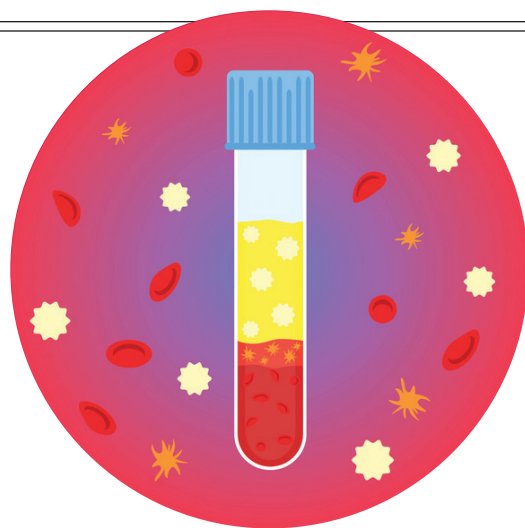


The Use of PRP in Podiatry

This emerging treatment holds great promise for many foot and ankle conditions.

BY CHARLTON WOODLY, DPM



The medical field of podiatry is slowly but steadily implementing newer and faster ways to help patients heal. Podiatry as a field is extremely vital for common ailments like plantar fasciitis, which affects nearly three million American adults per year. Since physical ailments such as these are so common, American adults are constantly seeking ways to help cure them as quickly as possible. If the ailments are not treated, the person affected is at risk of further wear on the muscles of the foot. Modern medicine is now looking past creating temporary fixes for these types of problems and is beginning to explore minimally invasive therapies designed to generate new cell growth and help the body heal itself.

A progressive treatment showing ever-increasing popularity among DPMs is platelet-rich plasma (PRP). PRP is a treatment in which the platelets from the patient's blood are placed into a centrifuge and then injected back into the patient to incite natural healing. Oftentimes, thrombin and calcium chloride are added to activate the platelet rich plasma. In many cases, the use of PRP may eliminate the need for surgery. This practice has been around and in use by podiatrists for over twenty years and continues to progress and serve as the solution to a growing number of ailments.

Platelet-rich plasma contains platelets, which are the first responders to soft tissue injury. They initiate repair of the injury and recruit other cells to the injury to start the healing and repair process. PRP injections concentrate the number of platelets in the area of injury, which then stimulates and speeds up the healing process.

Platelets in blood cells play multiple roles in the body, and healing depends on them. Their main function

ing process for injuries that have “hit a wall” in the healing process or are not healing on their own.

In a study featured in the *Journal of the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT-J)*, researchers found that PRP can either be leukocyte-rich or leukocyte poor, which may contribute to the effects on the body during treatment.¹ Overall, the treatments with PRP in the study were found successful. If someone

Platelet-rich plasma contains platelets, which are the first responders to soft tissue injury.

is to heal and create blood clots. Having no nucleus of their own, platelets are derived from bone marrow before entering circulation in the bloodstream.

The healing factor is what allows platelets to act in a way similar to a time-released pill. They are able to release different growth stimulants in an injured part of the body at different times and different levels during the body's natural healing process. In the use of platelet-rich plasmas, doctors use a concentration of the platelets, somewhere between three to ten times the normal amount to jumpstart the healing process. PRP is essentially a natural kickstart to the body's natural heal-

ing process for injuries that have “hit a wall” in the healing process or are not healing on their own.

has a low platelet count, it can be caused by either their decreased production or increased destruction. Platelet-rich plasma treatment is very promising for the future of podiatry. For a patient to be able to go into a clinic and to leave feeling cured within a matter of hours is groundbreaking. Rather than being laid up and healing for weeks or months after having to go into surgery, this procedure takes only a couple of hours. Recently, many podiatry clinics have started implementing this treatment for their patients. At the Woodly Foot and Ankle clinic in Weatherford, Texas, plasma is sourced from the patient's blood

Continued on page 116

PRP (from page 115)

and then injected into the site. The cost of the treatment ranges from \$500 to \$2,000.

Woodly Foot and Ankle uses PRP practice in the treatment of plantar fasciitis. The treatment has also

**The cost of the
treatment ranges from \$500
to \$2,000.**

proved beneficial for patients with knee osteoarthritis and lateral epicondylitis.

Re: plantar fasciitis, a recent study has shown that platelet-rich plasma has proven to be a more effective treatment than one of the traditional treatments, a cortisone shot.² The study reports that 78% of recipients of PRP reported no symptoms a year after the procedure. Symptoms did not always respond to the traditional cortisone shot as well as they did to a PRP shot.

