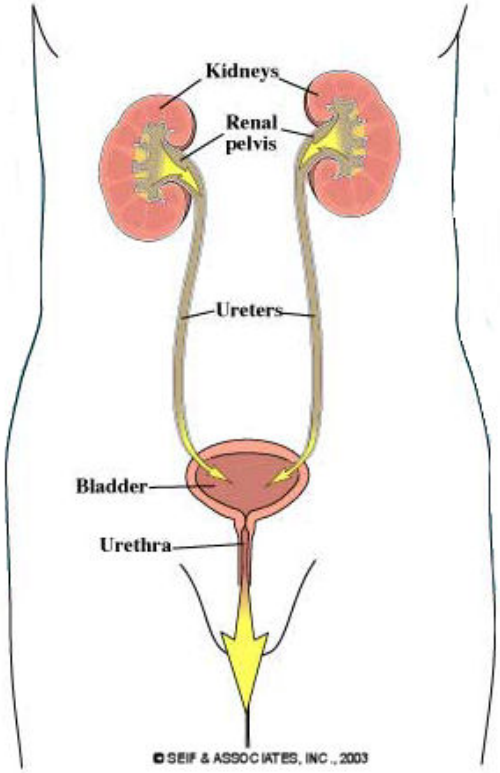
Urodynamic Testing

If you have a problem with urine leakage, urodynamic testing may be useful. This non-invasive test will be helpful to find out the cause of the problem.



Problems in the urinary system can be caused by aging, illness, or injury. The muscles in your ureters, bladder, and urethra can become weaker with age. You may have more urinary infections and bladder stones because of the weakened bladder muscles. The muscles may not empty your bladder completely. Also, weakening of the urethral sphincter and the muscles of the pelvic floor can cause stress urinary continence. This is because the sphincter cannot remain tight enough to hold urine in the bladder or does not have enough support from the pelvic muscles.

Urodynamics is the study of how the body stores and releases urine. These tests help your caregiver see how well your bladder and sphincter muscles work. The tests can help explain symptoms such as:

- Inability to control your urine (*incontinence*).
- Sudden, strong urges to urinate.
- Painful urination.
- Recurrent urinary tract infections.
- Frequent urination.
- Problems starting a urine stream.
- Problems emptying your bladder completely.

PREPARING FOR THE TEST

If your caregiver recommends bladder testing, usually no special preparations are needed. Make sure you understand any instructions you receive. Depending on the test, you may be asked to come with a full bladder or an empty one. Also, ask whether you should change your diet or skip your regular medicines and for how long.

TAKING THE TEST

Any procedure designed to provide information about a bladder problem can be called a urodynamic test. Your caregiver will want to know whether:

- You have difficulty starting a urine stream.
- How hard you have to strain to maintain it.
- The stream is interrupted.
- Any urine is left in your bladder when you are done (*post void residual*).

Urodynamic tests can range from simple observation to precise measurement using instruments.

TESTING METHODS

The type of test you take depends on your problem. The different tests are described below.

- The use of imaging equipment. This equipment films urination.
- Urinating behind a curtain while a doctor or nurse listens.
- If leakage is the problem, a pad test is a simple way to measure how much urine seeps out. You will be given a number of absorbent pads and plastic bags. You will be told to wear the pad for 1 or 2 hours and then seal it in a bag. Your caregiver will then weigh the bags to see how much urine has been caught in the pad. A simpler, but less precise method is to change pads as often as you need to and keep track of how many pads you use in a day.
- A physical exam will also be performed to rule out other causes of urinary problems. Other causes could

include weakening pelvic muscles (*pelvic prolapse*) or prostate enlargement.

- Pressure Flow Study-you will empty your bladder so a catheter can measure the pressures required to urinate. This study helps to identify causes of bladder outlet obstruction that men may experience with prostate enlargement. 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)-If your caregiver thinks that your urinary problem is related to nerve damage, you may be given an electromyography. This test measures the muscle activity in the urethral sphincter. It uses sensors placed on the skin near the urethra and rectum. Muscle activity is recorded on a machine. The impulse patterns show if the messages sent to the bladder and urethra are coordinated correctly.
- Video Urodynamics-can be performed with or without equipment to take pictures of the bladder during filling and emptying. The imaging equipment may use x-rays or sound waves. If x-ray equipment is used, the liquid used to fill the bladder may be a contrast medium that will show up on the x-ray. The pictures and videos show the size and shape of the urinary tract and help your caregiver understand your problem.

AFTER THE TEST

You may 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 caregiver if you can take a warm bath. If not, you may be able to hold a warm, damp washcloth over the urethral opening. This may relieve discomfort.

You may be given an antibiotic to prevent an infection. Call your caregiver if you have signs of infection. These signs include pain, chills, or fever.

GETTING THE RESULTS

Results for simple tests can be discussed with your caregiver immediately after the test. Results of other tests may take a few days. You will have time to ask questions about the results and possible treatments for your problem.

FOR MORE INFORMATION

More information is available from:
American Urological Association: www.auanet.org
American Foundation for Urologic Disease: www.afud.org
Interstitial Cystitis Association of America: www.ichelp.org
National Kidney and Urologic Diseases Information Clearinghouse: nkudic@info.niddk.nih.gov

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