

**Title: Management of stress urinary incontinence associated with menopausal.**

Authors:

Susanne STORM  
Pelvic health specialist Physiotherapist  
BSc, HCPC, CSP, POGP affiliate member  
NHS Lothian.

Dr Sonya MACVICAR  
PhD, RGN, RM.  
Associate Professor  
Edinburgh Napier University.

Corresponding Author:

Dr Sonya MacVicar  
School of Health and Social Care  
Edinburgh Napier University  
Sighthill Campus  
Edinburgh  
EH11 4BN  
[s.macvicar@napier.ac.uk](mailto:s.macvicar@napier.ac.uk)

Acknowledgment: No acknowledgements

Conflict of interest statement: the authors have no conflicts of interest to report.

## **Abstract**

Pelvic health physiotherapy is recommended as first line treatment for those with lower urinary tract symptoms and pelvic floor dysfunction. Pelvic health physiotherapists treat a number of conditions conservatively including stress urinary incontinence, overactive bladder, pelvic organ prolapse and vaginal atrophy. When physiotherapy management alone does not fully resolve symptoms then medication may be required.

Independent prescribing enables the physiotherapist to maintain continuity of care allowing a smoother, more effective patient journey with quicker access to medicines avoiding delay in commencing appropriate treatment and concurrently reducing GP appointments.

The role of the pelvic health physiotherapy independent prescriber is detailed in a case study of a patient referred with symptoms of stress urinary incontinence, vaginal dryness causing dyspareunia and mild constipation affecting pelvic floor muscle function.

## **Key words**

Pelvic health; physiotherapist; stress incontinence; non-medical prescribing; lactulose; Estradiol;

## **Main body**

### **Introduction**

Pelvic health physiotherapy is recommended as the first line treatment for patients with lower urinary tract symptoms and pelvic floor dysfunction (National Institute for Health and Care Excellence (NICE) 2019; NICE Guideline 2021). The service receives referrals from many varied sources for pelvic health therapies including general practitioners, obstetrics and gynaecology, bladder and bowel nurse specialists, midwives and self-referrals. However, for some referrals physiotherapy treatment alone will not fully alleviate the presenting condition and medication management is required.

Physiotherapists were initially given the rights to train as supplementary prescribers in 2005 and this was further extended to independent prescribing in 2013. Currently, physiotherapist

independent prescribers can prescribe any medicine for any medical condition including “off-label” medicines but they are subject to a specific list of named controlled drugs only. Independent prescribing enables the physiotherapist to safely prescribe medication, allowing a smoother, more efficient patient journey with quicker access to medicines (Chartered Society of Physiotherapy (CSP), 2018). This service aligns with the key principles of realistic medicine, ensuring safe, evidence based and cost effective care (Fenning et al., 2019)

The following case study presents a complete patient care episode of the pharmacological and non-pharmacological management of a patient with lower urinary tract symptoms and pelvic floor dysfunction conducted by a pelvic health physiotherapist independent prescriber.

### **Case study**

Nisha Bathan, a 55 year old female housekeeper, was referred for physiotherapy pelvic health review with a two year history of daily episodes of urinary incontinence when coughing, sneezing and when at work making beds or lifting. In addition, Nisha was also experiencing dyspareunia, which is painful sexual intercourse.

As part of the initial assessment Nisha was asked to complete the International Consultation Incontinence Modular Questionnaire (ICIQ-UI) for Urinary Incontinence (British Society of Urogynaecology ). This is a brief, validated and commonly used outcome measure to evaluate frequency, severity and impact on quality of life of incontinence. It can be repeated to assess patient progress and is completed at the start and end of the patient’s care episode ( Abrams et al., 2006). Within the subjective assessment, past medical history is documented, including medication history. Nisha had no significant health issues and was not currently prescribed any medication. She reported having previously tried over-the-counter vaginal water and oil based lubricants for vaginal symptoms but had felt minimal improvement of her dryness, itching and discomfort during intercourse. A digital vaginal examination was offered, with a full explanation prior to examination of rationale and

expected procedure and written consent was gained. The examination took place in a private treatment room to maintain confidentiality throughout.

