



JAMES BUCHANAN BRADY UROLOGICAL INSTITUTE

URETEROSCOPY

OVERVIEW

Ureteroscopy is a procedure using a thin telescope (ureteroscope), which is passed through the urethra (channel through which urine flows out of the bladder). The ureteroscope is then passed into the bladder and into the ureters (the tubes that carry urine from the kidneys to the bladder) in order to view the internal drainage system of the kidney. Ureteroscopy is a very useful tool in the diagnosis of urological problems. This procedure is used for a variety of reasons including evaluation of: blood in the urine, frequent urinary tract infections, kidney stones, abnormal cells in the urine and to rule out certain tumors in the ureters or kidneys.

Ureteroscopy provides patients with a safe and effective way to remove kidney stones (depending on the size and location) in the ureters and kidneys, provides a way to obtain tissue samples for biopsy and provides a way to remove scar tissue that may be obstructing the ureter. A laser can be inserted through the telescope and is used to break up stones, cut scar tissue or cauterize areas of bleeding or tumor. Small instruments including baskets and graspers can be passed within the ureteroscope to remove tissue or stones.

Ureteroscopy usually can be performed as an outpatient procedure however; patients may require an overnight hospital stay if the procedure proves lengthy or difficult.

OUR SURGEONS

The ureteroscopy technique is offered by three experienced surgeons at the Brady Urological Institute at Johns Hopkins, Drs. David Chan, M.D., Brian Matlaga, M.D., M.P.H., and Mohamad Allaf

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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).

It is very important that your last urine culture was negative prior to having this procedure. Please call the physician's office at least one week before this procedure to confirm your urine culture results. If you suspect that you may have a urinary tract infection, please call the physician office immediately so that proper antibiotics can be prescribed before your surgery.

THE SURGERY

The Procedure

Ureteroscopy is minimally invasive technique using a small telescope placed through the urethra and up to the ureters using visual and x-ray guidance. A general anesthetic is usually required. Your doctor will gently insert the ureteroscope, which is attached to a light source to provide light and a camera to provide an image on a video screen.

Depending upon the problem, a variety of instruments can be passed through the ureteroscope to help make a diagnosis or allow for treatment. Typically, the length of the operation is 1-3 hour depending on the exact nature of the procedure.

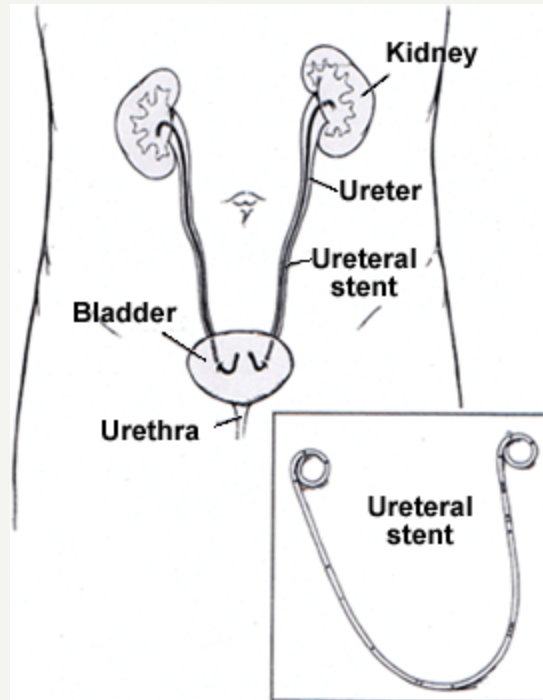


Figure 1

Video Clips

The view video clips that demonstrate key steps of a laparoscopic nephrectomy for removal of a left kidney tumor please use the following link http://urology.jhu.edu/MIS/lap_ureteroscopy.php?color=3#video .

Warning: these video clips include footage from an actual surgery which some viewers may find difficult to watch

Potential Risks and Complications

With experience, the possibility of complications has decreased. Although this procedure has proven to be very safe, as with any operation there are risks and potential complications. Potential risks include:

- **Bleeding:** Blood loss during this procedure is possible, but a blood transfusion is unlikely. You can expect to have some blood in your urine for a few days. If you are interested in autologous blood transfusion (donating your own blood) you must make your surgeon aware. When the packet of information is mailed to you regarding this procedure, 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 the procedure to decrease the chance of infection from occurring after the surgery. If you have symptoms of infection before the surgery (fever, burning or pain with urination, urinary urgency or frequency, cloudy or foul smelling urine, pain or anything that you may be concerned about) inform your doctor immediately. This will need to be treated. If any of these symptoms occur after the procedure please contact your doctor at once for treatment.

