

Rabago D Best TM et al. A systematic review of four injection therapies for lateral epicondylitis: prolotherapy, polidocanol, whole blood and platelet-rich plasma. Br J Sports Med 2009;43:471-481.

Design: systematic review

Databases/selection and rating of articles:

- 9 studies of 4 injection therapies (prolotherapy, polidocanol, whole blood, and platelet-rich plasma) for lateral epicondylitis
- Study design required only that a pre and post-treatment assessment be done; both case series (n=5) and randomized clinical trials (n=4) were evaluated
- Databases included Medline, CINAHL, EMBASE, Cochrane Register of Controlled Trials, and Allied and Complementary Medicine
- Effect sizes were calculated in different ways, depending on the data reported in the trial: (1) as a percent improvement in pain score, (2) as Cohen's d, which is the difference between pre- and post-intervention scores, divided by the standard deviation of the score, or as the difference between comparison groups, divided by the pooled standard deviation between the groups
- Cohen's d thus answers the question of how large the effect is, expressed in standard deviations (SD); Cohen's d greater than 0.8 SD is considered a "large" effect, 0.5 SD is a "moderate" effect, and 0.2 SD is considered a "small" effect

Main study outcomes:

- For prolotherapy, one small trial reported pain improvement of 90% for the prolotherapy compared with 22% for controls; a second small trial reported 66% improvement on a disease-specific questionnaire compared with 11.5% for controls
- For autologous whole blood, one case series reported 88% improvement from baseline, another reported 64% improvement, and a third case series reported a median score of 0 for pain at 26 weeks
- For platelet-rich plasma, a nonrandomized trial reported 93% improvement in pain at 25 months, but the controls were not followed beyond 4 weeks, at which time they had reported 17% improvement
- Polidocanol is not FDA approved and is not relevant to the guideline

Authors' conclusions:

- The studies of prolotherapy, autologous whole blood, platelet rich plasma, and polidocanol are small, with methodological limitations which prevent making a consensus recommendation about their use
- The studies suggest that the injections may be well-tolerated and effective, so that more systematic research should be done

Comments:

- The authors do point out the limitations of the available evidence as of 2009

- There is probably insufficient information to warrant an evidence statement for the guideline
- The search strategy is well documented, but issues of publication bias is not explicitly addressed; this would be more of an issue if the study were reporting positive conclusions about any of the interventions

Assessment: Adequate, given the state of research; these injections could be listed as options, but without evidence to support them