Platelet Rich Plasma (PRP)

What is PRP?

Blood is made up of blood cells (white cells, red cells and platelets) that are suspended within liquid called plasma. Platelets are best known for their ability to clot blood, but they are also very rich in proteins, called growth factors, which help with injury healing. Platelets are created in the bone marrow and freely pass through the bloodstream. When injury occurs, platelets become activated and concentrate at the injury site to release growth factors. Platelet-Rich Plasma, also known as PRP, is plasma with a greater concentration of growth-factor-rich-platelets and a lower count of red and white cells. To create PRP, blood is drawn from a patient and centrifuged for a set amount of time. Through this centrifugation process, the platelet concentration is increased, by separating the red blood cells from the rest of the plasma.

Am I a candidate?

Patients with osteoarthritis, tendonitis, muscle or ligament injuries are all considered candidates for platelet-rich plasma. Speak with your physician to decide which PRP preparation is best for you and your injury.

Where is this performed?

This procedure is performed in a sterile environment within the office or in conjunction with surgery. Please arrive 15 minutes early to sign consent forms and come hydrated! Increase your water intake several days before your procedure, between 80-100oz a day. Drinking several glasses of water in the hours leading up to your procedure will make the blood draw easier. Should you be having this procedure in conjunction with surgery, your procedure will be done in the operating room and your instructions for food and drink restrictions the day of surgery will differ. Follow the directions provided by the surgery nurse.

What system is used?

Peachtree Orthopedics utilizes both the Arthrex Angel System and the Arthrex ACP System for preparation of platelet rich plasma, depending on the needs of the patient and concentration desired. The final preparation of PRP is introduced into the affected or injured site and signals the body's own growth factors to concentrate at the treatment site. Individual results may vary. Not all patients will have the same post-procedure recovery and activity level.

Will my insurance cover the procedure and how much will it cost?

Unfortunately, at this time insurance companies do not cover PRP injections due to it still being experimental. This procedure is a self-pay procedure. We can provide you with documents to submit to your insurance company for reimbursement.

Platelet Rich Plasma (PRP) Options

The aim of PRP is to concentrate platelets from the patient's own blood, while separating out the other components of plasma (white and red blood cells). The platelets are introduced into the affected area and signal the body's own growth factors to concentrate at the treatment site. Growth factors promote wound healing, reduce inflammation, and reduce scar tissue formation in the treatment of arthritis, fractures, tendonitis and muscle and ligament injuries. Results are typically evident within 6 weeks.

Option #1: Arthrex ACP PRP

- Most affordable, easier to use, and has a quicker procedure time than the others
- Blood Draw:
    - Single Joint: 20cc
    - Double Joint: 35cc
- Spin time: 5 minutes
- Procedure Time: ~45minutes

Option #2: Arthrex Angel PRP

- Most commonly used by the Biologics Physicians
- Can adjust the white blood cell concentrations in the PRP, better for tendon injuries.
- Blood Draw:
    - Single Joint: 60cc
    - Minimum: 40cc; machine will not run unless there is at least a 40cc of volume
    - Double Joint: 120cc
- Spin time: 20 min
- Procedure Time: ~1-1.5 hours
- 8cc of ACD-A (Anticoagulant Citrate Dextrose Solution) is added when your blood is drawn to prevent your blood from clotting.

Option #3: Emcyte Alpha-2-Macroglobin (A2M) PRP

- Process is more manual, but delivers 7 times base line platelet concentration
- Blood Draw:
    - Single: 30cc
    - Double: 60cc
- Spin time: 9 minutes
- Filter time: 30-45minutes
- Procedure Time: ~2 hours

PEACHTREE ORTHOPEDICS

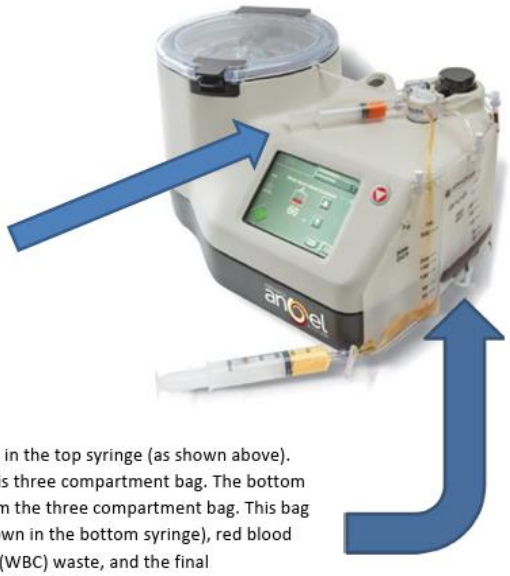
Platelet Rich Plasma (PRP), Arthrex Angel System

Peachtree Orthopedics utilizes the Arthrex Angel System™. The Angel system has the capability to create customized cellular concentrations of PRP. Using 3-sensor technology, the Angel system separates blood components using cell-specific wavelengths. The three sensors detect and separate platelets and leukocytes at 470nm light, erythrocytes at 940nm, and the 1300nm wavelength corrects for ambient light and the presence of air bubbles. As the blood components are separated, red blood cells and platelet poor plasma are filtered into a three part compartment. The Angel system provides the physician the ability to adjust leukocyte (white blood cell) concentration, hematocrit, and platelet concentration. The system can also produce the exact volume of PRP that your physician needs. Angel is the only PRP device that can deliver platelet concentrations up to 18x baseline, with adjustable leukocyte concentrations.

