DBNJ Sports Medicine Specialists

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Medicine looks toward a natural way to heal

BY JENNY VRENTAS • STAR-LEDGER STAFF

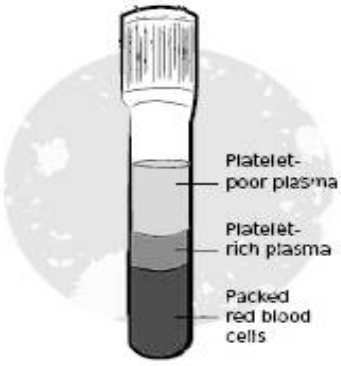
Platelet-rich plasma (PRP) therapy has generated a buzz over the past several months, particularly for its success in treating injuries on high-profile professional athletes.

Platelets from the athlete's own blood are concentrated and injected at the site of the injury, where their natural healing powers can speed up recovery. The innovative procedure is relatively simple to perform and takes less than an hour. Here are the steps:

Step 1:
Withdraw 30-60 ml of blood from patient.

Step 2:
Load blood into centrifuge and spin for 15 minutes at 3200 rpm.

Step 3:
Extract 3-6 ml of platelet-rich plasma, which contains 4 to 10 times the concentration of platelets in the whole blood.



Step 4:
Inject injured area with PRP, using ultrasound to guide the needle.

SOURCES: Robert Monaco, MD; Allan Mishra, MD; Biomet Biologics

GRAPHIC BY MICHAEL GUILLÉN • STAR-LEDGER STAFF

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What is PRP ?

PRP stands for **platelet rich plasma**. Human blood has a number of hematological components including red blood cells, white blood cells, serum and platelets. Platelets are very important for clot formation. They stick to each other and form a blood clot. Medical research has found that platelets also contain a number of chemicals and proteins that are involved in wound healing. When platelets are activated they release these components collectively called "growth factors." When blood cells are separated from blood, the resulting fluid is called plasma. Processing of plasma can concentrate the platelets and their corresponding growth factors. This concentrated solution is then mixed with a buffer and anticoagulant and injected into the injured tissue to promote healing. In essence, the doctor concentrates the patient's own healing factors and then injects them back into the injured area. This approach is very different from using anti-inflammatory medications and steroid injections which decrease inflammation and the healing response.

How long has PRP been around ?

The technology has been used for years in surgical applications and wound care. The use of PRP for musculoskeletal injuries is fairly new and evolving into a promising treatment for both acute and chronic injuries. There are a number of medical studies supporting the use of PRP for tendon and ligament injuries.

Do I have to be concerned about the transfusion of blood products ?

The patient's own blood is used for the procedure so there is no transfusion risks. As with all injections including vaccines, there is always a small risk of infection where the needle enters the skin. The PRP is derived from the patient so there is no risk of a blood borne infection from a donor.

How long does it take? Does it work right away?

Generally, a PRP injection requires an initial visit to see if the patient's injury would benefit from the injection, then a follow up visit for the injection itself. The actual injection process takes about 30 minutes. The majority of the time involves drawing and processing the patient's blood for the injection. The patient is then seen at 1 week and 4 week follow up intervals to access for healing and complications. The actual healing process will occur over weeks. It’s a long term solution to the acute or often chronic problem.

What do I have to do prior to having the procedure ?

Once the diagnosis is made and the PRP injection is scheduled, the patient should avoid all anti-inflammatory medications for 4-7 days prior to procedure. This includes prescription anti-inflammatory medications as well as over the counter naproxin, aspirin, and ibuprofen.

What can I expect during and after the procedure?

30-60cc of blood will be drawn from an accessible vein. The blood is then mixed with an anti-coagulant and placed into a machine with a special separator tube that spins the blood and separates the components into blood cells, serum, and the platelet rich plasma.
During the separation process, the patient's injured area is numbed with a local anesthetic.
After the platelets are concentrated, they are extracted into a separate syringe and mixed with sodium bicarbonate. The mixture is then injected into the injured area. This requires a great deal of skill and usually ultrasound guidance.

After the procedure, the patient will experience some mild soreness in the treated area that peaks at 3 days post procedure. Analgesic medication is prescribed and the patient is instructed to avoid all anti-inflammatory medications. Most patients describe mild soreness that resolves with Tylenol. Ice and heat are avoided.

Dr.Dhimant J. Balar