

Stress incontinence



As a health care provider you can make a significant difference to the quality of life of patients like these by addressing urinary incontinence, introducing conservative therapies and utilizing professional resources when they are needed.

This educational tool is an introduction to stress incontinence for the health care professional.

Its goals are to create awareness and provide information useful for advising clients and helping them to access resources.

It was written by Gloria Harrison, a Nurse Continence Advisor and Research Coordinator in Edmonton, Alberta, and by Derek Griffiths, a medical scientist who specializes in bladder problems.

Download copies of pelvic muscle exercise instruction sheets and blank bladder diaries from Griffiths Urodynamics and Pro-Continence Consulting's website (www.learncontinence.com).

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Urinary incontinence is the complaint of any involuntary leakage of urine. According to the International Consultation on Incontinence [2009], 25-45% of women in the general population report urinary incontinence. 5-15% of middle-aged and older females have daily incontinence. About 50% of all incontinent women have stress incontinence, the subject of this booklet. Younger women typically have stress incontinence. Older women usually have mixed or urge incontinence, and indeed the prevalence of stress incontinence seems to decrease after ages 40 to 49 y.

In men the prevalence of incontinence is about half of that in women. Stress incontinence may occur after prostatic surgery, especially radical prostatectomy. Up to 30% of men who have had a radical prostatectomy experience some degree of incontinence.

Types of incontinence: There is more than one type of incontinence. Stress incontinence is leakage of urine related to coughing, sneezing, laughing, running, jumping, or any other activity that causes the abdominal pressure to rise, squeeze on the bladder and override the bladder's closure mechanism.

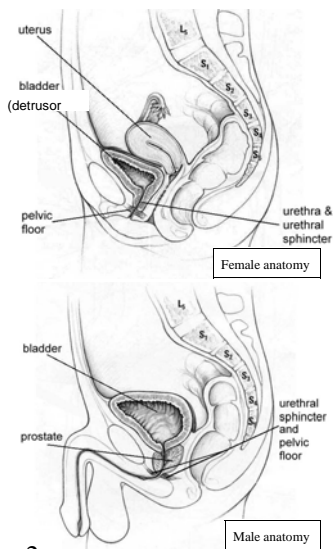
Urge or urgency incontinence is the complaint of leakage of urine accompanied by urgency (a sudden compelling desire to pass urine). It is one of the symptoms that make up the overactive bladder syndrome (OAB). The other symptoms of OAB are urgency (without leakage) and frequency of voiding.

Mixed incontinence is a combination of stress and urge: involuntary leakage associated with urgency and also with exertion, effort, sneezing or coughing.

Incontinence can be associated with many types of neurological disease and is often described by terms such as overflow or reflex incontinence.

Risk factors and causes of stress incontinence:

Weakness of the pelvic floor muscles or of the urethral sphincter may compromise the bladder closure mechanism and predispose the individual to stress incontinence.



In women, pregnancy, labour and delivery impact the pelvic floor musculature, probably causing nerve or muscle damage that may contribute to the development of incontinence. The risk is probably increased by multiple pregnancies, prolonged labour or difficult deliveries. Long-term, repetitive, heavy lifting in women may contribute to stress incontinence. Chronic cough also damages the pelvic floor musculature and may predispose to stress incontinence. Smoking and obesity are thought to increase the risk of incontinence.

In men, radical prostatectomy may result in stress incontinence due to nerve trauma or mechanical damage to the striated muscles of the urethra.

Other risk factors include previous pelvic or vaginal radiation and chronic constipation.

Symptoms:

Stress incontinence is associated with:

- predominantly daytime leakage
- usually of small amounts
- associated with physical activity such as coughing, laughing, sneezing, running, jumping, and exercising
- not associated with urgency (able to control the bladder at other times)

Assessment:

A simple history and a bladder (and bowel) diary are helpful in determining the likelihood of stress incontinence.

Ask the following questions:

- How often do you leak urine? [from once a week or less, to several times a day or all the time]
- How much do you think you leak each time? [a small, moderate or large amount]
- How much does it bother you? [from not at all to a great deal]

For patients with stress incontinence the bladder diary will support the symptoms of small-moderate leakage, in the daytime, associated with physical activity (see below).