The presenting history, symptoms and clinical examination were suggestive of a diagnosis of stress urinary incontinence, associated with weak pelvic floor muscles and affected by episodic constipation. In addition to the presenting complaint the symptom of dyspareunia, was attributed to post-menopausal dry vaginal tissue and atrophic changes leading to irritation during intercourse.

### **Stress urinary incontinence**

Stress urinary incontinence is the complaint of involuntary loss of urine on effort or physical exertion and is the most common cause of urinary incontinence, accounting for about 50% of cases (Doumouchtsis et al., 2022; Laycock & Haslam, 2013) . It occurs when in the absence of detrusor contraction, intra-vesical pressure exceeds maximum urethral pressure. This is frequently in combination with, and exacerbating by, pelvic floor muscles weakness (Bo, 2020).

First line treatment for stress urinary incontinence is a tailored pelvic floor muscle exercise programme for a minimum of three months (NICE 2019). Exercise regime and technique was explained in detail to Nisha and she was advised to start a progressive pelvic floor exercise programme which gradually increased in repetitions to reach 10 long holds of 10 seconds and 10 short squeezes done 3 times a day in different postures. She was also taught the Knack (can be used without apostrophes I think as established as a term), a technique that activates pelvic floor muscles before and during cough to support reflex contraction to take place. The aim of the exercise regime was to develop pelvic floor muscle strength and endurance which would improve functionally, as her main concern was urinary leakage with lifting or making beds at work (Miller et al., 2008). Nisha's presentation of stress incontinence did not include any overt symptoms of an overactive bladder. With

incontinence accompanied by urgency and frequency, bladder medication would have been a consideration to discuss with Nisha (Bo et al., 2020).

The first line choice of bladder medication is Solifenacin Succinate which is a competitive receptor antagonist medication with antispasmodic properties for the treatment of urinary urgency, frequency and incontinence. Alternative choice of medication includes Mirabegron, an adrenergic receptor agonist used to relax the smooth muscle of the bladder reducing bladder and neurogenic detrusor overactivity. Mirabegron is unique amongst other overactive bladder treatment options as it lacks significant antimuscarinic activity, which is responsible for the therapeutic effects of these medications but also their expansive range of adverse effects. **Box 1** . Nisha's current symptoms did not indicate the need for medication at this point therefore medication was not commenced.

### **Constipation**

Nisha was asked about her bowel habits and reported mild episodic constipation and occasionally straining for complete evacuation. There is a well-established link between lower urinary tract symptoms and constipation, which if chronic and not treated appropriately can be debilitating, affect quality of life and worsen stress urinary incontinence (Averbeck & Madersbacher,2011). Conservative management of sufficient fluid management and increased fibre consumption was advised as this has been shown to relief constipation and improve stool consistency, hence reducing the need to strain. She was also shown toilet positioning techniques to enable easier bowel evacuation.

First line management of improving diet and fluid balance may be sufficient to control constipation for Nisha but if conservative management were not effective, a trial of a mild laxative was discussed which could be actioned at her follow up review (Averbeck & Madersbacher, 2011). Attending to the principles of realistic medicine, information regarding

the benefits and possible side effects of Lactulose, an osmotic laxative were discussed (Fenning et al., 2016). This is a stool softener which would be the most appropriate to address issues with hard stool, rather than a stool bulker or stimulant. Lactulose' initial daily dosage can be adjusted according to response, and reviewed once normal bowel habit is restored, enabling Nisha to take ownership of her treatment. Lactulose remains localized within the gastrointestinal tract to enact its laxative effect but this also results in side effects of increased bowel sounds, a bloated feeling, belching, frequent flatus, and diarrhoea. Being fully informed of the benefits and risks of the medication provides Nisha with the opportunity to consider this option prior to her next appointment. **Box 2**

### **Dyspareunia**

Nisha disclosed symptoms of vaginal dryness and dyspareunia, which is pain with intercourse and considered a symptom of genitourinary syndrome of menopause (GSM) (Pertynska-Marczewska, 2021). Clinical examination findings included the presence of dry and pale vaginal mucosa. These symptoms are suggestive of atrophic vaginitis and are associated with oestrogen deficiency, which plays an important part in the function of the urogenital tract. It is a condition commonly found in postmenopausal women due to diminishing production of the natural hormone oestrogen leading to thinning of tissue and a reduction in the mucus producing glands in the vaginal area (NICE, 2021b; Weber et al., 2015). The most common symptoms affect the vulva and vagina including dryness, itching and vaginal discharge. Use of low-dose topical oestrogen treatment either as cream or pessary is recommended to manage these symptoms (North American Menopause Society, 2020). Topical oestrogen is composed of synthetic 17 beta estradiol which is chemically and biologically identical to endogenous human estradiol. This enables improved maturation and less thinning of the vaginal tissue and maintains the vaginal pH within a normal range. Maintaining a normal pH enhances normal bacterial flora and reduces the symptoms of irritation and dryness.

