

Optimising PRP Outcomes in Knee Osteoarthritis

The Role of Nutrition & Supplements

The Role of Nutrition & Supplements

Platelet-Rich Plasma (PRP) injections are an advanced, evidence-based treatment for knee osteoarthritis (OA), designed to harness the body's natural healing mechanisms. By delivering concentrated growth factors directly into the joint, PRP promotes tissue repair, reduces inflammation, and improves pain and function.

While PRP initiates this healing cascade, **nutrition and targeted supplementation may play a supportive role in maximising outcomes**, particularly through enhancing collagen production, reducing inflammation, and optimising tissue recovery.

Evidence-Based Nutritional Support

Collagen Supplementation

Collagen is a key structural component of cartilage. Clinical studies demonstrate that collagen supplementation can improve joint pain, stiffness, and function in patients with knee OA.

Vitamin C

Vitamin C is essential for connective tissue repair and collagen synthesis.

Emerging evidence suggests that **vitamin C may enhance PRP outcomes**, with some studies showing improved pain relief and functional recovery when used alongside PRP.

Anti-Inflammatory Diet (Mediterranean Style)

Diet plays a critical role in regulating inflammation and healing.

A Mediterranean-style diet—rich in whole foods—has been shown to support recovery and reduce chronic inflammation.

Recommended foods include:

- Fatty fish (salmon, sardines)
- Olive oil, nuts, and seeds
- Leafy greens and colourful vegetables
- Fruits rich in antioxidants

Omega-3 Fatty Acids

Omega-3s (EPA/DHA) help reduce systemic inflammation and support joint health.

While direct PRP-specific evidence is limited, they may complement PRP by improving the inflammatory environment within the joint.

Key Micronutrients

Several micronutrients are important for optimal healing:

- **Zinc** – supports tissue repair and immune function
- **Magnesium** – aids protein synthesis and recovery
- **Vitamin D** – supports musculoskeletal health and immune regulation

Supplements with Mixed Evidence

- **Glucosamine & Chondroitin:** inconsistent results in clinical trials
- **Curcumin (Turmeric):** anti-inflammatory, but limited PRP-specific evidence

Key Takeaways

- There is **no single supplement proven to directly enhance PRP outcomes**, however several support the biological processes involved in healing
- The strongest supportive strategies include:
 - Collagen supplementation
 - Adequate vitamin C intake
 - Anti-inflammatory dietary patterns
- Optimising nutrition may:
 - Enhance tissue repair
 - Reduce inflammation
 - Improve overall treatment outcomes

Practical Recommendations

For patients undergoing PRP injections for knee osteoarthritis:

- Maintain a **balanced, anti-inflammatory diet**
- Consider **collagen combined with vitamin C**
- Ensure adequate intake of **omega-3 fatty acids and key micronutrients**

All supplements should be discussed with your healthcare provider to ensure they are appropriate for your individual needs.