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Study Design: Systematic review with meta-analysis

Abstract:

Objective: To synthesize results of somatosensory processing tests in people with upper- and lower-limb tendinopathy, compared to controls.

Design: Systematic review with meta-analysis.

Literature search: Four electronic databases (MEDLINE, CINAHL Plus, SPORTDiscus, and Embase) were searched.

Study selection criteria: Included studies measured a domain of sensory processing and compared a tendinopathy group to a healthy control group.

Data synthesis: Meta-analysis was conducted for outcomes with homogeneous data from at least 2 studies. Upper- and lower-limb conditions were compared and outcomes were examined by measurement site (local, regional, or remote to location of pain).

Results: Of the 30 studies included, 18 investigated lateral elbow tendinopathy. The most commonly assessed outcome measures were pressure pain threshold (PPT) and thermal pain threshold. There was moderate evidence for local and regional reduction of PPT in upper-limb tendinopathies, but not at remote sites. In lower-limb tendinopathies, there was conflicting evidence regarding reduced PPT at local sites and limited evidence of normal PPT at remote sites. There was moderate evidence of sensitization of thermal pain threshold at local sites in upper-limb tendinopathies and limited evidence of no difference in thermal pain threshold in lower-limb tendinopathies. Findings across other domains were variable.

Conclusion: Sensory processing was different between upper-limb tendinopathy and lower-limb tendinopathy. Upper-limb tendinopathies showed signs consistent with primary and secondary hyperalgesia, but lower-limb tendinopathies did not. There was mixed evidence for primary hyperalgesia and limited evidence against secondary hyperalgesia. *J Orthop Sports Phys Ther* 2021;51(1):12-26.
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Key Findings:

Findings: Upper- and lower-limb tendinopathies have different sensory processing test result profiles, though the quality of evidence was generally low.

Implications: Findings from tendinopathy in one body region should not be generalized to other body regions. Clinicians may consider altered somatosensory processing when tailoring management to patients with tendinopathy, especially in upper-limb conditions.

Caution: Methodological issues, limited data, and ambiguity between studies limit the ability to extrapolate findings from one body region to another, or from one domain to another. The majority of results in this review are based on pressure pain threshold data from studies of upper-limb tendinopathy.

Reviewer Summary:

All tendinopathies should not be treated equal. There is evidence that upper limb and lower limb tendinopathies manifest differently and do not share the same sensory processing properties. Upper limb tendinopathies may have a high propensity to local and widespread hyperalgesia, which was not found to be as prevalent in lower limb tendinopathies. This may require differences in treatment of tendinopathy with higher consideration to address somatosensory and central changes in patients with upper limb tendinopathies vs. lower limb tendinopathies. Quality of evidence and lack of data suggest that this information should be considered with caution.