

Nephrectomy For Kidney Cancer

Understanding Surgery For Kidney Cancer At Birmingham Urology Clinic

What Is A Nephrectomy?

Nephrectomy is the surgical removal of a kidney. It is the primary and usually the most effective treatment for kidney cancer, especially if the cancer is localised and has not spread. Understanding the different types of nephrectomies, what to expect before, during, and after the surgery, can help you approach your treatment with more confidence and clarity. Being well-informed can facilitate a smoother experience and may improve outcomes.

Types Of Surgery For Kidney Cancer:

- **Radical nephrectomy:** The whole kidney is removed, along with the surrounding tissue, and sometimes nearby lymph nodes or adrenal gland. This is typically advised if the tumour is larger or in a location that makes a partial nephrectomy unfeasible. Radical nephrectomy can be performed using open, laparoscopic, or robotic techniques, based on the tumour's characteristics and patient's condition.
- **Partial nephrectomy:** Involves removing the part of the kidney containing the tumour and a small margin of healthy tissue that surrounds it rather than the entire kidney. Also called kidney-sparing or nephron-sparing surgery, this procedure is often recommended for certain types of localised kidney cancer when the tumour is small (typically less than 4 cm) and is ideal for preserving kidney function. Partial nephrectomy may be recommended if your body can't cope with losing a whole kidney or if you only have one kidney. It can be performed using traditional open surgery, laparoscopically, or through robot-assisted techniques.
- **Nephroureterectomy:** For treatment of transitional cell cancer (TCC) of the kidney. Because TCC can affect any part of the urinary tract, when removing the kidney, your urologist will also recommend removing the ureter.

Nephrectomy may also be performed when kidney cancer has spread (metastatic kidney cancer). The kidney is removed to reduce the tumour burden, even though the cancer has spread to other parts of the body. This surgery is often followed by systemic therapy. At Birmingham Urology Centre, we offer several surgical approaches tailored to the stage and location of the cancer, as well as your overall health.

Surgical Approaches

Radical, partial nephrectomy and nephroureterectomy can be performed as robotic, laparoscopic or open procedures:

- **Robotic assisted laparoscopic nephrectomy:** This is a minimally invasive surgery where the surgeon uses robotic instruments to remove the kidney through small incisions. The robotic system provides enhanced precision, flexibility, and control.
- **Laparoscopic nephrectomy:** A minimally invasive technique. Laparoscopic nephrectomy is performed through several small incisions. A laparoscope (a thin tube with a light and camera on the end) is then inserted through one of the incisions. The camera sends pictures to a TV screen so the urologist can see the kidney and surrounding tissue. One of the incisions will be enlarged enough to enable the kidney to pass through once it has been disconnected from the surrounding tissues and blood vessels.
- **Open nephrectomy:** In this traditional approach, the surgeon makes a larger incision in the abdomen or the side of the abdomen (flank) to access and remove the kidney. This method may be necessary for larger tumours or more complex cases.

What To Expect If You're Having A Nephrectomy

Before Surgery:

- **Consultation:** Includes detailed discussions about the risks and benefits of the surgery, and an assessment to determine the most suitable surgical approach.
- **Investigations:** May include blood tests, additional imaging studies, and other functional tests to ensure your readiness for surgery.
- **Medication:** Inform your doctor about all medications you are taking. You may need to stop certain medications, especially blood thinners, before surgery.
- **Fasting:** Typically, you may need to fast for at least 8 hours prior to the surgery.

The procedure:

- **Anaesthesia:** General or regional, depending on the extent of the surgery.
- **Surgery:**
 - Depending on whether the surgery is open or laparoscopic, your surgeon will make one or several incisions below your ribs.
 - Part or all of the kidney is carefully removed, along with some surrounding tissue, the adrenal gland and lymph nodes if necessary.
 - Your surgeon will then close your incisions with stitches or staples.
- **Duration:** 2-4 hours for an open nephrectomy and 3-4 hours for a robotic or laparoscopic nephrectomy.