The North American Menopause Society Position Statement (2020) describes GSM as an under diagnosed condition and under reporting of the condition plays a big part in reducing daily quality of life for many women (Nappi et al., 2016). It affects more than half of postmenopausal women, significantly impairing their health and affecting sexual function. It had been forwarded that education and discussion of symptoms with health care professionals would seem to be a critical factor for diagnosis, and whilst non hormone over-the-counter therapies provides sufficient effect for most women with mild symptoms, low dose vaginal oestrogens are an effective treatment for moderate to severe GSM (North American Menopause Society, 2020). However, there is insufficient data to confirm the safety of vaginal oestrogens in women with breast cancer and as a result there is ongoing controversy and caution when prescribing with this patient group (McBride et al., 2010; Kingsberg, 2009).

Oestrogen preparations are administered topically per vagina as they are easily absorbed due to the high vascularisation of the vaginal tissues (Robinson et al., 2013). Previous studies suggest that with the use of topical oestrogen treatments, the risks of side effects are minimised when compared to systemic oestrogen drugs (Portman and Gass, 2014); Kingsberg, 2009; Weber et al., 2015). Topical application of oestrogen therapies also have the benefit of avoiding first pass metabolism thereby minimising dosage or frequency of use. Weber et al. (2015) assessed outcomes of topical oestrogen therapies, concluding that even low doses can have a beneficial effect on symptoms like pain and objective markers such as vaginal pH. A lower dose can have the same effect on vaginal symptoms than a higher dose given orally, and has the benefits of reducing risks of toxicity and side effects (North American Menopause Society, 2020). Lethaby et al. (2016) reviewed the effectiveness of topical oestrogen, concluding that all oestrogen preparations used for vaginal atrophy improved symptoms of dryness and dyspareunia with similar efficacy. Considering the evidence, topical oestrogen would be an effective and safe treatment option for Nisha with her low risk health profile and no personal or family history of breast cancer.

Different treatment options were suggested to Nisha as part of shared decision making. As she has already tried over-the-counter vaginal lubricants unsuccessfully in the past, vaginal oestrogen therapy was suggested. Estriol cream is used on the vaginal tissues directly, whereas the Estradiol pessary has to be inserted into upper third of vagina using an applicator. It is important to discuss not only the choice of drug but route of administration as some patients may have difficulty with manual dexterity, or feel uncomfortable inserting pessaries. (Royal Pharmaceutical Society, 2021). The vaginal pessary regime is prescribed as 10 micrograms daily for two weeks, then reduced to 10 micrograms twice weekly. After the first two weeks the regime is less onerous as twice weekly, taken on convenient days, but this does increase the possibility of Nisha forgetting to take the medication and she should be informed to take as soon as remembered but double doses should be avoided.

Providing information using easy to understand language, and diagrams, helps to ensure the patient is fully informed and aids concordance (HCPC, 2019). Comparing treatment persistence with local oestrogen cream versus vaginal tablets more favourable outcomes were found for Estradiol tablets in terms of compliance (Portman, 2015). Women that were prescribed the cream had a higher discontinuation rate compared to the local applied tablet and a higher rate of switching from cream to tablet. It was reported that the cream was hard to dose, leading to potential over or underuse. Nisha was also alerted to potential side effects of postmenopausal bleeding with oestrogen replacement, most commonly when treatment commences.

## **Conclusion**

Nisha was keen to commence with the Estradiol as directed, an exercise programme and to make the dietary changes suggested. A review appointment was made for four weeks' time to check on progress and ensure there were no side effects from the medication. Nisha was aware that a laxative could be prescribed at the next visit if there were no discernible improvements with conservative management of her constipation. Focus on empowerment



of the patient and the ability to discuss treatment options is one of the key principles of realistic medicine and Nisha was supported to self-manage symptom relief with the reassurance that further management was available.

