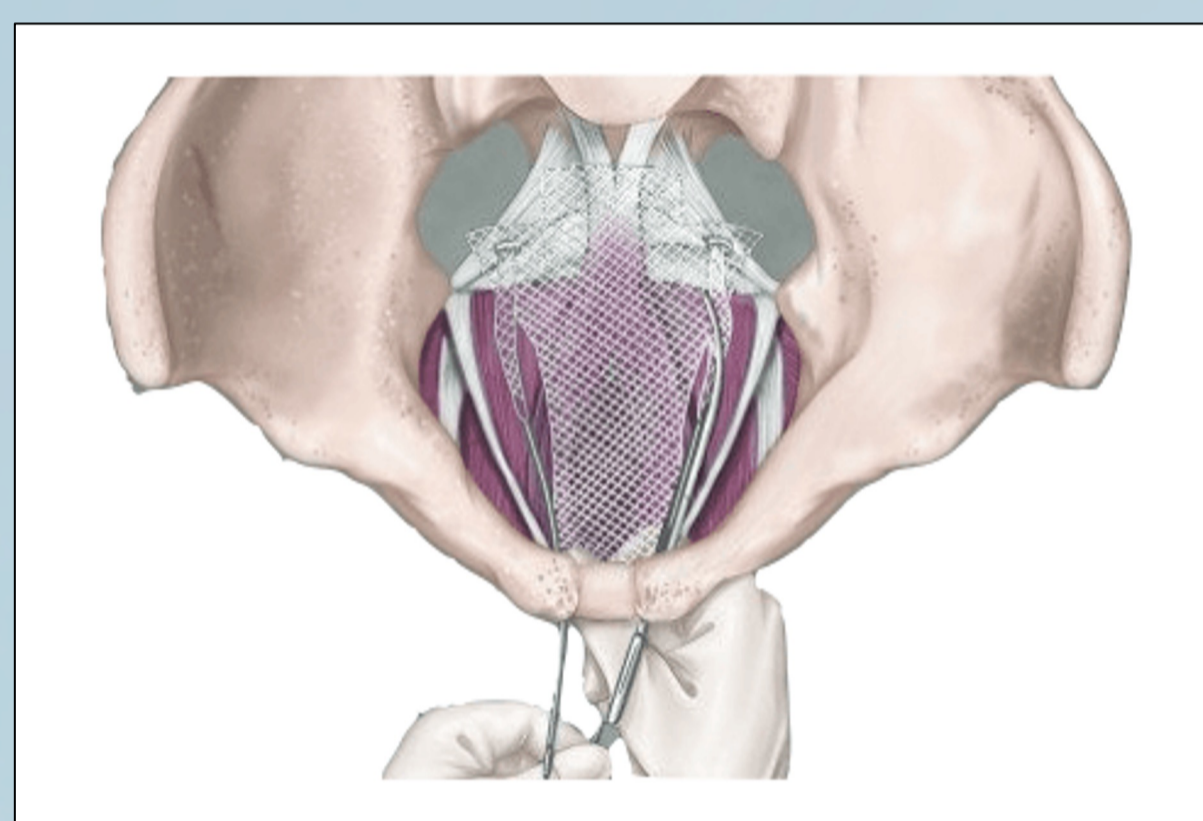


# Women with surgical mesh injury present with potentially modifiable risk factors for persistent post surgical pain and would consider prehabilitation.

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## Background:

### What is Surgical Mesh?

Surgical mesh is a permanent synthetic implant of loosely woven, typically non-absorbable polypropylene (plastic) material. Mesh is used to reinforce surgical repair of hernias, pelvic organ prolapse and urinary incontinence.<sup>1</sup>

### Why is mesh used?

Vaginal prolapse repair have a high rate of failure - i.e. recurrence of the prolapse. Synthetic mesh is used to reinforce the repair providing stronger support to the tissues.

