



PLEASE NOTE OUR NEW POSTAL ADDRESS

# The CANADIAN CONTINENCE FOUNDATION

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## Informer

### Urodynamics: Testing for the sources and causes of urinary incontinence

by  
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Urinary incontinence is involuntary leakage of urine. It may occur when you are doing specific activities or you may just not be able to make it to the bathroom in time when you feel the urge. If you go to a doctor, nurse or physiotherapist about this problem you can expect to receive a **basic investigation** of your problem which will include:

- a detailed history of the problem and of previous illnesses and surgeries, including a list of any medications you may be taking (not just bladder medications);
- questions about how much and what you drink, and how often you pass urine;
- an analysis of your urine, mainly to check for any bladder infection;
- a physical examination, which for women will include a pelvic examination, a test of the strength of the pelvic floor muscles and of possible prolapse, prolapse (the falling or slipping of pelvic organs, i.e., bladder, uterus, from their normal position) and a test for urine leakage during coughing.

Sometimes you may be asked to complete a bladder diary (a record of how much you drink and when, how often you empty your bladder, and when you leak urine).

**Urodynamics** is an even more detailed and precise examination of your bladder's behaviour. Its main aim is to reproduce incontinence while measuring what is happening with your bladder. This may help your health care provider to decide which treatments are or are not likely to be beneficial.

#### Is urodynamics always essential?

**No.** Incontinence can often be successfully treated without urodynamics if:

- only conservative measures are considered (e.g. exercises, biofeedback, electrical stimulation, dietary modifications)
- if medication can be safely tried out, without risk of making the problem worse

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#### Farewell from the Executive Director

*The time has come for me to pass the baton! I am proud to announce that my personal mandate within this organization has been met. The Canadian Continence Foundation is now a growing and viable organization for the long-term. I hope that you all can take pride in your significant contributions and words of support over the past five years. I will now return to school, to pursue post-graduate studies in Canadian Healthcare.*

*Ms. Ruth Pelletier will take over and bring this organization to a whole new level with her vast experience in fundraising, the public sector and volunteerism, as well as her endless energy and passion for the cause.*

*I am glad to say that the issue of incontinence is now ON THE MAP! The media IS beginning to talk about it, Health Canada is supporting us, and more people are seeking and finding help for incontinence. The battle must continue - we still need more awareness and education among the public and healthcare professionals, and more funding is required to meet the growing needs. In the year 2000, The Foundation will create a whole new arm to support incontinence research.*

*It has been a pleasure to work with so many of you and to exchange letters over the years. I wish you the best of luck, and ask that you continue to support this cause. One day, we WILL achieve the ultimate goal - continence for all.*

*I will be thinking of you and will commit to doing what I can, in a broader context, to ensure that incontinence remains a priority within the Canadian Healthcare System.*

*Sincerely, Malvina Klag*



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**Q.** *I have had pessaries suggested to me as a possible solution for my urinary incontinence and/or prolapse. What can you tell me about them?*

**You  
Asked Us**

Pessaries are used for women who have pelvic muscle weakness that results in dropping or falling of the pelvic organs (i.e., bladder, uterus) from their normal position in the pelvic cavity. This dropping or falling of any pelvic organ is called a prolapse.

When pelvic organs are displaced there may be a decrease in the bladder's ability to stay closed under pressure, resulting in incontinence. Coughing, sneezing, laughing and other movements which put a similar pressure on the bladder may cause incontinence. Urgency (sudden strong urges to empty your bladder) may also occur due to prolapse.

The pessary, which comes in many different sizes and shapes and is made of silicone, is placed into the top of the vagina. When properly fitted in place it will support the pelvic organs so that a more normal position of the organs is regained.

Pessaries are used most appropriately for women who have not been successful with pelvic muscle (Kegel) exercises and are unable, or do not wish to have surgical repair.

The pessary fitting is done initially by a qualified health professional. This may be a gynecologist, a urogynecologist, a urologist, a nurse, or in some cases a family physician. After the pessary is fitted it must be removed, cleansed and inserted again on a regular schedule. Usually the woman is taught to do this herself. Ongoing follow up visits with the health care provider will be required every 1 to 3 months for cleaning and vaginal inspection if the woman is unable to remove and clean the pessary herself.

Pessaries can be used for many women very successfully. Proper fitting, however, does not always occur on the first attempt. Fitting is a trial and error process. Sometimes women give up on a pessary when it is not immediately successful. This is unfortunate since persistence to achieve the proper fit may resolve the situation.



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Sometimes a woman will look at a pessary and is turned off by the look and does not proceed with it's use. On first inspection the pessary may look big and cumbersome but, in actual fact, when it is properly fitted you are not even be aware of it's presence.

In most or all menopausal women, hormone replacement may increase the success of the pessary use.

Complications arising from the use of a pessary usually only occurs when a post menopausal woman is unable to take hormone replacements or if the pessary is misused or neglected.

In between your routine visits, you should report any of the following to your health care provider.