Angel requires a larger blood volume than regular PRP. Please make sure you are hydrated!

The blood is injected into a bag with ACD-A (anti-coagulant). Angel requires a longer centrifuge process, therefore the ACD-A prevents clotting. The angel centrifuge runs for 15 minutes.

As the centrifuge processes the blood, the PRP will collect in this syringe.



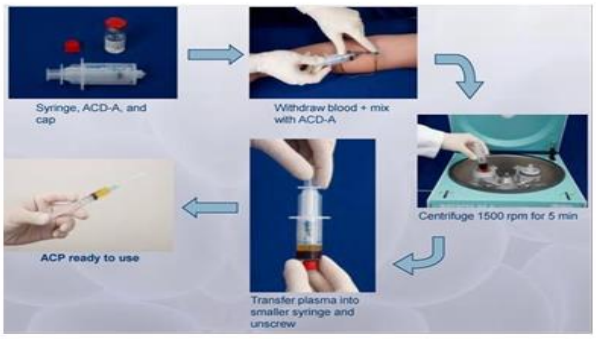
As the blood is processed, PRP collects in the top syringe (as shown above). The rest of the blood is filtered into this three compartment bag. The bottom syringe is collecting waste product from the three compartment bag. This bag collects platelet poor plasma (PPP, shown in the bottom syringe), red blood cell (RBCs) waste and white blood cell (WBC) waste, and the final compartment holds the blood draw and the ACD-A.

Please contact our office at 404-355-0743 ext. 1332 if you have any questions.

PEACHTREE ORTHOPEDICS

Platelet-Rich Plasma (PRP)-ACP System

Peachtree Orthopedics utilizes the Arthrex ACP® Double Syringe system for preparation of Platelet-Rich Plasma. This system has been cleared by the FDA for rapid and efficient concentration of platelets and their growth factors from autologous blood, for use at the treatment site. The unique double syringe design allows for convenient and safe handling, as the whole preparation process takes place in a closed system. The procedure involves a blood draw and subsequent spin in a centrifuge for 5 minutes. This procedure may be used as an alternative and/or in conjunction with surgery. The aim of PRP is to concentrate platelets from the patient's own blood, while separating out the other components of plasma (white and red blood cells). The platelets are introduced into the affected or injured area and signal the body's own growth factors to concentrate at the treatment site. Growth factors promote wound healing, reduce inflammation, and reduce scar tissue formation in the treatment of arthritis, fractures, tendonitis, and muscle and ligament injuries. Individual results vary. Not all patients will have the same post-procedure recovery and activity level.



Please contact our office at 404-355-0743 ext. 1332 if you have any questions.

Platelet Rich Plasma (PRP) FAQs

- What is PRP?
  - Platelets are activated at sites of injuries in order to release growth factors to help with injury healing.
- What type of injuries does PRP help?
  - These growth factors promote wound healing, reduce inflammation, and reduce scar tissue formation in the treatment of:
    - Arthritis
    - Fractures
    - Tendonitis
    - Muscle and ligament injuries
- Where and how long is the procedure performed?
  - The procedure is performed in clinic and takes about 45 minutes. Or can be performed in conjunction with surgery.
- What is the procedure?
  - First, a phlebotomy technician will draw your blood, then the blood is spun down to separate the platelets from your red and white blood cells, and is then injected back into your site of injury
- Are there any side effects from PRP?
  - Very low risk factor for infection
  - May have increased pain for a few days after the procedure.
- Is there anything the patient needs to do to prepare for the procedure?
  - Make sure the patient begins to hydrate 24-72 hours before the procedure to ease the blood draw and that they have discontinued taking NSAIDS a week before
- Will I need a driver for the procedure?
  - It is medically recommended that you arrange for a driver, particularly if you are undergoing a right lower leg or upper extremity procedure.
- What is the down time after the procedure?
  - Patient will feel sore/stiff for 24-72 hours post injection
  - The patient can take Tylenol and ice the site if there is any discomfort after the procedure
  - Can resume NSAIDS **two weeks** post injection
- When will the patient start to feel better from the injection?
  - Could take up to 6 weeks to feel the effects

PEACHTREE ORTHOPEDICS

Platelet Rich Plasma Instructions

Pre-Procedure

- Discontinue all NSAIDS, this includes supplements (Advil, ibuprofen, Aleve, Naprosyn, aspirin) at least **7 days** prior to procedure.
- Increase fluid intake 48-72 hours prior to scheduled procedure.
- Dietary restrictions are NOT necessary before or after procedure. **You must eat breakfast and lunch before your procedure.** If your procedure is in conjunction with surgery, follow the surgery direction on dietary restrictions.
- It is medically recommended that you arrange for a driver if you are undergoing a right lower extremity injection or bilateral upper extremity injections.
- Take 1,000mg of Tylenol, if tolerated, 1 hour prior to the procedure.
- Arrive 15 minutes prior to the procedure in order to sign the consent form.

