

## Patient information

### Urodynamics

#### Urology Department

Urodynamics is a bladder pressure test. It helps your consultant diagnose your urinary problem so that the right treatment can be advised.

#### **What are urodynamics?**

Urodynamics is a test to determine how the bladder works.

#### **There are two types of urodynamics:**

- Cystometry
- Video urodynamics.

In cystometry the bladder is filled with sterile water at body temperature and the pressure in the bladder is measured during filling and emptying.

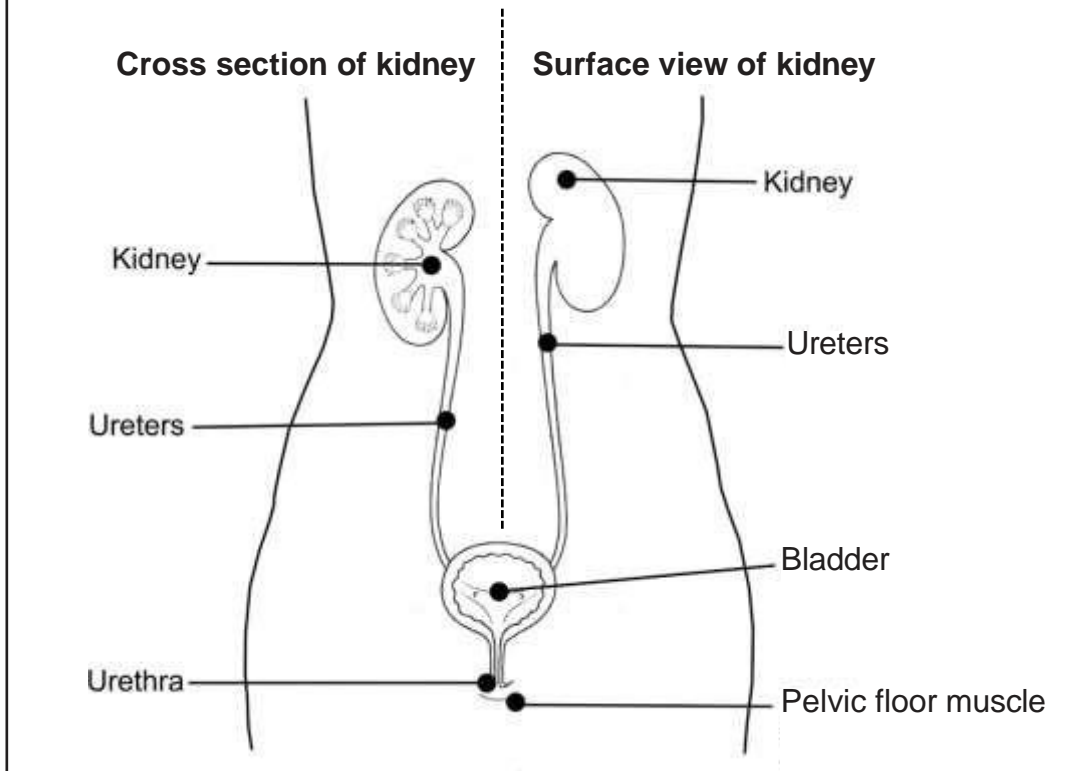
In video urodynamics, the bladder is filled with X-ray contrast. X-rays are taken during the procedure as well as pressure readings. This means that the way the bladder behaves can be seen during the test and not just the pressure changes. This can be particularly helpful in patients who have had previous surgery or who have complex urinary problems.