Although this process is considered minimally invasive, there is still a necessary healing process and

protocol to follow to ensure that the treatment takes within the body. Most podiatrists recommend resting the injected area, but that is more so for the injury that is being healed and less about the effects of the actual injection. Depending on the condition that the platelet-rich plasma injection is treating, sometimes a walking boot is recommended to allow relief of pressure on the foot and ankle and give the injection time to work. In certain instances, depending on the severity of the injury prior to the procedure, physical therapy might be suggested to aid in the healing process.

Most ailments that platelet-rich plasma treats will require multiple injections. In certain situations, it is recommended that up to three shots can be given within the first six months of treatment. These treatments should be administered within two to three weeks of each other. Some discomfort may come after the first few injections but can be managed with standard pain relief medicine. The entire procedure takes roughly one to two hours. This includes the preparation, actual injection, and recovery time.

Due to the platelets coming from the patient's own body, there is a much lower risk of allergic reaction or side-effects than with many other treatments. Side effects can occur, however, including pain and irritation of the injection site. More serious side effects are nerve injuries and tissue damage.

**Some patients see results after
the first or second injection, but others
may require more return visits to
continue with additional injections.**

Stem Cell vs. PRP

While both stem cell and platelet-rich plasma treatments both fall under the regenerative medicine umbrella and are often compared, they are two completely different procedures. Stem cell therapy is the process of extracting rejuvenating cells from either bone marrow or plasma and then combining those cells with platelets. In the case of PRP, doctors use the patient's own blood to separate the platelets and then re-inject them into the problem area, which then releases growth factors that produce natural tissue healing. Both procedures have proven very successful in repairing the areas they are used to treat.

While many studies have proven the success of platelet-rich plasma injections, the procedure does not work for everyone. There are also a number of factors that affect the outcome of the injections. Different formulas used in an injection can produce different results in different patients. Other factors that can contribute to or detract from the success of these injections include the method of preparation, the amount injected, and the frequency of the injection. Some patients see results after the first or second injection, but others may require fur-

Continued on page 118

PRP (from page 116)

ther return visits. The level of severity of the condition in each patient can also contribute to variance in results. For most, if the plantar fasciitis, knee osteoarthritis, or lateral epicondylitis is on the milder side, PRP should work;

In the cases where surgery is recommended, platelet-rich plasma injections can still be used in the healing process.

with more severe cases, however, platelet-rich plasma injections may not be an effective solution.

In the cases where surgery is recommended, platelet-rich plasma injections can still be used in the healing process. Many surgeons have started incorporating PRP injections into their surgical procedures to boost healing. The injections can also be used post-surgery to again help with healing and for general maintenance. During the initial assessment of the site requiring a platelet-rich plasma

injection, however, if any doctor detects a local inflammation or infection, the injection should be avoided. It will also not be performed if the physician detects malignancy.

Additional Studies Needed

While platelet-rich injections have been proven successful in treating a number of different conditions, there is still a lot to be learned about the treatment (for how long it works, how it can be used, when it should be avoided, etc.) Currently, the rate at which PRP is becoming utilized and popularized among doctors is accelerating faster than the scientific evidence and research that should accompany the procedure. And since the centrifuge machine is small in size and portable, it also lends itself to the ever-growing popularity of the treatment. Further studies must be conducted in order to learn more.

As research progresses, a standard will be set for platelet-rich plasma injections for centrifugation, platelet activation, and PRP composition. Due to these unanswered variables, most times the procedure is not covered by insurance, nor is reimbursement offered.

While platelet-rich injections have been proven successful in treating a number of different conditions, there is still a lot to be learned about the treatment (for how long it works, how it can be used, when it should be avoided, etc.)

Conclusion

While using PRP does not always produce guaranteed instant results, most patients do see positive changes even after the first injection. Although multiple PRP injections may be required over a six-month period, it is still a much simpler procedure for patients to endure than a full-blown surgery. Though additional studies are necessary, platelet-rich plasma treatment is making medical waves and is here to stay. **PM**

References

- ¹ Journal of the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT-J).
 - ² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5632954/>.
-



Dr. Woody is a board certified podiatrist who brings over 14 years of experience to providing conservative and surgical treatments to patients at Woody Foot & Ankle in both Weatherford and Richland Hills, Texas. He graduated from the New York College of Podiatric Medicine, followed by an internship and residency at Gouverneur Healthcare Services in Manhattan and Jacobi Medical Center in the Bronx. Dr. Woody specializes in minimally-invasive procedures such as PRP.