



ROBOTIC- ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY

This leaflet is designed to give you information on why this procedure may be suitable for you, and what you can expect from it. It outlines the advantages and possible risks. It will hopefully answer the common questions usually raised. If you have any further questions, please speak to your doctor.

What is a partial nephrectomy?

A partial nephrectomy is an operation to remove part of your kidney that has disease or tumour within it. This enables you to have disease removed but also to preserve your kidney and its function. The surrounding fatty tissue, lymph nodes, adrenal gland and upper end of your ureter (tube carrying urine from the kidneys to the bladder) are not removed as they would be in a radical (total) nephrectomy.

A partial nephrectomy is usually performed when tumours are less than 4cm wide.

What is an open partial nephrectomy?

An open partial nephrectomy is the traditional operation for removing a particular part of the kidney. The surgeon makes an incision (cut) about 15 - 20cm (6 - 8 inches) long, allowing enough room to remove the disease from a kidney.

An open partial nephrectomy is required if it is not technically possible or considered too difficult to remove part of the kidney using keyhole (laparoscopic) techniques (please see below).

What is laparoscopic surgery?

Laparoscopic surgery is keyhole surgery that is performed without having to make a large incision. Instead, surgery is carried out using small keyhole instruments that are inserted into the abdomen (tummy) via small incisions. The abdomen is filled with carbon dioxide gas so that the internal organs can be seen.

What is robotic-assisted surgery?

This is laparoscopic surgery using robotic assistance through the small keyhole incisions. Keyhole instruments and a camera, allowing the surgeon to see inside of your abdomen, are attached to the robotic arms.

The Da Vinci robot was introduced to the Royal Free in 2014.

The da Vinci® system is used extensively throughout the US and Europe, and it is currently being used in many different areas of surgery.

To date there have been 1.2 million operations performed with the robot.

What is a robotic-assisted laparoscopic partial nephrectomy?

A robotic-assisted laparoscopic partial nephrectomy is keyhole surgery to remove a diseased part from a kidney using the da Vinci® robotic system.

The da Vinci® robot provides high-definition imaging and a three-dimensional (3D) view of your abdomen for the surgeon. The da Vinci® system allows the surgeon higher levels of precision during the tumour removal and reconstruction (rebuilding) of the kidney during the procedure than standard laparoscopy.

Why should I have a robotic-assisted laparoscopic partial nephrectomy?

Your doctor will have already discussed with you why he/she recommends you should have this procedure. The benefits of keyhole surgery, compared with open surgery, include:

- smaller scars and less muscle damage
- shorter hospital stay (usually three to four days)
- less pain after the operation
- quicker full recovery and earlier return to work.

Robotic-assisted surgery can improve the vision and precision of the surgeon in certain cases

What are the risks?

As with any surgery, there are some risks associated with this procedure. Some of the more common ones include:

- Bleeding requiring blood transfusion (occurs in fewer than two out of every 100 procedures). Occasionally a bleeding blood vessel can be blocked in the x-ray department using angiography (blood vessel imaging).
- Damage to structures around the kidney, including the spleen, colon, liver, pancreas or bowel (one in 100).
- Urinary leak around the kidney or bleeding into the ureter tube (three to five in 100). This may require a prolonged hospital stay, insertion of a ureteric stent (internal drainage tube into the ureter) or re-insertion of a drainage tube through the skin.
- The need to perform a total (radical) nephrectomy if partial nephrectomy is not technically possible.
- Complications associated with general anaesthetic, such as irregular heartbeat, chest infection, or blood clots in the legs (deep vein thrombosis - DVT) or lungs (pulmonary embolism).
- We may find that the tumour removed is not cancerous and is a relatively harmless benign growth (one in 10 to 20).
- Late complications, for example hernia at the wound sites, scarring or cancer recurrence.
- The risk of dying from laparoscopic urologic surgery is extremely low (about three to eight in 10,000).

Your doctor will discuss these risk factors with you in detail. If you have any questions, concerns or need further information, please feel free to ask him/her.

