

# JAMES BUCHANAN BRADY UROLOGICAL INSTITUTE

## LAPAROSCOPIC PARTIAL NEPHRECTOMY

Laparoscopic Partial Nephrectomy provides patients with a safe and effective way to remove a small renal tumor, while preserving the remainder of the kidney. This is a minimally invasive technique, which provides patients with less discomfort and equivalent results when compared to the traditional open surgery.

When compared to the conventional open surgical technique, laparoscopic partial nephrectomy has resulted in significantly less post-operative pain, a shorter hospital stay, earlier return to work and daily activities, a more favorable cosmetic result and outcomes that appear to be identical to that of open surgery. Partial nephrectomy has become a standard procedure for select patients with renal cell carcinoma (esp. small < 4cm, peripherally located tumors). The results of partial nephrectomy are less satisfactory in patients with larger renal cell carcinomas, leaving radical nephrectomy (removing the entire kidney) as the standard approach.

### OUR SURGEONS

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## APPOINTMENTS

**Johns Hopkins Hospital Patients and Johns Hopkins Bayview Medical Center Patients** please use the phone numbers listed above

For **directions to Johns Hopkins Hospital and Bayview Medical Center** please follow this link <http://urology.jhu.edu/patients/>

## PRIOR TO THE SURGERY

### What to expect during you preoperative consultation

During your initial consultation with your surgeon, he will review your medical history as well as any outside reports, records, and outside Xray films (e.g. CT scan, MRI, sonogram). A brief physical examination will also be performed at the time of your visit. If your surgeon determines that you are a candidate for surgery, you will then meet with a Patient Service Surgery Coordinator to arrange for the date of your operation.

**NOTE: It is very important that you gather and bring all of your Xray films and reports to your initial consultation with your surgeon.**

### What to expect prior to the surgery

Since insurance companies will not permit patients to be admitted to the hospital the day before surgery to have tests completed, you must make an appointment to have pre-operative testing done at your family doctor or primary care physician's office within 1 month prior to the date of surgery.

**For Johns Hopkins Hospital Patients:** These results need to be faxed by your doctor's office to the Pre-operative Evaluation Center at **443-287-9358** two weeks prior to your surgery. Please call The Documentation Center at **410-955-9453** two weeks before your surgery date to confirm that this information was received.

**For Johns Hopkins Bayview Medical Center Patients :** These results need to be faxed by your doctor's office to the Pre-operative Evaluation Center at **410-550-1391** one week prior to your surgery. Please call The

Documentation Center at **410-550-2495** before your surgery date to confirm that this information was received.

Once your surgical date is secured, you will receive a form along with a letter of explanation to take to your primary care physician or family doctor in order to have the following pre-operative testing done prior to your surgery.

- Physical exam
- EKG (electrocardiogram)
- CBC (complete blood count)
- PT / PTT (blood coagulation profile)
- Comprehensive Metabolic Panel (blood chemistry profile)
- Urinalysis

## **Preparation for surgery**

### **Medications to Avoid Prior to Surgery**

• Aspirin, Motrin, Ibuprofen, Advil, Alka Seltzer, Vitamin E, Ticlid, Coumadin, Lovenox, Celebrex, Voltaren, Vioxx, Plavix and some other arthritis medications can cause bleeding and **should be avoided 1 week prior to the date of surgery** (Please contact your surgeon's office if you are unsure about which medications to stop prior to surgery. Do not stop any medication without contacting the prescribing doctor to get their approval).

### **Bowel Preparation and Clear Liquid Diet**

Do not eat or drink anything after midnight the night before the surgery and drink one bottle of Magnesium Citrate (can be purchased at your local pharmacy) the evening before your surgery.

Drink only clear fluids for a 24-hour period prior to the date of your surgery. Clear liquids are liquids that you are able to see through. Please follow the diet below.

### **Clear Liquid Diet**

Remember not to eat or drink anything after midnight the evening before your surgery. Clear liquids are liquids that you are able to see through. Please follow the diet below.