BLADDER AND BOWEL RECORD

DATE: *Fri June 7*

⌚ TIME	DRINKS Amount & type	† TOILET ✓ or amount	ACCIDENTS		BOWELS ** Bowel movement
			✓ Small/ medium/ large	Reason for leakage	
☀ 7:30 am		425 ml			
7:45 am	1c decaf				
8:00	1/2 glass juice 1 glass water				
10:35			✓ small	coughing	
11:00		385 ml			
12 noon	1c herbal tea 1 glass milk				
2:15 pm	1c herbal tea				
2:30 pm			✓ mod	long walk	
4:10 pm		365 ml			
5:30 pm	1 glass milk 1 cup decaf				
7:30 pm			✓ small	coughing	
9:00 pm	1/2 glass water				
10:30 pm		390 ml			
☾ NIGHT					
4:15 am		✓			

Management:

The management of stress incontinence includes the following:

- Behavioral therapy
- Pelvic floor muscle training
- Pessary
- Surgery

Behavioral therapy includes:

- decreasing excessive fluid intake
 - * but adequate fluid intake of 6-8 cups (1500-2000 ml) per day should be maintained)
- voiding every 3 to 4 hours during the day
- bowel management
- quitting smoking
- losing weight (if overweight)

Pelvic floor muscle training (get instructions from link on cover page)

- the exercises increase the strength and function of the pelvic floor muscles and urethral sphincter
- biofeedback or electrical stimulation therapy may be helpful for those who find it difficult to do pelvic floor muscle exercises and for those who do not improve on a home regime; this is usually provided by a physiotherapist or specially trained nurse

Pessary

A pessary is a vaginal device that can be effective in managing stress incontinence, particularly when there is pelvic organ prolapse. The aim is to elevate the pelvic floor, support the bladder neck and compress the urethra. There are many different types, and a pessary needs to be fitted by a physician or specially trained nurse.



Pessaries

Surgery

Surgical management of stress incontinence may be considered if conservative therapies have failed. There are a number of procedures.

As a general rule, the least invasive procedure that is appropriate for the patient is the first choice. These include:

- For women:
 - o Tension-free vaginal tape (**TVT**). Minimally invasive procedure; Prolene tape is implanted around the urethra via small vaginal and abdominal incisions
 - o Transobturator tape (**TOT**). A similar procedure that may cause

- o fewer bowel, bladder, or vascular complications
- o Retropubic suspension (**Burch**). Repositions the urethrovesical junction higher behind the symphysis pubis. Its use has decreased with the development of TVT and TOT.
- For men and women:
 - o **Suburethral sling**. A sling made of fascia or artificial material is placed under the urethrovesical junction to support it and help keep the urethra closed. Usually reserved for severe incontinence, after other surgeries have failed.
 - o **Intraurethral injection**. Use of collagen or silicone polymers to bulk up the wall of the urethra and help keep it closed. Minimally invasive but success rate and durability are not high, especially in men.
 - o **Artificial sphincter**. An inflated cuff placed surgically around the urethra with a pump to deflate it for voiding. For intractable incontinence or as a last resort.

Absorbent products.

Containment products are not the first line of management for incontinence but they are an important component of a comprehensive approach. Use of good quality products enhances quality of life. Women should be encouraged to use an incontinence product rather than a menstrual one, to protect the skin and control odour. In stress incontinence a pad with an adhesive strip, placed inside close-fitting underwear, is recommended. There are designated male and female products.



Left: Men's Guard. Right: women's pad

Professional resources

- Family physician with an interest in this field
- Gynecologist or Urogynecologist
- Urologist with an interest in this field
- Specially trained physiotherapist
- Nurse Continence Advisor
- Nurse Practitioner with an interest in this field

A number of continence clinics offer multidisciplinary care.

Case study 1



Christine is a 32 year old female. She presents with a 2-year history of urinary incontinence. Her leakage occurs with laughing, coughing, sneezing, especially when her bladder is full. She started playing soccer a year ago and this is when her incontinence is most troublesome. She has had 2 pregnancies, 4 and 6 years ago. Her deliveries were vaginal and her largest baby weighed 9 lbs 2 oz (4.1 kg). She had prolonged labor with her first delivery and required an episiotomy.

Her 3-day bladder and bowel diary shows that her fluid intake is 3 litres/day. She has occasional episodes of daytime leakage with laugh, sneeze or running, usually when it has been more than 3 hours since she voided. She voids every 4 to 6 hours during the day. Her incontinence is worse on the day she plays soccer and she has several episodes of larger amounts during the game that wet her clothing.

Pelvic organ prolapse has been ruled out by a pelvic examination.

Discussion

We review the bladder and bowel diary with Christine. Of note, her fluid intake is high and she voids infrequently during the day. Her worst problem is leakage during heavy exercise and she is very troubled by this. She does not want to give up soccer.

What do we advise?

(a) Behavioural therapy:

Since Christine's fluid intake is high; we would recommend that she gradually decrease the volume to 2 litres/day, and distribute it evenly throughout the day so that there are smaller amounts in her bladder.

We suggest that she void every 3 hours during the day.

