

*Are injection therapies effective in management of lateral epicondylitis (LE)?*

To answer this question, a comprehensive search of PubMed database was performed in September 2013.

Articles selected for review included 5 randomized trials (1-2,4-6) and 1 meta-analysis (3). Due to number of studies published after 2011, earlier reviews were not included. Clinical commentaries and expert opinions were also not included.

Krogh et al reviewed 17 RCTs of injection therapy for LE and concluded that there was limited high quality data to guide treatment recommendations (3). Several studies were not included in review (1,2,5,6).

All studies enrolled patients with chronic symptoms, either greater than 3 mos (1,2,6) or 6 mos (4,5). Some required failure of prior treatment (2,3,4). RCT by Krogh et al compared platelet-rich plasma (PRP) to glucocorticoid (GC) and saline injection, and although short term reductions in pain and function favored GC, by 3 mos GC and PRP were no more effective than saline (1). Mishra et al also found minimal difference at 3 mos

between tendon needling with/without PRP, but by 6 mos there was significant difference with 84% of PRP patients reporting successful treatment compared to 68% of controls (2).

Remaining studies did not include true control group (4-6). Gosens et al concluded that while corticosteroid improved short term pain and function, PRP injection was more effective between 6 mos and 2 yrs (5,5a). Creaney et al concluded that both PRP and autologous blood provide improvements in pain and function among majority of patients, and are good option prior to consideration of surgery among patients with chronic symptoms having failed conservative treatment (4). Thanasas et al also compared PRP and autologous blood and found that both treatments significantly improved pain over 6 mos, though shorter term results at 6 wks favored PRP (6).

Based on articles reviewed, there is growing evidence to suggest that non-corticosteroid injections may have both short and long term benefit in management of LE, especially for recalcitrant cases. Eccentric exercise progression appears to be preferred initial course of care for condition, with injections in combination with exercise considered if symptoms do not improve.

*Check with the provider of this newsletter to learn more about exercises appropriate for this condition.*

1. Krogh TP, Fredberg U, Stengaard-Pedersen K, Christensen R, Jensen P, Ellingsen T. Treatment of lateral epicondylitis with platelet-rich plasma, glucocorticoid, or saline: a randomized, double-blind, placebo-controlled trial. *Am J Sports Med.* 2013 Mar;41(3):625-35. doi: 10.1177/0363546512472975. Epub 2013 Jan 17. PubMed PMID: 23328738.
2. Mishra AK, Skrepnik NV, Edwards SG, Jones GL, Sampson S, Vermillion DA, Ramsey ML, Karli DC, Rettig AC. Platelet-Rich Plasma Significantly Improves Clinical Outcomes in Patients With Chronic Tennis Elbow: A Double-Blind, Prospective, Multicenter, Controlled Trial of 230 Patients. *Am J Sports Med.* 2013 Jul 3. [Epub ahead of print] PubMed PMID: 23825183.
3. Krogh TP, Bartels EM, Ellingsen T, Stengaard-Pedersen K, Buchbinder R, Fredberg U, Bliddal H, Christensen R. Comparative effectiveness of injection therapies in lateral epicondylitis: a systematic review and network meta-analysis of randomized controlled trials. *Am J Sports Med.* 2013 Jun;41(6):1435-46. doi: 10.1177/0363546512458237. Epub 2012 Sep 12. PubMed PMID: 22972856.
4. Creaney L, Wallace A, Curtis M, Connell D. Growth factor-based therapies provide additional benefit beyond physical therapy in resistant elbow tendinopathy: a prospective, single-blind, randomised trial of autologous blood injections versus platelet-rich plasma injections. *Br J Sports Med.* 2011 Sep;45(12):966-71. doi: 10.1136/bjsm.2010.082503. Epub 2011 Mar 15. PubMed PMID: 21406450.
5. Gosens T, Peerbooms JC, van Laar W, den Ouden BL. Ongoing positive effect of platelet-rich plasma versus corticosteroid injection in lateral epicondylitis: a double-blind randomized controlled trial with 2-year follow-up. *Am J Sports Med.* 2011 Jun;39(6):1200-8. doi: 10.1177/0363546510397173. Epub 2011 Mar 21. PubMed PMID: 21422467.
  - a. Peerbooms JC, Sluimer J, Bruijn DJ, Gosens T. Positive effect of an autologous platelet concentrate in lateral epicondylitis in a double-blind randomized controlled trial: platelet-rich plasma versus corticosteroid injection with a 1-year follow-up. *Am J Sports Med.* 2010;38(2):255-262.
6. Thanasas C, Papadimitriou G, Charalambidis C, Paraskevopoulos I, Papanikolaou A. Platelet-rich plasma versus autologous whole blood for the treatment of chronic lateral elbow epicondylitis: a randomized controlled clinical trial. *Am J Sports Med.* 2011 Oct;39(10):2130-4. doi: 10.1177/0363546511417113. Epub 2011 Aug 2. PubMed PMID: 21813443.