

Platelet-rich plasma therapy

A potential alternative to surgery



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“I have successfully used PRP to treat multiple orthopedic issues, including Achilles tendonitis, patellar tendonitis and tennis elbow, as well as rotator cuff tendonitis.

PRP has proven to be quite effective in the treatment of osteoarthritis. With its use, I have seen tremendous improvement with regards to pain reduction and quality of life.

In my experience, most of my patients have reported improvements with PRP therapy.”

To understand the concept of PRP, we must first look to our blood. Blood is composed of red blood cells, plasma, white blood cells, and platelets. As you probably know, platelets are responsible for stopping bleeding, but they are also rich in growth factors and the cytokines needed for tissue healing. White blood cells fight infection and break down abnormal or injured tissues. Both platelets and white blood cells are essential for tissue healing, and this is the basis of PRP therapy. New technologies allow us to isolate the white blood cells and platelet-rich plasma to create the PRP solution.

Pathology and treatment

For most people, injuries to soft tissue structures and the gradual degeneration of joints are a normal part of life. All of the daily activities we engage in result in “micro-trauma” to the tendons of the body. In response to this trauma, the body calls upon the cells responsible for healing to mend the damaged tissues. Most of the time, the body is successful, but when it can’t keep up with the demands put upon it, the result is tendonitis and tendinosis.

Tendonitis refers to the early inflammatory phase during which the body is still attempting to heal the injured area. If successful remodeling of the tendon is not achieved, the body eventually ceases attempting to heal it and the tendon is left in an abnormal configuration. These chronic changes, called tendinosis, can be seen on MRI and ultrasound images. Tendinosis often results in chronic pain and weakness in the affected region. Tendons most susceptible to tendinosis often have a poor blood supply, which carries the cells needed for healing. This is where PRP therapy can be of use.

After the PRP is obtained from the patient’s own blood, an ultrasound machine is used to identify abnormalities within the tendon structure. Using ultrasound guidance, a small needle is inserted into the injured portion of the tendon, which helps to break apart its abnormal structure. During the needling process, the PRP solution is injected, concomitantly bathing the tendon with the cellular tools needed for healing. Common tendinopathies we treat with PRP include lateral epicondylitis

(tennis elbow), medial epicondylitis (golfer’s elbow), Achilles tendonitis, and rotator cuff abnormalities.

PRP has also been found to be effective in the treatment of osteoarthritis. While the exact mechanism is unknown, it is theorized that PRP helps to rebuild damaged articular cartilage and to heal and rejuvenate a torn, degenerated fibrocartilagenous structure within a joint, such as a meniscus or labrum. Future studies will likely solidify the role of PRP as a standard therapy in the treatment of arthritis.

Results of PRP therapy

After treatment, patients may experience a short-term increase of symptoms. This is secondary to the breakdown of abnormal tissues during the needling process and to the increase in inflammatory mediators from the PRP solution. It is important not to curb this inflammatory process, so icing of the site and anti-inflammatory medications are strictly prohibited. The level of post-procedure pain varies, though most patients have minimal discomfort. The time before improvement of symptoms varies, with relief seen anywhere from one day to eight weeks post-injection. While the injection is not always successful, in my experience, most patients experience some level of improvement in pain and function.

For the right patient, this procedure may provide an alternative to surgery. The benefits of PRP include a quicker recovery period: the affected body part can be used with minimal restrictions immediately after the procedure. There is no significant risk of infection, for the PRP solution contains white blood cells to fight infection. In addition, no anesthesia is used, which reduces a patient’s risk, especially for those with significant cardiac or pulmonary disease.

Although PRP has been gaining momentum as a recognized treatment, the procedure is not yet covered by most health insurance plans, so patients have had to pay out of pocket, and the cost—though moderate—has inhibited many patients from pursuing the option. This is unfortunate, as I have seen this treatment change people’s lives. My hope is, that with continued research and positive outcomes, PRP therapy will become a mainstay of care.