

# **PLATELET-RICH PLASMA (PRP)**

## **Information Sheet**

### **What Is Platelet-rich Plasma (PRP)?**

Although blood is mainly a liquid (called plasma), it also contains small solid components (red cells, white cells, and platelets.) The platelets are best known for their importance in clotting blood. However, platelets also contain hundreds of proteins called growth factors, which are very important in the healing of injuries. PRP is plasma with many more platelets than typically found in blood. The concentration of platelets - and, thereby, the concentration of growth factors - can be 5 to 10 times greater (or richer) than usual.

### **How is PRP obtained?**

PRP contains entirely natural products from the patients own blood. To prepare a PRP preparation, blood is first drawn from a patient. The platelets are then separated from other blood cells and their concentration is increased during a process called centrifugation (high speed spinning).

### **How Does PRP Work?**

Although it is not exactly clear how PRP works, laboratory studies have shown that the increased concentration of growth factors in PRP can potentially speed up the healing process. To do this, PRP can be used in one of two ways. In the office setting, it can be carefully injected into an injured area, such as area of chronic tendonitis or arthritis. Alternatively, PRP may be used during surgery to improve healing. This is common during some cartilage regeneration surgeries and during some tendon repair surgeries.

### **What Conditions are Treated with PRP? Is It Effective?**

Research studies are currently being conducted to evaluate the effectiveness of PRP treatment. At this time, the results of these studies are mixed. Factors that can influence the effectiveness of PRP treatment include:

- The area of the body being treated
- The overall health of the patient
- Whether the injury is acute or chronic

### **Chronic Tendon / Ligament Injuries**

According to the research studies currently reported, PRP is most effective in the treatment of chronic tendon injuries, especially tennis elbow, a very common injury of the tendons on the outside of the elbow. The use of PRP for other chronic tendon injuries, such as chronic Achilles tendonitis, or patellar tendonitis (jumper's knee) is promising.

### **Acute Ligament and Muscle Injuries**

Much of the publicity PRP therapy has received has been about the treatment of acute sports injuries, such as ligament and muscle injuries. PRP has been used to treat professional athletes with common sports injuries like pulled hamstring muscles in the thigh and knee sprains. There is no definitive scientific evidence, however, that PRP therapy actually improves the healing process in these types of injuries.

## **Surgery**

More recently, PRP has been tried during certain types of surgery to help tissues heal. At this time, results so far show little or no benefit when PRP is used in ACL or rotator cuff surgery, or in fracture surgery. It does appear to enhance healing potential in some types of cartilage regeneration / regrowth surgery

## **Knee Arthritis**

Initial research suggests that PRP is as effective, and possibly more so, than steroid injection for symptomatic relief of knee arthritis. Pain and swelling may be improved to a greater extent, and for longer, than after steroid or viscosupplementation (“gel”) injections. There is no evidence, however, that it reverses or “cures” arthritis in any way.

## ***Important Considerations***

- 1.) There is much we still do not know about PRP. Different systems result in different concentrations and consistencies; we do not know which (if any) is best at this time. We also do not know how any injections should be administered for any given condition - one? three? More? If multiple, how much time between injections? These issues are unanswered at this time.
- 2.) Pain after PRP may temporarily increase for a short time. For example, in Achilles tendonitis, after PRP injection, the pain at the area of injection may actually increase for the first week or two, and it may be several weeks before the patient feels a beneficial effect.
- 3.) Although the risks associated PRP are minimal, the normal risks associated with any injection are present, including infection, tissue damage, and nerve injuries. These appear to be no more frequent than with cortisone or other injections.
- 4) PRP is considered an “investigational” technique by most, if not all, insurance companies. This means that few insurance plans will provide even partial reimbursement. It is likely that you will be responsible for the entire cost of the PRP injection, paying out-of-pocket.
- 5) Despite our best efforts and intentions, some procedures - including PRP injection - are not always successful! Please review the above information carefully, including the financial considerations, and discuss with your physician before deciding whether you wish to proceed.

**Todd C. Battaglia, MD, MS**  
Syracuse Orthopedic Specialists, PC  
Board-certified in orthopedics and sports medicine  
*Specializing in arthroscopy, sports medicine,  
and knee and shoulder reconstruction*