



Robot-Assisted Laparoscopic Partial Nephrectomy

What is partial nephrectomy?

It is an operation to surgically remove the portion of the kidney that is suspicious for cancer. It is done to preserve as much normal kidney tissue as possible.

Typically, this operation employs a laparoscopic technique, whereby the abdominal cavity is filled with gas, and a camera and surgical instruments are passed through port sites in the abdominal wall.

During the surgery, the blood vessels going into the kidney are temporarily clamped prior to the tumor being removed. The clamps are removed after the kidney is reconstructed.

The Davinci surgical robot is utilized by the surgeon to perform this operation, allowing for more precise movements, and enhanced visualization compared to traditional laparoscopic techniques. In rare circumstances, when it is felt that the operation cannot continue safely or efficiently in a laparoscopic manner, your surgeon may decide to convert to a traditional open technique, with a larger incision. This operation is performed in a hospital under anesthesia, and includes an overnight stay, but sometimes longer.

Alternatives to this procedure include active surveillance of the kidney mass, in hopes it does not progress. Other alternatives include removal of the entire kidney containing the mass, or direct treatment of the mass with types of energy to destroy it. Your surgeon has considered all of these techniques with you and feels partial nephrectomy is the appropriate treatment given your circumstances.

Anticipated benefits include the potential cure of your cancer.

What are the risks?

Bleeding. As with any operation there will be some bleeding. Transfusion rates for this operation are typically less than 10%.

Infection. A preventative antibiotic is given prior to the surgery at the hospital, and overall infection rates are usually less than 5%. Most common sites of infection would be the skin where the surgical ports are placed, and are rapidly and effectively treated with antibiotics post-operatively.

Injury to nearby structures. There are numerous structures adjacent to the kidney that have risk of injury during this operation. Such risk is very low, but can include injuries to the spleen, pancreas, adrenal gland, colon, small intestine, or liver.

Urine leak. A drain is positioned next to the kidney post-operatively to pull any excess fluid out of the body following surgery. Very rarely, this fluid will be urine. In this case, the drain may be used for a longer duration, and sometimes an internal ureteral stent would be placed to better facilitate healing.

Cancer recurrence in the affected kidney. Given the nature of this operation, there is a chance a cancer is incompletely resected, with recurrence rates overall of approximately 5%. In this setting, the patient may require additional treatments in the future.

Renal dysfunction. Depending on your baseline overall renal function, which often relates to other medical conditions (such as diabetes or hypertension), this surgery can result in the worsening of your kidney function. While this surgery is done to preserve as much normal kidney tissue as possible, the need for dialysis, temporary or permanent, is a risk. Finally, while the goal of this operation is to leave as much of the remaining kidney intact, it is possible your surgeon may decide intraoperatively to remove the entire kidney.

Anesthetic and other risks. Significant events such as heart attack, stroke, even death may occur as a result of any anesthetic, though such risks are extraordinarily low, especially if properly evaluated by your primary physician before surgery if indicated. Should you develop any pain or swelling of your lower legs and ankles following surgery, notify your doctor's office immediately, as this may indicate a blood clot in your leg (deep vein thrombosis or "DVT"). If a blood clot moves to the lung this could be

immediately life-threatening, and usually presents with shortness of breath and/or painful breathing.

What are preparations for surgery?

Please have nothing to eat or drink after midnight prior to your surgery. If you take blood thinners, your surgeon will have discussed stopping this medication prior to your surgery. Sometimes, a bowel preparation is done to help clean out the colon the day before.

What happens after the surgery?

You will stay in the hospital for observation overnight. There is typically a drain and bladder catheter in place. These two tubes are often removed the next day. Many patients will go home the day after surgery, but we will make sure that you are able to walk, tolerate a diet, and that your pain is well managed prior to leaving the hospital. In the days following surgery, it is normal to feel some discomfort in the incision sites.

Resuming activities

You can go back to work when you feel able, usually within one to two weeks, but this of course depends on the nature of your work. Typically, we ask that you abstain from any heavy physical activity for four to six weeks.

You may drive when you feel able and are not under the influence of any medications.

Follow-up

Your doctor will arrange a follow-up visit, usually within one to two weeks following surgery, to ensure you are progressing appropriately, and to review the pathologic findings of your tumor.

For any concerns, do not hesitate to call our office for advice or instruction.