TEACHING TECHNIQUES

# Platelet Rich Plasma (PRP) Injection Technique

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ABSTRACT

*This article provides the JOP reader with some basic information about Platelet Rich Plasma, also known as PRP. PRP as a Prolotherapy proliferant has become increasingly popular in the pain management field. The basic tenants of PRP preparation and use in the Prolotherapy field are discussed.*

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KEYWORDS: growth factors, platelet rich plasma, PRP, Prolotherapy.

## WHAT IS PRP?

In basic terms, PRP involves the application of concentrated platelets, which release growth factors to stimulate recovery in non-healing injuries. PRP causes a mass influx of growth factors, such as platelet-derived growth factor, transforming growth factor and others, which exert their effects of fibroblasts causing proliferation and thereby accelerating the regeneration of injured tissues. Specifically PRP enhances the fibroblastic events involved in tissue healing including chemotaxis, proliferation of cells, proteosynthesis, reparation, extra-cellular matrix deposition, and the remodeling of tissues. Bottom line here is that PRP helps the healing process.[1-3]

## HOW IS PRP DONE?

The preparation of therapeutic doses of growth factors consists of an autologous blood collection (blood from the patient), plasma separation (blood is centrifuged), and application of the plasma rich in growth factors (injecting the plasma into the area.) In other words, PRP is done just like any other Prolotherapy treatment, except the solution used for injection is plasma enriched with growth factors from your own blood. Typically patients are seen every four to six weeks like any other Prolotherapy patient. Generally two to six visits are necessary per area. (*See Figures 1-4.*)

## WHERE IS PRP USED?

In the scientific literature are reports of soft tissue injuries treated with PRP including tendinopathy, tendinosis, acute and chronic muscle strain, muscle fibrosis, ligamentous sprains and joint capsular laxity. PRP has also been utilized to treat intra-articular injuries. Examples include arthritis, arthrofibrosis, articular cartilage defects, meniscal injury, and chronic synovitis or joint inflammation.

PRP has been used successfully to enhance surgical outcomes in maxillofacial, cosmetic, spine, orthopedic, and podiatric surgery. In regard to its use today, you will see that the majority of doctors using it apply it onto their current knowledge-base of Prolotherapy. In other words, the doctors doing PRP are using it as a proliferant, much like they use other solutions in Prolotherapy. **In simple terms, PRP is a type of Prolotherapy!**

## WHAT IS REALLY GREAT ABOUT PRP?

Ultrasound studies before and after PRP are showing that the tissue is healing. This is something we knew all along with Prolotherapy, but the evidence was just not documented aside from anecdotal evidence from our patients. Now that ultrasounds are showing degenerated tendons being regenerated with Prolotherapy PRP, the critics are being answered. Yes, it is true that Prolotherapy stimulates the body to repair painful areas. This can be done by injecting simple solutions such as dextrose in the area, to more complicated solutions using glucosamine, manganese, natural hormones, to a person's own growth factors through the use of PRP. ■

## BIBLIOGRAPHY

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**Figure 1. Draw the appropriate amount of blood from the patient.**

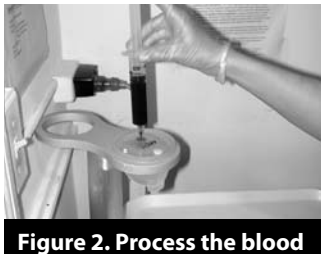

**Figure 2. Process the blood by first dispensing it into a centrifuge collection container.**

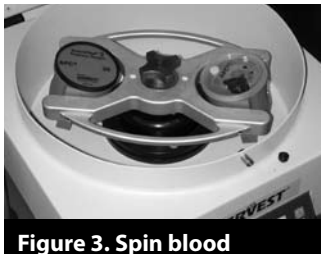

**Figure 3. Spin blood plus mixing agents in centrifuge to concentrate plasma growth factors.**

**Figure 4. After drawing PRP into a syringe, it is used as Prolotherapy solution for injection.**