Laparoscopic Nephrectomy

What is a laparoscopic nephrectomy?

The term nephrectomy means removal of a kidney. A kidney can be removed 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 with unavoidable problems such as increased pain, a hospital stay of seven to 10 days, and a prolonged time off work. The laparoscopic (keyhole) method of kidney removal uses three or four one centimetre 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 so that the surgeon can see the kidney and surrounding tissue. One of the incisions will be enlarged to enable the kidney to pass through once it has been disconnected from the surrounding tissues and blood vessels. In some cases the adrenal gland, which is situated at the top of the kidney, may also be removed.

A laparoscopic nephrectomy is performed under a general anaesthetic, and you will be asleep throughout the procedure. 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 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.

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.
- For some kidney cancers, there is a high risk of cancer recurrence in the ureter (the tube which carries urine from the kidney to the bladder). If this type of cancer has been found, you will need to have the ureter as well as the kidney removed. This operation is known as a Laparoscopic Nephro-ureterectomy. If this operation is performed you will have a small incision low down on your abdominal wall, as well as the kidney operation described.

The reason for removing your kidney 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 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 change to your lifestyle (e.g. diet) or activities after the operation.

What are the alternatives?

Observation, embolisation, 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 doing 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, and who will visit you beforehand.

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 (greater than 1 in 10)

- Temporary shoulder tip pain and abdominal bloating for 24 hours after the operation. This is due to inflation of the abdominal cavity with gas during the operation. Mild painkillers are usually adequate to control the pain.
- Temporary insertion of a bladder catheter or a wound drain

Occasional (between 1 in 10 and 1 in 50)

- Bleeding, infection or pain.
- Recognised (or unrecognised) injury to organs / blood vessels needing conversion to open surgery (or deferred open surgery).
- A hernia may occur in one or more of the incisions requiring further treatment.

Rare (less than 1 in 50)

- Bleeding can occur during the surgery such that the surgeon has to abandon the keyhole approach and use the conventional 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 but requires insertion of a temporary drain.

- When looked at under a microscope, the histological abnormality (mass, tumour or lesion) may eventually turn out not to be cancer.

- Involvement or damage to structures and organs close to the kidney such as blood vessels, spleen, liver, lung, pancreas, bowel, requiring more extensive surgery.

- 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 and death.

- You may require dialysis to stabilise kidney function if the remaining kidney has poor function.

Risk of hospital acquired infection

(1 in 110)

- Colonisation with MRSA

(1 in 10,000)

- Clostridium difficile bowel infection

(1 in 5000)

- MRSA bloodstream infection

What happens before the operation?

You will attend a pre-assessment clinic at Eastbourne District General Hospital 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 will see you. You will be asked questions about your past medical, surgical, social history and how you manage with your day to day activities. You may have a chest x-ray, electrocardiogram (ECG) which records the electrical activity of your heart and some bloods taken. You will also be seen by an anaesthetist who will discuss your individual risks of undergoing a general anesthetic and surgery and may ask for some further lung and heart tests.

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.

It is important that the hospital know if you are on any drugs that thin the blood e.g. aspirin, warfarin, clopidogrel, dipyridamole.

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.

How can I help my recovery?

The Urology Ward at Eastbourne District General Hospital, has an ‘ Enhancing Recovery’ approach to your care before, during and after surgery known as ERAS (Enhancing Recovery After Surgery). The ERAS Urology Nurse Practitioner will aim to see you at pre-assessment and during your admission to aid you in participating in your care and recovery. The ERAS Urology Nurse Practitioner does not cover the Princess Royal Hospital in Haywards Heath, but in both hospitals the ward team will emphasise the importance of doing leg and breathing exercises, getting out of bed and walking as soon as possible after the operation to minimise the risks of complications.

Day of your admission to hospital

You will usually be admitted on the day of your surgery. If your operation is to take place on a morning list, you will be admitted at 7.00am on the morning of your operation. If your operation is scheduled for an afternoon list, you will be admitted mid-morning on the day of your operation. You will be admitted to the Admission Lounge at Eastbourne DGH, or to the Urology Ward at the Princess Royal Hospital in Haywards Heath and a nurse will check your details. If you are admitted on the day of your surgery, you will go to theatre from the Admission Lounge and return to the Urology Unit after the operation.

Please bring a supply of your usual medicines to take whilst you are in hospital.

On the Urology Unit each bed has access to a personal telephone and a television. Prepaid cards for the telephone are available via vending machines in the hospital. Televisions are hired on a daily basis. The telephone has an individual number which you can then give to friends and family. Visiting hours are 2.30pm to 8.00pm.

Consent

The Urologist (surgeon) will see you before the procedure and explain all the risks and benefits. Please make sure you have read and understand this leaflet before you sign your consent form. Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

The day of your operation

Before your operation you will need to starve (nil by mouth) to reduce the risk of problems during the anaesthetic. You may eat and drink normally up until six hours before your operation and then can have clear fluids only up until two hours before the surgery. You may also be given some ‘energy’ drinks to take before you are nil by mouth to assist your body in coping with the stress of surgery.

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.

Please have a bath or shower before admission on the day of your operation. On admission you will be asked 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 Admission Lounge or Urology Ward to the operating theatre on your bed.

