

## Abstracts

at 12-weeks and 24-weeks. Tendon thickness only showed a significant decrease ( $p < 0.05$ ) in HVI and PRP. At 12-weeks the decrease in thickness was larger in HVI ( $2 \pm 0.3$  mm) vs PRP ( $0.8 \pm 0.2$  mm) and placebo ( $0.4 \pm 0.2$ ) ( $p < 0.01$ ). At 24-weeks a larger decrease was found ( $p < 0.05$ ) in HVI ( $1 \pm 0.3$  mm) and PRP ( $1 \pm 0.1$  mm) vs placebo ( $0.4 \pm 0.2$  mm). Muscle function improved in the entire cohort ( $p < 0.001$ ) with no group interaction observed.

**Discussion** Treatment with HVI or PRP in combination with a 12-week eccentric training regime in Achilles tendinopathy seems more effective in reducing pain symptoms, improving activity level and reducing tendon thickness than eccentric training alone. HVI was found to be more effective than PRP in the short-term (12 weeks).

## REFERENCES

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### THE EFFECTIVENESS OF EXTRACORPOREAL SHOCK WAVE THERAPY IN LOWER LIMB TENDINOPATHY: A SYSTEMATIC REVIEW

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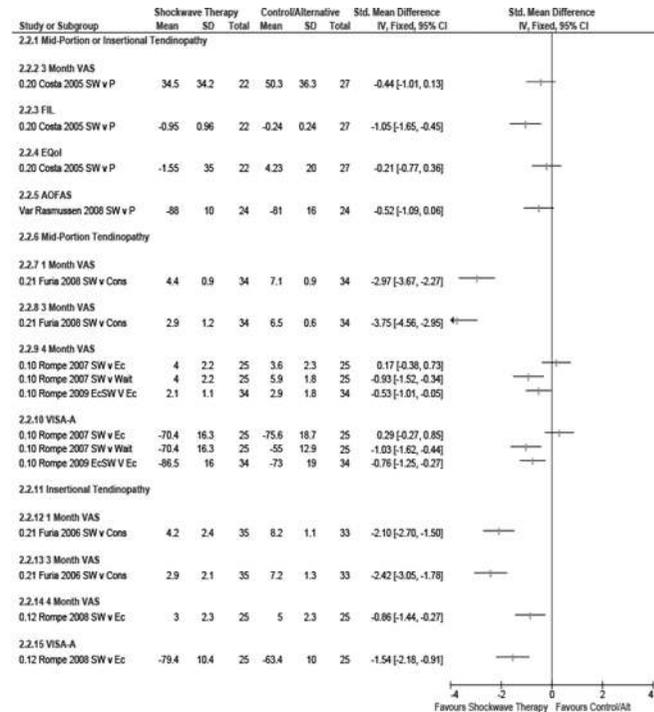
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**Introduction** There is accumulating evidence for the effectiveness of extracorporeal shock wave therapy (ESWT) when treating lower limb tendinopathies including greater trochanteric pain syndrome (GTPS), patellar tendinopathy (PT) and Achilles tendinopathy (AT). The aim of this study was to evaluate the effectiveness of ESWT for lower limb tendinopathies

**Methods** PubMed (Medline), Embase, Web of Knowledge, Cochrane and CINAHL were searched from inception to February 2013 for studies of any design investigating the effectiveness of ESWT in GTPS, PT and AT. Citation tracking was performed using PubMed and Google Scholar. Animal and non-English language studies were excluded. Quality assessment was performed by two independent reviewers and effect size calculations were completed where sufficient data were provided.

**Results** 20 studies were identified with 13 providing sufficient data to complete effect size calculations. The energy level, number of impulses, number of sessions, and the use of local anaesthetic varied between studies. Evidence is limited by low participant numbers and methodological weaknesses including inadequate randomisation. Moderate evidence indicates ESWT is more effective than home training and corticosteroid injection in the short (<12 months) and long (>12 months) term for GTPS. Limited evidence indicates ESWT is more effective than alternative conservative managements including non-steroidal anti-inflammatory drugs, physiotherapy and an exercise programme and equal to patellar tenotomy surgery in the long term for PT [Furia, 2013]. Moderate evidence indicates ESWT is more effective than eccentric loading for insertional AT and equal to eccentric loading for mid-portion AT in the short term. Additionally, there is moderate evidence that combining ESWT and eccentric loading in mid-portion AT may produce superior outcomes to eccentric loading alone [Rompe, 09] (Figure 1).

**Discussion** ESWT can play a role in treatment of patients with lower limb tendinopathy alongside progressive load and flexibility management. Both forms of treatment serve to induce tendon regeneration with rehabilitation exercise tending to be carried out over a period of many weeks, whereas ESWT treatment is



**Abstract 62 Figure 1** Achilles Tendinopathy: Comparison of pain and functional outcome at <12 months

typically administered weekly for 3 weeks. A suitable pathway would be using ESWT as an initial starting treatment to be followed by an exercise programme, with some evidence that combined treatments confer additional benefit the effect is even greater. More robust RCTs with larger sample sizes and control groups that include objective functional tests are needed to build upon the limited/moderate evidence that currently exists for ESWTs effectiveness in lower limb tendinopathy. Additionally, further RCTs specifically comparing the different elements of ESWT – energy levels, number of applications and number of days between applications are needed to identify the optimum protocol.

## REFERENCES

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### ULTRASOUND AND UTC FOR THE EVALUATION OF PLANTARIS TENDON INVOLVEMENT IN MIDPORTION ACHILLES TENDINOPATHY

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**Introduction** Recent cadaveric [Van Sterenberg *et al.* 2011], histological [Spang *et al.* 2013], and clinical/surgical [Alfredson, 2011] studies lend support to the theory that the plantaris tendon may be involved in the aetiology and/or pathogenesis of mid-portion Achilles tendinopathy. Unfortunately, it is not easy to detect a plantaris tendon, especially when it is localised close to the medial side of the Achilles tendon.

Ultrasound+Doppler (US+CD) has been used for many years as a first line diagnostic tool to detect tendinosis-like changes in



## 62 The Effectiveness Of Extracorporeal Shock Wave Therapy In Lower Limb Tendinopathy: A Systematic Review

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