

# Efficacy of Intra-Articular Corticosteroid Injection for Nonsurgical Management of Trapeziometacarpal Osteoarthritis: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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**INTRODUCTION:** As osteoarthritis of the trapeziometacarpal joint (TMC) leads to a high degree of disease burden with compromises in rudimentary and fine movements of the hand, intraarticular injections may be a desirable option. However, as there are no Level I evidence-based guidelines, the choice of intra-articular injection type is left to the discretion of the individual surgeon in collaboration with the patient. The purpose of our study was to perform a systematic review and meta-analysis using Level I studies to compare outcomes following corticosteroid and alternative methods of intra-articular injections for the management of TMC osteoarthritis (OA). Our hypothesis was that intra-articular corticosteroid injections were no more effective than other methods of intra-articular injections for the management of TMC OA.

**METHODS:** A systematic literature search based on PRISMA guidelines, utilizing the PubMed, Embase, CINAHL, Clinicaltrials.gov, and WHO Clinical Trials databases was performed. Eligible for inclusion were randomized control trials (RCTs) reporting on intraarticular corticosteroid injection for the management of TMC OA. Clinical outcomes were recorded.

**RESULTS:** The 10 included studies were composed of 673 patients. The mean age was  $57.8 \pm 8.3$  years, with mean follow up of  $6.4 \pm 2.7$  months. There was no significant difference in visual analog scale (VAS) scores, grip strength, and tip pinch strength between corticosteroids and hyaluronic acid (HA) at short and medium-term. Further, there was no difference in VAS scores at medium-term follow up between corticosteroids and plasma-rich protein (PRP). There was significant heterogeneity in corticosteroid type, dosage, and frequency.

**DISCUSSION AND CONCLUSION:** Despite short-term improvement with intraarticular corticosteroid injections, Level I demonstrates no significant difference in pain and functional outcomes following intra-articular corticosteroid injections compared

