

## What Does Platelet Rich Plasma Have to do with my Tennis Elbow?

Platelet Rich Plasma (PRP) has been safely and successfully used for over 20 years in Europe and Australia. While new in the United States, it has been granted approval for clinical use by the Food and Drug Administration. Typically PRP is used to “jump start” the healing process of chronic injuries, sometimes referred to as “regenerative therapy.” It has been used in dentistry, otolaryngology, orthopedics and other clinical applications. More recent use in professional athletes has increased public interest in this therapy. Consequently this increased use and interest has stimulated debate about when it is appropriate to consider PRP therapy.

Many patients and clinicians appropriately ask “What is PRP?” PRP is a portion of a patient’s very own blood that is concentrated or rich in platelets. “What’s the big deal with platelets?” Platelets are usually thought of as cells that plug leaks in the body from abrasions and cuts. However, they also contain many cell growth factors. While platelets and the clotting process are very important to stop bleeding due to a cut, platelets are also rich in growth factors that initiate and stimulate the healing process.

How do we obtain PRP? The answer is surprisingly simple. First, 30–60 cc of blood is drawn from a patient’s vein. The process is the same as a laboratory blood draw. The blood is placed into a specialized filtering system and centrifuged in the office for 15 minutes. This process separates the platelets. Once the platelets are obtained, they can be injected into the injured area. Injections can be done blindly or PRP can be injected using ultrasound (US) guidance. I perform all PRP injections with US guidance to ensure it is placed precisely in the area of the injured tissue. Correct placement is critical to ensure the maximum benefit from the procedure.

What happens to the platelets once they are injected? After platelets are injected they change shape and develop branches that spread over the injured area forming a healing enriched base upon which the body’s repair system can work its magic. Growth factors are released from this healing layer which stimulates inflammation and draws healing cells to the area. Eventually this leads to cell growth, blood vessel

formation, protein synthesis, and tissue healing. This process is known as regeneration, thus linking PRP with the term “regenerative therapy.”

While the concept is exciting and encouraging, there is only limited data showing significant benefits from PRP and even some studies which don't show any clear benefit over alternative therapies. In studies that have shown promise, PRP seems to be effective when platelets are concentrated at least 4x over baseline. Most professionally respected PRP systems concentrate platelets in a range from 4–10x baseline. The system I use concentrates the platelets 6–8x baseline on average.

While there are studies both pro and con for PRP, it appears to be a safe and potentially effective non surgical option for treatment of chronic tendonitis conditions such as tennis elbow, plantar fasciitis and Achilles tendonitis. While I have seen many great outcomes in my clinic and there is excitement about the promise of PRP, it is clear that our optimism must be balanced by a clear need for more scientifically robust studies.