.

Once the catheter is removed and you are passing urine satisfactorily and mobilising well, you will be discharged home.

Going home
Before going home you will be informed about follow up arrangements which will be dictated by the reason for the kidney removal. You will receive a two week supply of any medicines you may require.

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.

You can return to work when you and your doctor feel you are 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 do decide to proceed with the 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.

Contact information
You may contact the Urology Nurse specialist for further information telephone Number 01942 822370 or Orrell Ward, telephone 01942 822581.
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
Wrightington, Wigan and Leigh NHS Foundation Trust
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.