# *ORTHOBIOLOGICS USING PLATELET RICH PLASMA*

## ***What to expect Prior to PRP injection***

- Please arrive 30 minutes BEFORE your scheduled visit. This allows us enough time to start the blood draw and centrifuge process.
- Non-steroidal anti-inflammatory (NSAID) medications must be stopped at least **ONE WEEK BEFORE** the procedure. These include aspirin, ibuprofen (motrin), naproxen (aleve), meloxicam (mobic), celecoxib (celebrex), indomethacin (indocin), diclofenac (voltaren), etc. They should be held for a minimum of two weeks after the injection, the longer the better. These medications will affect your platelet production and efficacy of injection.
- You may also need to temporarily stop taking certain blood thinners or supplements like fish oil, vitamin E, and ginkgo biloba. Always consult with your doctor before stopping any medications.
- Avoid strenuous activity involving the injection site for one week after the procedure. Day-to-day activities such as walking and household activities are fine.
- You may take 1-2 tablets of extra strength Tylenol if you have discomfort after the procedure.
- **Hydrate!:** Drink plenty of water in the days leading up to your procedure, especially the day before. This will make it easier to draw blood for the PRP preparation.
- **Eat a healthy meal:** Have a nutritious meal a few hours before your procedure to prevent lightheadedness during the blood draw. Please include a diet full of anti-oxidants ( such as blueberries) in the days leading up to the injection.

## Post Platelet Rich Plasma (PRP) Injection Information

***Important things to remember after your platelet rich plasma injection*:**

- Heat can help reduce pain and facilitate platelet signaling. Apply heat or a warm compress to the injection site after the procedure. Continue to do so 3 times a day for 10 minutes each. Do this for the first 3 days. Avoid ice.

- Injection site pain can be treated with Acetaminophen or prescription pain medications.
- Avoid strenuous or repetitive physical activity for one week.

- Avoid all NSAID type medications for at least 2 weeks post injection, the longer the better. This includes aspirin, ibuprofen, naproxen, celecoxib, meloxicam, etc.

***What to expect after your platelet rich plasma injection:***

- The goal of a platelet rich plasma injection is to change the biology of the tissues and joints. This takes time. Joints can expect to see improvements in 6-8 weeks. Tendons take longer. Tendons can take up to 3 months to see improvements.
- Some patients may get worse before symptoms get better. A small number of patients will have a heightened inflammatory reaction after getting a platelet rich plasma injection. This is a normal process. It is due to the body responding to the release of growth factors. This resolves on its own after a few days.
- Fevers, significant redness, purulent drainage, or persistent swelling or pain at the site of the injection are NOT normal. Let your physician know immediately as these could be signs of an infection.
- Rehabilitation can be just as important as the platelet rich plasma injection. Physical therapy exercises are encouraged as tolerated. Progressive loading of muscles, tendons, and joints will augment the healing effects of platelet rich plasma.

| Time | Restrictions | Goals of Rehabilitation |
|---|---|---|
| Phase 1<br>(Week 1) | - No anti-inflammatory medications<br>- No weight training<br>- No strenuous activities<br>- No aggressive soft tissue techniques<br>- No icing | - Rest for the first two days<br>- Apply heat as needed for the first week<br>- Progress to gentle range of motion and stretching |
| Phase 2<br>(Weeks 2-4) | - Avoid anti-inflammatory medications<br>- Limit aggressive soft tissue techniques | - Start with low weight high repetition isometric and concentric exercises<br>- Progress towards eccentric exercises<br>- Start proprioceptive and balance training<br>- Soft tissue stretches and mobilization |
| Phase 3<br>(Weeks 4-6) | - Avoid anti-inflammatory medications if possible | - Eccentric exercises<br>- Proprioceptive and balance training<br>- Plyometrics<br>- Sports specific exercises |
| Follow up appointment at 6-8 weeks | | |

**Additional Helpful information:**

***How many platelet rich plasma injections do you need? Do you need booster injections?***
Researchers continue to investigate this question. Preliminary studies suggest 2 or 3 platelet rich plasma injections provide greater benefit than one injection. This much is clear. One platelet rich plasma injection provides greater long term pain relief compared to one cortisone injection.

Booster injections are recommended if you have osteoarthritis. This is because no injection treatment will give you a new joint. The only way to get rid of osteoarthritis is to replace the joint. Unfortunately, this involves a major surgery.

## How does my overall metabolic health affect my joints?

High blood sugar and high triglycerides can lead to systemic inflammation, which not only worsens the pain and symptoms of osteoarthritis but also accelerates the degeneration of joint tissues. Similarly, high cholesterol and high blood pressure are linked to inflammatory processes that can exacerbate joint damage. Increased body fat, particularly around the abdomen, produces inflammatory cytokines that contribute to chronic inflammation throughout the body, including the joints.

Osteoarthritis is influenced by metabolic factors, and one of the best ways to address these factors is through your diet. Nutritional choices that reduce inflammation can help manage symptoms and slow the progression of the disease. An anti-inflammatory diet is essential for anyone dealing with osteoarthritis.

Start by examining your diet. You can't out exercise a bad diet. Start slow and cut out all the unnecessary carbohydrates, especially the added sugars. Then cut out the fried foods. Natural foods only. Things that grow in the ground or from trees. Eliminate or minimize processed foods.

Make time for exercise and then slowly increase it. If this means a 5 minute walk, then start there. Add muscle strengthening exercises. Cardio is great, but it is not a substitute for muscle strengthening. Focus on body weight exercises and especially target the quadriceps and the glutes.

If you have pain, that’s okay. Expect some pain when you first start out. A pain level of 3 or 4 out of 10 is acceptable. Anything higher and you may want to try an occasional ibuprofen or acetaminophen to help reduce the pain so that you can exercise more. Some people find supplements like boswellia serrata or turmeric curcumin more effective. You can also try supportive knee braces like a neoprene knee sleeve or a hinged knee brace during exercise. Those with severe pain may want to consider an injection of medications into the knee to help alleviate pain so that they can start exercising.

The reason these changes work is because osteoarthritis is as much a metabolic disease as it is a wear and tear disease. Things like your weight, your diet, your blood sugar, cholesterol, triglycerides, all of these things directly affect our joints and our perception of pain. Correct these critical factors and you’ll realize that managing arthritis isn’t just about addressing joint damage, but also about improving overall metabolic health.

**Recommended Supplements**

Turmeric & Curcumin 1000mg daily - Boswellia Serrata extract 100mg daily, increase to 250mg daily as needed

Glucosamine 1500mg & Chondroitin 800-1200mg daily (G&C must be taken together

Vitamin D 2000-5000IU daily with Vitamin K2

N-acetyl cysteine (NAC) 600–1,800 milligrams of a supplement daily

Quercetin 500 to 1000 mg