



PLATELET RICH PLASMA (PRP) INJECTION THERAPY

INTRODUCTION

Dr. Mechanik's clinical interest has led to the incorporation of a Platelet Rich Plasma, PRP injection therapy for patients experiencing acute and chronic musculoskeletal injuries of the foot and ankle. The use of Platelet Rich Plasma (PRP) injections in the treatment of fasciitis and tendinosis about the foot and ankle is a fairly recent and evolving concept. The idea behind such injections is quite simple and has been well studied in the literature.

- Fascia has a decreased inflammatory response, a reduction in the growth/healing factors and a chronic scar formation that prevents the healing process.
- Tendons connect muscles to the bone, making it possible for you to do many every day physical activities. Overuse or damage to the tendon over a long period of time causes the collagen fibers in the tendons to form small tears, a condition called tendinosis. Tendons have a poor blood supply.
- Ligaments are composed of collagen fibers that hold one bone to another, stabilizing the joint and controlling the range of motion. When a ligament is damaged, it is no longer able to provide support, weakening the joint. Ligaments, also tend to have a poor blood supply

The concept is that there is a loss of inflammatory response and chronic scar formation with musculoskeletal injuries. Combined with the stress of day-to-day activities, they do not easily heal from damage. As a result, the tendons and ligaments become inefficient causing chronic pain and weakness. Medical intervention is now possible in a new way.

Cortisone shots may provide a quick fix for temporary relief and *lessening* of inflammation, but Dr. Mechanik can only do them a few times in any area because of this tissue weakening effect, including atrophy and structural changes. They do not generally provide long term healing. New treatment protocol: Platelet Rich Plasma (PRP) injection therapy to focus on *increasing* the inflammation response rather than suppressing it, like cortisone shot would do.

BACKGROUND

Platelet Rich Plasma or PRP is blood plasma. Plasma is a liquid component of blood that is mainly water but also includes fibrinogen and concentrated platelets. The entire process takes less than 20 minutes and increases the concentration of platelets and growth factors.

HOW DOES PRP WORK?

PRP injection therapy is healing and strengthening for these tendons and ligaments. Platelet-rich plasma or PRP is an "autologous blood therapy" that uses a patient's own blood components to stimulate a healing response in damaged tissues.

- In response to an injury or tissue damage, your body naturally recruits platelets and white blood cells from the blood to initiate a healing response. Under normal conditions, platelets store numerous growth factors which are released in response to signals from the injured tissue.



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- Modern technology allows the introduction of concentrated platelets and white blood cells from your blood, and induces this growth factor release as Dr. Mechanik injects the solution directly into injured tissue, simulating this same healing response in a more powerful form. By enhancing the body's natural healing capacity, the treatment may lead to a more rapid, more efficient, and more thorough restoration of the tissue to a healthy state.
- Alternatively, platelet rich plasma injections are very useful in *chronic* injury cases as they *restart* and stimulate the inflammatory cascade, which enhances the healing process.

Treatment process:

Following a formal evaluation and diagnostic workup, an individualized treatment plan will be discussed with you. A full explanation of the procedure including risks and benefits will be reviewed. To prepare PRP, a small amount of blood is taken from the patient. The blood is then placed in a centrifuge, which separates platelets, white blood cells and serum from red blood cells. The platelets and white blood cells are then concentrated and collected into a sterile syringe. The skin and soft tissue is anesthetized with local anesthetic, followed by injection of both the PRP into the tissue targeted for treatment. Depending on the size of the injured tissue, one or several needles are inserted to optimize placement of the PRP.

Treatment plan:

Depending on the severity and duration of your injury, one to three PRP injections are suggested. Following the initial treatment with PRP, a follow up visit occurs 2-3 weeks later. At this visit an evaluation of your response to the initial therapy is performed and a decision is made regarding the need for additional PRP treatments. In both acute and chronic injuries, the treatment protocol may include exercise, physical therapy program and custom-casted foot orthotics to enhance the success of the treatment.

WHAT IS THE RECOVERY PERIOD AFTER TREATMENT?

Often, following the initial injection, an "achy" soreness is felt at the site of injury. This "soreness" is a positive sign that a healing response has been set in motion. This effect can last for several days and gradually decreases as healing and tissue repair occurs.

- It is important that anti-inflammatory medications such as Ibuprofen, Naproxen and Aspirin be **avoided** PRP treatments for the first two to four weeks. These medicines may block the effects of the intended healing response facilitated by the injection itself.
- It is acceptable to use over the counter pain medication, such as Tylenol extra-strength which does not have anti-inflammatory properties, to control discomfort as needed.
- You will be permitted to resume normal day to day activities and light exercise following injection. We suggest that you avoid strenuous lifting or high-level exercise for at least several days after injection.
- Plantar Fascia: Following an injection, a below-the-knee walking boot is typically required to provide adequate support and decrease stress on the fascia. This allows the fascia time to heal without chronic tension and allows the growth factors to work without continued trauma.



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You will wear this boot for two weeks and then progress to a stiff tennis shoe and then custom-casted foot orthotics.

- Stretching after injection as desired and as per your tolerance.
- Again, do not to use icing after 3 days or anti-inflammatory medications for the first two to four weeks.

WHAT ARE THE BENEFITS TO THE TREATMENT?

Research and clinical data show that PRP injections are extremely safe, with minimal risk for any adverse reaction or complication. Because PRP is produced from your own blood, there is no concern for rejection or disease transmission. There is a small risk of infection from any injection into the body, but this is rare. Of note, recent research suggests that PRP may have an anti-bacterial property which protects against possible infection.

HOW SOON CAN I GO BACK TO REGULAR PHYSICAL ACTIVITIES?

PRP therapy helps regenerate tendons and ligaments but it is not a quick fix. This therapy is stimulating the growth and repair of tendons and ligaments requiring time and rehabilitation. Through regular visits, Dr. Mechanik will determine when you are able to resume regular physical activities.

DOES MY INSURANCE COVER PRP?

Insurance companies will not cover this injection, even after pre-authorization. It is excluded as a benefit, stating this service is considered investigational.