

## **Effectiveness of intra-articular therapies in osteoarthritis: a literature review**

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### **Abstract**

Osteoarthritis is a painful, chronic disease with widespread burden on patients, communities, health and social care systems. Conservative therapies, such as nonpharmacological interventions, systemic drug treatment and intra-articular therapies are used before resorting to surgery; nonetheless, disease control often remains inadequate.

Recent advances in osteoarthritis management have aimed to provide greater variety of treatment options. Here, we summarize a targeted literature review evaluating efficacy and safety of intra-articular therapies for osteoarthritis.

Injections of intra-articular therapies directly into the joint avoid conventional barriers to joint entry, increase bioavailability and lower systemic toxicity.

Intra-articular corticosteroids and hyaluronic acid are established United States Food and Drug Administration (US FDA)/ European Medicines Agency (EMA)-approved treatments; however, concerns exist regarding effect duration, safety, effectiveness across populations and heterogeneity.

Newer therapies, such as autologous blood products and mesenchymal stem cells, are in development. Benefits of autologous blood products (e.g. platelet-rich plasma, autologous conditioned serum) include an expected improved safety profile and direct targeting of osteoarthritis-related pathophysiology.

Autologous conditioned serum is cell-free and manufactured by a standardized process, whereas platelet-rich plasma composition and characteristics can vary. Currently, only limited efficacy comparisons between these biological treatments can be drawn; long-term clinical and safety studies are needed to increase the efficacy evidence base and earn consideration in treatment frameworks.

**Keywords:** autologous conditioned serum, conservative treatment, intra-articular injections, osteoarthritis management, platelet-rich plasma