

Specific Question:

In adults with patella tendinopathy, is exercise plus load management education programme more effective than usual care in reducing pain and improving function?

Clinical bottom line

There is some low quality evidence (small numbers and high loss to follow up) to suggest that progressive tendon loading plus educational advice is more effective in reducing pain and improving function in patients with chronic patella tendinopathy when compared to eccentric loading programme and educational advice.

Why is this important?

Patella tendinopathy is a very common problem and is frequently seen in primary care and physiotherapy. There is often debate amongst clinicians about how to best manage patient with a patella tendinopathy and what does evidence based care comprise?

The result of this CAT will assist in the design of consistent pathways across MPFT for patient with patella tendinopathy, irrespective of where there present geographically.

Search timeframe (e.g. 2011-2021)

Inclusion Criteria

	Description	Search terms
Population and Setting	Adults over the age 18 with patella tendinopathy	Patella Tendinopathy Pain insertion or mid-portion patella tendon Degenerative / Chronic Lower limb tendonitis Tendinosis
Intervention or Exposure	Tendon loading programme	Exercise regime by physiotherapist which includes tendon loading: Isometric, concentric and eccentric exercises/ loading Progressive tendon loading

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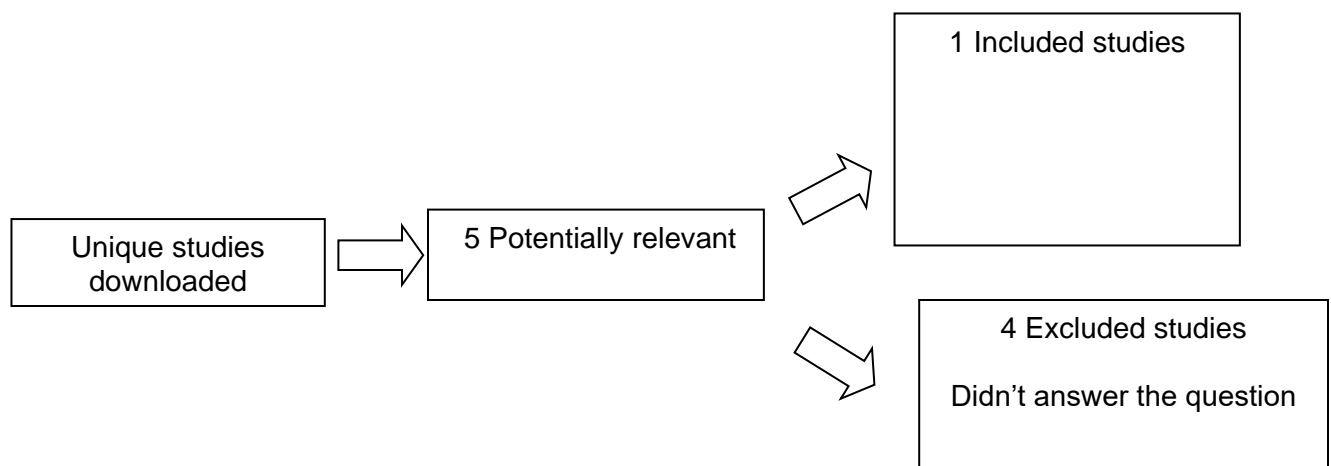
		Graded loaded program Load management education Load modification
Comparison, if any	Usual care	Stretches Insoles Orthotics Advice Friction massage/ Electrotherapy Ultrasound Acupuncture Dry needling Exercise
Outcomes of interest	Function, pain	Improve function Reduced pain
Types of studies		RCT's, SR's, Meta-analysis

Routine Databases Searched

Clinical Knowledge Summaries, PEDro, BMJ Updates, Clinical Evidence, TRIP, Database, NICE, HTA, Bandolier, The Cochrane Library, Medline, Cinahl, Embase, PsycInfo, Professional websites. Joanna Briggs Institute, Web of Science, Sports discus and Pubmed

Date of search- April 2021

Results of the search



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Date CAT completed: August 2021
Review CAT 2024

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Table 1- Detail of included studies

First Author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Breda et al 2020 RCT	<p>Netherlands Athletes of all levels 18-35</p> <p>Included those with positive clinical findings and Ultrasound scan</p> <p>Chronic population</p>	<p>Compared pain provoking eccentric exercise therapy against progressive tendon loading</p> <p>Both groups received education which included explanation of the condition, expected management, positive influence of exercise therapy and positive effects of return to sport and advice re modification of sporting activity</p> <p>Used pain monitoring-model</p>	<p>76 participants , 38 in each group</p> <p>Progressive tendon loading group had better clinical outcome</p>	<p>Undertaken in Netherlands</p> <p>Randomisation computer generated</p> <p>Main investigator blinded</p> <p>Small numbers</p> <p>Good detail on intervention group</p> <p>Short follow up at 24 weeks</p> <p>Used ITT</p> <p>Primary outcome pain</p> <p>Young population</p> <p>Clear inclusion and exclusion criteria</p> <p>High drop out rate in control group (20%)</p>

Summary

There is only one study, of low quality, which utilised a specific tendon loading education programme combined with exercise to assess their effects on reduction of pain and improvement of function in adults with patella tendinopathy. This study did not include a no education control group so there is no direct comparison to see if education makes a difference.

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As part of the tendon loading education they used a pain monitoring model where subjects were allowed to continue to load the tendon and reach a maximum pain level of 5/10 on a visual analogue scale (VAS), which should have subsided by the next day. This was taken from a study for Achilles Tendinopathy with small numbers so again is of low quality evidence (Silbernagel et al, 2007).

Implications for Practice/research

The findings from this study contribute to the building body of evidence around the effectiveness of improving outcomes for patients with (patella) tendinopathy. Further, this study demonstrates that an eccentric programme is not necessarily a panacea in tendinopathy management. The findings of this study however are limited due to a high loss to follow up.

Expectedly there is a need for higher quality studies, with robust training principles applied as part of the research studies with longer follow up periods to inform the long term outcomes from strengthening programmes. However, the analysed study indicates a trend toward progressive tendon loading giving superior outcomes to eccentric loading and therefore this nature of loading should be considered in preference to a purely eccentric based programme in practice. Additionally there is also a need to identify the importance of patient education in relation to clinical outcomes.

Members of the CAT group will develop educational material for clinicians and patients, based on clinical consensus, to reinforce the importance of tendon loading during rehabilitation.

What would you tweet? (140 characters)

Clinicians recognise the importance of tendon loading education with exercise for patella tendinopathy, but more robust research is required to guide practice

References

Breda, S.J., Oei, E.H.G., Zwerver, J., Visser, E., Waarsing, E., Krestin, G.P., de Vos, R-J. (2021) Effectiveness of progressive tendon-loading exercise therapy in patients with patellar tendinopathy: a randomised clinical trial. *British Journal of Sports Medicine*; 55 501-509

Silbernagel, K.G., Thomee, R., Eriksson B.I., & Karlsson, J. (2007) Continued sports activity, using a pain-monitoring model, during rehabilitation in patients with Achilles tendinopathy. A randomised controlled study. *The American Journal of Sports Medicine*; 35 (6) 897-906