

PRP for Knee Osteoarthritis: What the Latest Research Shows

An evidence update for patients considering platelet-rich plasma

Knee osteoarthritis is the gradual wearing of the cartilage that cushions the joint, leading to pain, stiffness and reduced mobility that affects a large share of adults over 50 and anyone with a history of knee injury. For people who want to stay active and delay or avoid joint replacement surgery, injectable treatments occupy the middle ground between simple pain relief and surgery. Platelet-rich plasma (PRP) — a concentrate of platelets and healing factors prepared from a small sample of your own blood — has become one of the most heavily studied injectable options for knee osteoarthritis over the past several years.

What the newest evidence shows

A 2025 meta-analysis in the American Journal of Sports Medicine pooled 18 randomised controlled trials covering close to 2,000 patients. It found that PRP produced meaningfully better pain and function scores than placebo injections at every follow-up point out to 12 months, with improvements large enough to be considered clinically significant rather than just statistically detectable.

Notably, this analysis found that platelet concentration mattered: preparations with a higher platelet count kept their benefit through the full 12 months, while lower-concentration preparations tended to lose their edge by around six months. A separate 2025 review pooling six high-quality trials in more than 1,100 patients with mild-to-moderate disease reached broadly similar conclusions when comparing PRP against hyaluronic acid, corticosteroid and placebo.

A 2025 narrative review synthesising 40 studies further suggested that leukocyte-poor PRP (formulations with fewer white blood cells) tends to outperform leukocyte-rich PRP for pain relief and function, and that the clearest benefit is seen in patients with mild-to-moderate arthritis — Kellgren-Lawrence grades I to III — rather than advanced, bone-on-bone disease.

What this means for you

- PRP does not regrow cartilage or reverse osteoarthritis — it modulates the joint's inflammatory environment.
- The most consistent benefit window is 3 to 12 months, with higher-platelet preparations lasting longer in the pooled trial data.
- It appears most useful for early-to-moderate arthritis in people who want to stay active and delay more invasive treatment.
- A short course of injections tends to produce more consistent results than a single shot.
- Major rheumatology bodies still rate the overall certainty of evidence as moderate, so individual results vary.

This article summarises published research for general information and does not replace individual medical advice. Outcomes vary between patients — talk to your treating specialist about whether PRP is appropriate for your specific condition.

References

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