- signs and symptoms of bladder/urinary tract infection which may include one or more of the following:
  - the need to make frequent trips to the bathroom to pass urine-often very small amounts of urine are passed;
  - a sudden strong onset of the urge to pass urine-sometimes so strong it is difficult to make it to the bathroom on time;
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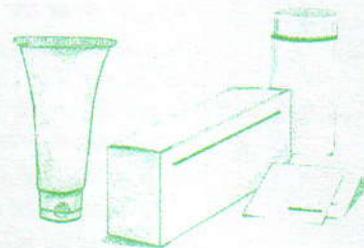
Some pessaries may remain in place during sexual intercourse while others may have to be removed.

Dr. J. Schultz, Urogynecologist, & Ms. Lesley Hanson, R.N., Urogynecology Clinic, Royal Alexandra Hospital, Edmonton, Alberta.

## Literature & Resources

### Information Sheet: Skin Care & Urinary Incontinence: Problems, Solutions & Suggestions

This information sheet, published by The Canadian Continence Foundation, offers information on the various skin care products available, how the products are used, where they may be purchased, and tips on the prevention of skin problems. It can be ordered through The Canadian Continence Foundation at a cost of \$2.00



**What's New?**

#### Pull-up Briefs for Heavy Incontinence.

These pull-up briefs, similar to the toddler pull-ups we are familiar with from TV advertising, are as easily put on and taken down for toileting as standard under garments. They are elasticized around the waist and legs for secure fit and an inner leg cuff provides extra protection against leakage. The outside is made of a soft cloth-like material that prevents rustling sounds under clothes. This product is currently available from Quality Life Services. You may contact their customer service department at 1 800 731-6899 for further information on pricing and availability.



## Urodynamics

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On the other hand there may very well be good reason to do urodynamics if:

- conservative measures and/or medication have failed
- more radical therapy such as surgery is being contemplated
- surgery has already been performed without success
- you have a disease which may be contributing to the bladder problem (such as multiple sclerosis).

### What is urodynamics?

Urodynamics consists of a series of different tests that are conducted by urologists, gynecologists, or specially trained nurses or technicians. For example:

- flow rate measurement
- measurement of residual urine
- bladder filling cystometry
- leak point pressure measurement
- voiding study
- urethral pressure profile measurement



We shall consider these in turn: what they involve, and what information they give. This will help you to prepare for a urodynamic examination and to know what to expect. Not all of the tests described will be performed for every individual.

### Urine flow rate measurement

For a flow rate measurement, you empty your bladder into a special toilet that measures how fast you empty and how much. This identifies unusual voiding patterns (for example, an intermittent stop and start flow pattern instead of a good steady stream). If the bladder emptying is not normal it may be more likely that new problems with emptying your bladder would arise after treatment of incontinence (e.g. with surgery or some types of medication).

If you are going to have a flow rate measurement, it helps to arrive for your appointment with "a comfortably full bladder," so that you can empty a reasonable volume (say 1 to 1 1/2 cups) without having to wait for your bladder to fill up. (This may be difficult to achieve if you have a bladder problem!) Try to empty your bladder about two hours before the test, and try to avoid going to the bathroom again in that two hours. If you arrive for your appointment "bursting to go," please don't just empty your bladder in the regular washroom: let the receptionist or nurse know so that he/she can arrange the uroflow measurement right away. Don't waste that urine in the toilet!

### Residual urine measurement

Residual urine is the volume of urine left in your bladder after you have been to the bathroom to pass urine. Ideally it should be very small - perhaps a teaspoon - but in

practice it is often larger. A very large residual urine (more than about a cup) may suggest that the best treatment should be aimed at improving bladder emptying, for example by intermittent catheterization (regular drainage of the bladder through a tube which is inserted and removed afterwards). Measurement of residual urine to identify the best choice of treatment for incontinence is particularly important for very elderly people.

Residual urine is measured just after you have passed urine. It can be measured by an ultrasound. A probe is pressed gently against your abdomen and produces a picture of your bladder. If you are going to have one of the examinations mentioned below, however, which involve insertion of a catheter into the bladder, then very likely the residual urine will be measured by draining the bladder through the catheter rather than by ultrasound.

No particular preparation for a residual urine measurement is needed but since you will need to pass urine just beforehand it will help to have a comfortably full bladder.

### Bladder filling cystometry

The aim of this test is to measure how your bladder responds to gradual filling, and to demonstrate the leakage problem so that its cause can be identified. The two most common causes are weakness of the pelvic floor muscles<sup>1</sup> or an overactive bladder<sup>2</sup>. These can be distinguished by this test.