Post-Procedure

- It is not unusual to have pain following an injection of PRP for 24-72 hours.
    - Tylenol you make take 1000mg (do not exceed 3,000mg daily) will help minimize the discomfort.
- You may resume use of NSAIDS and Supplements **2 weeks** following the procedure, unless your physician specifies otherwise.
- Physical therapy can be beneficial treatment following administration of PRP. Inquire with your physician if physical therapy is appropriate for your diagnosis and treatment plan.
- Strenuous physical activity should be avoided for **2 weeks** following the procedure. You may participate in everyday activities, such as normal everyday walking, grocery shopping, etc.
    - Avoid any activity that will increase your heart rate or involve weights for 2 weeks.
- On average, most patients report relief from PRP therapy 4-6 weeks from the time of injection.
    - Remember, we are looking for long-term results rather than short-term results!
- Make a follow-up appointment with your physician 6-8 weeks following the procedure.

PRP Contraindications

- Anti-inflammatories – stop taking **7 days before and 2 weeks after**
    - Aspirin
    - Motrin
    - Advil/ Ibuprofen
    - Aleve
    - Naprosyn
    - Naproxen
    - Diclofenac (ex: Voltaren gel)
    - Meloxicam/ Mobic
    - Celebrex
    - Daypro
    - Feldene
    - Lodine (Etodolac)
    - Orudis
    - Indomethacine (Tivorbex)
    - Natural remedies (ex: turmeric, Boswellia extract, fish oil)
- Blood Thinners/ Anticoagulant: Discuss with your prescribing physician when to discontinue the following:
    - Xeralto
    - Warfarin
    - Eliquis
    - Pradaxa
    - Heparin
- Oral Steroid: need to be off Steroids **7 days before and 2 weeks after** procedure
- No restrictions on Semaglutides/GLP1
- Wait at least one month after Cortisone (steroid) Injection!
- No restrictions on antibiotics, but preferably not on antibiotics during the procedure.
- History of Metastatic Conditions like cancer or disease. Discuss with your physician and please get clearance from Oncologist.
- History of severe liver disease
- Septic arthritis
- History of Autoimmune disease. Discuss with your physician and discuss with Rheumatologist.
    - Certain medications prescribed for autoimmune conditions may reduce the effectiveness of PRP treatment.

Post-PRP Injection Instructions

- It is normal to experience increased pain or soreness after the injection; this typically resolves within a few days.
- Do not use any prescription or over the counter anti-inflammatory medicines (NSAIDS) for **2 weeks after injection** such as: Aspirin, Motrin, Advil, Ibuprofen, Aleve, Naprosyn, Naproxen, Voltaren, Diclofenac, Meloxicam, Mobic, Celebrex, Daypro, Feldene, Lodine, Orudis and Ansaid. This includes supplements such as: Omega-3, Ginger, Turmeric, Spirulina, Vitamin A, Bromelain, and Capsaicin.
- You may use Tylenol (Acetaminophen) as needed for discomfort. 1,000mg every 8 hours as needed for pain. Do NOT exceed 3,000mg daily. If Tylenol does not help with the pain, please call your physician as they may be able to prescribe you different medications.
- Call the physician if you develop drainage from the injection site, bleeding, redness, or fever. You may experience some localized swelling and bruising at the injection site that will take 3-7 days to resolve.
- On average, most patients report relief from PRP 4-6 weeks from the time of the injection. Remember, we are looking for long-term results rather than short-term results! Please do not hesitate to call or contact us should you have any questions or concerns throughout your recovery.
- Continuing everyday activities (such as gentle range of motion, normal walking, grocery shopping, walking your dog slowly/short distances) is okay. Avoid any activity that will increase your heart rate.
    - **Strenuous physical activity (anything that increases your heart rate) should be avoided for 2 weeks following the procedure.**
        - For upper extremity procedures do not do any repetitive motion, pulling, tugging, grasping or gripping with the upper extremity for at least 2 weeks or instructed by your physician.
        - For lower extremity procedures (injections into the hip, thigh, knee, ankle, and foot) high intensity or weighted exercising should be avoided for 2 weeks after injection.
- Slowly ease back into activity as tolerated after 2 weeks. Physical therapy can be beneficial in this process. We are happy to provide a referral for PT, to commence 2 weeks after the procedure. Ask your physician if PT would be beneficial for you and they can provide you with a referral.
- No restrictions on showering/bathing after the injection.

- Please discuss with your physician when to discontinue braces, slings, or crutches if given. Gentle range of motion is recommended, as we do not want your joint to become stiff. Ideally, discontinue after 2-4 days, but your physician will provide you with this information.
- Make a follow-up appointment with your physician 6-8 weeks following the procedure.