

Platelet-Rich Plasma Injection (PRP)

What Is Platelet-rich Plasma (PRP)? How does it work?

Blood consists of mostly liquid (called plasma) with some solid components (red cells, white cells, and platelets). Platelets help your blood clot, but also contain hundreds of proteins called growth factors which are important in healing injuries. These growth factors include basic fibroblast growth factor, vascular endothelial growth factor, platelet-derived growth factor, epidermal growth factors, and many others. These factors have been shown to stimulate stem cells to rebuild fibrocartilage and muscle. PRP is plasma with a much higher concentration of platelets than what is normally found in blood and therefore a higher concentration of the growth factors.

What injuries and areas on the body can be treated?

Injuries that can be treated with PRP include:

- Joint injuries
- Tendon injuries
- Muscle injuries
- Ligament injuries
- Tendon sheath injuries

How should I prepare before my treatment?

You should avoid non-steroidal anti-inflammatory drugs (NSAIDs) such as Motrin®, Aleve®, or Advil® 48hrs before your appointment. For pain control during this period, Tylenol® or other pain medication may be used provided by your referring clinician as long as it does not contain an NSAID. If you are on corticosteroids (Prednisolone, Medrol dose pack, or similar drugs), you should stop your medication, after consulting with your physician for 48 hours before your procedure. Consumption of food and beverages is permitted before the procedure. An escort/driver is NOT required as sedation will not be used. For patients who are minors, a parent/legal guardian is required to be present and remain throughout the entire appointment.

What can I expect before and during my treatment?

Upon arrival, you will be taken to a room to address any of your questions regarding the procedure and assess your pain level. Thereafter, a small amount of blood (approximately 15-60 mL) will be drawn, by a skilled professional. This blood will be made into the PRP concentrate by spinning it in a special machine called a centrifuge. This process takes approximately 10-20 minutes. You will then be directed to a different room with imaging equipment, such as an ultrasound or fluoroscopy machine. You may need to change into a gown to allow access to the area that will be injected if your regular clothes prevent adequate exposure to the area. You will then be positioned appropriately on an exam table. Thereafter, the injection site will be sterilized and draped to reduce the risk of infection. A local anesthetic will be injected into the area to minimize pain throughout the procedure.

Then under image guidance, the prepared PRP will be injected into the targeted region to be treated. Afterward, the injection site is thoroughly cleaned and covered with a band-aid/dressing. Your vital signs will be assessed once more along with your pain level. Most patients experience their pain level to be the same or slightly more immediately after the procedure.

What can I expect after my treatment?

The pain in the area of injection may increase for the first few days. Generally, patients start feeling an improvement in symptoms in about a week or two, but it may be several weeks before they feel a significant beneficial effect. Depending on your response, you may need more than one treatment to reach the maximal beneficial effect. Strength and endurance slowly increase with time. Many patients notice improvement for as long as 6 to 9 months.

Post-procedure care:

- We recommend that you limit your physical activity to light daily activities for the first 48-72 hours after your procedure. It is recommended that patients follow-up with their primary treating physician for guidance regarding physical therapy and return to activity.
- After this time, you may return to your regular physical activities as tolerated. You should avoid NSAIDs such as Motrin®, Aleve®, or Advil® for 2 weeks after your treatment. For pain control during this period Tylenol® may be used or other pain medication provided by your doctor as long as it does not contain a NSAID.
- You may also use ice and compression for pain relief.
- You may experience some discomfort for 3-7 days following the procedure. Occasionally, more severe or sporadic pain is experienced by some. This discomfort will gradually subside.
- However, if it continues beyond 2 weeks and/or you develop any new symptoms at any time following your procedure please contact our clinical team.
- Because your blood is used, there is a very low risk of transmittable infection and a very low risk of allergic reaction to the treatment. If you notice any redness, swelling, and/or unusually significant pain at the injection site at any time following your procedure especially within the first 24-48 hours--please contact us as soon as possible.

For questions and/or concerns you may contact our clinical team, Mon-Fri, 8 am-5 pm at 713-486-9897.

References

1. American Academy of Orthopedic Surgeons: Platelet-Rich Plasma (PRP).
<http://orthoinfo.aaos.org/topic.cfm?topic=A00648>
2. Xie et al.: Biology of platelet-rich plasma and its clinical application in cartilage repair. Arthritis Research & Therapy 2014, 16:204