



## **TURBT**

*We recommend that you read this carefully in order to prepare yourself or family members for the proposed procedure. If you still have any questions or concerns, we strongly encourage you to contact our office prior to your procedure. We may clarify any pertinent issues. "An educated patient is the best patient."*

### **Definition**

Transurethral = through the urethra (tube through which urine exits the bladder)

Resection = cutting away or removal.

A special scope termed a "cystoscope" is placed in the urethra and guided into the bladder. The bladder tumor is cut away completely, or in other circumstances, just biopsied for analysis by the pathologist.

Most TURBTs are performed for Transitional Cell Carcinoma, the most common type of bladder cancer. There are, however, other far less common types of tumors. In most circumstances, a TURBT is performed with the intent of removing the entire mass. In cases where the tumor is very extensive, we might only try to sample as much tissue as we need to properly determine the type and extent of the cancer.

### **Preparation**

As with any procedure in which anesthesia is administered, you will be asked not to eat or drink anything after midnight on the evening prior to your surgery. You may brush your teeth in the

morning, but do not swallow the water. If you are on medications that must be taken, you will have discussed this with us and/or the anesthesiologist. Instructions will have been given to you. The procedure will not be performed if you are currently taking or have recently taken any medications that may interfere with your ability to clot your blood (blood thinners, aspirin, plavix, Coumadin, anti-inflammatory medications, etc.) The most common of these medications are aspirin and all related pain relievers or anti inflammatory compounds (whether prescription or over the counter). Please refer to the attached list and tell us if you took any of the the medications within the last 7 days. We will have reviewed all of your current medications with you during the pre operative consultation. You are obligated to inform us if anything has changed since your previous visit.

## **Procedure**

To review the basics of what we discussed in the office: The actual procedure can take anywhere from 15-90 minutes depending on the location and size of the tumor. You will be placed in the lithotomy position (lying down on your back with your legs gently elevated in holsters called stirrups). The scope, which has continuous fluid running through it, is carefully inserted into the urethra and advanced into the bladder. We examine the bladder to determine the extent of the tumor. Next, a special knife (termed a "loop") is used to cut or remove the tumor. Once the tumor is resected, we may take sample biopsies from uninvolved areas to ensure there is no microscopic spread of the tumor. After the resection is over, all tumor pieces (chips) are irrigated out of the bladder. In some cases, especially when the tumor is large, a catheter might be placed to allow for proper healing of the bladder wall.

## **Post Procedure**

Depending on the size of the tumor, and the extent of the resection, you might either be discharged home or admitted to the hospital. Depending on the circumstances, we may discharge you home with a catheter for a few days.

It is normal for you to feel a strong sense of urgency to urinate. This is from the trauma to the bladder wall and possibly the presence of the catheter. In most patients, this goes away within a couple of hours. Some patients require medications to help relax the bladder while it is healing or while the catheter is in place. Patients may have no blood in the urine, imld blood, or even what appears to be a significant amount of blood or small clots. The blood usually disappears within a day or two, but can last several weeks to a couple months. In most patients that are admitted, the catheter is removed the following morning and you are discharged home after you urinate on your own.

## **Expectations of Outcome**

As previously mentioned, there are different reasons for a TURBT performed. The most common scenario is that we intend to fully remove the tumor while simultaneously staging the tumor (determining how advanced or invasive the cancer is). In instances where the tumor is unable to be completely removed due to size or location, we will sample as much as needed to properly stage the cancer. The tumor staging will allow your physician to make the best treatment recommendation. There are instances in which we initially planned to resect the entire tumor, but realize during the procedure that this cannot be safely accomplished.

## **Possible Complications**

All surgical procedures, regardless of complexity or time, can be associated with unforeseen problems. They may be immediate or even quite delayed in presentation. While we have discussed these and possibly others in your consultation, we would like you to have a list so that you may ask questions if you are still concerned. Aside from the anesthesia complications, it is important that every patient be made aware of all possible outcomes which may include, but are not limited to:

