

# Effectiveness of platelet-rich plasma in the management of hip osteoarthritis - a systematic review and meta-analysis

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## Abstract

The effectiveness of platelet-rich plasma (PRP) injections for osteoarthritis (OA) is still controversial. Previous research supports the use of intra-articular PRP injections to promote a favorable environment for joint tissue healing and to delay the progression of OA. The purpose of this review is to investigate the effectiveness of PRP in the management of hip osteoarthritis (HOA). Five electronic databases were searched from inception to May 2019: Medline (via PubMed), SportDiscus via EBSCO, ProQuest Health & Medical Complete, CINAHL, and Cochrane. Risk of bias was assessed with the Cochrane risk of bias tool. The GRADE method was used to assess the level of evidence for the studies included in this review. Clinical trials evaluate PRP injections among adult patients diagnosed with HOA according to the American College of Rheumatology criteria. At least one outcome measure for pain or function must have been reported. A total of 4 trials (334 participants, 340 hips) were included, all marked as “moderate risk of bias”. Pain and function were assessed throughout the studies with visual analogue scale (VAS), Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and Harris Hip Score (HHS) tools. Intra-articular PRP injections were more effective at stages earlier than 3 months for both treatment groups with the exception of WOMAC score in one study. The superiority of PRP against comparative treatments was only reported in one study; longer-term evaluations from 4 to 12 months showed diverse results, with only one study reporting significantly better results for PRP. PRP may be beneficial and safe for patients with HOA at mid-term follow-up. However, its superiority over other procedures such as hyaluronic acid remains unclear. Further researches with high-quality designs and larger samples become imperative.