Platelet-Rich Plasma and BMCC (Bone Marrow Cell Concentrate) Explained:

What is Platelet-Rich Plasma (PRP)?

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. In response to an injury or tissue damage, your body naturally recruits platelets and white blood cells from the blood to initiate a healing response. Under normal conditions, platelets store numerous growth factors which are released in response to signals from the injured tissue. Modern technology allows us to concentrate platelets and white blood cells from your blood, and induce this growth factor release as we inject the solution directly into injured tissue, simulating this same healing response in a more powerful form. By enhancing the body's natural healing capacity, the treatment may lead to a more rapid, more efficient, and more thorough restoration of the tissue to a healthy state.

What is Bone Marrow Cell Concentrate (BMCC)?

It is well established that a significant population of our bodies' stem cells are contained within our bone marrow. By harvesting blood and tissue from the bone marrow space of the hip, an injectable product can be produced by concentrating platelets and cells withdrawn through a simple outpatient needle aspiration procedure, done with local anesthetic and light sedation. BMCC contains all of the growth and healing factors in PRP, along with concentrated "pluripotent" or stem-like cells which further contribute to the regenerative process.

What conditions can be treated with PRP and BMCC?

Knee Pain

Tendon Injuries (Patellar Tendonitis, Quad Tendon)

Muscle injuries

Ligament sprains or tears (MCL, LCL)

Bursitis

Osteoarthritis

Hip Pain

Muscle pain or injury

Pyriformis syndrome

Greater Trochanteric Bursitis

Tendon Injuries

Sacroiliac joint pain

Hamstring tendonitis or tears

Osteoarthritis

Shoulder and Arm Pain

Rotator Cuff tendonitis, tendonopathy or partial tears

Bicipital tendonitis

Medial and Lateral epicondylitis (golfers & tennis elbow)

Ulnar Collateral Ligament sprain or tear

Lower Leg and Foot Pain

Plantar Fasciitis

Shin Splints

Peroneal tendonitis

Ankle sprains/ligament injury

Achilles tendonitis or partial tears

Treatment Process:

Following a formal evaluation and diagnostic workup, an individualized treatment plan will be discussed with you. A full explanation of the procedure including risks and benefits will be reviewed. Once written consent is obtained, blood is drawn from your arm or from a bone marrow aspiration in the back of your hip region, and placed in a special processing unit, which separates platelets, white blood cells and serum from red blood cells. The platelets and white blood cells (including stem cells) are then concentrated and collected into a sterile syringe. Some of the blood is used to create an "activator" of the PRP/BMCC. The skin and soft tissue is anesthetized with local anesthetic, followed by injection of both the PRP/BMCC and activator into the tissue targeted for treatment. Depending on the size of the injured tissue, one or several needles are inserted to optimize placement of the product.

Treatment plan:

Depending on the severity and duration of your injury, one to three injections are suggested. Following the initial treatment with PRP or BMCC, a follow up visit occurs 3-4 weeks later. At this visit an evaluation of your response to the initial therapy is performed and a decision is made regarding the need for additional PRP treatments. In general, chronic injuries often require more than one injection. In both acute and chronic injuries, injections may be combined with an exercise or physical therapy program to enhance the success of the treatment.

Are PRP and BMCC injections safe?

Research and clinical data show that PRP and BMCC injections are extremely safe, with minimal risk for any adverse reaction or complication. Because the injectable products are produced from your own blood, there is no concern for rejection or disease transmission. There is a small risk of infection from any injection into the body, but this is rare. Of note, recent research suggests that PRP may have an anti-bacterial property which protects against possible infection (4).

What to expect after your treatment:

Often, following the initial injection, an "achy" soreness is felt at the site of injury. This "soreness" is a positive sign that a healing response has been set in motion. This effect can last for several days and gradually decreases as healing and tissue repair occurs. It is important that anti-inflammatory medications such as Ibuprofen, Naproxen and Aspirin be avoided following PRP treatments. These medicines may block the effects of the intended healing response facilitated by the injection itself. It is acceptable to use over the counter pain medication, such as Tylenol and in some cases a prescribed analgesic, which does not have anti-inflammatory properties, to control discomfort as needed. Pain management options will be discussed with you by the physician managing your treatment plan. You will be permitted to resume normal day to day activities and light exercise following injection. We suggest that you avoid strenuous lifting or high level exercise for at least several days after injection.