

# Robotic-Assisted Laparoscopic Nephrectomy

## Robotic-Assisted Laparoscopic Nephrectomy

### Robotic Surgery

Robotic surgery has become the gold standard for the surgical treatment of prostate cancer throughout the world. In many centres robotic surgery for the kidney is now also replacing conventional open and laparoscopic approaches to nephrectomy.

The **Da Vinci Xi surgical system** is the most widely used robotic system worldwide. The da Vinci XI surgical system was developed to overcome the shortcomings of conventional laparoscopic (keyhole) surgery. With conventional laparoscopic surgery the camera is not fixed, the view is in only 2 dimensions. The instruments used have only a limited range of movements. Precise dissection is more difficult, because of instrument length and natural surgeon tremor.

## Robotic-Assisted Laparoscopic Nephrectomy At Birmingham Urology Centre

Robotic-assisted laparoscopic nephrectomy is a state-of-the-art, minimally invasive surgery performed at Birmingham Urology Clinic for removing all or part of the kidney. Utilising the advanced **Da Vinci Xi surgical system**, this technique enhances surgical precision, flexibility, and control beyond traditional methods. This is translated into reduced recovery times, and enhanced outcomes for patients.

### Procedures We Offer

All types of nephrectomy can be performed with robotic assistance:

- **Robotic assisted laparoscopic partial nephrectomy**
- **Robotic assisted laparoscopic radical nephrectomy**
- **Robotic assisted laparoscopic nephroureterectomy**
- **Robotic assisted laparoscopic simple nephrectomy**

### How It Works

The **Da Vinci surgical system** used by our team allows our surgeons to operate with tiny, precise instruments and a high-definition 3D camera, all controlled via a console. The surgeon guides the instruments in real time and is always in 100% control.

The system translates the surgeon's hand movements into precise actions, allowing the tiny wristed instruments to bend and rotate with a greater range of motion than a human hand. Additionally, the **Da Vinci**

system provides highly magnified, 3D high-definition views of the surgical area, enabling operations through small incisions with enhanced precision and control.

## Advantages Of Robotic-Assisted Laparoscopic Nephrectomy

This procedure offers advantages over traditional open surgery and standard laparoscopic techniques:

- **Enhanced precision:** Greater range of motion and precision than the human hand allows precision surgery.
- **Reduced recovery time:** A minimally invasive approach reduces hospital stays, with most patients returning home within a couple of days.
- **Lower risk of complications:** Decreased pain, scarring, blood loss, and overall complications.
- **Quicker return to normal activities:** Patients generally experience less postoperative pain and a faster recovery.

By choosing this advanced surgical approach, patients benefit from a minimally invasive procedure that minimises discomfort and accelerates healing.

## How To Prepare For Robotic-Assisted Laparoscopic Nephrectomy

Preparation for robotic-assisted laparoscopic nephrectomy includes several steps to ensure a smooth procedure and recovery:

- **Medical assessment:** A few days before the procedure, you will undergo a thorough pre-operative medical assessment. This may include blood tests and other investigations, to ensure you are fit for surgery.
- **Medication:** Inform your urologist of any medications you are taking, as some may need to be adjusted or paused before the surgery.
- **Fasting:** You will be instructed to fast for a specific period before the surgery.
- **Preoperative instructions:** Follow all preoperative instructions provided by the medical team to ensure you are well-prepared for the procedure.

## What Does Robotic-Assisted Laparoscopic Nephrectomy Involve?

- **Anaesthesia:** You will be given a general anaesthetic for the procedure. You will be asleep and pain-free during the surgery.
- **Incisions:** Your urologist will make several small incisions in your abdomen.
- **Robotic system:** The *Da Vinci* surgical system's robotic arms and camera are inserted through the small incisions. Your urologist controls the system from a console, using hand and foot controls to manipulate the instruments.

- **Kidney removal:** A small incision is made in the abdomen and the kidney is carefully removed, along with attached surrounding tissues if necessary.
- **Closure:** The incisions are closed with sutures or staples, and you will be taken to the recovery room.

## Risks And Considerations

While is generally safe, it is important to be aware of potential risks and complications:

- **Infection:** As with any surgery, there is a risk of infection at the site of surgery or in the skin wounds.
- **Bleeding:** Although reduced, there is still a risk of bleeding during and after the surgery.
- **Anaesthetic risks:** Reactions to anaesthetic can occur, although they are rare.

## After The Procedure

- **Immediately post procedure:** You will wake with a urinary catheter to help you urinate. This will usually be removed soon after the procedure. Any discomfort you experience will be managed with pain medication.
- **Hospital stay:** Typically, you will stay one or two nights in hospital. Most patients can resume light activities and are encouraged to walk regularly after going home.
- **Recovery:** Follow your urologist's instructions regarding your activities, wound care, and medication.
- **Follow-up:** Regular follow-up appointments will be scheduled with your urologist to monitor your recovery, discuss pathology results, manage any side effects, and address any concerns.

## Why Choose Birmingham Urology Centre

Choosing this advanced surgical option at Birmingham Urology Centre means accessing state of the art surgical technology combined with our urologists' expertise. This approach is designed to ensure optimal surgical outcomes and a smoother, quicker recovery.

### Contact us

If you require kidney surgery and are interested in the benefits of robotic-assisted laparoscopic nephrectomy. Contact Birmingham Urology Centre today, to discuss whether this cutting-edge treatment is suitable for you. Our team provides personalized care using the latest advancements in medical technology.