



## Urology Department

# Robot-assisted laparoscopic partial nephrectomy

This booklet gives you information about a procedure which uses keyhole surgery to remove part of the kidney using robot assistance. It is called Robot Assisted Laparoscopic Partial Nephrectomy.

There are other methods for removing the kidney including open surgery or laparoscopic (keyhole) surgery. These do not involve the use of a robot.

The advantages of Robot-assisted laparoscopic partial nephrectomy:

- Shorter hospital stay
- Less pain
- Less risk of infection
- Less blood loss reducing the need for a blood transfusion.
- Less scarring
- Faster recovery
- Quicker return to normal activities such as driving.

Robot-assisted techniques give the surgeon:

- High quality vision
- 3-D view of the operating field
- Enhanced dexterity
- Greater precision
- 6 to 10 times magnification.

### **What is a robot-assisted laparoscopic partial nephrectomy?**

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

A partial nephrectomy is usually performed when a tumour/cancer is less than four cm. In certain cases a slightly larger tumour can be considered for robotic removal. The location of the tumour in the kidney is important and your surgeon will discuss this with you.

The da Vinci surgical system is a sophisticated robotic platform (fig 1). It consists of a surgeon's console where the surgeon sits and carries out the operation. Robotic-assisted laparoscopic surgery is keyhole surgery is where your surgeon will make five to six small incisions using specialised instruments that are inserted through key-hole openings in the abdomen which are then connected to the specialised arms of the robot. The surgeon manipulates the instruments within the abdomen with precision by moving the master controls at the console.

The surgeon's console(fig 1)

Robot with specialised arms(fig 2)



## Consent

The surgeon will have explained the procedure and the reasons why this particular operation is an option for you. This information is a permanent record of what has been explained. We advise you to read the booklet carefully before you sign the consent form which states that you are prepared to go ahead with the operation.

We will ask you to sign the consent form agreeing to accept the operation that you are being offered. The basis of this agreement is that you have had the opportunity to discuss any concerns with your team.

## Are there any alternatives to this operation?

There are alternatives to this procedure these include open partial nephrectomy or laparoscopic radical nephrectomy. Open partial nephrectomy involves a flank incision on your side and the stay in hospital is longer.

## **What happens if I have no treatment?**

If kidney cancer is left untreated then the cancer will continue to grow and could cause symptoms. These include passing blood in your urine. If the cancer spreads outside of the kidney it would cause other symptoms and may be difficult to offer treatment to cure the disease.

## **What are the risks and benefits?**

The benefits of having an operation for kidney cancer at this stage include a potential cure from the cancer. Many men choose a surgical treatment as the cancer within the kidney is removed from the body. The advantages of robotic partial nephrectomy have been explained earlier in this booklet.

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

- Chest infection
- Bleeding requiring a blood transfusion.
- Injury to nearby nerves or tissues.
- Urinary leak around the kidney or bleeding into the ureter tube. This may require a prolonged hospital stay and insertion of a ureteric stent (internal draining tube into the ureter). Or a drainage tube through the skin (nephrostomy tube).
- The need to convert the surgery to open surgery due to robot failure, bleeding or other complications.
- The need to perform a total (radical) nephrectomy if a partial nephrectomy is not technically possible.
- Complications associated with general anaesthetic, such as irregular heartbeat, blood clot in the legs (DVT – deep vein thrombosis) or lungs (PE pulmonary embolism). very occasionally there can be problems with patient positioning. In most cases this is minor and results in temporary aches and pains. Only exceptionally is it more problematic.

These are the most common complications of surgery but we take all the precautions possible to avoid complications.

## **What happens before the procedure?**

We will ask you to attend the hospital as an outpatient for a pre-operative assessment. At this pre-admission clinic a healthcare professional will:

- Ask questions about your medical history
- Assess your heart and lung function
- Take a specimen of blood for analysis
- Take swabs from you skin to make sure that you do not have an existing infection.
- Ask you if you have any questions about your operation.

The date of your operation will have been given to you by the time you come to the pre-operative clinic.

You will be admitted to the ward usually the day of your operation or very occasionally the day before. On the ward you will meet the medical and nursing staff who will be looking after you during your stay.

### **After your operation**

When you come out of theatre you will be taken to the recovery area where you will be monitored until your condition is stable. Then you will be ready to go back to the ward.

On the ward, you will be able to drink when you feel able.

Painkilling tablets will be offered to you on a regular basis. It is important that you feel as comfortable as possible after the operation so that you can move without assistance and be walking around the ward the next day.

There will be dressings on your abdomen over the sites used during the operation. These dressings can be removed around 48 hours following your operation. Also there will be a drain (fine plastic tube) coming from the area around your kidney. This is usually removed the day after your operation.

### **When will I be allowed home?**

Most people will be ready for home approximately two to three days after the operation.

### **Your arrangements for going home**

We will give you a supply of painkillers to take home. If you find that you are still uncomfortable when you have finished the supply, you can get some more from your GP.

As part of blood clot prevention therapy you will have blood thinning injections (Fragmin) for 28 days after your operation and you will also need to wear anti-embolism stockings during this time.

At first your abdomen will be swollen from the gases that are put into your abdominal cavity during surgery to allow the operation to be carried out. This swelling will reduce over the course of the next few days but, in the meantime, it's best to wear clothes that are loose-fitting around the waist.

The ward staff will arrange for a district nurse to visit you when you are at home. The district nurse will check your wounds and dressings, give you your blood thinning injections. You may prefer to do these injections yourself and will be shown how to do this by the ward staff. They will also check your wounds and redress them if necessary.

## **Getting back to normal**

Recovery after robotic laparoscopic surgery is much quicker than following 'open' surgery. However, you will need to allow yourself some time to return to normal activities.

Gentle exercise such as walking is encouraged as soon as you get home. You should avoid heavy lifting for six to eight weeks.

You should be able to start driving again when you are able to make an emergency stop without feeling pain, around two weeks. Please also check with your insurance company before returning to drive.

You should be able to return to work around six weeks although if your job involves heavy manual-type activities you should probably wait another month before returning.

## **Follow-up after a robotic partial nephrectomy**

We will ask you to return to the outpatients department for regular reviews following your operation. The first time will usually be a month after the operation when we will be able to discuss the results of the kidney analysis from the laboratory (histology results).

After the first visit, we will usually see you on a regular basis for five to seven years. The follow-up protocol will be discussed with you.

## **Contacting The Christie**

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## **The urology clinical nurse specialists**

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## Further information

### Macmillan Cancer Support

Cancer information nurse specialists can answer questions about cancer, treatments and what to expect. Information about living with cancer, information practical support as well as benefits advice is also available. Interpreters are available for non-English speakers.

Tel: **0808 808 00 00** [www.macmillan.org.uk](http://www.macmillan.org.uk)

### Cancer Research UK

For information about cancer treatment and support in other languages.

Freephone **0808 800 4040**. You can speak to an information nurse via an interpreter.

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

We try to ensure that all our information given to patients is accurate, balanced and based on the most up-to-date scientific evidence. If you would like to have details about the sources used please contact [patient.information@christie.nhs.uk](mailto:patient.information@christie.nhs.uk)

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