### What complications have occurred with surgical mesh?

While many people who have surgical mesh inserted benefit from resolution of their symptoms and have no problems, sadly many women in Aotearoa have suffered complications including erosion through the skin, obstruction of urination and pain.<sup>1</sup>

These complications can result from improper insertion or from the mesh shrinking or eroding through body tissues over time. As the pelvis is innervated by multiple systems, women with complications from surgical mesh often experience complex pain and other symptoms.<sup>1</sup>

As a result of the complications Manatū Hauora/Ministry of Health led a restorative justice project to hear from those who had been impacted by injury and harm from the insertion of surgical mesh in Aotearoa. The findings were summarised in the report Hearing and Responding to the Stories of Survivors of Surgical Mesh<sup>1</sup>

### What is the treatment for complications?

Between 50-75% of those with a surgical mesh injury will undergo surgical removal of mesh.<sup>2</sup> These patients commonly present with a number of modifiable factors that are known risks for persistent post surgical pain. These include non-modifiable factors such as female gender, repeat surgery in the same body area and surgical approach with risk of nerve damage; and modifiable risk factors including poorly controlled pre-operative pain, smoking, opioid use, catastrophic worry about pain, anxiety, depression and recovery expectations.

### What is Prehabilitation?

Prehabilitation aims to preemptively reduce modifiable risks associated with poorer post-surgical outcomes and enhance recovery. It has demonstrated improvements for quality of life, functional ability and in time to return to work.

An online pain education and treatment package was a highly acceptable intervention for people waiting for knee surgery, and led to reductions in pain intensity and pain catastrophising. Additionally, patients reported that the intervention was highly convenient, accessible, and informative; and enhanced their confidence around their surgical recovery.<sup>3</sup>

### Prehabilitation for those with surgical mesh injuries

Integrated prehabilitation, as a component of the continuum of care, is concordant with recommendations from the restorative justice document for an integrated whole person interdisciplinary approach to care and "a collaborative, well documented process with appropriate advice regarding post-operative symptoms and support options".<sup>1</sup>

The report acknowledges that "Replacing outdated medical models with a holistic approach to healing ... may be challenging in elective surgical settings".<sup>1</sup> Other limitations to the provision of such services include the limited availability of specialist clinicians, especially outside of the main centres, and the challenges associated with travel experienced by the mesh injured.

## Conclusions

Modifiable risk factors for poor post-surgical pain outcomes that are targeted by prehabilitation for those with persistent pain are found frequently in those with pain resulting from mesh injury. Attitudes to prehabilitation by this group appear to be favourable and therefore this warrants further exploration.

## Aims:

- To compare psychosocial risk factors in women with surgical mesh injury with patients referred for specialist pain management in centres using the ePPOC database in NZ.<sup>4</sup>
- To explore the attitude of women with surgical mesh injury towards a prehabilitation programme that would target these risk factors.

## Methods:

An audit of intake psychometric measures completed by women with pain from surgical mesh injuries was compared to the profile of all adult women referred for specialist pain management in New Zealand.<sup>4</sup>

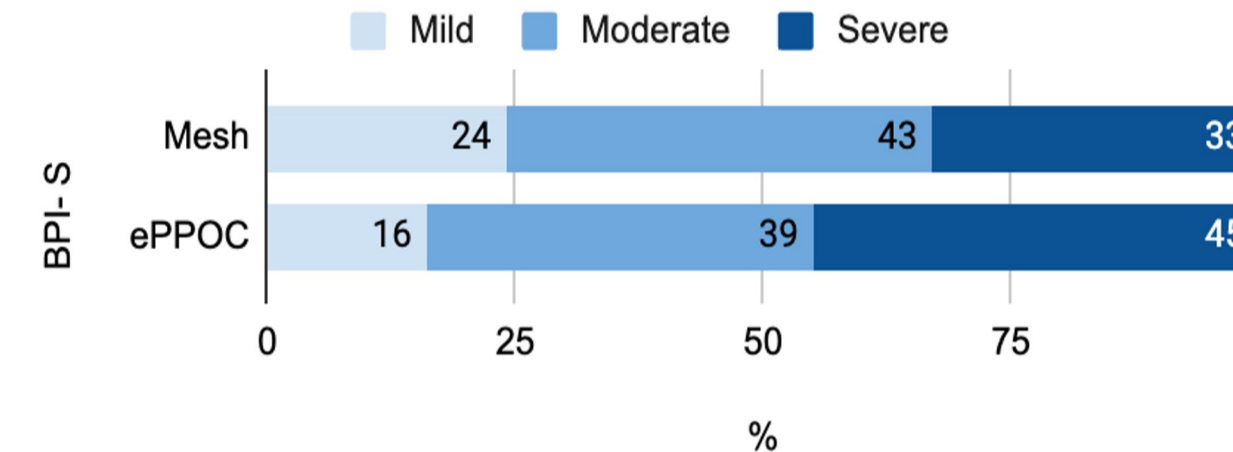
To explore attitudes of women with a surgical mesh injury towards prehabilitation, a patient survey was sent to a sample of one year of women presenting with mesh injury.

