



Topic Exploration Report ¹

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

- Determine the quantity of evidence available for a technology of interest.
- Identify any gaps in the evidence.
- Inform decisions on topics that warrant fuller assessment by Health Technology Wales (HTW).

Topic exploration report number	TER533
Topic	Perineal and pelvic rehabilitation for the prevention and treatment of anorectal dysfunction, pelvic organ prolapse and perineal pain in women
Summary of findings	<p>Pelvic floor dysfunction is a condition in which the muscles around the bladder, anal canal and vagina do not work properly. This results in disorders such as faecal incontinence, pelvic organ prolapse, and pelvic pain. The symptoms of these disorders can be embarrassing and cause a decline in quality of life.</p> <p>HTW identified three NICE guidelines, one health technology assessment from Canada and eleven systematic reviews reporting on rehabilitation to prevent and/or treat pelvic floor disorders including anorectal disorder, pelvic organ prolapse, and pelvic pain. Pelvic floor muscle training (PFMT) has been recommended in clinical guidelines to help protect against development of pelvic floor disorders, particularly in at-risk populations such as pregnant women. It has also been recommended to treat pelvic floor disorders alongside lifestyle changes, psychological interventions, and additional assistance from techniques such as biofeedback or electrical stimulation as required. Despite this, identified evidence shows mixed results, with some reviews indicating no difference in faecal incontinence, pelvic organ prolapse, and pelvic pain following PFMT, whereas other reviews indicated improvement in symptoms, disease grade or severity, and quality of life. There was inconsistency in outcomes reported and the methods of administration of rehabilitation and PFMT training, limited long-term evidence, and no cost-effectiveness evidence identified.</p>

¹ [Cyfieithu dogfennau HTW wedi'u cyhoeddi o'r Saesneg i'r Gymraeg](#)
[Translation of published technical HTW documents from English into Welsh](#)

Introduction and aims

Pelvic floor dysfunction covers a variety of symptoms and disorders, including urinary incontinence, faecal incontinence, pelvic organ prolapse, and chronic pelvic pain. Prevalence is high, with approximately 5 million women in the UK experiencing one or more pelvic floor dysfunction. Prevalence increases with age, with 6% of women in their 20s experiencing symptoms compared to 40% of women in their 60s, and up to 50% of examined women having pelvic organ prolapse present. Pregnancy and childbirth is a key risk factor in the development of pelvic floor dysfunction. This group of disorders can have a significant impact on people's quality of life. Pelvic floor exercises are important to prevent development of symptoms, to avoid impact on women and the NHS. If already developed, management and improvement of symptoms of pelvic floor dysfunction via non-surgical techniques is important to try and delay or avoid surgical intervention.

Health Technology Wales researchers searched for evidence on perineal and pelvic rehabilitation for the prevention and treatment of anorectal dysfunction, pelvic organ prolapse and perineal pain in women. This report uses the term 'women' throughout, but this should be taken to include those who do not identify as women but who have female pelvic organs.

Evidence overview

HTW identified three UK guidelines and one quality standard, one health technology assessment, and seven systematic reviews and/or meta-analyses. Searches for primary evidence and ongoing studies were not carried out as sufficient secondary evidence was identified.

Health Technology Assessments/ Economic reviews

NICE Guideline 210 (NG210: Pelvic floor dysfunction: prevention and non-surgical management) provides recommendations to prevent and treat pelvic floor dysfunction in women aged 12 and older. Covered dysfunctions include urinary incontinence and other bladder emptying disorders, anorectal dysfunction such as faecal incontinence (FI) and other bowel emptying disorders, pelvic organ prolapse (POP), and chronic pelvic pain. One of the research questions reviewed by NICE was pelvic floor muscle training (PFMT) for the management of symptoms of pelvic floor dysfunction. They also included review of Kegel exercises, biofeedback, weighted vaginal cones and electrical stimulation.

