

**Radwan YA, ElSobhi G, et al. Resistant tennis elbow: shock-wave therapy versus percutaneous tenotomy. Int Orthop 2008;32:671-677.**

Design: Randomized clinical trial

Population/sample size/setting:

- 56 patients (33 men, 23 women, mean age 40) who completed (62 enrolled) a clinical trial for treatment of tennis elbow in a university orthopedics department in Cairo, Egypt
- Eligibility criteria were a clinical diagnosis of tennis elbow failing 6 months of conservative treatment which included NSAID, steroid injections, PT, exercise program, and elbow brace
- Exclusion criteria were age under 18, elbow arthritis, generalized polyarthritis, ipsilateral shoulder dysfunction, radial nerve entrapment, steroid injection in previous 6 weeks, and medical comorbidities (infection, cancer, neurological, cardiac arrhythmias)

Abbreviated summary of results:

- Randomized to receive extracorporeal shock wave therapy (ESWT, n=29) or tenotomy (n=27)
- ESWT was administered once using conscious sedation anesthesia at the common extensor origin at a high-energy setting, with 1500 shocks delivering a total energy of 324 J
- Tenotomy was done under general anesthesia through a 1-2 cm incision, with a plaster splint applied for one week after the operation
- Both groups had measurements at baseline, with follow-up at 3 weeks, 6 weeks, 12 weeks, and 1 year
- Outcomes included several pain scores: at rest, at night, with pressure, with resisted extension, and on lifting a 3.5 kg chair
- Pain scores improved equally in both groups over the course of the study
- Roles and Maudsley score is a 4 point scale where 1 is excellent (no pain, full movement, full activity) and 4 is poor (pain limiting activity)
- Roles and Maudsley scores were also used as success measures for the interventions; the treatment groups had statistically equivalent success rates at the end of 1 year (62% for ESWT and 78% for tenotomy)
- The success rates at 1 year were very similar to those measured at the 6 and 12 week follow-up times

Authors' conclusions:

- ESWT appears to be a successful noninvasive treatment for tennis elbow which has failed conventional treatment
- ESWT success rate is similar to rate for surgery, and may reduce the necessity for operative intervention

Comments:

- Although design is overall adequate, there is no information about any additional treatment: it appears that no rehabilitation was done after the initial intervention
- Therefore, we do not know if either group had any exercise program, supervised or unsupervised, and whether the rehabilitation was the same in the two groups
- ESWT had to be given at a level high enough to require conscious sedation, which may limit its practicality
- At best, the results are suggestive of, but not evidence for, a benefit of ESWT equivalent to tenotomy
- For patients who are considered surgical candidates, ESWT could be an option, but without evidence of equivalence to tenotomy

Assessment: Inadequate for an evidence statement regarding ESWT effectiveness compared to surgery (total lack of information about the entire rehabilitation program)