Shockwave Therapy for Chronic Achilles Tendinopathy: A Double Blinded, Randomized Clinical Trial of Efficacy

Reference:

Scientific Literature Review

Reviewed by: Nathan Clark, DPM
**Residency Program:** Inova Fairfax Hospital Podiatric Surgical Residency Program

Podiatric Relevance:
This study provides clinical results in double blind, placebo controlled fashion for a newer experimental non-operative treatment modality for chronic Achilles tendinopathy.

Methods:
Forty eight patients with chronic symptoms of Achilles tendinopathy for greater than three months, as diagnosed by clinical exam, voluntarily agreed to participate in the experimental study. Each patient was randomly assigned, by computer statistical system, to one of two treatment groups and underwent four treatment sessions once a week for four weeks. At the time of treatment each patient initially underwent a session of stretching and eccentric training before being given either active extracorporeal shockwave therapy (ESWT) or sham extracorporeal shockwave therapy (ESWT). Using Piezoson 100 at each session, 2,000 shots of radial shock waves at 0.12-0.51mJ/mm², 50 Hz for the active ESWT group or 2,000 shots at 0mJ/mm², 50Hz was delivered locally to the area of swelling and tenderness in the Achilles tendon. Outcome measures were based on the American Orthopaedic Foot and Ankle Society (AOFAS) score and overall subjective pain. These were assessed before treatment, during the four week treatment period, and at four, eight, and twelve weeks post treatment.

Results:
Subjective pain reported by participants was reduced in both the active ESWT group and the sham ESWT group with no statistical significance between them. No additional benefit of ESWT was seen for alleviation of pain. The mean AOFAS scores increased for both the active ESWT group and the sham ESWT group during follow-up with statistically significant improvements at 8 weeks and 12 weeks for the active ESWT group. No added benefit of ESWT was seen at four weeks after treatment.

Conclusions:
In addition to traditional stretching and eccentric training, ESWT seems to be a clinically relevant and useful supplement for the non-surgical management of chronic Achilles tendinopathy. The greatest benefits of ESWT appear to be later in the post-treatment course, with less visible effects early on. There was no noted improvement on subjective pain with ESWT in this study. Further research is needed to better identify the value of ESWT for treatment of Achilles tendinopathy with more convincing data to justify its use as an adjunct to traditional conservative measures.