Are there any alternatives?

Alternatives may include non robotic laparoscopic partial nephrectomy, open partial nephrectomy, radical nephrectomy (surgery to remove the whole kidney) active surveillance or an interventional radiological procedure such as cryotherapy. Your doctor will discuss these options with you if they feel you are suitable for one of these procedures.

What happens before my procedure?

Anaesthetic assessment: You will attend a pre-assessment clinic before your surgery. It is very important that you come to this appointment, as this is when we will assess your suitability and fitness for surgery and anaesthetic. We will carry out a number of tests to make sure that your heart, lungs and kidneys are working properly. You may have a chest x-ray, ECG or electrocardiogram (which records the electrical activity of your heart) and some blood tests. Your doctor will explain any further tests you may need.

Smoking: You may be asked to stop, as smoking increases the risk of developing a chest infection, or a blood clot in the leg (deep vein thrombosis - DVT) or lung (pulmonary embolism). Smoking can also delay wound healing because it reduces the amount of oxygen that reaches the tissues in your body. If you would like to give up smoking, please speak to your nurse, or call the NHS Smoking Helpline on 0300 1231044.

Medicines: Please bring all of the medicines that you currently take or use with you, including anything that you get from your doctor on prescription, medicines that you have bought yourself over the counter, and any alternative medicines, such as herbal remedies.

You will be given advice about any medicines that you need to temporarily stop or change the dose of before you have your procedure. This may include any medicines that thin the blood (such as warfarin, aspirin or clopidigrel) or any medicines for diabetes. Do not make any changes to your usual medicines, whatever they are for, without consulting your doctor first.

Hospital admission: Most patients will be admitted to the hospital on the day of the surgery to the surgical admissions unit (SAU) 3rd floor, occasionally patients are admitted to the ward the night before the procedure. The pre assessment nurse will inform you if you are suitable for same day admission and provide you with the 'Planning your discharge booklet' and 'Preventing blood clots in veins'.

Ward 10 South is our specialist ward where most of our patients are looked after. Ward visiting hours are 2pm - 8pm and the phone number is 020 7794 0500 extension 35474.

What happens on the day of my surgery?

You may eat and drink as normal the evening before the surgery. However, you will not be able to have anything to eat or drink for at least six hours before the operation.

The surgeon will see you to obtain your consent for the operation. A nurse will go to theatre with you and stay with you until you are asleep.

You will have your operation under a general anaesthetic, which means that you will be asleep for the whole of the operation and will not feel any pain. The anaesthetic is given through a small injection in the back of your hand.

You may be given a daily blood-thinning (anticoagulant) injection and asked to wear anti-thrombosis stockings.

What happens after the surgery?

You will wake up in the recovery room with some tubes attached to you; each tube serves a purpose and helps you recover.

A catheter in your bladder. The amount of urine you pass will be monitored regularly. The tube will be removed when you are passing enough urine usually two days after surgery.

A wound drain from your tummy. These are used to drain any excess fluid away from the wound site area and will come out once there is only a small amount of fluid in the bag, usually two days after surgery.

Dressings will be placed over the wound site and will be checked by the nurse for signs of bleeding and changed when needed. The incisions may be closed with either sutures (stitches) or surgical clips. These are normally removed 10 days after your operation.

A **drip** delivers fluid into the veins and will be removed once you can drink fluids.

An **oxygen mask** or nasal prongs help you wake up from the anaesthetic. As you breathe normally you will breathe in the oxygen. This usually remains in place for one or two days.

Pain control: The anaesthetist will discuss two options with you before going to theatre.

A **PCA** (patient controlled analgesia) is a device that you control. It releases painkillers into the blood stream via a drip.

Alternatively, you will be given an **epidural infusion**. This allows painkillers and local anaesthetic to be delivered into your spinal nerve system. It involves inserting a tiny tube into your back while you are having the anaesthetic.

You will be monitored in the recovery room and once you are stable you will be transferred back to the ward. We will ask that you move your feet and wiggle your toes to help promote circulation in your legs while you are immobile and bed-bound.