NICE performed a review of the available economic evidence but did not perform a de-novo cost effectiveness analysis of relevance for this report. They identified one Dutch study which performed an economic review alongside a randomised controlled trial, comparing PFMT and watchful waiting in women aged 55 years of age or older, with POP. The results identified a mean cost increase of €239 in the PFMT group, and calculated an incremental cost-effectiveness ratio of €31,983 (95% CI €-76,652 to €88,078). This suggested a 55% probability that PFMT would result in an incremental QALY gain compared to watchful waiting, but as the study did not specify a cost-effectiveness threshold, it did not report a probability of cost-effectiveness.

PFMT was recommended for all women as a preventative measure. Supervised training was recommended for women who are 20 or more weeks pregnant and have a first-degree relative with pelvic floor dysfunction, and for post-natal women who had either assisted birth, a birth where the baby was face-up, or who suffered injury to the anal sphincter during birth. Supervision would be via a physiotherapist or other appropriately qualified healthcare professional.

Evidence overview

For women who are already experiencing pelvic floor dysfunction, NICE recommend a community-based multidisciplinary team (MDT) to undertake assessments, PFMT programmes, management of symptoms, and the use of other interventions including lifestyle changes. A course of PFMT lasting at least four months was recommended for women with symptomatic stage 1 or 2 POP and women with FI with co-existing POP. The addition of biofeedback, electrical stimulation or vaginal cones were recommended for women who are unable to perform effective contractions. Other interventions such as pessaries and psychological and behavioural approaches were also recommended. NICE considered PFMT to likely be cost-effective, given it was relatively low-cost and likely to delay or avert surgical management of pelvic floor dysfunction.

NICE Guideline NG123 (Urinary incontinence and pelvic organ prolapse in women: management) briefly discusses non-surgical management of POP and provides the same recommendations as above. NICE Clinical Guideline 49 (CG49: Faecal incontinence in adults: management) describes the management of FI in adults, again recommending similar interventions to NG210.

The Institut national d'excellence en sante et en services sociaux (INESS) in Canada produced a full health technology assessment reviewing 'perineal and pelvic rehabilitation for the prevention and treatment of pelvic floor dysfunctions', splitting it into two sections. Part two covered anorectal dysfunction, POP and perineal pain in women.

They noted rehabilitation in anorectal dysfunction may be more effective than standard care without medication, and there was no difference compared to medication, but noted the evidence base was poor with small numbers of studies of low quality. They added that the clinical guidelines recommend use of rehabilitation if initial treatments fail. Rehabilitation also appeared to be effective for POP stage I-III, in reducing severity of POP and overall symptoms, and there was moderate evidence for this. The guidelines identified unanimously recommended rehabilitation for treatment of stage I and II POP. Rehabilitation appeared to be more effective than medication in improving sexual function of women with perineal pain, but the evidence was of low quality. Clinical guidelines recommend its use, and consulted experts believe it is clinically useful despite low level of evidence and suggest it should be recommended as a first-line treatment as it is safe and non-invasive. Obstacles preventing women from accessing advice and help were identified, including embarrassment and difficulty obtaining and appointment, but those who did receive it reported improvements in symptoms and enabled them to resume daily activities. One economic evaluation was identified in the review which assessed rehabilitation in treatment of POP and found it to be cheaper and more effective than a treatment regimen which did not include it.

Secondary evidence

Pelvic floor disorders

Romeikiene and Bartkeviciene (2021) searched for methods of training and rehabilitation for pelvic floor disorders in pre- and post-partum women. They included 9 systematic reviews and 46 trials. Most included trials were assessed as being moderate to high risk of bias, and many included reviews reported low quality of evidence. There was high heterogeneity across the trials, but PFMT did have promising results with an apparent positive effect on pelvic floor dysfunction prevention, however this was particularly seen in urinary incontinence which is outside the scope of this review. The authors noted there was not much evidence in POP or anal incontinence and noted a need for more high-quality trials using standardised measures with longer follow-up.

