

## **Urodynamic Test**

A urodynamic test helps your health care provider to determine the nature and severity of urinary incontinence and other voiding problems. Performed as an outpatient in the office, a urodynamic study measures bladder and urethral pressures as the bladder fills with fluid, and again during urination.

A urodynamic study is performed as follows:

1. *Catheterization.* First, a tiny hollow catheter is gently inserted into the urethra and advanced until it reaches the bladder. Special transducers (monitors) on the tip of the catheter are connected to a monitoring device that measures pressure within the bladder as it fills with fluid. Another tiny catheter is carefully inserted into the rectum to measure the abdominal pressure (the pressure that is used to push urine out or to have a bowel movement). The rectal catheter is also connected to the monitoring device.
2. *Electromyography.* Tiny adhesive patches are attached to the skin on either side of the anus measure pelvic muscular contractions.

3. *Bladder Filling.* Next, sterile fluid is instilled through the urethral catheter into the bladder. This part of the procedure measures bladder sensation and the perception of bladder fullness.

4. *Urination.* When the bladder is full, the patient is instructed to urinate into a device that measures the speed of urination.

Meanwhile, the monitoring device simultaneously measures the pressures within the bladder, urethra, and rectum during urination, and the EMG measures external urethral striated sphincter activity during voiding (it should relax).

5. *Valsalva Leak Point Pressure:* In women that are experiencing urinary stress incontinence, valsalva leak point pressure provides useful information about the nature and severity of the incontinence. The bladder is filled to a volume of 200cc (about 7 ounces). The patient is then examined in a standing position. The patient is first asked to strain. The healthcare provider examines the vagina to determine whether there is any urinary leakage and whether there is any pelvic organ prolapsed of the bladder, rectum or small intestines into the vagina. If there isn't any urinary

leakage observed during abdominal straining, the patient is asked to cough to determine whether there is any leakage with coughing.

6. *Interpretation.* Information obtained from a urodynamic test can help predict the cause and severity of urinary obstruction, if present, and it provides valuable information about bladder activity. It can also determine the severity of any urinary incontinence. Furthermore, if there is evidence of urinary incontinence and significant pelvic organ prolapse, both conditions should be corrected during the same time.