For the test, it is necessary to measure the pressure of fluid in the bladder, and to measure the pressure that acts on the bladder from the outside. An example of the latter is an increase in pressure in the abdomen caused by coughing or sneezing, which in turn is exerted on the bladder. From these two measurements we can tell how much of the bladder pressure comes from the bladder muscle itself and how much from outside. Two thin catheters (or one twin-channel catheter) are passed through the urethra (the tube-like structure through which the urine passes from the bladder to the outside of the body) into the bladder. One channel will be used to drain and refill the bladder; the other will be used to measure the pressure of liquid in the bladder. Another catheter will be passed into your rectum to measure the abdominal pressure. In women, placing the urethral catheters is uncomfortable but not usually painful unless the urethra is particularly sensitive. In men, the urethral passageway is much longer and there is a bend in it; passing catheters can be unpleasant, but fortunately does not last long. Passing a catheter into the rectum is usually not painful at all. In some centres, small stickers may be applied to the

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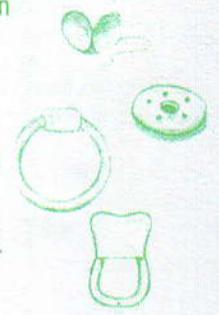
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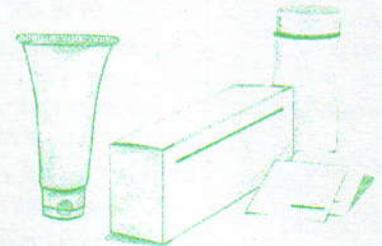
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## Urodynamics

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skin near the anal opening, to pick up electrical signals from the pelvic floor muscles.

Once these are all in place your bladder will probably be emptied through the catheter. When everything has been hooked up to the urodynamics equipment, your bladder will be gradually filled with a liquid - water, or sometimes an X-ray liquid so that it can be seen on video - while the measurements are recorded. You will be asked not to urinate and to report any sensations from your bladder. The sensations you get should be similar to those you get normally as your bladder fills, except that the liquid may feel cold, and you may still be conscious of the catheters in your urethra. During filling, you will probably be asked to stand up or sit up, and to cough or strain, in an attempt to provoke incontinence - i.e., to make you leak. When your bladder feels very full you may be asked to try to hang on for a little longer, to check whether you can control your bladder when it is full. The whole process of filling your bladder will probably take not much longer than 10-15 minutes, but this depends on its size. A full bladder normally holds a little over 2 cups of urine.



[Figure 1]

A male patient with an incontinence problem undergoing urodynamics. In this investigation, bladder filling cystometry is being combined with X-ray (fluoroscopy). A flowmeter under the examination chair is ready to perform a voiding study later in the test.

There is no special preparation for this test. However, if you are taking medications for your bladder it would be sensible to ask if you should stop them beforehand. Also, you should inform your caregiver if you think you may have a bladder infection or, for women, if you will be having your menstrual period at the time of the test.

### Voiding study

After filling cystometry you may be asked to empty your bladder into a flowmeter, while the catheters are left in place to measure bladder and abdominal pressures. This test is not usually of primary importance for someone with incontinence, but it is very easy to do and may help to identify the cause of any abnormalities noticed during a previous flow rate measurement. Examples of abnormalities are a blockage in the urethra or a weak bladder muscle.

The final two tests are sometimes performed in addition to the others.

### Urethral pressure profile

For this test one of the catheters in the bladder is slowly withdrawn while the pressure is measured along the length of the urethra. It is a direct measurement of the strength of the muscles that normally keep the urethra closed. Weakness of these muscles may contribute to incontinence. Proper identification of this problem can affect your treatment plan. For example, if surgery is an option the findings of this test will assist your surgeon in the choice of the most effective type of surgery. Sometimes you may be asked to cough repeatedly while the catheter is withdrawn.

### Abdominal (Valsalva) leak point pressure

In this test you will be asked to strain (bear down) or cough until leakage occurs. The pressure in your abdomen rises and the pressure needed to produce leakage is measured. It is a way of grading the severity of the problem. Leakage at a lower pressure indicates a more severe problem. The result may influence the choice of treatment.

### How embarrassing and uncomfortable is a urodynamic test?

At first, most people feel that urodynamic testing is embarrassing and that it is particularly embarrassing to leak urine or fluid during a test. You should remember that an important aim of the procedures is to make you leak so that the cause of your problem can be diagnosed, and then treated appropriately. Leakage is what the person doing your testing is expecting and hoping for so that useful test results are obtained.

You probably think that the descriptions in this article make urodynamic tests sound extremely unpleasant. In fact, most patients tell us afterwards that it wasn't nearly as bad as they thought it would be, and that they are pleased that more has been found out about the cause of their problem.

### Additional Notes

- ✓ After urodynamic testing you should have no problem with driving or going back to work.
- ✓ After any test in which a catheter has been inserted you may find urination uncomfortable at first. This is quite normal and is due to irritation from the catheter. It should wear off within a few hours. Some people, particularly older men, may even pass small amounts of blood in their urine for a short time.
- ✓ Whenever a catheter is inserted into the bladder there is a very slight risk of introducing an infection. Drinking plenty of fluids (at least 8 cups/day) for the first day or two after the test will minimize the risk.
- ✓ If urination is still painful 48 hours after the test, if you develop a fever, if your urine becomes cloudy or smelly, or if you continue to have blood in your urine, call your physician.