After the operation you will ‘come round’ in the recovery area and then be taken back to the ward by a member of the recovery 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 individual.

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 usually some light food later in the day. The drip can usually be removed 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. After the first twenty four hours most patients only need mild painkillers, but as in any surgery there may be more discomfort requiring stronger painkillers.

To keep any pain you might experience under control, you may come back to the ward with an epidural (an anaesthetic that is passed through a very small tube into your back to numb below the waist) for continuous pain relief, you will still be able to move your legs, stand, walk and sit out of bed. Alternatively, your anaesthetist may prefer to give you Patient Controlled Analgesia

(PCA).This delivers a small amount of painkiller into a vein every time you press a button, allowing you to be in control of your pain relief. The Epidural or PCA pump is usually discontinued after twenty four hours or as soon as you are able to eat and drink and take tablets to relieve your pain. Drowsiness, itching and nausea are possible side effects of all methods of pain relief. The anaesthetist will discuss the methods of post operative pain relief with you before you have your operation.

You may feel nauseated for 24 hours following the operation but medication can be administered to control this.

A catheter (tube) 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 blood-stained, but this is normal and will clear the following day. The catheter is usually removed the following day. However, if you are having a Laparoscopic Nephro-ureterectomy (removal of the kidney and the ureter) your catheter may need to stay in place for up to two weeks. You may go home with the catheter and return to the hospital as a day case to have it removed. The ward nursing staff will give instruction regarding catheter care before you leave hospital. Occasionally during the operation a wound drain is placed at the site of the kidney to drain away any blood or fluid collection. This will be removed when there is little or no drainage from it (usually the following day).

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 walk longer distances.

The small wounds are closed with dissolvable stitches. Forty-eight hours after the operation, if you have wound dressings, the dressings are removed, and if necessary the wounds are covered with a protective plastic film so that you can bath 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. Follow up will be dictated by the reason for the kidney removal. You may need medicines to take home (TTO's) and will receive a two-week supply of any medicines required.

Generally, after discharge home the wounds do not require any special attention – you can bath and shower as usual, and the stitches will gradually dissolve. The ward staff will inform the practice nurse in your GP surgery or District Nurse if your wound requires redressing. If you are concerned in any way about the appearance of your wounds - redness, discharge, or increasing pain or you have a raised temperature, you should contact the GP surgery so that the wounds can be assessed. If the GP surgery is closed, you should phone the Urology ward or your Clinical Nurse Specialist.

When you leave hospital a copy of your discharge letter will be sent electronically to your GP. The letter contains a summary of your admission and the operation you have had. The GP will then have this information if you need to consult him / her within the first few days of your discharge.

Once at home

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 and aim to drink two litres of fluid daily. Fresh fruit and vegetables are important to keep your bowels regular as your bowel can be 'lazy' for several days after the operation. Sexual intercourse can be resumed three to four weeks after the operation.

You can return to work when you feel fit and depending on your job. Usually, two to three weeks off work are needed. It is your responsibility to ensure you are fit enough to drive. You will need to be able to do an emergency stop without hesitation. You are advised to check with your insurance company before returning to driving.

After any surgery you may feel tired and rather emotional for a number of weeks. This is quite normal, but if you feel depressed it is important to let your GP know.

Please ask your Consultant, Doctor or Nurse Specialist if you have any questions or concerns about your discharge.

Sources of information

- **Royal College of Anaesthetists -** www.rcoa.ac.uk
- **The Royal College of Surgeons -** www.rcseng.ac.uk
- **The British Association of Urological Surgeons** – www.baus.org.uk

Contact information

Eastbourne District General Hospital
Firle Unit (Pre-assessment Unit)
Tel: 0300 131 5394

Uro-Oncology Clinical Nurse Specialists
Sally Sawyer, Tansy Frew, Portia Durnford, Jayne Whiting, Clare Callaghan
Tel: 0300 131 4523

Urology Nurse Practitioners for Enhanced Recovery After Surgery (ERAS)
Gabby Sullivan and Nicky Milton 0300 131 4500 Ext 770662 / Mobile 07929 823738

Hailsham Urology Ward Eastbourne District General Hospital
Tel: 0300 131 4500 Ext 770473

Further Patient Information Sources

Kidney Cancer UK
http://www.kcuk.org.uk/kidneycancer/

Important information

Please remember that this leaflet is intended as general information only. It is not definitive. We aim to make the information as up to date and accurate as possible, but please be warned that it is always subject to change. Please, therefore, always check specific advice on the procedure or any concerns you may have with your doctor.

Hand hygiene

In the interests of our patients the trust is committed to maintaining a clean, safe environment. Hand hygiene is a very important factor in controlling infection. Alcohol gel is widely available throughout our hospitals at the patient bedside for staff to use and also at the entrance of each clinical area for visitors to clean their hands before and after entering.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: 0300 131 4731 (direct dial) or by email at: esh-tr.patientexperience@nhs.net

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 Email: esh-tr.AccessibleInformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

The following clinicians have been consulted and agreed this patient information:
Consultant Urologists - Mr S Garnett, Mr S Ahmed

Next review date: January 2025
Responsible clinician: Sally Sawyer - Lead Uro-Oncology Clinical Nurse Specialist