Check for updates

School of Public Health, University of Sydney, Camperdown, NSW, Australia

Correspondence to: J Orchard
john.orchard@sydney.edu.au

Cite this as: *BMJ* 2026;395:e101054
http://doi.org/10.1136/bmj-2026-101054

Corticosteroid injections to treat tendinopathy

The trade-off between early benefits and later harm is becoming clearer

John W Orchard *adjunct professor*

The role of corticosteroid injections for treating tendinopathies (eg, Achilles tendon) has remained controversial for decades. In clinical training, corticosteroid injections for Achilles tendinopathy are reported to be associated with tendon rupture and therefore should be contra-indicated.[1 2] High quality evidence of this association and, equally, evidence of efficacy (or otherwise), has been scarce. For a related tendinopathy, tennis elbow, multiple high quality randomised trials have found that corticosteroid injections were helpful early but harmful later (even compared with placebo injection).[3-6] Despite apparent long term harm, corticosteroids are popular for use in tennis elbow.[7] The short term benefits and long term disadvantages with corticosteroid use in tennis elbow appear to be replicated for other musculoskeletal conditions.[8 9]

A workaround to address clinical hesitation in use of corticosteroid injections for Achilles tendon has been to designate the procedure as a high volume saline injection (usually also given with corticosteroid). Pre-conceived ideas aside, randomised controlled trials can provide evidence of support or caution against use of high volume corticosteroid injections, which Malliaras and colleagues' linked randomised controlled trial (doi: 10.1136/bmj-2026-100807) does nicely.[10] Like previous work,[11] a high volume injection without corticosteroid shows a similar trend to a placebo (sham) injection, with gradual improvement noted but disappointing results when compared with sham.

The more interesting results from this study again focus on corticosteroids, aligning with the common trend seen in other tendinopathies. For the primary outcome of VISA-A score improvement at 52 weeks, corticosteroid high volume injections did poorly (ie, worse than other options, including sham). This result caused the authors to recommend against use of corticosteroid high volume injections for Achilles tendinopathy.[10] However, all is not lost for corticosteroid high volume injection advocates. The usual clinical benefit was reported in the shorter term. This benefit was also accompanied by economic advantages (fewer missed days from work and fewer health visits required in people who had received corticosteroid high volume injections compared with sham). If you are prepared to ignore the inferior results in the longer term (using the justification of most patients get better eventually), in the short term, patients treated with corticosteroid avoided the lowest functional scores more rapidly.[10] Furthermore, Achilles tendon ruptures were not shown in this study in any arm. However, consistently ignoring the inferior long term results is not wise, and they should be taken into account and balanced against the short term benefits.

In conclusion, the actual therapeutic effect of a high volume injection arises mainly due to the inclusion of corticosteroid. Corticosteroids are neither all-good, nor all-bad and must be used only in the correct context (where short term needs predominate over longer term needs). In a sports medicine context, this context can be explained neatly: use of a corticosteroid makes sense for a tendinopathy in an athlete when there is six weeks, or less, of important competition remaining until the end of the season. However, for the same injury in the same player who has just started an off-season, use of a corticosteroid for a tendinopathy would not be appropriate when all of the benefit would accrue in a non-critical time of year but the delayed harm (eg, risk of recurrence) might happen months later at a time of greater importance. Lay people have times in their lives similar to those of the playoffs and World Cups for athletes—for example, when they are about to travel on a prebooked expensive holiday.

Corticosteroids for tendinopathy appear to be borrowing from the future to finance the present. Individual circumstances should dictate how important the present and near future are compared with the medium to long term. Most pertinently, a patient should never be told that a corticosteroid will fix or cure a tendinopathy. The opposite is more accurate in that a long term cure for a tendinopathy is less likely in the setting of a corticosteroid injection. The short term improvement is impressive, but the benefits are a loan not a gift. All clinicians recommending or performing corticosteroid injections for tendinopathy need to understand this trade-off and make every effort to explain the broader overview to the patient as part of the informed consent process.

Competing interests: The BMJ has judged that there are no disqualifying financial ties to commercial companies. The author declares no other relevant financial interests. Further details of *The BMJ* policy on financial interests is here.

AI was not used in the preparation of this manuscript.

Provenance and peer review: Commissioned; not externally peer reviewed.

1 Bedi SS, Ellis W. Spontaneous rupture of the calcaneal tendon in rheumatoid arthritis after local steroid injection. *Ann Rheum Dis* 1970;29:-5. pmid: 5476677. doi: 10.1136/ard.29.5.494

2 Ford LT, DeBender J. Tendon rupture after local steroid injection. *South Med J* 1979;72:-30. pmid: 451692. doi: 10.1097/00007611-197907000-00019

3 Bisset L, Beller E, Jull G, etal. Mobilisation with movement and exercise, corticosteroid injection, or wait and see for tennis elbow: randomised trial. *BMJ* 2006;333:. pmid: 17012266. doi: 10.1136/bmj.38961.584653.AE

4 Olaussen M, Holmedal Ø, Mdala I, etal. Corticosteroid or placebo injection combined with deep transverse friction massage, Mills manipulation, stretching and eccentric exercise for acute lateral epicondylitis: a randomised, controlled trial. *BMC Musculoskelet Disord* 2015;16:. pmid: 25989985. doi: 10.1186/s12891-015-0582-6

5 Coombes BK, Bisset L, Brooks P, etal. Effect of corticosteroid injection, physiotherapy, or both on clinical outcomes in patients with unilateral lateral epicondylalgia: a randomized controlled trial. *JAMA* 2013;309:-9. pmid: 23385272. doi: 10.1001/jama.2013.129

6 Couppé C, Døssing S, Bülow PM, etal. Effects of Heavy Slow Resistance Training Combined With Corticosteroid Injections or Tendon Needling in Patients With Lateral Elbow Tendinopathy: A 3-Arm Randomized Double-Blinded Placebo-Controlled Study. *Am J Sports Med* 2022;50:-96. pmid: 35867777. doi: 10.1177/03635465221110214

7 Orchard JW, Vicenzino B. Cortisone injections for tennis elbow should be an •avoid•, rather than a recommended procedure. *Med J Aust* 2017;207:. pmid: 29129178. doi: 10.5694/mja17.00445

8 Orchard JW. Rock, paper, scissors: Resolving the conflicting results of randomized trials involving corticosteroid, platelet rich plasma (PRP) and placebo injections. *JSAMS Plus* 2025;5:. pmid: 41868614. doi: 10.1016/j.jsampl.2024.100081

9 Versloot AHC, Schiphof D, Ottenheijm RPG, etal. Effectiveness of a corticosteroid injection versus exercise therapy for shoulder pain in general practice (SIX-Shoulder Study): A randomized controlled trial. *Musculoskelet Sci Pract* 2026;82:. pmid: 41534300. doi: 10.1016/j.msksp.2026.103497

10 Malliaras P, Connell D, Boesen AP. Efficacy and cost-effectiveness of high-volume injections with and without corticosteroid compared with sham for midportion Achilles tendinopathy (INJECT trial): a randomised controlled trial. *BMJ* 2026;395:e100807. doi: 10.1136/bmj-2026-100807

11 van der Vlist AC, van Oosterom RF, van Veldhoven PLJ, etal. Effectiveness of a high volume injection as treatment for chronic Achilles tendinopathy: randomised controlled trial. *BMJ* 2020;370:. pmid: 33315586. doi: 10.1136/bmj.m3027