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Editorial

# Is joint manipulation an effective treatment approach for patients with chronic Achilles tendinopathy?

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## EDITORIAL

One of the most common tendinopathies of the lower limb is Achilles Tendinopathy (AT). This condition is not inflammatory as originally thought but degenerative one. Diagnosis is based on reproducing symptoms, increased pain and decreased function, with palpation and specific clinical tests. Insertion AT presents with pain at the insertion of the Achilles tendon whereas mid – portion AT which is more common than insertion AT presents with pain 2 cm to 6 cm proximal to the tendon insertion. Pain mainly occurs after practice. As the practice progresses, pain occurs at the beginning of the practice and disappears during the practice. Later pain may occur during practice. Pain affects with activities of daily living in severe cases.

The ideal management for the rehabilitation of AT does not exist. Many clinicians advocate a conservative approach for the management of AT and physiotherapy is usually proposed. A plethora of physiotherapy modalities has been recommended for the management of AT. In our days, eccentric loading of the Achilles tendon is the most commonly recommended physiotherapy technique in the management of AT. However, it is time to stop loading the tendon only eccentrically. Concentric-eccentric, stretching-eccentric isolated eccentric, and Isometric loading may be indicated depending on multiple factors such as, age, pain, site of tendinopathy, function etc [1]. The tendinopathy rehabilitation should be based on a progressive loading of the lower limb (kinetic chain), tendon itself and muscle-tendon unit [1]. The optimal protocol of loading needs to be examined.

Exercise program is rarely delivered as a treatment in isolation in the management of AT. An exercise program is usually combined with a range of physical therapy modalities. One of the recommended treatments is the joint manipulation. I wonder if joint manipulation is an effective treatment technique in the rehabilitation of AT.

Joint manipulation seems to be an effective treatment technique in conditions similar to AT such as Lateral elbow tendinopathy (LET) commonly referred to as tennis elbow/lateral epicondylitis. Many joint manipulation approaches, applied to the spine and to the periphery, for the management of LET have been recommended [2]. The most common manual therapy techniques for the treatment of LET are transverse friction and Mill's manipulation which is called Cyriax manual technique, manipulation of the wrist, mobilization of the neck, Mulligan mobilization with movement (MMWM) and radial neural mobilization [2]. The above recommended manual therapy techniques may increase grip strength, function and reduce pain immediately following treatment, but the evidence of any long-term clinical effects for manual therapy alone is insufficient [2].

However, the literature investigating the effects of manual therapy in patients with AT is sparse. There are some case reports in which joint-based

non-thrust mobilization and self-mobilization exercises were performed to improve foot and ankle mobility, decrease pain, and improve function [3,4]. I wonder if the proposed joint manipulation manoeuvres for the treatment of LET can be used in the rehabilitation of AT. MMWM and Cyriax manual technique are suitable only for the management of LET. The question that arises is whether a similar manipulation process may be found for the management of AT comparable to that used in the treatment of LET, or whether practical difficulties might arise in attempting such a manipulation technique at other joints [5,6]. Furthermore, the question that arises is if the above two recommended manual techniques can only be used for symptom relief or whether they can inverse the pathophysiology of the tendinopathy [5,6]. It has been purported that cervicothoracic spine dysfunction may contribute to the etiology of LET [7]. It is unknown if lumbar spine dysfunction may contribute to the etiology of AT. Lumbar active and passive range of motion including overpressures were negative for Achilles pain reproduction in conducted AT case studies [3,4]. Two pilot studies, one for the manipulation of the wrist [8] and one for radial neural mobilization [9], examined the effectiveness of these two techniques in the treatment of LET. It is unknown if manipulation of the foot and ischial neural mobilization can help patients with AT.

The true effects of joint manipulation in the treatment of AT may not yet be clearly clarified, it is alluring to gamble why patients with AT may respond to such techniques directed at different anatomical regions. While the positive effects of manual therapy could be related to improvement in joint mobility and biomechanical alterations, there may be a neurophysiological explanation. Alterations of peripheral nociceptive biomarkers and enhanced conditioned pain modulation have been previously demonstrated following manual therapy illustrating peripheral and central effects [4]. Based on studies in the treatment of LET, it is speculated that the pain associated with AT might be associated with altered neuronal afferent input to the spine [10]. Perhaps applying joint manipulation to the ankle, subtalar, and lumbar spine may assist in decreasing abnormal afferent input, resulting in a reduction of the symptoms associated with AT.

Future research studies should further investigate which patients are likely to respond positively to peripheral treatments; which patients are likely to respond to lumbar manual therapy and finally which patients require treatment directed at both the peripheral and spinal joints. In addition, these studies should investigate the short, mid and long-term effects of manual therapy techniques directed at the spine as well as at the periphery. Moreover, these studies should incorporate loading, the most common AT treatment approach. Future studies should compare the outcomes associated with manual therapy directed at the periphery and spine. Latterly, further studies should identify predictor variables identifying, mid-portion AT or insertional AT patients, are most likely to respond quickly and favorably to joint manipulation techniques directed to either the spinal or peripheral joints.

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