Soft Tissue Mobilization vs. Eccentric Exercise For The Treatment Of Tendinosis: A Systematic Review

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BACKGROUND\textsuperscript{1,2}

- Soft-tissue mobilization and eccentric exercise have been shown to be effective interventions for the treatment of tendinosis
- Less clear which intervention is more effective
- There is limited research on the effectiveness of an intervention using both soft-tissue mobilization and eccentric exercise for the treatment of tendinosis
● Definitions:

○ Tendinosis - chronic tendon damage at the cellular level; “chronic tendinopathy;” “chronic tendinitis”

○ Soft-tissue mobilization - mobilization of muscles, fascia, tendons and or ligaments through various hands-on techniques

○ Eccentric exercise - active muscle contraction while lengthening under tension
PURPOSE

• The purpose of this systematic review was to determine the effectiveness of soft-tissue mobilization compared to eccentric exercise in the treatment of tendinosis in terms of pain reduction and functional outcomes.
Database Records 508

Articles remaining after applying search limits 247

Articles remaining after screening based on title 129

Articles remaining after screening based on abstracts 27

Articles remaining after screening based on research components 7

Full texts received and assessed for eligibility 7
METHODS

- A literature search 2006-2016
- CINAHL, Medline, Web of Science, Science Direct, and PubMed
- Search terms: (tendinosis OR tendinopathy) AND (ASTYM OR eccentric exercise)
- Selection criteria: RCTs, human subjects, and English language
- Two reviewers independently assessed each article for methodological quality
- Came to consensus based on PEDro scoring guidelines
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RESULTS

- PEDro scores ranged from 6-9/10 (avg=7.3)
- Samples ranged from 16 to 120 subjects (430 total) with chronic tendinopathy pathology in the shoulder, elbow, knee, and heel cord across all studies
Results (continued)

• Ecc was performed for 3 sets of 15 reps for 1.67 times per day, 2-7 days per week, averaging 9.67 weeks duration (4-12 wks)

• ST was performed for 2.33 times per week averaging 9.33 weeks duration (4-12 wks)

• Primary outcomes: DASH, VISA-A, and VAS

• No adverse events were reported
Results (continued)

- Statistical significance between-group improvements noted in functional outcome measures (VISA-A and DASH) following Ecc & ST vs Ecc alone\(^3\)

- Statistical significance between-group improvements noted in pain (VAS) following Ecc vs concentric exercise\(^4\)

- Statistically significance improvements noted in functional outcome measures (VISA-A) following Ecc\(^1\)
Results (continued)

• No statistical significance between-group improvements noted in functional outcome measures (VISA) following Ecc vs surgery\textsuperscript{5}

• No statistical significance between-group improvements noted in functional outcome measures (VISA-A) following Ecc vs heavy slow resistance\textsuperscript{6}

• No statistical significance between-group improvements noted in pain (VAS) following ST vs Therapeutic Exercise\textsuperscript{7}
CONCLUSION

• Moderate to strong evidence in support of an intervention that includes Ecc vs ST alone for improving pain and functional outcome scores in persons with chronic tendinopathy

• Ecc & ST together have an advantage over Ecc or ST alone
Limitations

- small samples
- lack of blinding participants
Future Research

- Future RCTs should focus on an optimal dose of Ecc as well as well-defined ST technique for treating chronic tendinopathy
CLINICAL RELEVANCE

• Outcomes for Ecc and ST together appear superior compared to other forms of treatment for improving functional outcomes in adults with chronic tendinopathy

• Effective treatment protocols use Ecc, for 3 sets of 15 reps, and ST 4-5 days per week for 9 weeks

• Implementing interventions consisting of Ecc and ST are safe and feasible methods for treating chronic tendinopathy
Thank you!

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- Dr. Collins, PT, PhD, MBA, GCS
- University of Scranton DPT faculty