- Water

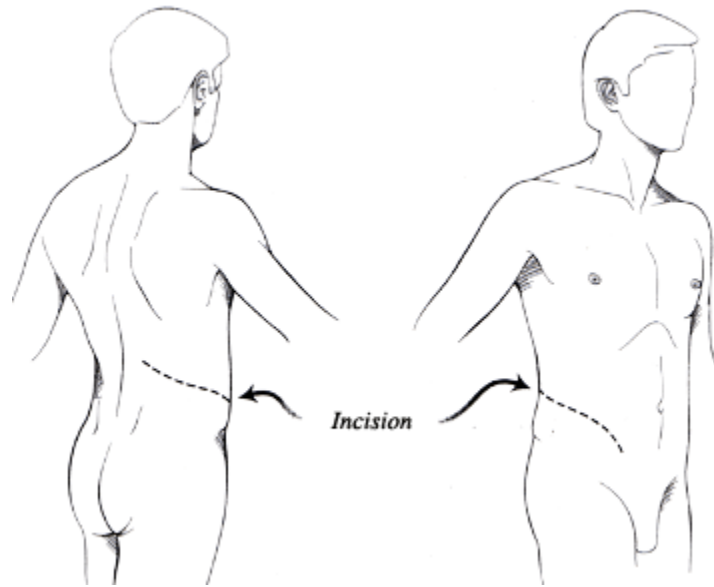
- Clear Broths (no cream soups, meat, noodles etc.)
  - Chicken broth
  - Beef broth
- Juices (no orange juice or tomato juice)
  - Apple juice or apple cider
  - Grape juice
  - Cranberry juice
  - Tang
  - Hawaiian punch
  - Lemonade
  - Kool Aid
  - Gator Aid
- Tea (you may add sweetener, but no cream or milk)
- Coffee (you may add sweetener, but no cream or milk)
- Clear Jello (without fruit)
- Popsicles (without fruit or cream)
- Italian ices or snowball (no marshmallow)

## **THE SURGERY**

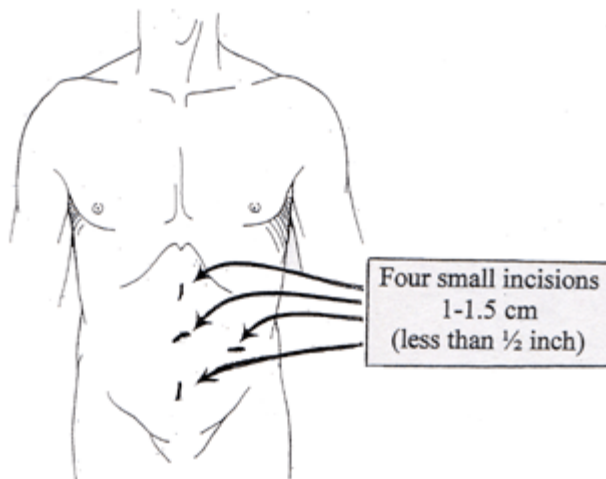
### **The Operation**

Laparoscopic partial nephrectomy is performed under a general anesthetic. The typical length of the operation is 3-4 hours. The surgery is performed through 4 small (1cm) incisions made in the abdomen. A telescope and small instruments are inserted into the abdomen through these keyhole incisions, which allow the surgeon to completely free and dissect the tumor without having to place his hands into the abdomen. The defect in the kidney is then sewn closed with sutures and a special sealant glue. The tumor is then placed within a plastic sack and removed intact through an extension of one of the existing incision sites.

### **Open Procedure**



### **Laparoscopic Procedure**



### **Potential Risks and Complications**

Although this procedure has proven to be very safe, as in any surgical procedure there are risks and potential complications. The safety and complication rates are similar when compared to the open surgery. Potential risks include:

- **Bleeding:** Blood loss during this procedure is typically minor and a transfusion is needed in less than 5% of patients. If you are interested in autologous blood transfusion (donating your own blood) prior to your surgery, you must make your surgeon aware. When the packet of information is mailed or given to you regarding your surgery, you will receive an authorization form for you to take to the Red Cross in your area.
- **Infection:** All patients are treated with intravenous antibiotics, prior to starting surgery to decrease the chance of infection from occurring after surgery. If you develop any signs or symptoms of infection after the surgery (fever, drainage from your incisions, urinary frequency/discomfort, pain or anything that you may be concerned about) please contact us at once.
- **Tissue / Organ Injury:** Although uncommon, possible injury to surrounding tissue and organs including bowel, vascular structures, spleen, liver, pancreas and gallbladder could require further surgery. Scar tissue may also form in the kidney requiring further surgery. Injury could occur to nerves or muscles related to positioning
- **Hernia:** Hernias at incision sites rarely occur since all keyhole incisions are closed carefully at the completion of your surgery
- **Conversion to Open Surgery:** The surgical procedure may require conversion to the standard open operation if difficulty is encountered during the laparoscopic procedure. This could result in a larger than standard open incision and possibly a longer recuperation period.
- **Urine Leak:** If the urinary collecting system of the kidney needs to be cut across in order to remove the kidney tumor, it is usually sutured closed. If urine leaks out of this hole, you may need to have an internal drainage tube (stent) to help seal the leakage. On rare occasion you may require additional surgery.

## WHAT TO EXPECT AFTER SURGERY

### During your hospitalization

Immediately after the surgery you will be taken to the recovery room and transferred to your hospital room once you are fully awake and your vital signs are stable.

- **Postoperative Pain:** Pain medication can be controlled and delivered by the patient via an intravenous patient-controlled analgesia (PCA) pump or by injection (pain shot) administered by the nursing staff. You may experience some minor transient shoulder pain (1-2 days) related to the carbon dioxide gas used to inflate your abdomen during the laparoscopic surgery.
- **Drain:** You can expect to have a small drain coming out of an incision in your back over the kidney area for approximately 2 days. This will drain blood tinged fluid and urine. If persistent drainage

occurs, you may have to go home with the drain and have it removed in your doctor's office.