Anorectal dysfunction

Evidence overview

Woodley et al (2020) reported on eight trials assessing urinary incontinence and FI outcomes following PFMT in pregnant or postnatal women. This review was used as an evidence source within NICE NG210 and Romeikiene and Barkeviciene (2021). The outcomes related to FI are reported here. The authors noted uncertainty as to whether PFMT reduced incontinence compared to usual care, reporting there was low quality evidence. They found no evidence that PFMT led to a difference in FI in late pregnancy (RR 0.64, 95% CI 0.36 to 1.14; 3 trials, 910 women, low quality). Postnatal PFMT also made no difference in lowering FI risk (RR 0.73, 95% CI 0.13 to 4.21, 1 trial, 107 women, low quality). The authors reported that there was little evidence with follow-up lasting more than 12 months, and very few studies reporting specific QoL data, with little consensus on measuring it in the studies that did report it. The authors commented that cost effectiveness studies were needed.

Mazur-Bialy et al (2020) reviewed the efficacy of physiotherapy techniques in preventing and treating FI in women. They included 22 publications, and found that biofeedback, anal sphincter muscle exercises, PFMT and electrostimulation are effective in relieving FI symptoms. Physiotherapy was found to be beneficial in preventing FI, both as conservative treatment and as an adjunct to surgery, and can significantly improve QoL for patients. The authors recommended a combination of techniques be used but do note RCTs are needed.

Pelvic organ prolapse

Espiño-Albela et al (2022) reviewed 18 RCTs assessing PFMT in women with POP who had undergone either surgery or conservative treatment alone. They found improvements in symptoms associated with POP, pelvic floor functions and QoL, but no significant changes in sexual function and results related to change in POP stage were inconclusive. They found no significant improvements in any symptoms where PFMT was undertaken alongside surgery. The authors noted a need for RCTs of higher methodological quality, with larger sample sizes and longer follow-up.

Wang et al (2022) reviewed 13 studies which evaluated the effect of PFMT in treating patients with POP. They found that PFMT led to a greater improvement of prolapse symptoms than the control group, with a prolapse symptom score mean difference of -1.66 (95%CI -2.36 to -0.97, $p < 0.00001$) and POP stage risk ratio (RR) of 1.51 (95% CI 1.14 to 2.01, $p = 0.004$). They also found that the number of participants who felt better after muscle training was higher, with a RR of 1.98 (95% CI 1.21 to 3.24, $p = 0.006$). However, these differences in outcomes did not continue to be significant in the long term, and there were no significant differences identified in the elderly, or to overall QoL. The authors noted that more research in long term outcomes, the elderly, and QoL are needed.

Pelvic pain

Loving et al (2012) reviewed 11 articles, representing 10 studies, which assessed the effect of physiotherapy on pain, physical activity, and QoL in females with chronic pelvic pain. The authors noted variation in the physiotherapy techniques used, and that these were often provided in combination with psychotherapeutic modalities and medical management which made it difficult to assess the 'standalone' value of physiotherapy to be assessed. This heterogeneity meant the authors were unable to perform a meta-analysis. They noted that the evidence for physiotherapy in pelvic pain was mostly based on small non-randomised studies, and that more high quality RCTs were needed. The authors reported that there was some evidence to support MDT intervention and somatocognitive therapy (a combination of physiotherapy and psychology).

Vesentini et al (2020) reviewed the efficacy of PFMT in improving clinical outcomes in women with lumbopelvic pain. They included eight RCTs consisting of 469 participants. They reported

Evidence overview

that PFMT was more effective than minimal intervention for pain (mean difference 15.9/100; 95%CI 8.2 to 23.6; $p < 0.01$) in pregnancy. They also found it was more effective than usual physiotherapy care for pain (MD 11.7/100; 95% CI 7.5-15.9; $p < 0.01$) in non-pregnant women. The authors did note that the results were of arguable clinical relevance, and that the evidence was of low certainty. They concluded that there was no conclusive evidence indicating PFMT is superior to usual physiotherapy or minimal intervention, and that more trials were needed.