The average length of stay in hospital for this procedure is three to four days.

You will be able to leave hospital when:

- you have opened your bowels
- you are able to pass urine
- your pain is well controlled and you can move around freely

What can I expect after I go home?

You should remember that although you may feel well and do not have a large scar, you still have had major surgery. You will need a period of time to recover fully before returning to normal activities. You should be active within your home and build up to returning to your usual tasks.

You may have some pain associated with the surgery and it is also common to feel lethargic after major surgery. You may need to rest or sleep more than usual in the first two weeks after the operation.

Some patients will have stitches or clips and these will be removed 10 days after the operation. This may be done by the nurse at your GP practice or the district nurse. This will be discussed with you as part of planning your discharge.

What else should I look out for?

You should contact your GP if you:

- develop a temperature
- have increased redness, throbbing or leaking around the wounds
- develop shortness of breath

Very occasionally following surgery serious complications can develop. If you have

- abdominal pain not relieved by painkillers
- start vomiting and are unable to keep fluids down
- have worsening shortness of breath
- chest pain or a painful swollen leg

Please attend your local A&E department.

Will I have a follow-up appointment?

Yes. You will have a follow-up appointment at the renal cancer clinic with the surgical team to find out the results from your surgery. The appointment is usually booked two weeks following the operation. If you have not received an appointment, please call the patient navigator on 020 7317 7779.

Your follow-up after this will depend on your cancer type. This will be explained to you when you attend your first follow-up appointment.

Some commonly asked questions

Does the robot do the surgery?

No, the surgeon does the operation. The robot allows the surgeon to operate in small spaces in the body. It essentially makes the surgeon's hands two seven-millimetre instruments. The robot is controlled by the surgeon and does not work on its own.

How much pain will I be in after the surgery?

Since the surgery is done through small incisions, most patients experience much less pain than with open surgery, and will therefore require less pain relief. You will be given regular pain relief by mouth or injection for the first few days. After one week, most patients will not experience any pain.

When can I exercise?

We encourage light walking right after the procedure and brisk walking after two weeks. Four weeks after the surgery you can resume jogging, aerobic exercise and heavy lifting.

Can I shower or bath?

Swimming or bathing should be avoided until one week after surgery. Showering is allowed any time after the second day following surgery. The stitches in your tummy are either dissolvable or waterproof clips. It is important that you rinse the soap thoroughly from your body as this may irritate the wounds, and that you pat yourself completely dry.

When can I drive?

You can drive when you are comfortable to do so and when you are able to perform an emergency stop. Please also check with your insurance company before returning to driving.

When can I have sex again?

This will depend on when both you and your partner feel comfortable but it is safe after one week.

When can I return to work?

Please allow a couple of weeks' recuperation before returning to work. If your work involves lifting, please speak to your doctor before leaving hospital.

If you have any further questions, please do not hesitate to speak to the nursing or medical staff.

Useful sources of information and support

Additional information available

Kidney Cancer UK

Provides information and support for kidney cancer patients and their carers
www.kcuk.org 0844 870 7054

James Whale Fund for Kidney Cancer

Helps to increase knowledge and awareness of kidney cancer
www.jameswhalefund.org 0844 474 5050

Kidney Cancer Support Network

Helps patients' family and friends to join together for information and advice
www.kidneycancersupportnetwork.co.uk 0120 989 0326

Cancer Research UK

www.cancerhelp.org.uk 080 800 4040

Macmillan Cancer Support

Information on living with the practical, emotional and financial effects of cancer
www.macmillan.org.uk 080 880 8000

Marie Curie Cancer Care

www.mariecurie.org.uk 020 7235 3325

London Cancer

www.londoncancer.org

**Please contact the key worker if you wish to discuss
any aspects of your treatment**

Clinical nurse specialist contact details

Clinical nurse specialist renal surgery:

David Cullen 07775 687823

Jonah Rusere 07935 450 617

Email: rfh.renalcancernursing@nhs.net