- **Ureteral Stent:** You may have a plastic internal ureteral stent in place located between the kidney and the bladder to promote drainage from the kidney. This may remain in place for 2 to 6 weeks.
- **Nausea:** You may experience some nausea related to the anesthesia. Medication is available to treat persistent nausea.
- **Urinary Catheter:** You can expect to have a urinary catheter draining your bladder (which is placed in the operating room while the patient is asleep) for approximately two days after the surgery. It is not uncommon to have blood-tinged urine for a few days after your surgery.
- **Diet:** You can expect to have an intravenous catheter (IV) in for 1-2 days. (An IV is a small tube placed into your vein so that you can receive necessary fluids and stay well hydrated; in addition it provides a way to receive medication.) Most patients are able to tolerate ice chips and small sips of liquids the day of the surgery and regular food the next day. Once on a regular diet, pain medication will be taken by mouth instead of by IV or shot.
- **Fatigue:** Fatigue is common and should start to subside in a few weeks following surgery.
- **Incentive Spirometry:** You will be expected to do some very simple breathing exercises to help prevent respiratory infections through using an incentive spirometry device (these exercises will be explained to you by the nursing staff during your hospital stay). Coughing and deep breathing is an important part of your recuperation and helps prevent pneumonia and other pulmonary complications.
- **Ambulation:** On the day of surgery it is very important to get out of bed and begin walking with the supervision of your nurse or family member to help prevent blood clots from forming in your legs. You can also expect to have SCD's (sequential compression devices) along with tight white stockings on your legs to prevent blood clots from forming in your legs.
- **Hospital Stay:** The length of hospital stay for most patients is approximately 2 days.
- **Constipation/Gas Cramps:** You may experience sluggish bowels for several days or several weeks. Suppositories and stool softeners are usually given to help with this problem. Taking mineral oil daily at home will also help to prevent constipation. Narcotic pain medication can also cause constipation and therefore patients are encouraged to discontinue any narcotic pain medication as soon after surgery as tolerated.

## **What to expect after discharge from the hospital**

- **Pain Control:** You can expect to have some pain that may require pain medication for a few days after discharge, and then Tylenol should be sufficient to control your pain.
- **Showering:** You may shower after returning home from the hospital. Your wound sites can get wet, but must be patted dry immediately after showering. Tub baths are not recommended in the first 2 weeks after surgery as this will soak your incisions and increase the risk of infection.. You may have adhesive

strips across your incision. These are not to be removed. They will fall off in approximately 5-7 days. Sutures will dissolve in 4-6 weeks.

- **Activity:** Taking daily walks are strongly advised. Prolonged sitting or lying in bed should be avoided. Climbing stairs is possible, but should be taken slowly. Driving should be avoided for at least 1-2 weeks after surgery. Absolutely no heavy lifting (greater than 20 pounds) or exercising (jogging, swimming, treadmill, biking) for six weeks or until instructed by your doctor. Most patients return to full activity on an average of 3 weeks after surgery. You can expect to return to work in approximately 4 weeks.
- **Diet:** You should drink plenty of fluids and discuss with your doctor if you need to be on a salt or protein restricted diet.
- **Follow-up Appointment:** If your surgery was performed at Johns Hopkins Hospital, you will need to call the Johns Hopkins Out Patient Urology Clinic at **410-955-6707** after your surgery date to schedule a follow up appointment as instructed by your surgeon. If your surgery is performed at Johns Hopkins Bayview Medical Center please call **410-550-7008** to schedule a follow up appointment.
- **Pathology Results:** The pathology results from your surgery are usually available in one week following surgery. You may discuss these results with your surgeon by contacting him by phone or in your followup appointment in the office.
- **Kidney Function Blood Tests and Xrays:** Patients are encouraged to have an annual blood test, called serum creatinine, performed by their primary care physician to follow their overall kidney function. Your surgeon will also review these results in the office during follow up visits. In patients with kidney tumors, followup Xray tests (e.g. CT, MRI, sonograms) may be periodically required to follow the appearance of your remaining kidney.
- **Ureteral Stent Removal:** If a ureteral stent is placed during your surgery, the length of the time the stent remains in place is variable. Your doctor will typically request for it to be removed within a 2-6 week period. This can be removed in your doctor's office. It is common to feel a slight amount of flank fullness and urgency to void while the stent is in place, however, these symptoms often improve over time. The severity and duration of the symptoms is highly variable and will resolve when the stent is removed. It is critical that patients return to have their stent removed as instructed by their physician as a prolonged indwelling ureteral stent can result in encrustation by stone debris, infection, and obstruction of the kidney.