#### **Understanding urine and the bladder**

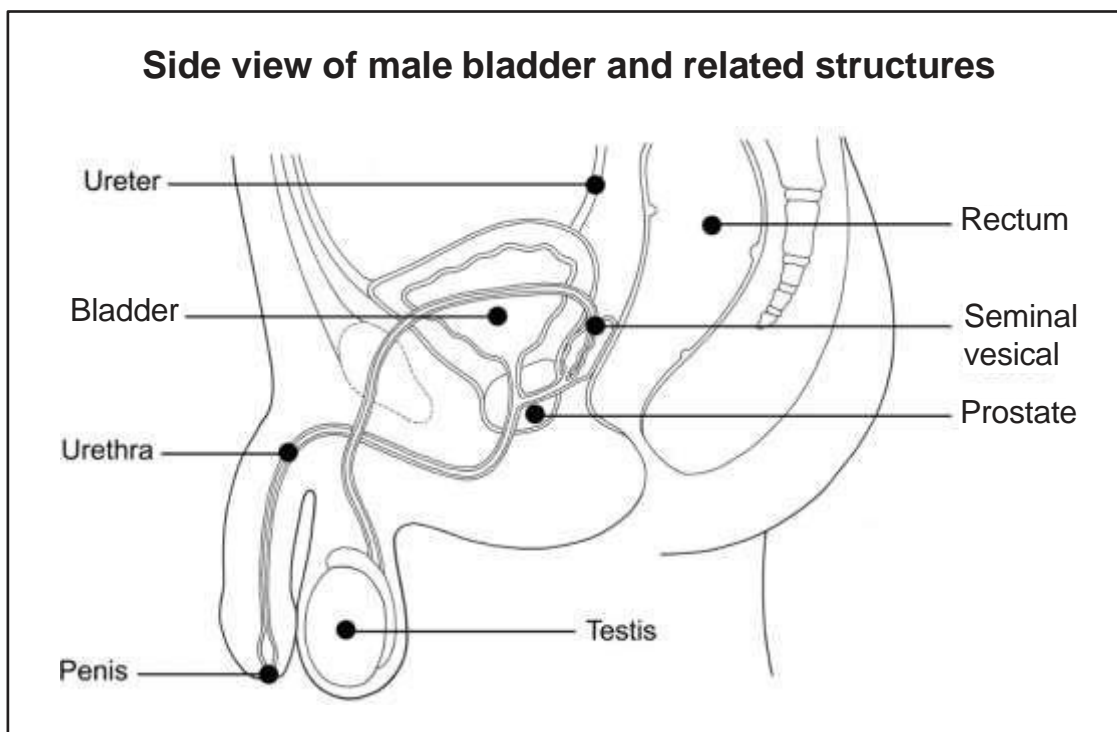
The kidneys make urine all the time. A trickle of urine is constantly passing to the bladder down the ureters (tubes from the kidneys to the bladder). You make different amounts of urine depending on how much you drink, eat and sweat.

The bladder is mainly made of muscle and stores the urine. It expands like a balloon as urine comes down the ureters. The outlet for urine (the urethra) is normally closed.

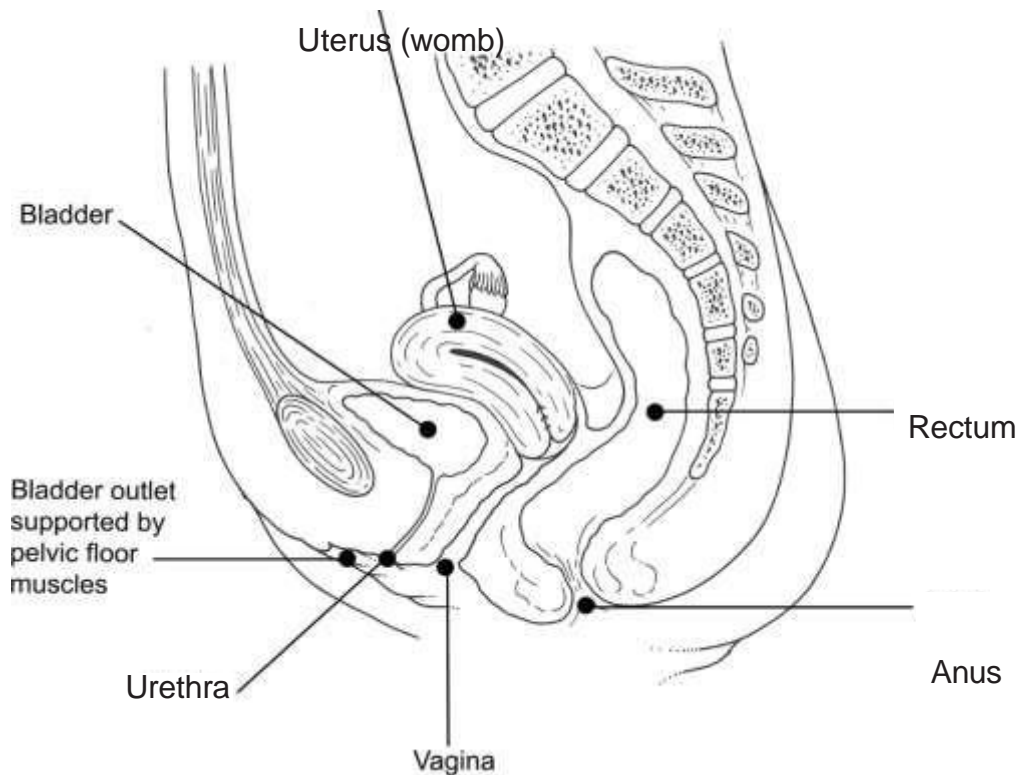
This is helped by the muscles beneath the bladder that sweep around the urethra (the pelvic floor muscles). When a certain amount of urine is in the bladder, you become aware that the bladder is getting full. When you go to the toilet to pass urine, the bladder muscle contracts (squeezes) and the urethra and pelvic floor muscles relax.



