



18370 Burbank Boulevard | Suite 407 | Tarzana | CA | 91356  
Tel: 818.996.4242 | Fax: 818.996.4352  
7345 Medical Center Drive | Suite 300 | West Hills | CA | 91307  
Tel: 818.346.8736 | Fax: 818.992.1640  
www.sfvua.com

Leonard B. Skaist, M.D.  
Richard G. Leff, M.D.  
Richard A. Shapiro, M.D.  
Ian A. Gale, M.D.  
Eugene Dula, M.D.  
Gene Broth, M.D.  
Jennifer Mehdizadeh, M.D.

## Urodynamics

---

Urodynamics refers to a group of procedures that are performed to examine voiding (urinating) disorders. The goal of the diagnosis and treatment of these disorders is to protect the kidneys, keep the patient dry, and improve urination patterns. Any procedure designed to provide information about a bladder problem can be called a urodynamic test. The type of test you take depends on your problem.

Most urodynamic testing focuses on the bladder's ability to empty steadily and completely. It also can show whether or not the bladder is having abnormal contractions, which may cause leakage. Your doctor will want to know whether you have difficulty starting a urine stream, how hard you have to strain to maintain it, whether the stream is interrupted, and whether any urine is left in your bladder when you are done. The urodynamic test is a precise measurement using sophisticated instruments.

The test includes:

### **Uroflowmetry**

A uroflowmeter automatically measures the amount of urine and the flow rate (how fast the urine comes out). This creates a graph that shows changes in flow rate from second to second so the doctor can see the peak flow rate and how many seconds it took to get there. This test will be abnormal if the bladder muscle is weak or urine flow is obstructed.

### **Postvoid residual**

After you've finished urinating, you may still have some urine, usually only an ounce or two, remaining in your bladder. To measure this urine, called a post-void residual, a catheter is inserted into your bladder to drain the urine and measure it. Also prior to the cystometrogram, your bladder must be completely emptied.

### **Cystometry (cystometrogram – CMG)**

A cystometrogram (CMG) measures how much your bladder can hold, how much pressure builds up inside your bladder as it stores urine, and how full it is when you feel the urge to

urinate. A special small, soft catheter with a pressure-measuring tube called a cystometer will be used to fill your bladder slowly with sterile saline. Another catheter will be placed in the rectum to record pressure there as well. You will be asked how your bladder feels and when you feel the need to urinate. The volume of water and the bladder pressure will be recorded. You will be asked to cough or strain during this procedure. Involuntary bladder contractions can be identified.

#### **Measurement of leak point pressure**

While your bladder is being filled for the CMG, it suddenly may contract and squeeze some water out without warning. The cystometer will record the pressure at the time of the leak. This reading tells the doctor about the kind of bladder problem you have. You also may be asked to exhale while holding your nose and mouth closed to apply abdominal pressure to the bladder, or cough or shift positions. These actions help the doctor evaluate your sphincter muscles.

#### **Pressure flow study**

After the CMG, you will be asked to empty your bladder so that the catheter can measure the pressures required to urinate. This pressure flow study helps to identify bladder outlet obstruction that men may experience with prostate problems. Bladder outlet obstruction is less common in women but can occur with a fallen bladder or rarely after a surgical procedure for urinary incontinence.

#### **Electromyography (measurement of nerve impulses)**

During the urodynamics test, an electromyograph will be performed to measure nerve impulses. This test measures the muscle activity in the urethral sphincter using sensors placed on the skin near the urethra and rectum. Sometimes the sensors are on the urethral or rectal catheter. Muscle activity is recorded on a machine. The patterns of these impulses will show whether the messages sent to the bladder and urethra are coordinated correctly.

#### **Afterward**

You will receive an antibiotic dose to prevent an infection from passing the catheters into your bladder. You might have mild discomfort for a few hours after these tests. Drinking two 8-ounce glasses of water each hour for 2 hours should help. Ask your doctor whether or not you can take a warm bath. If not, you may be able to hold a warm, damp washcloth over the urethral opening to relieve the discomfort. If you have signs of infection, fever, chills or pain, call your doctor.

#### **Results**

For some of the more simple tests, you may get answers as the test is being done or right after it's done. For others, it will take a few days. Your doctor will contact you with the answers.