After Surgery:

Hospital recovery:

- **Monitoring:** Post-operative care includes regular monitoring for complications and management of pain. You may have a urinary catheter temporarily.
- **Hospital stay:** May vary from a few days to a week, depending on the type of surgery and your

recovery speed. Robotic or laparoscopic nephrectomy often means a shorter hospital stay compared to open nephrectomy.

Home Recovery:

- **Instructions:** You will be given advice regarding for wound care, pain relief and signs of complications to watch for at home.
- **Breathing exercises:** Deep breathing and coughing may be painful because the incision is close to the diaphragm. Breathing exercises are important to prevent pneumonia.
- **Catheter:** You will usually have a catheter initially to help you urinate.
- **Activity** You may feel very tired for one or two weeks after surgery. Gradually increase your activity level as recommended by your healthcare team. Stick to light activities for at least six weeks. It may be between 1-3 months before you can return to work. Full recovery is typically expected after 3 months.
- **Follow-up:** Regular follow-up appointments will be made to ensure proper healing and to monitor kidney function.

Benefits Of Robotic Or Laparoscopic Surgery Compared To Open Surgery

- Less invasive procedure
- Lower risk of bleeding, infection and complications
- Shorter hospital stay
- Faster recovery

Disadvantages Of Robotic Or Laparoscopic Surgery

- The procedure may take longer, so you may be under anaesthetic for longer
- Your urologist may have switch to open surgery during the operation – for example, if a cancer is difficult to reach or there is difficulty controlling bleeding.

What Are The Risks Of Having A Nephrectomy?

Like any surgery, having a nephrectomy carries certain risks, including:

- Bleeding
- Infection
- Injury to surrounding organs
- Reaction to the anaesthetic
- Impaired kidney function, especially if the remaining kidney's health is compromised. The risks of reduced kidney function include high blood pressure, chronic kidney disease, or even kidney failure.

Kidney Function After Surgery

The following tests will be done on a regular basis to check how well the remaining kidney is working:

- Urinalysis (urine test) to check for protein. Protein in the urine may indicate reduced kidney function.
- Blood pressure check: Annually.
- Blood tests to check kidney function (creatinine, glomerular filtration rate [GFR]) every few years (more often if abnormal results are found).
- People with one kidney should avoid sports that involve higher risks of heavy contact or collision.

Benefits Of Surgical Treatment

Surgery for kidney cancer aims to remove the cancer effectively, offering the best chance for a cure, especially in cases where the cancer is contained within the kidney.

How Does Nephrectomy Compare To Other Treatments?

Treatment for kidney cancer depends on the stage of the cancer, where it's growing, and your overall health.

Nephrectomy is usually the first choice of treatment for early-stage kidney cancer. If the surgeon can successfully remove all the cancer, you won't need any other treatment.

Sometimes, surgery isn't the best option. This might be if the cancer has spread, you're not well enough for surgery, or there's a high chance your cancer will come back. Other options are:

- Cryotherapy – freezes and kills cancer cells.
- Radiofrequency ablation – uses radio waves to kill cancer cells.
- Renal arterial embolism – blocks blood supply to the kidney to shrink the cancer.
- Radiotherapy – uses radiation to kill cancer cells.
- Immunotherapy – medicine that helps your immune system fight the cancer.
- Chemotherapy – kidney cancer cells are often resistant to chemotherapy, but it may work for certain types.

Why Choose Birmingham Urology Centre

Our team is equipped with advanced technology with expertise in the latest surgical techniques, including state-of-the-art robotic assisted laparoscopic nephrectomy for kidney cancer. We are committed to providing personalised care to achieve the best outcomes while minimising risks.

Contact us

If you have been diagnosed with kidney cancer and you are considering treatment options, contact us today to book an appointment. Our dedicated team is here to provide you with comprehensive information and support you through each step of your treatment journey.