Complex nerve messages are sent between the brain and the bladder and pelvic floor muscles. These make you aware of how full your bladder is and tell the right muscles to contract (squeeze) or relax at the right time.



## Side view of female bladder and related structures



**Pelvic floor muscles wrap around the underside of the bladder, uterus and rectum giving support.**

### In general why are urodynamics done?

Urodynamics are necessary because the symptoms that you experience can be caused by several different problems.

### For example:

- You may feel the urgent need to pass urine and you may leak before you get there. This may be either because the bladder is misbehaving or squeezing when you don't tell it to or because the bladder is telling you it is full when it isn't really.
- In men the flow of the urine may be slow either because there is a blockage of the urethra (for example if the prostate is enlarged) or because the bladder muscle has lost its squeeze and so it cannot push the urine through the urethra as fast any more.

**It is important for your consultant to know what is causing the symptoms that bother you so they can recommend the right treatment for you.**

### In what specific situations are urodynamics done?

- To determine the cause of abnormal function of the bladder or the muscle that holds urine in the bladder (bladder sphincter).
- To measure how much urine your bladder can store and how much urine remains in your bladder after you feel you have completely emptied it (residual volume).

- They may help your consultant to determine whether medications, surgery, or both are necessary to treat your urinary symptoms.
- To determine bladder function in people with progressive neurological diseases, such as multiple sclerosis.
- To monitor bladder function in certain situations such as a spinal cord injury.

### **How do I prepare for urodynamics?**

You will need to **stop** any medication that you have been prescribed for your urinary symptoms five days before your test. **This does not include antibiotics.**

If you are not sure whether you are on any tablets for your urinary symptoms please contact your family doctor (GP) or phone for advice.

**Tel: 0151 282 6819**

**Textphone Number: 18001 0151 282 6819**

**Water tablets” (diuretics) are generally for heart or blood pressure problems and should not be stopped.**

You will be sent a time and amount chart with your appointment. It is important that you read the instructions carefully and fill it in for the three days and nights before you come for your test.

### **It is important that you inform the department in advance if you:**

- Are or might be pregnant
- Have symptoms of a urinary tract infection, such as pain or burning with urination (passing urine), foul-smelling or cloudy urine, or an urge to urinate more often than usual. On the day of the test please drink and eat normally.
- If possible, arrive in the department with a comfortably full bladder. Please remember to bring your completed time and amount chart and a list of your current medications including any over the counter remedies that you may be taking.

### **How are urodynamics done?**

Urodynamics are performed in a dedicated room in the Broadgreen Urology Centre. It is performed by a specialist nurse or a doctor. You will be asked to take off your clothes below the waist and you will be given a hospital gown to cover you during the test.

- At the beginning of the series of tests you will be asked to pass urine into a toilet that is connected to a machine called a uroflowmeter. This machine measures how much urine passes and how long it takes.
- Then you will be asked to lie on your back on an examining table.
- After the urethral opening is thoroughly cleaned, a well-lubricated thin, flexible tube (catheter) is gently inserted and slowly moved into your bladder. Any urine remaining in your bladder (residual volume) will be drained and measured.