This audit was deemed to be out of scope of review by HDEC.

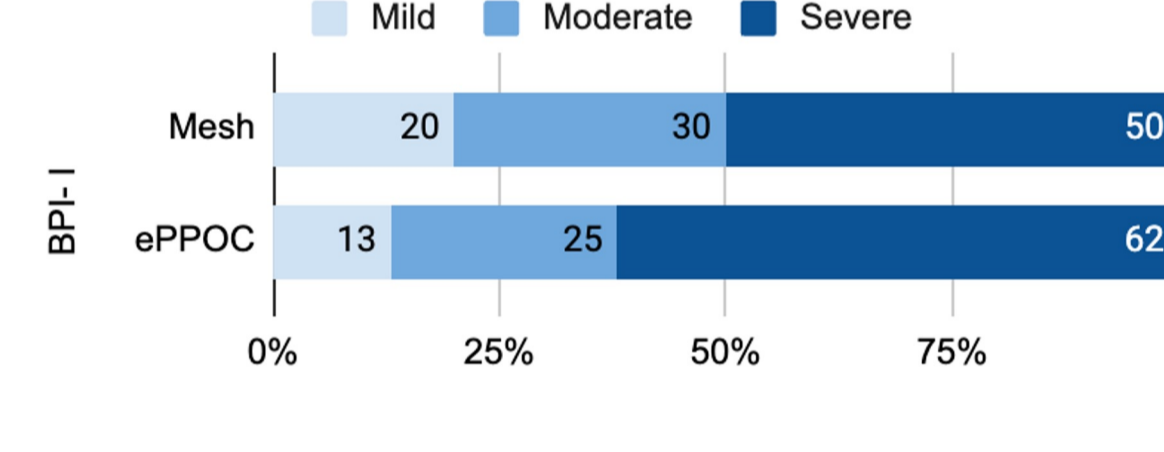
## Results:

Comparison of psychosocial measures demonstrated equivalent average severity across a range of psychosocial measures.

