

Meta-Analysis

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# The effects of platelet-rich plasma injection in knee and hip osteoarthritis: a meta-analysis of randomized controlled trials

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## Abstract

**Objective:** We conducted this updated meta-analysis to evaluate the effects of PRP in patients with knee or hip OA.

**Method:** PubMed, Embase, and Web of Science were searched to identify randomized controlled trials (RCTs) that compared the efficacy of PRP with other intra-articular injections. The outcomes of interest included Western Ontario and McMaster (WOMAC), Knee Injury and Osteoarthritis Outcome Score (KOOS), Visual Analog Scale (VAS), Harris Hip Score (HHS), and International Knee Documentation Committee (IKDC).

**Results:** Twenty-four RCTs with 21 at knee OA and three at hip OA were included in this meta-analysis. The PRP injections significantly improved the WOMAC score, VAS score, IKDC score, and HHS score as compared with comparators. The WOMAC pain, stiffness, and physical function scores were also significantly better in the PRP group than in the control group. Most of the evaluated parameters that favored PRP were observed in knee OA but not in hip OA, at short-term (at 1, 2, 3, 6, 12 months) but not long-term follow-up (at 18 months), in RCTs with low risk of bias.

**Conclusions:** Intra-articular PRP injection provided better effects than other injections for OA patients, especially in knee OA patients, in terms of pain reduction and function improvement at short-term follow-up. Key Points • This updated meta-analysis, based on great sample size and high-quality studies, evaluates the effects of PRP in patients with knee or hip OA. • Intra-articular PRP injection provided better effects than other injections for OA patients. • Most of the evaluated parameters that favored PRP were observed in knee OA at short term (at 1, 2, 3, 6, 12 months).

**Keywords:** Hip osteoarthritis; Knee osteoarthritis; Platelet-rich plasma.