

## CASE REPORT

# Assessment of a woman with stress urinary incontinence

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### Abstract

A 35-year-old woman was referred for probable stress urinary incontinence (SUI). A subjective assessment established that her symptoms had been present since the birth of her third child approximately 18 months before. The subject's main complaint was of involuntary loss of urine on coughing and sneezing, and when running short distances. A vaginal examination detected no abnormalities. A structured pelvic floor muscle (PFM) exercise programme and 'The Knack' were prescribed in order to reduce the symptoms of SUI. The management plan is predicted to produce excellent results since the subject has a good basic level of PFM function and is well-motivated now that a patient-centred goal has been set.

*Keywords:* exercise, pelvic floor muscles, stress urinary incontinence, transversus abdominis muscle, vaginal examination.

### Introduction

Stress urinary incontinence (SUI) is defined as the loss of small amounts of urine when coughing, laughing, sneezing, or performing exercises or other movements that increase intra-abdominal pressure. These actions increase pressure on the bladder and SUI occurs in individuals whose pelvic floor muscles (PFMs) have been weakened. The urethra is supported by fascia of the pelvic floor. If this support is insufficient, the urethra can move downward at times of increased abdominal pressure, allowing urine to pass. In women, the physical changes caused by pregnancy, childbirth and the menopause often contribute to SUI (Nygaard & Heit 2004).

The present case report describes the case of a 35-year-old woman who was referred by her general practitioner to the Women's Health Physiotherapy team at the James Paget University NHS Trust, Great Yarmouth, Norfolk, UK, for assessment of probable SUI.

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### Case report

#### *Patient assessment*

On subjective assessment, it became clear that the present subject's symptoms had been apparent for approximately 18 months since the birth of her third child. Her main complaint was of involuntary loss of urine on coughing and sneezing, and when running short distances. Although the severity of the subject's symptoms had not worsened, these had become increasingly problematic because she was keen to return to running, but was limited by her incontinence. The extent of the leakage required her to use a panty liner for activities such as running because the leakage was significant enough to require her to change her underwear. She had had three normal vaginal deliveries and had suffered no major obstetric tears, although she had experienced a minor tear during the third delivery, but this did not require sutures. The subject was still menstruating normally and her most recent smear test had revealed no abnormal cells. No other urinary symptoms were apparent (e.g. urgency or urge incontinence), but she did describe possible minor leakage during sexual intercourse at the point of orgasm.

In order to fully assess the subject and formulate a detailed, patient-centred management

**Table 1.** Pelvic floor muscle function assessed by vaginal examination: (MOS) Modified Oxford Scale

Variable	Score
Strength of contraction (MOS)*	3+
Length of hold (s)	7
Repetitions ( <i>n</i> )	6
Fast contractions ( <i>n</i> )	8
Hold with cough (automatic)	No
Hold with cough on instruction	Yes

plan, the present author suggested a vaginal examination so as to assess her PFM function. Being clearly mentally competent, the subject provided her valid consent, giving her agreement while being fully aware of her right to withdraw this at anytime and acknowledging that the procedure had been clearly explained to her, including the reasons for performing the examination (CSP 2002, 2005a). This was documented in the patient notes. In the case of the present subject, it was appropriate to perform a vaginal examination to evaluate PFM function and establish an appropriate personal exercise programme (CSP 2005b).

To ensure full compliance with the health and safety infection control standards of the Trust, single-patient-use paper towelling was placed on the plinth, along with a single-use sachet of lubricating jelly. The physiotherapist used appropriate hand-washing procedures before donning a pair of latex-free examination gloves. She ensured that only minimal contact occurred with items such as the tissue containing the lubricating jelly. On completion of the examination, the subject was allowed to get dressed again in private. The findings of the investigation were then discussed with her.

On this occasion, the subject showed no signs of vaginal wall descent, either at rest or on coughing. No abnormalities were detected on visual examination or digital palpation. In light of her obstetric history, the vaginal and perineal areas were observed for signs of scarring, but none were apparent. Basic sensory tests were normal with a light touch. Table 1 details her full PFM function, as per the PERFECT scheme (Laycock *et al.* 2008): (P) power (or pressure, a measure of strength using a manometric perineometer); (E) endurance; (R) repetitions; (F) fast contractions; (E) elevation; (C) co-contraction; and (T) timing.

