



Cartilage Restoration Center

*Aiding Healing with
Natural Growth Factors*

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cartilage*

*Save the
knee*

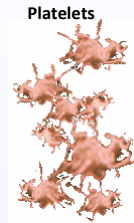
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Your body's natural healing power

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. Tissue healing requires access to critical growth

factors contained within platelets.

When the body becomes injured a natural healing process occurs to repair damaged tissue. The body signals platelets and other components in our blood supply to migrate to the site of the injury. Under normal conditions platelets store numerous growth factors that are released in response to signals from the injured tissue.

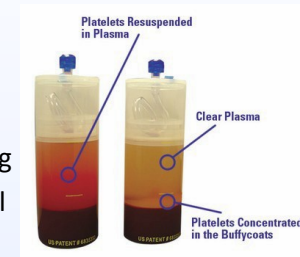


Platelet therapy is an emerging treatment in a new health sector known as *Orthobiologics*. The philosophy is to merge cutting edge technology with the body's natural ability to heal itself. By enhancing the body's natural healing capacity, platelet therapy may lead to a more rapid, more efficient and more thorough restoration of tissue to a healthy state.

Fibrin clots (like a scab), which contain platelets and other blood components, have been shown to promote healing when placed within a soft tissue defect, especially areas that limited access to blood supply, like tendons. A PRP injection introduces a concentrated dose of these platelets and growth factors directly into the injury site through an injection. Implanting this biological material from a small amount of the patient's own blood essentially forms a fibrin clot, supercharging the body's capacity for healing and tissue repair.

How is platelet therapy done?

Blood is made of red blood cells, white blood cells, plasma and platelets. Platelets are tiny cells that are partially responsible for causing blood to clot. They contain large reservoirs of natural growth factors that stimulate the healing process. When you have a scab form on an injury, it is rich with platelets and growth factors that allow the wound to heal. There are many growth factors with varying responsibilities, but overall they accelerate tissue and



wound healing. Increasing the concentration of platelets allows us to deliver a powerful dose of growth factors that can dramatically enhance healing. The goal of PRP is to isolate and concentrate the platelets in the blood because they promote healing.

The growth factors in PRP are obtained from your own blood. A small amount of blood is drawn from your arm. The tube of your blood is placed in a centrifuge and spun to separate the platelets, white blood cells, and serum from the red blood cells. The platelets and white blood cells are concentrated and collected into a sterile syringe. Some of the blood is used to create an "activator" of the PRP. A local anesthetic is injected into the injury site, followed by injection of the PRP and activator into the tissue targeted for treatment.

This is a new treatment, not yet approved by the FDA, so would be considered off-label. A number of studies are currently in progress to evaluate the promising results that this new technology is already producing.

Is platelet therapy safe?

Research and clinical data show that PRP injections are extremely safe, with minimal risk for any adverse reaction or complication. The injection is prepared at the time of surgery and under the physician's control, so there is virtually no chance of a mix-up or contamination. Also, since the PRP is made from your own blood it does not have the risk of disease transmission or rejection.

PRP is the only available product that contains elevated levels of all your biologically occurring growth factors, maintaining them in precisely the same ratios found circulating in your body naturally. Besides being naturally matched to each individual patient, the wealth of growth factors in platelets made this treatment effective. Synthetic products are usually derived from only a single growth factor. Fibrin glues are derivatives of blood components drawn from other donors, and do not contain growth factors.

What conditions can be treated?

Platelet therapy can be used to treat conditions such as tendonitis or tendinosis. Tendinosis is a chronic degenerative condition, such as tennis elbow. Tendonitis is an acute inflammatory condition caused by repetitive motion or overuse, leading to micro tears of the muscle or tendon fibers and leading to weakness and pain. Knee pain, shoulder pain, arm pain, and foot and ankle pain are often caused by conditions that can be treated with PRP.

PRP can also be used in surgery to accelerate bone and cartilage growth and control bleeding.

What to expect afterward

Patients often experience an achy soreness at the site of the injection. This is typical of any injection, but in this case it is a positive sign that a healing response has been set in motion. This soreness can last for several days, gradually decreasing as healing and tissue repair occurs. It can be addressed with ice, heat, or elevation, as well as with acetaminophen products such as Tylenol. It is very important that anti-inflammatory medications such as Ibuprofen and aspirin be avoided following platelet therapy, as these medicines may block the healing response facilitated by the injection.

You should avoid any use of the injured body part for at least 2 to 3 days following the injection. After that you may begin limited and gentle exercise until the doctor releases you to resume normal activity.

How long will it take to feel better?

Results from platelet therapy vary depending on the patient and the severity of their condition. You may begin to feel some relief from your pain within 2 to 3 weeks. Additional injections may be necessary. In a study treating elbow tendinosis with platelet therapy, patients noted an improvement of 60% in their pain score at 8 weeks.

Some patients may be disappointed that they do not get better faster. Remember that this is a treatment for a stubborn injury that may take up to a year to heal on its own. Be patient, and allow your platelets time to do their job!