(b) Pelvic muscle exercises (PME):

These exercises are a very important part of conservative therapy for stress incontinence (see link on cover page). It may require 6 to 8 weeks of dedicated exercising to see positive results. It is preferred that the exercises be taught with a digital vaginal exam, to ensure that they are being done correctly. If she has difficulty performing these exercises she should be referred to a physiotherapist or a nurse continence advisor.

(c) Pessary:

If needed Christine could be fitted for a pessary to wear during soccer games. She could learn to insert and remove an incontinence ring pessary (top right pessary on page 4).

(d) Products:

We would recommend an incontinence pad for her to use while treatment is progressing (see page 5).

Case study 2



Marlene is a 66 year old female with a 5 year history of leakage with laughing, coughing, sneezing and lifting that has become more frequent over the past year. Her family physician has told her that she has a small cystocele (prolapse of the bladder into the vaginal wall) and atrophic vaginitis (inflammation of the vagina and urethra due to lack of estrogen). She is overweight.

Her bladder and bowel diary shows a good fluid intake. She has incontinence episodes 3 to 4 times during the day. They occur during coughing and sneezing and when she rises from a chair or bed. She voids 10 times during the day. On questioning she says that she voids “just in case” to avoid incontinence.

What do we advise?

(a) Behavioural therapy:

We suggest a weight loss program. Studies have show weight loss to have a significant effect on leakage.

(b) Pelvic muscle exercises (see cover page)

(c) Topical estrogen:

Since estrogen is involved in keeping the tissue of the vagina and urethra healthy, application of estrogen vaginally (cream, tablet or ring insert) may help improve symptoms of stress incontinence. It is often used in conjunction with a pessary to avoid tissue problems and improve fit.

(d) Pessary:

A referral for pessary would be made if a pelvic muscle exercise program does not resolve the incontinence.

(e) Surgery:

A referral for surgical consultation might be required, especially if the patient does not improve with pelvic muscle exercises and is not willing to trial a pessary.

(f) Products:

We would suggest a pad that is adequate for the amount that she leaks and one that addresses her personal preferences (e.g. pad and pant system or pull-up).



Left: pad and pant system
Right: pull-up



Case study 3

David is a 63 year old man who had a radical prostatectomy 8 weeks ago. Immediately after catheter removal he describes heavy incontinence. This incontinence has decreased over the last 6 weeks. Presently he reports leakage with physical activity such as coughing, walking long distances and using the treadmill. His incontinence is worse in the evening. His bladder diary shows that he voids 7 times during the day and once at night. He is dry throughout the night. His fluid intake is 4½ cups (1125 ml) per day. He has reduced his fluids in the hope that it will decrease his leakage. Constipation is an issue at present. He is seeking advice because he has resumed golfing and finds the ensuing incontinence difficult to manage.

Discussion

Urinary incontinence is common after radical prostatectomy and is often viewed by patients as the symptom which most disrupts their quality of life. Most patients (90%) regain total urinary control but this can take up to a year to achieve. A small percentage (2-4%) experience permanent incontinence. There is some evidence that teaching pelvic floor muscle exercises pre-operatively can reduce incontinence post-operatively. It may be more difficult to learn them post-operatively because of the effects of surgery on nerve and muscle.

What do we advise?

(a) *Behavioural therapy: fluids, bowel management*

We teach the 4 F's: 1. Fluids; 2. Fibre. 3. Fitness. 4. Feet

1. Fluids: For bladder and bowel health we recommend a fluid intake of 1500 to 2000 ml, balanced throughout the day.
2. Fibre: Intake of 25-30 g per day for healthy bowel function.
3. Fitness: Suitable activity daily for general and bowel health.
4. Feet: Well supported, knees higher than hips, bend forward with straight back and arms resting on thighs.

Since this patient's incontinence is worse in the evening we encourage resting in the later afternoon and evening because the pelvic muscles are fatigued.

(b) *Pelvic muscle exercises:* Encourage pelvic muscle exercises (see cover page). Reinforce the importance of doing 3-5 sessions per day. Doing more than this may result in muscle fatigue. Patients who have difficulty doing these exercises may benefit from a referral to a specialized physiotherapist. In this particular case we advise David to use "the knack" prior to his golf swing.

(c) *Product advice:* We encourage men to use incontinence products specifically designed for them. Guards or leaves are for small to moderate incontinence and there are men's pull-ups for moderate incontinence. A penile compressive device can be used during physical activity (e.g. golfing, running).

(d) *Surgery:* is available for patients with severe persistent incontinence. There is a male urethral sling procedure or an implanted artificial urinary sphincter.



Men's pull-up (left); men's leaf (top); penile clamp

You can make a significant difference to the quality of life of patients like David, Christine and Marlene by addressing urinary incontinence, introducing conservative therapies and utilizing professional resources when they are needed.