- **Tissue / Organ Injury:** Although uncommon, possible injury to surrounding tissue and organs including urethra, bladder, ureter, and kidney could require further surgery. Although rare, injury to the ureter may require open surgery or multiple surgeries to repair the ureter. Injury could occur to nerves or muscles related to how you are positioned on the operating table.
- **Conversion to Open Surgery:** This procedure may require conversion to an open operation if difficulty is encountered during the operation. This could result in a larger standard open incision and possibly a longer recuperation period.
- **Failure to Remove the Stone:** There is a possibility that the stone may not be able to be removed due to the size of the stone, equipment problems or your internal anatomy. Additional treatment may be required.
- **Stricture:** The ureter may become occluded (blocked) from scar tissue formation. This may require further major surgery to correct this blockage.
- **Avulsion of the Ureter:** Avulsion of a ureter is a tear in the ureter, which rarely occurs during ureteroscopy but can normally be repaired surgically. In rare circumstances, it may be necessary to do a ureteral implant, autotransplantation (removal and transplanting of your own kidney) or nephrectomy (removal of kidney) to correct an avulsed ureter.

WHAT TO EXPECT AFTER SURGERY

During your hospitalization (most of this information pertains to patients being admitted to the hospital)

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

- **Ureteral Stent:** It is common to have a plastic internal ureteral stent in place after surgery between the kidney and the bladder to promote drainage from the kidney and to promote healing of the ureter. The stent normally remains in place anywhere from 3 days to several weeks. (see figure 1)
- **Post Procedure Pain:** Some flank and bladder discomfort can be expected and medication will be administered as needed. Burning during urination is common initially after surgery. If the burning persists medication can be given. One may experience pain in the flank and bladder on the side of the surgery from swelling and inflammation. If a stent is left in place, severe pain or bladder spasms may occur especially with urination. This should improve over a few days. To help relieve symptoms, you will be given a prescription for pain medication before leaving the hospital. In some cases bleeding may persist until the stent is removed. Heavy exertion can also cause bleeding while the stent is in place and therefore should be avoided until the stent is removed.
- **Nausea:** You may experience some nausea related to the anesthesia. Medication is available to treat persistent nausea.
- **Urinary Catheter:** You may have a urinary catheter draining your bladder (which is placed in the operating room while the patient is asleep) for approximately one day after the procedure.
- **Diet:** You can expect to have an intravenous catheter (IV) in for several hours. (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 procedure and regular food the next day. Once you are tolerating fluids, 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 days.
- **Incentive Spirometry:** If you are admitted to the hospital, 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 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 your procedure 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.
- **Hospital Stay:** Patients are generally discharged home the same day as the procedure or perhaps after a one night hospital stay.
- **Constipation:** You may experience sluggish bowels for several days or weeks. Suppositories and stool softeners are usually given to help with this problem. Taking mineral oil daily at home and eating plenty of fruits and vegetables will also help to prevent constipation.
- **Infection:** You may have to take antibiotics for a few days to prevent infection. Call your doctor with any signs of infection including, pain, chills or fever.

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 at home.
- **Activity:** Taking walks is advised. Prolonged sitting or lying in bed should be avoided. Climbing stairs is possible. Driving should be avoided for at least 1 day after the procedure. Absolutely no heavy lifting (greater than 20 pounds) or exercising (jogging, swimming, treadmill, biking) until instructed by your doctor. Most patients return to full activity on an average of one week after surgery. You can expect to return to work in approximately 1 week.
- **Diet:** No dietary restrictions. Increase fluid intake until your stent is removed.
- **Follow-up Appointment:** You will need to call soon after your discharge to schedule a follow up visit for 1-4 weeks after your procedure date.
 - To schedule an appointment at **The Johns Hopkins Out Patient Center** call **410-955-6101**.
 - To schedule an appointment at **Johns Hopkins Bayview** call **410-550-7008**.
- **Ureteral Stent Removal:** The length of time the stent remains in place is variable. Your doctor will probably request it to be removed within a 3 days to a several week period. This can be removed in the doctor's office. It is common to feel a slight amount of flank fullness and urgency to void as a result of the stent. These symptoms often improve over time as the body adjusts to the indwelling stent. **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, obstruction and loss of kidney function.**

