

Bisset L, Beller E, et al. Mobilisation with movement and exercise, corticosteroid injection, or wait and see for tennis elbow: randomised trial. BMJ 2006;333:939-944.

Design: Randomized clinical trial

Population/sample size/setting:

- 198 patients (70 women, 128 men, mean age 47) with lateral epicondylitis treated in a community setting in Brisbane, Australia
- Eligibility criteria were age 18-65 with at least 6 weeks of lateral elbow pain increased on palpation, gripping, or resisted extension
- Exclusion criteria were any treatment of elbow pain by a healthcare practitioner in past 6 months, bilateral elbow symptoms, pathology of cervical spine or peripheral nerves, previous elbow surgery or other joint pathology, history of fracture or dislocation of elbow, or shoulder/wrist/hand pathology

Main outcome measures:

- Randomized to wait-and-see (n=67), steroid injection (n=65), or PT (n=66)
- Wait-and-see group was given advice on modifying daily activities to avoid aggravating pain while remaining active, and to use analgesics, heat, cold, or braces as needed
- Steroid group received one injection of 10 mg triamcinolone and 1% lidocaine at painful elbow points, advice to return gradually to normal activities; a second injection after 2 weeks was permitted if practitioner deemed it necessary
- PT group received 8 treatments of 30 minutes over 6 weeks, with elbow manipulation, supervised therapeutic exercise, home exercise equipment, administered by therapists trained by protocol to standardize the intervention
- Blinded outcome assessment was done at baseline and at 3, 6, 12, 26, and 52 weeks; the short term outcome was defined at 6 weeks and the long term outcome at 52 weeks
- Primary outcome measures were global improvement reported by the patient, pain-free grip strength, and assessor's rating of severity
- "Success" was defined as global improvement of "completely recovered" or "greatly improved;" recurrences were defined after 6 weeks as going from "successful" to "unsuccessful" on the same scale
- Secondary outcomes were pain severity on a 100 point scale and elbow function as measured by an 8-item questionnaire
- At 6 weeks, steroid injection was superior to wait-and-see; success rate for injection was 78%, for wait-and-see was 27%, and for PT was 65%
- However, at 52 weeks injection was inferior to wait-and-see; success rate for injection was 68%, wait-and-see was 90%, and PT was 94%
- Statistically significant advantage of PT over wait-and-see was present at the 6 week measurement, but not at the 52 week measurement, where success for wait-and-see was 90% and PT was 94%

- Steroid group had the most reported recurrences after the 6 week assessment, with 72% of patients deteriorating following initial response; only 8% of PT and 9% of wait-and-see deteriorated after the 6 week mark
- The other primary outcomes and the secondary outcome measurements were similar to the success rate outcomes in their distribution and timing

Authors' conclusions:

- Corticosteroid injection is initially superior to watchful waiting and to PT, but the effect is lost after 6 weeks
- Steroid injection was inferior to PT and watchful waiting at 52 weeks
- Recurrence after steroid injection may be due to premature resumption of taxing activity; however, the injection group did receive advice on ergonomics and self-care
- Tennis elbow appears to be a self-limiting condition, with wait-and-see approach likely to have a favorable outcome at 52 weeks

Comments:

- Randomization, blinding, follow-up, analysis, and patient flow are adequately done and clearly recorded

Assessment: High quality; it can support an evidence statement that steroid injection produces a favorable short-term response but that symptoms tend to recur after 6 weeks.

Can support an evidence statement that physical therapy reduces tennis elbow symptoms at 6 weeks compared to watchful waiting.