

# NEPHROURETERECTOMY

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## **Introduction:**

Nephroureterectomy is a surgical procedure to remove an entire kidney, ureter, and a cuff of bladder) to treat urothelial cancers of the kidney or ureter. This type of cancer is identical to a bladder cancer but affects the lining of the kidney or ureter (as opposed to the parenchyma or “meat” of the kidney).

Based on the nature of this cancer, there is a high risk of recurrence unless the entire kidney, ureter, and a cuff of bladder are removed. “Cuff of bladder” refers to the area of the bladder where the ureter enters.

Laparoscopic kidney surgery involves the insertion of a long thin camera into the abdomen. The surgery is performed through several incisions using long instruments. One of the incisions will be large enough to remove the specimen (the kidney and ureter and a cuff of bladder), while the other incisions will be 1cm or smaller. We perform laparoscopic kidney surgery whenever safe and feasible as it is associated with a shorter hospital stay and less pain compared to open surgery. Patients can usually go home after 1-2 nights in the hospital after laparoscopic surgery.

Open kidney surgery is performed when necessary, depending on the size and location of the tumour. Length of hospital stay is usually 3-4 nights and many patients will have an epidural placed prior to surgery and left in for a couple of days after to prevent pain. Some patients booked for laparoscopic surgery will need to be “converted” to open surgery, depending on intra-operative findings.

After nephroureterectomy, patients will have a catheter in the bladder draining urine to a bag. This is typically left in after discharge for about a week to allow the bladder stitches to heal under low pressure and reduce risk of a urine leak from the bladder into the abdomen. Patients will have an abdominal drain in place to monitor for urine leaks. This is typically removed prior to discharge from hospital.

## **Side effects and risks:**

Patients typically have a decline in overall kidney function after surgery, but it is rare that this will impact the patient in any meaningful way. The development of kidney failure, or the need for dialysis, is very rare, unless the patient has a problem with their remaining kidney. Conditions which can cause ongoing decline in kidney function include high blood pressure and diabetes, particularly if these conditions are poorly controlled. Patients should see their family physician periodically. A diet high in fruits and vegetables and low in salt is recommended after nephrectomy. Smokers are encouraged to try to quit; smoking is the most common cause of urothelial cancers and continuing to smoke increases the risk of cancer recurrence as well as damage to their remaining kidney.

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Major bleeding is rare during kidney surgery, although this risk increases for very large or aggressive cancers. All major surgeries have some small risk of injury to other organs (such as bowel, liver, spleen), as well as blood clots in the leg or lungs, heart attacks, etc.

A rare complication is leakage of urine from the bladder into the pelvis/abdomen. This is usually managed by keeping the abdominal drain in, as well as a catheter, until the leak heals on its own.

### **Discharge instructions:**

You will be given a prescription for a painkiller. Most patients will require painkillers for 1 or 2 days at home following laparoscopic kidney surgery, or 3-4 days following open kidney surgery. Community nursing support will be arranged to help you with the catheter and to remove it (after about a week). You should avoid heavy lifting and strenuous activity for 6 weeks following surgery. You can drive as soon as you are no longer requiring prescription painkillers and once the catheter has been removed. You can shower at home immediately after surgery but should avoid baths, hot tubs, and swimming pools for 4 weeks. If you were instructed to hold blood thinners for the procedure, you can resume these once your urine has been clear for 2 consecutive days