### BPI - Pain severity

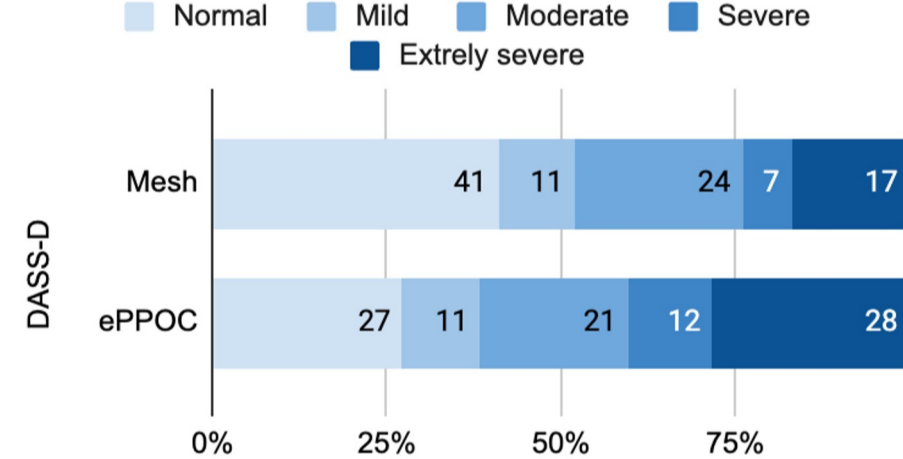


### BPI- Pain Interference



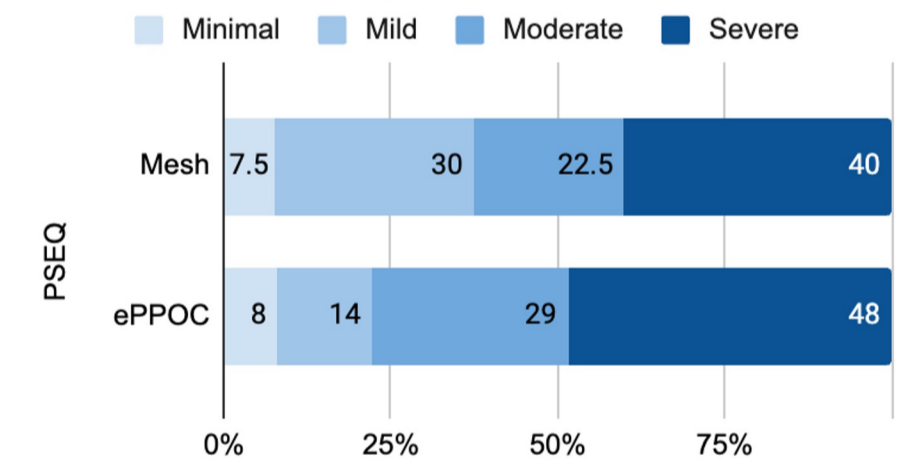
Score on Brief Pain Inventory at intake.  
Mean severity scores: Mesh cohort 6.2 ePPOC 6.2  
interference scores: Mesh cohort 6.7 ePPOC 6.9

### DASS21-Depression scale



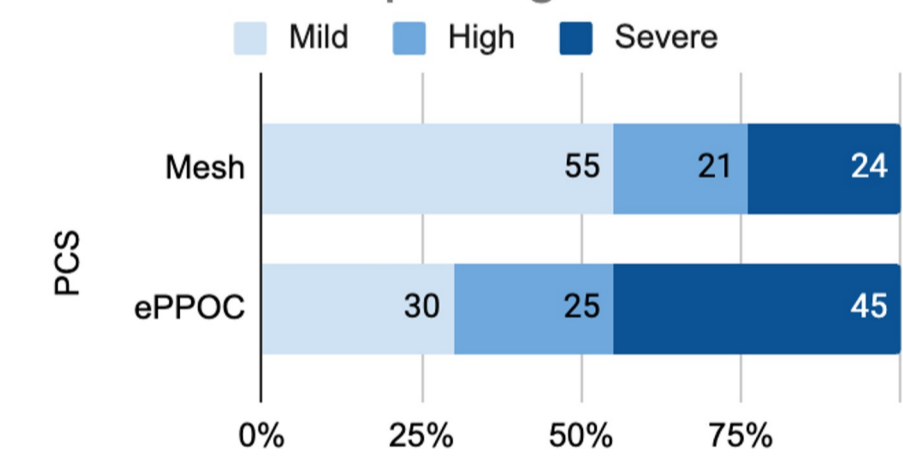
Score on DASS 21- depression scale at intake.  
Mean scores: Mesh cohort 14.3 ePPOC 18.9

### Pain Self Efficacy Questionnaire



Score on Pain Self Efficacy Questionnaire at intake.  
Mean scores: Mesh cohort 24.6 ePPOC 21.2

