

Regenerative Injection Therapy with Platelet Rich Plasma

“An alternative approach to healing, ligament, and cartilage injuries.”

What is PRP and what is regenerative injection therapy?

Platelet Rich Plasma (PRP) is a portion of the blood plasma that has a high concentration of platelets. These platelets contain large reservoirs of bioactive proteins including growth factors and chemical mediators that are vital to initiate and accelerate tissue repair and regeneration. This can be used to naturally help heal injuries in connective tissue (especially tendons, ligaments, muscle, cartilage, and open wounds). When PRP is injected into damaged tissue it is considered to be a tissue graft. PRP contains many bioactive proteins that trigger the healing cascade, cause some inflammation, and cause adult stem cells to enter the injured area. Regenerative injection therapy used PRP to aid in healing injuries that otherwise might not ever heal, to speed the healing of certain injuries, or to augment surgical procedures.

How is this procedure performed?

To prepare a PRP graft, a small amount of blood is drawn from the patient, and placed into a special processing kit. This is then placed in a centrifuge and in approximately 15 minutes the platelet rich plasma is concentrated by 500% and the graft is prepared. The skin at and around the injured area is prepped in a sterile fashion. Then a high frequency ultrasound unit is used to localize the damaged area and to guide the needle placement with an accuracy of within 1-2 millimeters. Local anesthetic is 1st injected, then the tissue graft of PRP is injected into the injured tissue.

What are the potential benefits?

Most patients will see a significant improvement in their symptoms within a few weeks and many heal completely, although this may take several months to occur.

Are there any risks?

Yes, but they are very small. With any injection there will be some discomfort and there is a small risk of bleeding, bruising, or infection. The risk of infection is less with PRP than with other injections, or surgery.

How is this different from cortisone injections?

Cortisone shots diminish inflammation and provide relief of symptoms, but don't usually lead to healing. Research has shown that cortisone may weaken tissue. PRP helps to heal and strengthen damaged connective tissue, and may strengthen and thicken tendons and ligaments by up to 40%.

What injuries can be treated?

PRP injections can be performed in tendons, ligaments, cartilage, and joints all over the body. Sports injuries, repetitive stress injuries, and degenerative joint disease (arthritis) can all be treated. Some examples include: ligament sprains and tears, chronic tendonitis, tennis elbow, plantar fasciitis, IT band syndrome, cartilage tears, osteoarthritis, muscle strains and tears, shin splints, rotator cuff injuries, back injuries, and more.

Does the PRP injection need to be repeated?

While responses to treatment may vary, most patients will start with one injection and will be reassessed before deciding on more. Most injuries will respond to 1-3 injections, but others may require a few more. The

injection would not be repeated in less than 4 weeks, usually in 6-8 weeks. There is not a definite limit, and the risks and side effects do not increase with a higher number of injections.

Are there any special instructions?

Yes. Patients are restricted from the use of non-steroidal anti-inflammatory medications (NSAIDS) 4 days prior to the treatment and for 4 weeks after the treatment. Initially the procedure may cause some localized soreness and discomfort, but usually Tylenol is sufficient to manage this pain. Ice and heat may be applied to the treated area as needed. The patient should plan on rest, or only minimal activity for the 1st 3 days, and light activity for the first week. Return to regular physical activity depends on the location and severity of the damaged tissue that is being treated, and thus varies considerably.

What about rehab?

Rehabilitation is often useful to augment the effects of PRP injections. Usually any rehab is discontinued or delayed until 1-2 weeks after the injection, then gradually advanced injections.

Will my insurance cover PRP treatments?

Most commercial insurances will cover partial reimbursement after pre-authorization. The amount covered will depend on what type of insurance you have, how much your deductible is and, how much of that total you have met.

Why are tendon and ligament injuries often difficult to heal?

Tendons and ligaments and cartilage have poor blood supply. This reduces healing potential and speed of healing, and when combined with the stresses of daily activities, they do not heal easily from damage. As a result they become inefficient causing chronic pain and weakness, which often requires medical intervention.

There is some initial cost related to the procedure that will be collected up front before your PRP therapy is performed. This cost is not covered by any type of insurance. We will authorize your therapy with your insurance before it is performed, however your insurance company may not cover the entire procedure. You will be responsible for any amount not covered by insurance.

Small PRP Kit (used for smaller problem areas)	\$350.00
Large PRP Kit (used for large areas and multiple injection sites)	\$425.00
X-Large PRP Kit (used for multiple large areas)	\$600.00

Do not take any anti-inflammatory for at least 5 days prior to the procedure and ice the area only minimally before and after the procedure, as the inflammatory response is what makes the procedure so effective.