The subject's PFM technique was correct: an obvious 'lift' of the pelvic floor was palpable on digital examination; and drawing in of the

perineum was evident on visual inspection (Laycock *et al.* 2008). She was able to isolate her PFM's effectively, with only very minimal use of her abdominal muscles on maximal voluntary contraction (MVC). Her ability to perform fast contractions was reduced, and she was unable to complete 10 MVCs in a row before fatigue was noted. The subject also found it difficult to initiate a fast contraction and activation of the PFM's was poor. With regard to possible activation of the transversus abdominis muscle, the physiotherapist's other examining hand was placed on the subject's abdomen to ensure that overuse of all her abdominal muscles did not occur, and the sensory feedback also helped the subject in her attempt to reduce transversus abdominis activation to an acceptable level (Bø & Sherburn 2007).

### Management plan

The management plan consisted of a structured PFM exercise (PFME) programme, which was set at a 7-s hold to be repeated six times in a row, plus eight fast contractions to be performed at least three times per day. This commonly prescribed regime has been proven to reduce the symptoms of SUI in women (Bø *et al.* 1990). It is also a patient-specific programme and is recommended in the Chartered Society of Physiotherapy (CSP) Clinical Guidelines for the Physiotherapy Management of Females Aged 16–65 Years with Stress Urinary Incontinence (Laycock *et al.* 2001).

The subject was also advised to use 'The Knack' (Miller *et al.* 1998), a bracing technique for use during activities that involve an increase in intra-abdominal pressure, such as coughing and sneezing. With regard to functional use, it was also recommended that she should attempt to initiate a sub-maximal contraction of her PFM's when walking quickly and then gradually build up to jogging speed. The ultimate aim was for the subject to be able to run for 15 min without any leakage. It was also suggested that her PFM function could be tested by contracting her PFM's during intercourse with her husband, and by digital or visual self-examination using a mirror (Markwell & Sapsford 1997).

The subject was advised that she would need to continue her PFME programme for approximately 3–6 months before any definite signs of improvement would be apparent (Mantle 2004). This followed the National Institute for Health and Clinical Excellence (NICE 2006) guidelines for the management of urinary incontinence

in women, which recommend a minimum of 3 months supervised PFME training as a first-line treatment for women with SUI (NCCWCH 2006).

A follow-up appointment 3 weeks later was arranged in order to ensure that the subject was happy with her exercise regime and to ensure that she was motivated to continue with the programme. A referral to a six-session, once-weekly pelvic stability class was planned at that stage if she felt that it was necessary. These sessions consist of dynamic PFMEs and transversus abdominis exercises, which encourage more functional use of both muscles (particularly the PFMs). It can also be beneficial to work in a group setting with other women who are experiencing similar symptoms because participants can offer each other mutual support (Mantle 2004).

Another potentially useful treatment modality would be weighted vaginal cones, which can be progressed to use during activities of daily living in order to 'challenge' the PFMs (Mantle 2004). However, some studies, such as Cammu & Van Nysten (1998), have reported significant participant drop-out rates, and Bø (1995) suggested that the use of vaginal cones for 15–20 min could cause problems such as muscle fatigue and pain, or the recruitment of accessory muscles. The present author's clinical experience suggests that weighted vaginal cones can usefully be implemented later in treatment if a patient struggles to comply with basic PFMEs, and requires a 'prompt' or piece of equipment to remind them. The time between appointments should be increased to 6–8 weeks, depending on how a patient progresses with her treatment. The present subject appeared to be particularly well motivated, especially since her personal goal was to be able to return to running.

#### *Adherence to standards of practice*

At all times during both the subjective and, more importantly, the objective assessments, the present subject's privacy and dignity were respected in accordance with the CSP Rules of Professional Conduct (CSP 2002) and Core Standards of Physiotherapy Practice (CSP 2005c). The subject's own wishes and opinions were always of utmost importance, and it was stressed that she could withdraw her consent at any time if she felt unsure about any of the treatments being offered and that she did not have to provide a reason for doing so. Discussion and questions were encouraged before

and after the examination to ensure that she was happy with the procedure and the treatment plan (Laycock *et al.* 2001). The physiotherapist also ensured that no personal comments were made during the examination and the process was kept confidential at all times.

## Discussion

The present subject should progress well with her personal management plan because her basic level of PFM function is good, she is well motivated and a patient-centred goal has been set for her. Consideration of her symptoms meant that performing a vaginal examination was appropriate in this case and this assessment has allowed a more-specific PFME programme to be developed in order to ensure that her targets are achievable. At this stage, other adjuncts to basic treatment are not required, but these will be considered in the future, if deemed necessary.

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