Renal Mass: Robotic/laparoscopic assisted partial nephrectomy, possible radical nephrectomy

This is a procedure that is recommended by your urologic surgeon to surgically remove either the abnormal appearing kidney mass and spare the rest of the kidney whenever possible (partial nephrectomy); there are rare situations when a partial nephrectomy may not be possible in which case, a radical nephrectomy will be performed which is a complete removal of one kidney.

How the surgery is performed

The surgery is performed through several small incisions in the abdomen (rather than a larger incision typically used for an open approach). This is called laparoscopy. In many cases, a method called robotic-assisted laparoscopy is used. The robotic system helps during the surgery. It gives a 3-D view of inside the body. It also assists the surgeon's hand movements. The surgery duration is usually around 4 hours.

Surgical risks and possible complications

All surgeries have risks. The possible foreseen risks of this surgery include:

-Pain, infection, bleeding, scarring. The kidneys are very vascular and bleeding can sometimes occur that is significant and may require a blood transfusion. Damage to the surrounding organs including but not limited to pancreas, small and large bowel, liver, spleen, blood vessels, and nerves. Infection of urine, incision, or abdomen. Chronic pain.

-Pulmonary embolus, blood clots, deep vein thrombosis/thrombus. Walking after surgery will help to prevent this.

-Air embolus-introducing air into blood vessels that can travel to the heart and cause death. Cardiovascular event. Stroke. Death.

-Small bowel obstruction -scar tissue that forms around intestine causing blockage. Ileus-prolonged time for intestines to begin moving food through again, may require a temporary nasogastric tube into stomach to relieve liquid/gas buildup. Hernia development at incision site. Persistent pain/numbness at incision site.

-Renal failure, either acute that resolves after surgery, or chronic which is a slow worsening of renal function. In rare cases, patients may progress to significant renal failure requiring dialysis.

-Arteriovenous fistula, arteriovenous malformation, pseudoaneurysm. These may require additional procedures such as interventional radiologists performing a coiling or embolization to stop the bleeding.

-Urinoma/leak of urine/urinary fistula, hematoma/ blood collection around the kidney. These may require a percutaneous drain placement performed by interventional radiologists or a ureteral stent to help the urine in the kidney drain forward to help the kidney heal which is typically placed by urologists.

-Conversion from a laparoscopic to an open procedure through a traditional open and larger incision

-Conversion from a partial nephrectomy to a complete/radical nephrectomy

-No guarantee of cancer cure. Cancer may have a possibility of recurring, either soon after the surgery or distant from the surgery. There is a possibility of metastatic disease development after the surgery.

The risks of a blood transfusion include:

-Risk of transmission of HIV, hepatitis, and other blood born diseases. All blood in the blood bank is screened for these diseases and there haven't been any reported cases of transmission of these diseases since the 1990s.

-Risk of allergic reactions (fevers, hives, itchiness, damage to lungs, and heart)

Getting ready for your surgery

-Tell your healthcare provider about all medicines you take. This includes herbs and other supplements. It also includes any blood thinners, such as warfarin/coumadin, clopidogrel/plavix, apixaban/eliquis, rivaroxaban/xarelto or aspirin. You will need to stop taking blood thinning medications around 7 days before the surgery. This typically requires checking in with the provider that started you on the medication for a preoperative clearance.

-Don't eat or drink after midnight the night before surgery. The preoperative surgery department will call you and give you more information about this as it gets closer to surgery.

-Smoking cessation - if you smoke, consider discontinuing from the time you decide on surgery. Smoking may help from a lung standpoint before the surgery as well as help with the healing process. Patients who smoke are at an increased risk of poor wound healing and postoperative complications.

What to expect after surgery while in the hospital

Deep breathing - use an incentive spirometer which is a breathing device (given to you in the hospital for you to take home) that helps you to expand your lungs and prevent pneumonia.

Catheter- This is a tube that is inserted via the urethra and into the bladder to drain urine into a bag to allow for close monitoring of a patient's urine output. Typically the foley catheter is placed during the surgery after a patient is asleep and under anesthesia. The catheter is left overnight and most commonly removed the next morning if criteria are met. The catheter may be left in place longer if there are indications to do so.

Abdominal drain – this is post-operative surgical drain that may be placed in the abdomen during the surgery while a patient is asleep and under anesthesia. The drain removes fluid from the recently operated site in the abdomen and the output is recorded and monitored. Sometimes the fluid in the drain is sent to the lab for a test prior to removal to check if the drain is safe to be removed. The removal of the drain is awake and at the bedside usually just prior to discharge (going home).

If you have to go home with the abdominal surgical drain or a foley catheter, we will provide additional instructions to you on how to maintain prior to discharge.

Most patients on average go home about 1-2 days after surgery.

Recovering at home

Activity restrictions - do not lift anything greater than 10 pounds for 6 weeks after surgery. You may walk around, go up/down steps, get in/out of cars and resume light activity after surgery. Avoid strenuous exercise for 6 weeks. Avoid mowing the lawn or using a heavy vacuum cleaner. It is not recommended to drive while taking narcotic pain medications or if you have a foley catheter in place.

Incisions - your incisions will be closed with absorbable stitches and covered with glue known as Dermabond. This glue will slowly peel off usually around 1-2 weeks after surgery. You may shower after surgery. Avoid soaking the incisions underwater in a tub for about 1 week. If you have an open incision (typically the incision where the drain was removed if you had a drain) you may keep that covered with gauze and tape while you shower and then after you are done with the regular shower, you can remove the gauze and sponge bathe the skin around the open

incision. In a few days when the incision is closed and the drainage is minimal, you can transition to a band-aid.
Hydration - drink 8-10 glasses of water/fluids daily to prevent dehydration.
Walk - this will help to get your bowels moving, prevent pneumonia, and blood clots from forming. You can walk as early as the same day of the surgery in the evening with appropriate assistance.
Food/diet - your appetite may not return to normal for a few days or even up to a week after surgery. Eat small portions (you might require more frequent small portions rather than the standard 3 meals/day) and avoid heavy and high fat foods. Drink plenty of water/fluids to keep yourself hydrated.
Bloating - during your surgery, the abdominal cavity is filled with gas in order to perform the surgery. Your body will absorb this gas over the course of a few days. Pain medications and anesthesia medicines can also contribute to bloating.
Constipation – it is common to be constipated after the surgery. Try to avoid straining. The best things you can do to help with return of bowel movements is to ambulate/walk and drink plenty of water/fluids. All narcotic pain medications are associated with contributing to constipation so try to take as sparingly as possible. If it is around 4-5 days after surgery and you still have not had a return of bowel movements, you can go to the local pharmacy and purchase over the counter milk of magnesia or miralax to assist with bowel movements.
Medications - If you take blood thinning medications, we will discuss with you based off of the clearances that were obtained prior to surgery from the provider/specialty who originally prescribed the blood thinners as to when to restart these medications after surgery.

When to call your healthcare provider

Call your healthcare provider right away if you have any of the following:

- Fever of 100.4°F (38°C) or higher, or as directed by your healthcare provider, chills
- Redness or pain in the incision that gets worse
- Swelling of your leg or ankle
- Redness, swelling, warmth, pus, bleeding, or drainage at your incision site
- Trouble breathing
- Hives or rash
- Nausea and vomiting
- Sudden development of grossly blood urine (dark red urine or urine with clots) after a few days of clear urine. You may need to present to the ER for rule out of an arteriovenous fistula or pseudoaneurysm formation