

ULTRASOUND GUIDED PLATELET RICH PLASMA INJECTION: HOW TO PROCEED TO OPTIMIZE THE RESULT

Martin Lamontagne

Montreal University Medical Center, Canada
e-mail: martin.lamontagne@umontreal.ca

Ultrasound-guided Platelet-Rich Plasma (PRP) injections have emerged as a valuable regenerative treatment modality in Physical and Rehabilitation Medicine (PRM) for managing musculoskeletal conditions such as tendinopathies, and osteoarthritis. To optimize clinical outcomes, PRM specialists must integrate evidence-based protocols with their functional rehabilitation expertise. Patient selection remains critical; best results are observed in chronic, non-responding tendinopathies and mild-to-moderate degenerative joint disease. A thorough clinical and functional assessment, complemented by musculoskeletal ultrasound, ensures accurate diagnosis and exclusion of structural contraindications. Ultrasound not only guides the injection but also enhances diagnostic precision by identifying the exact lesion site and tissue characteristics. PRP preparation should follow a validated protocol, with careful consideration of platelet concentration and leukocyte content, depending on the target tissue. For example, leukocyte-poor PRP is preferred in intra-articular injections to limit inflammatory response, while leukocyte-rich PRP may be used in chronic tendinopathies. Ultrasound guidance significantly improves accuracy of needle placement, ensuring the biologic agent is delivered precisely to the pathological site. Techniques such as tendon fenestration or peppering may enhance the biological response in chronic cases by promoting microtrauma-induced healing. Sterile technique, real-time imaging, and anatomical expertise are essential to reduce complications and maximize efficacy. Rehabilitation planning post-injection is essential to harness the regenerative potential of PRP. An individualized program focusing on tissue-specific loading, gradual return to activity, and avoidance of NSAIDs in the early healing phase will support optimal functional recovery. Patient education on realistic expectations and gradual improvement over weeks is also key to clinical success. In summary, ultrasound-guided PRP injections offer PRM specialists a powerful adjunct in managing chronic musculoskeletal conditions. Optimal results are achieved through

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