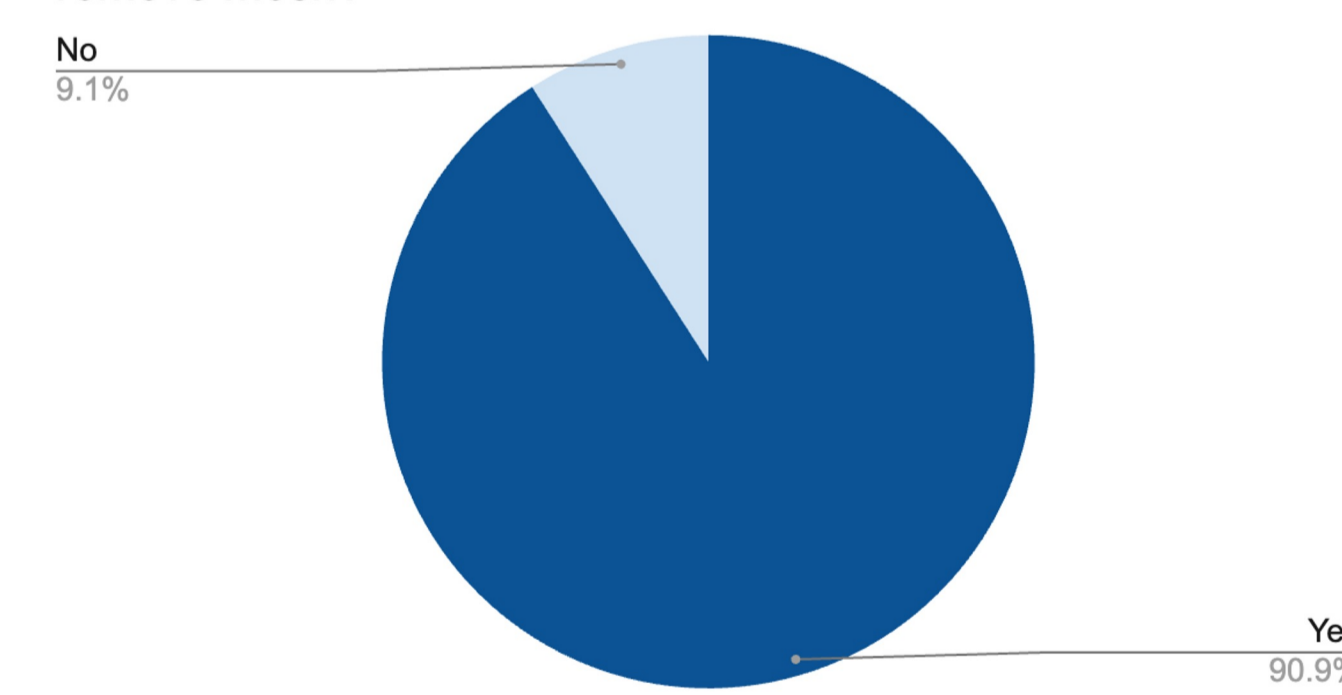
### Pain Catastrophising Scale



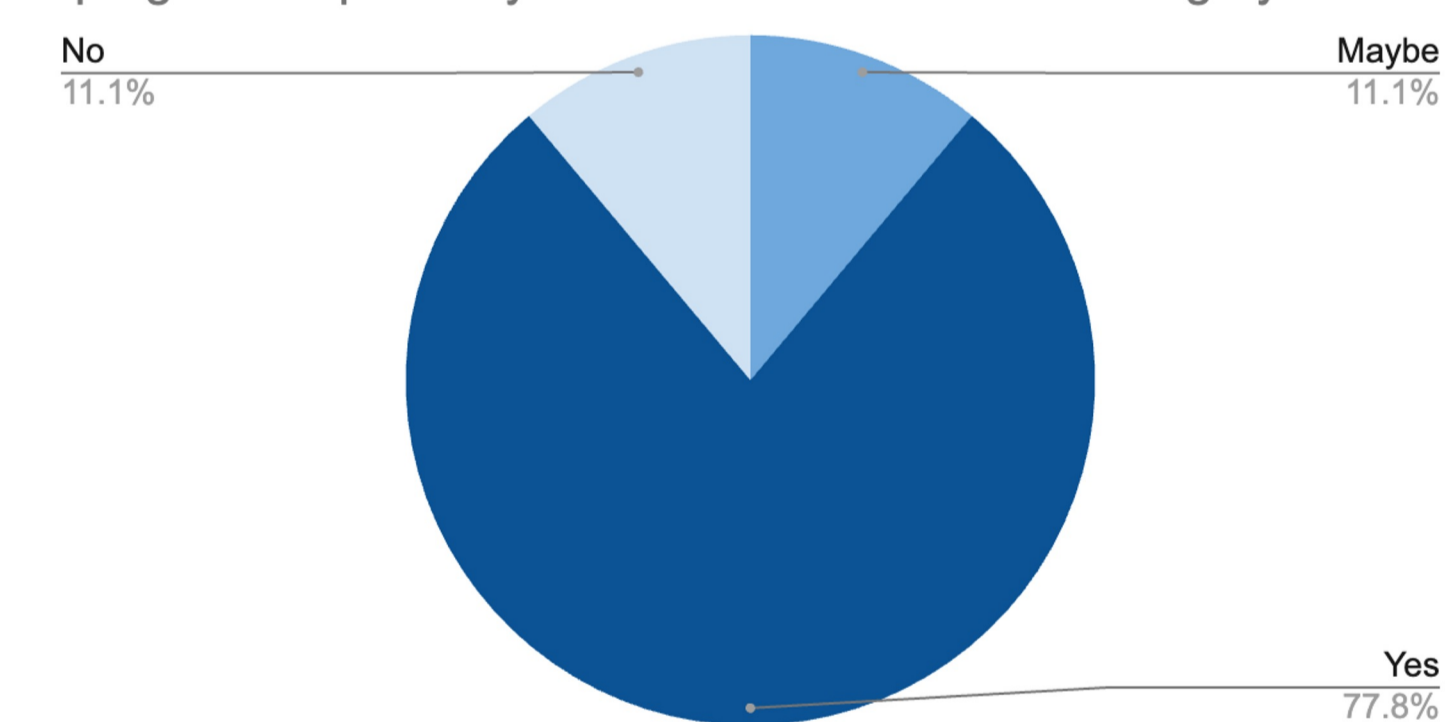
Score on Pain Catastrophising Scale at intake.  
Mean scores: Mesh cohort 19.8 ePPOC 28.2

