

What is platelet-rich plasma (PRP)?

PRP is a component of your blood (plasma) with concentrations of platelets above normal values. PRP typically contains 3-8 times the concentration of normal platelet levels. After injury, platelets are on the front line of the healing response and play a critical role by releasing growth factors. These growth factors influence tissue repair in a variety of different cell types including tendon, muscle and cartilage cells. PRP was first used in dental and oral surgery to improve soft tissue healing in the 1990s. Its usage in the treatment of musculoskeletal injuries and sports medicine has increased over the past decade.

How is PRP prepared?

PRP is prepared by centrifuging your whole blood sample. The centrifugation separates the platelet rich plasma from platelet poor plasma and red blood cells because of differences in specific gravity. See picture below.



Harvest Centrifuge with Platelet Concentrate System

How much blood is drawn?

In our practice, we follow the Harvest System protocol (Harvest Technologies)

- 20 mL of whole blood is drawn to generate 3 mL of PRP for small applications, elbow, foot, ankle, spine
- 60 mL of whole blood is drawn to generate 7-10 mL of PRP for the hip, buttock and shoulder.

How is the PRP administered?

The PRP is injected into the tissue or joint that is determined to be the pain generator. All injections are performed under musculoskeletal ultrasound or fluoroscopic (X-rays) guidance. This ensures accurate placement of the PRP.

What are the risks of PRP?

Since PRP originates from a concentrate of your own blood, safety concerns are minimal. As with any injection, sterile technique is performed to avoid infection

What conditions are commonly treated with PRP therapy?

Chronic tendinopathies

- Elbow (lateral and medial epicondyle, a.k.a. tennis and golfer's elbow)
- Shoulder (tendinosis, partial thickness tears)
- Hip (gluteal, adductor, and proximal hamstring tendons, a.k.a. bursitis)
- Knee (patellar tendon, a.k.a. jumper's knee)
- Foot/ankle (Achilles, peroneal, plantar fascia)

Chronic pain from osteoarthritis

- Knee (often of value after treatment with steroids or viscosupplementation no longer helps)
- Shoulder (glenohumeral and acromioclavicular)
- Hip
- Ankle and foot

Muscle

- Subacute and chronic symptomatic intrasubstance muscle tears

Spine

- Intradiscal
- Sacroiliac joint
- Facet joints

How do I know if I'm a good candidate for a PRP injection?

Below are the general guidelines we consider when treating a patient with chronic tendinopathy. These guidelines also apply to other regions of the body and are not specific to tendinopathy.

1. Pain duration of at least 3-6 months or longer
2. Symptoms and physical examination results consistent with tendinopathy
3. Persistent pain despite standard nonoperative treatment (physical therapy, NSAIDs, activity modification)
4. Pathological changes seen on diagnostic imaging: MRI and/or ultrasound
5. Patient wishes to pursue alternative to surgical treatment
6. No contraindications to the procedure exist (see below)

Relative contraindications include patients with a history of:

- thrombocytopenia (low platelet counts)
- anticoagulant therapy (coumadin, plavix, etc..)
- active infection
- tumor, metastatic disease
- pregnancy
- There have been no documented cases of increased cancer risk with PRP.

What do I need to consider before and after the injection?

We advise patients to stop NSAIDs and aspirin for at least 10 days before the procedure and preferably 3-6 weeks after a procedure. Patients on aspirin for cardiac prophylaxis will need to seek approval from their primary care provider or cardiologist. NSAIDs inhibit the prostaglandins and may reduce the beneficial effects stimulated by the release of growth factors from the injected platelets.

What activities should be promoted or avoided after the injection?

Activity progression and post procedure pain varies among patients. Increased pain immediately following the injection is common and typically resolves in one to two weeks. Regular range of motion at the injection area is started immediately. Patients typically progress to regular household activities and light aerobic activity within the first two weeks. We have patients progress to strengthening and sports-specific training gradually while recognizing this is quite variable among patients. Rehabilitation is done under the supervision of our physical therapy department and specific home exercise programs are tailored to the patient's progress.

Is PRP covered by insurance carriers or government payers?

No. PRP is not covered by insurance or Medicare or Medicaid. It is an "out of pocket" health care expense.

If you have any questions regarding PRP or if your patient is a candidate for this procedure please contact Dr. Leshner's team at 704-831-4100 or Dr. Bailey's team at 704-792-2672.