Little and Pennick (2015) assessed the evidence on interventions used to prevent and treat low back pain, pelvic pain, or both, during pregnancy. They included 34 RCTs across 5121 participants; six of which assessed pelvic pain only (889 participants), and 13 assessed women who had both low-back and pelvic pain (1847 participants). The authors performed a meta-analysis and reported low quality evidence of no significant difference in pelvic pain between group exercise added to information on managing pain and usual care (RR 0.97, 95% CI 0.77 to 1.23; two studies, 374 participants). They also reported moderate quality evidence from a meta-analysis showing that an 8 to 12 week exercise programme helps when people had low back and pelvic pain (RR 0.66; 95% CI 0.45 to 0.97; four studies, 1176 participants). Finally, they reported that land-based exercise, in a variety of formats, significantly reduced low-back and pelvic pain-related sick leave (RR 0.76; 95% CI 0.62 to 0.94; two studies, 1062 participants).

Areas of uncertainty

This report covers a wide topic area. Pelvic floor dysfunction covers several disorders, all of which can be addressed by a range of interventions. These interventions may serve as preventive measures, treatments for existing conditions, or both. Most identified evidence appeared to be for interventions treating pelvic organ prolapse and pelvic or lower back pain, with some evidence in faecal incontinence. NICE Guidelines recommend interventions for people with POP, and for those with FI and co-existing POP. There are limited recommendations currently available for people with FI alone or people with pelvic pain. There was a general consensus in the identified literature that more RCTs are needed, and more long-term follow up.

Despite NICE recommendations for PFMT and other pelvic floor rehabilitation to be provided to women, there is variation on how this is implemented. NICE recommend further research on how best to provide PFMT, whether via individual or group classes, and whether these should be through community multidisciplinary teams or primary care. They also recommend further research on when to provide PFMT; the majority of evidence in women was in people who had been pregnant and undergone childbirth, and NICE provide recommendations on providing PFMT to pregnant women in high-risk groups as a preventative measure. There was more limited evidence and recommendations available as to whether PFMT should be universally offered following pregnancy and childbirth. There was also limited evidence available in younger women under 18 years of age, older women of more than 60 years of age, and women who had not been pregnant.

There was limited cost effectiveness identified. Whilst the guidelines identified mostly took cost effectiveness into consideration in their recommendations, none were informed by any UK-relevant health economic analysis.

There was variability in which outcomes were used and how they were reported, and there was a variety of QoL assessments used.

Literature search results

Health technology assessments and guidance

International HTA Database (2023). Report: perineal and pelvic rehabilitation for the prevention and treatment of pelvic floor dysfunctions - Part 2: Anorectal dysfunction, pelvic organ prolapse and perineal pain in women. Institut national d'excellence en sante et en services sociaux. Available at: <https://database.inahta.org/article/23180> [Accessed 12 Mar 2024]

NICE (2007). Clinical Guideline CG49: Faecal incontinence in adults: management. Available at: <https://www.nice.org.uk/guidance/cg49/chapter/Recommendations> [Accessed 12 Mar 2024]

NICE (2019). Guideline NG123: Urinary incontinence and pelvic organ prolapse in women: management. Available at: <https://www.nice.org.uk/guidance/ng123/chapter/Recommendations#non-surgical-management-of-pelvic-organ-prolapse> [Accessed 12 Mar 2024]

NICE (2021). Guideline NG210: Pelvic floor dysfunction: prevention and non-surgical management. Available at: <https://www.nice.org.uk/guidance/ng210> [Accessed 12 Mar 2024]