Ninety-one percent of those surveyed (11) were planning or had already undergone mesh removal surgery. Of these 89% were open to a prehabilitation programme.

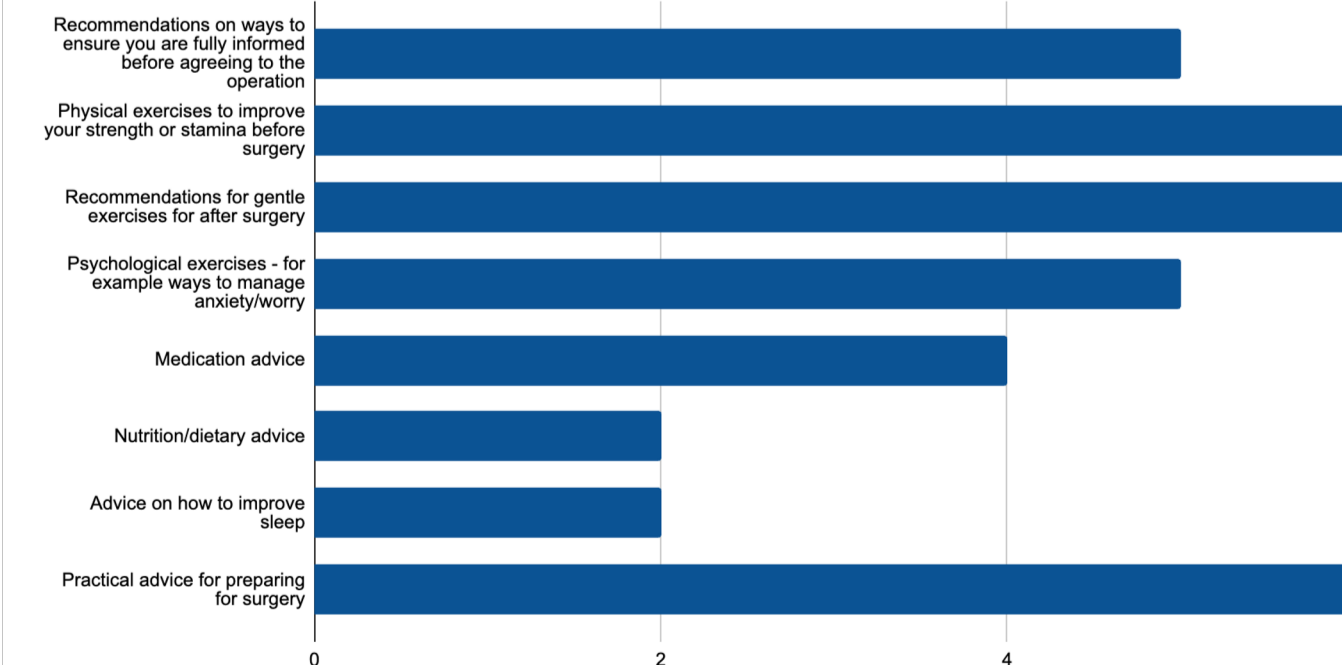
Have you had or are you considering or planning surgery to remove mesh?