If a patient pays out of pocket for their procedure, the cost is \$1000.00 up front or 1246.00 if making payments. The patient will still be responsible for paying the kit cost at the time of the procedure and a portion of the procedure cost.

PLATELET RICH PLASMA (PRP) PATIENT INSTRUCTIONS SHEET

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Pre-procedure Instructions:

1. **CLOTHING:** Wear comfortable, loose fitting clothes to appointment.
2. **NSAIDS USE:** Avoid any NSAIDS or anti-inflammatory (i.e. Advil, Aleve, or prescription anti-inflammatory meds) for 4 days before PRP. NSAIDS block the inflammatory pathway which also interferes with the healing cascade.
3. **INFECTION:** Although the risk of infection is very low, please shower or bathe paying special attention to the area being treated on the day of the procedure.
4. **HYDRATION:** Hydrate well 24 hours before the procedure. 64 oz of water 24 hours before procedure. No alcoholic beverages 24 hours before the procedure.
5. **NICOTINE USE:** Patients are strongly encouraged to abstain from using nicotine (smoking, chewing tobacco, patches) 4 days before and 4 weeks after procedure. Smoking diminishes circulation which can slow healing time by up to 50% and can decrease the effectiveness of the procedure. Contact physician if you are in need of a prescription to aid in smoking cessation.
6. **BLOOD THINNERS:** 81-162 mg of aspirin per day is okay. For patients taking larger quantities or other blood thinners, please discuss with physician regarding decreasing dosage or discontinuing medications prior to PRP procedure.

Post-Procedure Care:

1. **REST/ACTIVITY LEVEL:** This will vary some depending on injury and location. In general, patients should plan on 3 days of little or no activity involving the affected area. Limited activity/light duty at work for 2-3 weeks.
2. **SUPPORT:** A brace, sling, or crutches may be needed following procedure in order to alleviate strain and facilitate the healing process.
3. **TRANSPORTATION:** If procedure involves lower extremities, having someone to drive patient home is recommended.
4. **NSAID USE:** No NSAIDS 4 weeks following procedure.
5. **PAIN MANAGEMENT:** Pain medication will usually be required for the first few days. Please speak with physician regarding appropriate options. Icing is okay occasionally (20 minutes 1-2 times per day), but is discouraged unless pain is intolerable. Using a compressive wrap (ace wrap) may be helpful in alleviating some discomfort.
6. **SWELLING:** A small amount of swelling and some stiffness is common. Please contact physician's office immediately if you experience significant swelling, redness or severe pain.
7. **REHABILITATION:** Any pre-existing or ongoing rehabilitation/therapy will be discontinued following PRP procedure. Rehabilitation schedule will vary. Patient will discuss rehabilitation program with physician at time of follow-up appointment following PRP procedure (usually 2 weeks).

NSAIDs: non-steroidal anti-inflammatory drugs

Aspirin (Anacin, Ascriptin, Bayer, Bufferin, Ecotrin, Exedrin)

Choline and magnesium salicylates (CMT, Tricosal, Trilisate)

Choline salicylate (Arthropan)

Celecoxib (Celebrex)

Diclofenac potassium (Cataflam)

Diclofenac sodium (Voltaren, Voltaren XR)

Diclofenac sodium with misoprostol (Arthrotec)

Diflunisal (Dolobid)

Etodolac (Lodine, Lodine XL)

Fenoprofen calcium (Nalfon)

Flurbiprofen (Ansaid)

Ibuprofen (Advil, Motrin, Motrin IB, Nuprin)

Indomethacin (Indocin, Indocin SR)

Ketoprofen (Actron, Orudis, Orudis KT, Oruvail)

Magnesium salicylate (Arthritab, Bayer Select, Doan's Pills, Magan, Mobidin, Mobogesic)

Meclofenamate sodium (Meclomen)

Mefenamic acid (Ponstel)

Meloxicam (Mobic)

Nabumetone (Relafen)

Naproxen (Naprosyn, Naprelan*)

Naproxen sodium (Aleve, Anaprox)

Oxaprozin (Daypro)

Piroxicam (Feldene)

Rofecoxib (Vioxx)

Salsalate (Amigesic, Anaflex 750, Disalcid, Marthritic, Mono-Gesic, Salflex, Salsitab)

Sodium salicylate (various generics)

Sulindac (Clinoril)

Tolmetin sodium (Tolectin)

Valdexocib (Bextra)

Note: Some products, such as Excedrin, are combination drugs (Exedrin is acetaminophen, aspirin, and caffeine).