

**Schmitt J, Haake M, et al. Low-energy extracorporeal shock-wave treatment (ESWT) for tendinitis of the supraspinatus. JBJS [BR] 2001;83-B:873-876.**

Design: Randomized clinical trial

Population/sample size/setting:

- 40 patients (20 men, 20 women, mean age 52) treated for non-calcific tendinitis of the supraspinatus in a university orthopedic department in Germany
- Eligible if they had clinical diagnosis of 6 months of tendinitis without calcification, intact rotator cuff by ultrasound or MRI, failed conservative treatment, and ROM of at least 90° of abduction
- Excluded if they had arthritis, rotator cuff tear, bursitis of shoulder, prior surgery on affected shoulder

Main outcome measures:

- Randomized to ESWT with 3 weekly sessions of 2000 impulses of 0.11 mJ/mm<sup>2</sup> directed at supraspinatus tendon insertion (n=20) or sham ESWT with foil cushion and typical sound for ESWT machine
- All patients received 10 ml subacromial mepivacaine injection with each treatment session
- Constant-Murley scores measured at 6 and 12 weeks after treatment, with primary outcome being the 12 week C-M score; success defined as 30 point increase from baseline or an absolute score of 80% of normal value
- C-M scores improved a mean of 17 points from baseline at 12 weeks, with no difference between groups
- Post-hoc analysis showed that study only had 5.37% power to detect the effect of ESWT, and that more than 16,000 patients would be needed to prove an effect

Authors' conclusions:

- Overall progress in both groups is due to natural course of disease, or placebo effect, and probably not by the mepivacaine injection or ESWT
- ESWT is probably ineffective for noncalcific tendinitis

Comments:

- Although not noted by authors, the data in Table II and in the graph appear to show that very few patients were "successes" by the criteria given
- The power analysis is not clear, since no information is given about what treatment difference was being sought
- Randomization and blinding are adequate, but concealment of allocation is not specified and may not have been adequate
- In spite of ambiguities, a large treatment effect is very unlikely for ESWT

Assessment: Adequate for some evidence that ESWT is not effective for noncalcific tendinitis of the supraspinatus