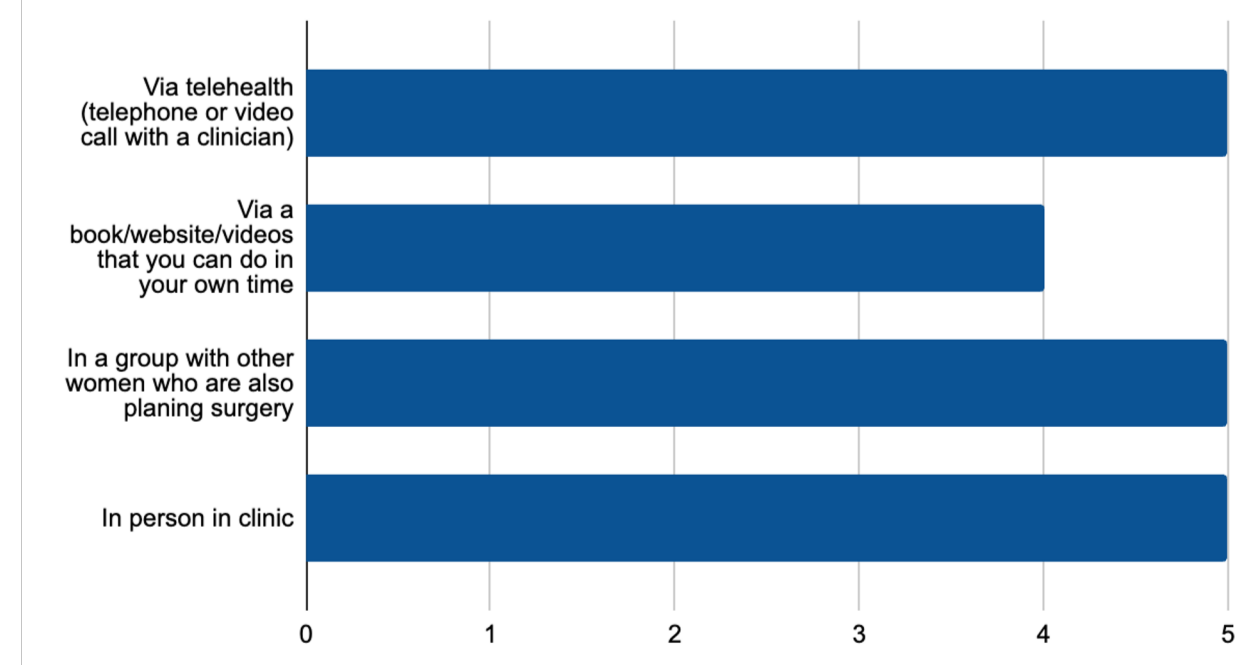
Would you like/have liked a "prehabilitation" programme prior to your mesh removal/revision surgery?



What content would you like/have liked in a prehabilitation programme?



How would you have liked to receive this programme?



1. Wailling, J., Marshall, C., & Wilkinson, J. (2019). Hearing and responding to the stories of survivors of surgical mesh: Ngā kōrero a ngā mōrehu – he urupare (A report for the Ministry of Health). Wellington: The Diana Unwin Chair in Restorative Justice, Victoria University of Wellington.  
2. Abbott, S., Unger, C. A., Evans, J. M., Jallad, K., Mishra, K., Karram, M. M., ... & Barber, M. D. (2014). Evaluation and management of complications from synthetic mesh after pelvic reconstructive surgery: a multicenter study. American Journal of Obstetrics and Gynecology, 210(2), 163-e1.  
3. Bean, D., Collier, J., Rice, D., Kluger, M., McNair, P., Young, S., Walker, M., Tuck, N. (2023). Cognitive behavioural pain management prior to total knee joint replacement: A feasibility trial. Proceedings from the Te Whatu Ora-Waitemata, University of Auckland and AUT Collaborative Research Symposium 2023  
4. Shebeshi, D., Allingham, S. F., Tardif, H., & White, J. M. (2021). Profile of adult patients referred for specialist pain management in New Zealand, ePPOC Information Series No. 1.