Evidence reviews and economic evaluations

Espiño-Albela A, Castaño-García C, Díaz-Mohedo E, Ibáñez-Vera AJ. (2022). Effects of Pelvic-Floor Muscle Training in Patients with Pelvic Organ Prolapse Approached with Surgery vs. Conservative Treatment: A Systematic Review. *Journal of Personalised Medicine*. 12(5):806. <https://doi.org/10.3390/jpm12050806>

Liddle SD, Pennick V. Interventions for preventing and treating low-back and pelvic pain during pregnancy. *Cochrane Database of Systematic Reviews* 2015, Issue 9. <https://doi.org/10.1002/14651858.CD001139.pub4>

Loving, S., Nordling, J., Jaszczak, P. & Thomsen, T. (2012). Does evidence support physiotherapy management of adult female chronic pelvic pain? A systematic review. *Scandinavian Journal of Pain*, 3(2), 70-81. <https://doi.org/10.1016/j.sjpain.2011.12.002>

Mazur-Bialy AI, Kołomańska-Bogucka D, Opławski M, Tim S. Physiotherapy for Prevention and Treatment of Fecal Incontinence in Women-Systematic Review of Methods. *J Clin Med*. 2020 Oct 12;9(10):3255. <https://doi.org/10.3390/jcm9103255>

Romeikienė KE, Bartkevičienė D. (2021). Pelvic-Floor Dysfunction Prevention in Prepartum and Postpartum Periods. *Medicina*. 57(4):387. <https://doi.org/10.3390/medicina57040387>

Vesentini, G., Prior, J., Ferreira, P. H., Hodges, P. W., Rudge, M., & Ferreira, M. L. (2020). Pelvic floor muscle training for women with lumbopelvic pain: A systematic review and meta-analysis. *European journal of pain (London, England)*, 24(10), 1865-1879. <https://doi.org/10.1002/ejp.1636>

Wang T, Wen Z, Li M. (2022). The effect of pelvic floor muscle training for women with pelvic organ prolapse: a meta-analysis. *International Urogynecology Journal*. 33(7):1789-1801. <https://doi.org/10.1007/s00192-022-05139-z>

Woodley SJ, Lawrenson P, Boyle R, Cody JD, Mørkved S, Kernohan A, Hay-Smith EJC. (2020). Pelvic floor muscle training for preventing and treating urinary and faecal incontinence in antenatal and postnatal women. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD007471.pub4>

Individual studies

Not searched

Ongoing research

Not searched

Date of search	16/02/2024
Concepts used	Anorectal function, faecal incontinence, pelvic floor, pelvic floor muscle training, pelvic organ prolapse, pelvic pain, pelvic rehabilitation, perineal rehabilitation, perineal pain

Proposed research question and evidence selection criteria (if selected)

Proposed Research question	Perineal and pelvic rehabilitation for the prevention and treatment of anorectal dysfunction, pelvic organ prolapse and perineal pain in women
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	Inclusion criteria	Exclusion criteria
Population	Women (12 years of age or older) with, or at risk of, anorectal dysfunction, pelvic organ prolapse or perineal/ pelvic pain Pregnant or post-partum women Elderly women Trans and non binary people with female pelvic organs	Women with, or at risk of, urinary incontinence Men Children (up to age 12) Women treated for cancer
Intervention	Perineal and pelvic rehabilitation; physiotherapy/ muscle training alone or alongside assistive techniques such as biofeedback and electrical stimulation, and as an adjunct for other non-surgical therapies	Surgery Intravaginal devices Pessaries Medicines
Comparison/ Comparators	No intervention Conservative therapy (e.g. lifestyle changes, medicines) alone	Combination with surgery
Outcome measures	Prevalence of dysfunction (FI/ POP/ pelvic pain) Severity of symptoms <ul style="list-style-type: none"> - Stage - Symptom score - Pain score HRQoL Economic outcomes Referral for surgical interventions	

Proposed specialities	Genitourinary system, Obstetrics and gynaecology
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