- **Hematuria/Clot Retention/Transfusion:** As we cut away the tumor, small blood vessels (arteries and veins) can bleed. Throughout the entire procedure, we cauterize (burn) the vessels so they stop bleeding. At the end of the procedure, we carefully inspect the area to ensure there is no significant bleeding. There is always some minor, insignificant vessels that slowly ooze. Rarely, a scab of a vessel we cauterize can fall off and cause significant bleeding (blood in the urine). In most cases, we only need to watch the patient and the bleeding eventually stops. If clots form, it can block the urethra or the catheter and we may need to irrigate the clots out. Rarely, this could require a return trip to the operating room to put the scope back inside the bladder and cauterize the blood vessels. If the bleeding is prolonged during or after the operation, we need to check your blood count. It is rare, but possible, to require a blood transfusion after the procedure.
- **Deep Vein Thrombosis/Pulmonary Embolism:** In any operation, you can develop a clot in a vein of your leg (DVT). Typically, this presents 2-7 days after the procedure as pain, swelling, and tenderness to the touch in the lower leg (calf). Your ankle or foot can become swollen. If you notice these signs, you should go directly to an emergency room and call our office. Although less likely, this blood clot can move through the veins and block part of the lung (PE). This would present as shortness of breath and possibly chest pain. We may sometimes ask the medical doctors to be involved with the management of either of these problems.
- **Urinary Tract Infection or UroSepsis:** Although we may give you antibiotics, it is still possible for you to get an infection. It may be a simple bladder infection that presents with symptoms of burning with urination, urinary frequency, and a strong urge to urinate. This will usually resolve within a few days of antibiotic administration. Pyelonephritis represents a kidney infection and is also possible following a TURBT and is more likely to cause symptoms of severe back pain, fevers, chills, nausea and vomiting. If the

infection enters the bloodstream, you might feel very ill. This type of infection can present with both urinary symptoms and any combination of the following: fever, shaking chills, weakness, dizziness, nausea and vomiting. You may require a short hospitalization for intravenous antibiotics, IV fluids, and observation. This problem is more common in diabetics, patients on steroids, or patients with a weakened immune system. If you have symptoms suggesting any of the above after your discharge from the hospital or surgery center, you must contact us immediately and go to the nearest emergency room.

- **Urethral Stricture/Bladder Neck Contracture:** A stricture is scar tissue that can form anywhere in the urethra following prolonged instrumentation. It may occur weeks, months, or longer after the procedure. Scar tissue can also form at the exit (bladder neck) of the bladder. This is termed a bladder neck contracture. This would be an issue where there is significant tumor volume at the bladder neck region. For either condition, it may be necessary to schedule another procedure to open the scar tissue. These procedures can be done with a small blade, electric knife or with a laser. These procedures are quick and almost always ambulatory. Scars at the end or tip of the urethra can sometimes be dilated in the office. In very rare instances, a stricture or contracture can recur.
- **Urinary Retention:** In a male, pressure from the scope can occasionally cause inflammation in large and/or obstructing prostates. It may block the flow of urine and cause retention (inability to urinate). In many circumstances, it resolves with a catheter over the next few days. Less commonly are medications or a prostate procedure required to resolve the retention.
- **Bladder Perforation:** If the cutting is deep, the wall of the bladder can be perforated. This is far more common in large tumors or those that are at an advanced stage (deeply invading the wall of the bladder.) In most cases, we need to leave the catheter in for an extra few days to allow self healing. If this happens early in the procedure, we may stop the case, place a catheter and allow the bladder to heal. We would finish the procedure another day. Sometimes we may need to perform repair of the bladder through an incision in the abdomen.
- **Ureteral Injury:** On either side of the bladder is a small ureteral orifice. This is the hole through which the ureter (tube from the kidney) enters the bladder. If there is a tumor at or near the orifice, it may be necessary to resect there. Within days to weeks, a scar could form over the orifice and block the kidney on that side. Sometimes we can unblock the tube by inserting a stent (drainage tube) on that side.
- **TUR syndrome:** This only occurs in prolonged resections and is rarely seen in this procedure. Because many blood vessels may be opened while cutting away the tumor, some of the irrigation fluid may enter the bloodstream and dilute the blood components. With the newer irrigation fluids, TUR syndrome is very unlikely. Severe cases, however, can cause heart or brain complications.

*We provide this information for the patients and family members. It is intended to be an educational supplement that highlights some of the important points of what we have previously discussed in the office. Alternative treatments, the purpose of the procedure, and the points on this page have been covered in face-to-face consultation.*