Pelvic health physiotherapy provides a good example of how independent prescribing can enhance patient management and provide a holistic treatment concurrently reducing pressures on other primary care services.

## Tables

## References

NICE (2021b) Transvaginal laser therapy for urogenital atrophy

<https://www.nice.org.uk/guidance/ipg697/chapter/2-The-condition-current-treatments-and-procedure>

Abrams, P., Avery, K., Gardener, N., & Donovan, J. (2006). The International Consultation on Incontinence Modular Questionnaire: www.icIQ.net. *Journal of Urology*, 175(3), 1063–1066. [https://doi.org/10.1016/s0022-5347\(05\)00348-4](https://doi.org/10.1016/s0022-5347(05)00348-4)

Averbeck, M. A., & Madersbacher, H. (2011). Constipation and LUTS: how do they affect each other? *International Braz J Urol*, 37(1), 16–28. <https://doi.org/10.1590/s1677-55382011000100003>

Bø, K. (2020). Physiotherapy management of urinary incontinence in females. *Journal of Physiotherapy*, 66(3), 147–154. <https://doi.org/10.1016/j.jphys.2020.06.011>

British Society of Urogynaecology: ICIQ-UI Short Form questionnaire. Accessed 10.07.23. <https://bsug.org.uk/pages/useful-documents/143>

CSP. (2012). Consent and Physiotherapy Practice. The Chartered Society of Physiotherapy. <https://www.csp.org.uk/publications/consent-physiotherapy-practice> [Accessed: 10 January 2023].

CSP. (2018). Practice guidance for physiotherapist supplementary and/or independent prescribers in the safe use of medicines (4th edition). The Chartered Society of Physiotherapy. <https://www.csp.org.uk/publications/practice-guidance-physiotherapist-supplementary-andor-independent-prescribers-safe-use> [Accessed 10 January 2023].

CSP. (2021). Prescribing for physiotherapists. The Chartered Society of Physiotherapy. <https://www.csp.org.uk/professional-clinical/professional-guidance/medicine-prescribing-injection-therapy/prescribing> [Accessed: 10 January 2023].

Doumouchsis, S. K., de Tayrac, R., Lee, J., Daly, O., Melendez-Munoz, J., Lindo, F. M.,

Cross, A., White, A., Cichowski, S., Falconi, G., & Haylen, B. (2022). An International

Continence Society (ICS)/ International Urogynecological Association (IUGA) joint report on

the terminology for the assessment and management of obstetric pelvic floor disorders. *International Urogynecology Journal*, 34. <https://doi.org/10.1007/s00192-022-05397-x>

EMC. (2022). Estradiol 10 mcg Vaginal Tablets - Summary of Product Characteristics (SmPC) - (emc). [Www.medicines.org.uk](http://www.medicines.org.uk).  
<https://www.medicines.org.uk/emc/product/11779/smpc> [Accessed: 9 February 2023].

Fenning, S. J., Smith, G., & Calderwood, C. (2019). Realistic Medicine: Changing culture and practice in the delivery of health and social care. *Patient Education and Counseling*, 102(10), 1751–1755. <https://doi.org/10.1016/j.pec.2019.06.024>

HCPC. (2019). Standards for prescribing. [Hcpc-Uk.org](http://Hcpc-Uk.org). <https://www.hcpc-uk.org/standards/standards-relevant-to-education-and-training/standards-for-prescribing/> [Accessed 11 January 2023].

Health and Care Professions Council. (2018, June 14). Standards of conduct, Performance and Ethics. Health and Care Professions Council; Health and Care Professions Council. <https://www.hcpc-uk.org/standards/standards-of-conduct-performance-and-ethics/> [Accessed 11 January 2023].

Kingsberg, S. (2009). Treating dyspareunia caused by vaginal atrophy: a review of treatment options using vaginal estrogen therapy. *International Journal of Women's Health*, 1(105-111), 105. <https://doi.org/10.2147/ijwh.s4872>

Kinsella, J., & James, R. (2016). Guidelines in the era of realistic medicine. *Journal of the Royal College of Physicians of Edinburgh*, 46(2), 74–76.  
<https://doi.org/10.4997/jrcpe.2016.201>

Lawson, S., & Sacks, A. (2018). Pelvic Floor Physical Therapy and Women's Health Promotion. *Journal of Midwifery & Women's Health*, 63(4), 410–417.  
<https://doi.org/10.1111/jmwh.12736>

Laycock, J., & Haslam, J. (2013). *Therapeutic Management of Incontinence and Pelvic Pain*. Springer Science & Business Media.