- You will then be asked to lie on your side. Another catheter will be placed in your rectum (bottom) to measure the pressure in your abdomen as your bladder fills.
- The two catheters will be taped in place to stop them falling out during the procedure.
- The catheter in your bladder is attached to a bottle containing sterile room-temperature water (cystometry) or X-ray contrast (videourodynamics).
- The nurse will pass fluid through your catheter to make sure there is no air in the catheter that makes readings inaccurate. You will be asked to cough at this stage and at intervals during the test to check that the lines are working properly.
- The catheters in your bladder and rectum are attached to a computer that measures pressure.
- The computer takes the pressure in your rectum away from the pressure in your bladder this gives a reading of the true pressure in your bladder.
- Your bladder is slowly filled with fluid.
- You will be asked to say when you first feel the urge to urinate (pass urine). Your bladder will then continue to be filled until you report that you feel you must urinate. Then you will be asked to urinate around your catheter. Any urine remaining in your bladder after you urinate will be drained by the catheter. After all the liquid is drained out of your bladder, and if no additional tests are required, the catheter is removed.
- If you are having video urodynamics this will be done in front of an X-ray camera.
- You may leak fluid during the test. This is an important part of the test and helps to make a diagnosis. It is nothing to be worried or embarrassed about. In fact you may be asked to do exercises such as coughing or jumping that normally make you leak in order to diagnose the exact problem.

**While your catheter is in place, several other tests may also be done to help determine whether the nerves that control urination are working properly. These include:**

- Maximum urethral closure pressure (MUCP). Urethral pressure is recorded as the catheter is gently pulled out of your urethra. This test helps determine whether the muscles around the bladder and urethra are functioning properly.
- Leak point pressure (LPP). Sterile water is injected into the catheter in your bladder, then the pressures are measured while you bear down (as if having a bowel movement). This test helps determine whether the muscles around the bladder and urethra are functioning properly. A low-pressure reading may indicate that poor muscle function is causing urinary incontinence.

### **How long does it take?**

Urodynamics usually takes 30 to 60 minutes but may take slightly longer if any of the special tests are done.

## **How does it feel to have urodynamics?**

You may feel embarrassed at having to urinate with others present, but you needn't be because this procedure is quite routine for the medical staff. If you find yourself feeling embarrassed, take deep, slow breaths and try to relax.

You will feel a strong urge to urinate at times during the test. You may also find it somewhat uncomfortable when the catheter is inserted and left in place, and you may be sore afterward. If so, soaking in a warm bath may help. You will be made to feel as comfortable as possible during the tests to help you relax.

## **What are the risks?**

Urodynamics usually is a very safe procedure. There is always a slight risk of developing a urinary tract infection when a catheter is inserted into your bladder. In rare cases, a bladder infection can spread to a kidney and into the blood, leading to a life-threatening infection. If an infection occurs, it can be treated with antibiotics.

Video urodynamics is considered a low dose examination, and the amount of radiation is kept to a minimum. This is equivalent to the amount of background radiation that you naturally receive over 3 to 5 weeks. The radiographer is responsible for making sure that your dose is kept as low as possible and that the benefits of having the x-ray outweigh the risks.

People with high spinal cord injuries may have low heart rate, high blood pressure, sweating, headache, and flushed appearance (dysreflexia) during the procedure. These symptoms should be reported to the person performing the test, since further testing may cause complications.

## **What can I expect after the procedure?**

It is normal for you to pass a small amount of blood in your urine (haematuria) for one to two days after the test. You also may feel that you need to urinate often or have a sense of urgency to urinate or have some burning on urination.

## **Contact your family doctor (GP) or attend the Emergency Department (A & E) if you develop any of the following:**

- Worsening of the pain or burning upon urination.
- An urge to urinate frequently, but usually passing only small quantities of urine.
- Dribbling (inability to control urine release).
- Urine that is reddish or pinkish, foul-smelling, or cloudy.
- Pain or a feeling of heaviness in the lower abdomen.
- Fever and chills.
- Nausea and vomiting.
- An inability to pass your urine.

## **When will I get the results?**

Urodynamics is an interactive test. You will be asked what you are feeling during the test and you will often be shown what the computer shows while the test is going on. This will help you to understand what is happening in the bladder when you are experiencing symptoms.

The nurse or doctor will be able to explain some of the **results of** your test to you and may be able to suggest some treatments straight away. The reports of your test will be sent to your consultant who will contact you with regard to your ongoing care.

## **Feedback**

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

## **Further information**

**For general queries about Urodynamics telephone the Urology Centre**

**Tel: 0151 282 6819**

**Text phone number: 18001 0151 282 6819**

**For clinical questions specific to your case, telephone the secretary of your Urology Consultant**

**Author: Urology Department Review**

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