



## LAPAROSCOPIC (KEYHOLE) LIVE-DONOR NEPHRECTOMY

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.



<http://rb.gy/epmpm>

To view this leaflet online, scan the QR code (right) or type the short URL below it into your web browser.

### KEY POINTS

- Live-donor nephrectomy involves donating one of your kidneys to another person who needs a kidney transplant for chronic kidney disease
- The procedure is performed using a telescope and operating instruments passed through several “keyhole” incision in your abdomen (tummy)
- We need to be sure that there is no risk of transmitting any diseases to the recipient
- We need to keep the risks of any procedure which is “not medically necessary” as low as possible
- The recovery period after laparoscopic live donor nephrectomy is fairly short
- Complications are uncommon following this procedure
- In the long-term, there is no major risk to your health in having only one kidney

### What does this procedure involve?

Laparoscopic removal of one kidney, by keyhole surgery, for [transplantation](#) into an agreed recipient.

Before donating a kidney, you will already have undergone a series of consultations with nephrologists, transplant co-ordinators, transplant surgeons and a counsellor.

It is essential that we take every possible precaution to prevent transmission of infection or cancer cells to patients who receive a transplant. We will test you for infections which could pose a risk to the recipient (hepatitis B, cytomegalovirus, HIV, v-CJD, TB, typhoid, malaria, syphilis, brucellosis, toxoplasmosis). You will also undergo genetic tests to determine your histocompatibility status.

### What are the alternatives?

- **No organ donation** – so the potential recipient requires treatment other than kidney transplantation
- **[Open live-donor nephrectomy](#)** – removing your kidney through a conventional incision (cut) in your loin

### 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 nephrectomy under a general anaesthetic
- you will usually be given an injection of antibiotics before the procedure, after you have been checked for any allergies
- we remove the chosen kidney through several “keyholes” (pictured



- on previous page) using a telescope put through your skin
- we take great care to preserve the main blood vessels to your kidney and the blood supply to its ureter, so that [transplantation](#) can be done without any difficulty
  - we put the kidney into a bag and remove it by enlarging one of the keyhole incisions
  - we put a bladder catheter through your urethra (waterpipe) to monitor your urine output; this is normally removed when you are mobile enough to get to the toilet on your own
  - we close the keyhole incision with clips, tissue glue or absorbable stitches which normally disappear after two to three weeks
  - the procedure takes approximately two hours to complete
  - you can expect to be in hospital for two to three days

Following major kidney surgery, some 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
Temporary pain in the tip of your shoulder	 Between 1 in 2 & 1 in 10 patients

Temporary bloating of your abdomen (tummy) due to gaseous distension of your bowel		Between 1 in 2 & 1 in 10 patients
Bleeding from the wound or in your abdomen requiring further surgery		Between 1 in 10 & 1 in 50 patients
Urinary infection requiring antibiotic treatment		Between 1 in 10 & 1 in 50 patients
Conversion to open surgery because of bleeding, failure to progress or injury to other organs/blood vessels		Between 1 in 50 & 1 in 250 patients
Entry into your lung cavity requiring insertion of a temporary drain		Between 1 in 50 & 1 in 250 patients
Inadvertent injury to nearby structures (blood vessels, spleen, liver, lung, pancreas, bowel) requiring later surgery		Between 1 in 50 & 1 in 250 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)
Failure of your remaining kidney requiring dialysis		Less than 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 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
- a follow-up appointment will be made for you to have your post-operative check
- it can take up to four weeks for your wound to heal completely
- if you develop a temperature, increased redness, throbbing or drainage at the site of the operation, you should contact your GP immediately
- you should report any other post-operative problems to your GP, especially if they involve chest symptoms

### **Are there any long-term problems caused by only having one kidney?**

There is no need for any dietary or fluid restrictions. Your remaining kidney can handle fluids and waste products without difficulty. You do have a slightly increased risk of:

- **losing protein in your urine** – this can occur several years after your procedure but it involves very small amounts which do not usually cause significant problems; and
- **developing high blood pressure** - we do not know why this happens or whether there are any long-term implications.

As a result, we normally offer you a follow-up appointment every year, if you wish.

### **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 Smoke-Free National 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, they can also arrange for a copy to be kept in your hospital notes.

## What sources were 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](#);
- the [National Institute for Health and Care Excellence \(NICE\)](#);
- the [British Kidney Patient Association](#); and
- the [National Kidney Foundation](#).

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

Whilst we have made every effort to give accurate information, 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 have any questions, you should contact your Urologist, Specialist Nurse or GP in the first instance.