- Lethaby, A. (2016). Local oestrogen for vaginal atrophy in postmenopausal women. Cochrane Library. Doi./10.1002/14651858.CD001500.pub3/full [Accessed 12 January 2023].
- Mac Bride, M. B., Rhodes, D. J., & Shuster, L. T. (2010). Vulvovaginal Atrophy. Mayo Clinic Proceedings, 85(1), 87–94. <https://doi.org/10.4065/mcp.2009.0413>
- Miller, J. M., Sampsel, C. M., Ashton-Miller, J. A., Hong, G.-R. S., & DeLancey, J. O. L. (2008). Clarification and Confirmation of the Effect of Volitional Pelvic Floor Muscle Contraction to Preempt Urine Loss (The Knack Maneuver) in Stress Incontinent Women. International Urogynecology Journal and Pelvic Floor Dysfunction, 19(6), 773–782. <https://doi.org/10.1007/s00192-007-0525-3>
- Nappi, R. E., Palacios, S., Particco, M., & Panay, N. (2016). The REVIVE (REal Women's Views of Treatment Options for Menopausal Vaginal ChangEs) survey in Europe: Country-specific comparisons of postmenopausal women's perceptions, experiences and needs. Maturitas, 91(27451325), 81–90. <https://doi.org/10.1016/j.maturitas.2016.06.010>
- NICE. (2019). Overview | Urinary incontinence and pelvic organ prolapse in women: management | Guidance | NICE. Nice.org.uk; NICE. <https://www.nice.org.uk/guidance/ng123> [Accessed: 12 January 2023].
- NICE Guideline. (2021a). Overview | Pelvic floor dysfunction: prevention and non-surgical management | Guidance | NICE. <https://www.nice.org.uk/guidance/ng210> [Accessed: 12 January 2023].
- NICE (2021b) Transvaginal laser therapy for urogenital atrophy <https://www.nice.org.uk/guidance/ipg697/chapter/2-The-condition-current-treatments-and-procedure>
- North American Menopause Society. (2020). The 2020 genitourinary syndrome of menopause position statement of The North American Menopause Society. Menopause, 27(9), 976–992. <https://doi.org/10.1097/gme.0000000000001609>
- Pertyńska-Marczewska, M., & Pertyński, T. (2021). Postmenopausal women in gynecological care. Menopausal Review, 20(2), 88–98. <https://doi.org/10.5114/pm.2021.107103>
- Portman, D. J., & Gass, M. L. S. (2014). Genitourinary Syndrome of Menopause: New Terminology for Vulvovaginal Atrophy from the International Society for the Study of Women's Sexual Health and The North American Menopause Society. The Journal of Sexual Medicine, 11(12), 2865–2872. <https://doi.org/10.1111/jsm.12686>

Portman, D., Shulman, L., Yeaw, J., Zeng, S., Uzoigwe, C., Maamari, R., & Iyer, N. N. (2015). One-year treatment persistence with local estrogen therapy in postmenopausal women diagnosed as having vaginal atrophy. *Menopause*, 22(11), 1197–1203.

<https://doi.org/10.1097/gme.0000000000000465>

Robinson, D., Toozs-Hobson, P., & Cardozo, L. (2013). The effect of hormones on the lower urinary tract. *Menopause International*, 19(4), 155–162.

<https://doi.org/10.1177/1754045313511398>

Royal Pharmaceutical Society. (2021). Prescribing Competency Framework. Rpharms.com. <https://www.rpharms.com/resources/frameworks/prescribers-competency-framework> [Accessed: 12January 2023].

Weber, M. A., Kleijn, M. H., Langendam, M., Limpens, J., Heineman, M. J., & Roovers, J. P. (2015). Local Oestrogen for Pelvic Floor Disorders: A Systematic Review. *PLoS ONE*, 10(9).

<https://doi.org/10.1371/journal.pone.0136265>

## **Tables/figures/diagrams**