



SOUTH JERSEY CENTER
for Orthopedics & Sports Medicine

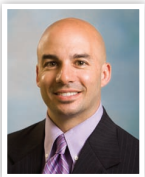
Moving Forward



Platelet Rich Plasma -

"The Next Best Thing in Sports Medicine?"

by Brad Bernardini, MD, FAAOS



Platelet Rich Plasma, or PRP is defined as a sample of autologous blood with concentrations of platelets above baseline values. Generally platelet concentrations of 3-7 times average blood concentration is the goal. First popularized in the 1990's in maxillofacial and plastic surgery applications, PRP has gained rapid popularity in Orthopaedic sports medicine over the last year. A growing body of literature is mounting, which supports PRP injections for the treatment of acute and chronic muscle, tendon, and articular cartilage injuries and conditions. Furthermore, given the autologous nature of the injection, PRP has much less risk for adverse affects such as a an allergic or hypersensitivity reaction.

PRP is prepared by taking a sample of autologous, anti-coagulated blood and using a centrifuge to separate the blood cells from leukocytes and platelets. A second stage centrifuge is then used to further divide the plasma into platelet rich and platelet



poor portions. PRP has been shown to have highly concentrated levels of growth factors and secretory proteins that act to enhance the healing process on a cellular level. The PRP is injected through a 18-22 gauge needle with the aid of an ultrasound imaging device to maximize accuracy. The entire process takes approximately 20 minutes and is done entirely in the office.

Indications for the use of PRP include both chronic and acute condi-

tions of the musculoskeletal system. Its most common current clinical applications are chronic conditions such as plantar fasciitis, tennis elbow, patellar tendinitis, and achilles tendinitis, acute conditions such as partial thickness rotator cuff tears, muscle strains of the calf, quad and hamstring, in addition to ligament injuries of the ankle and knee. Further applications are being investigated with potential benefit for fracture non-union and osteoarthritis of the knee and shoulder. In fact, recent studies have shown increased efficacy versus corticosteroid injections and hyaluronate injections of the knee. Contraindications are few, and currently few adverse affects have been recorded other than localized flare response immediately post-injection

Concentrated platelets and their bioactive factors placed within the zone of injury have been shown to amplify native soft tissue and bone healing processes. Various growth factors and cytokines present in platelets play important roles in cell



MRI of Elbow Tendinosis

healing properties.

PRP therapy has shown promise in the early studies, but more research is needed. There are few well designed, level I studies looking at its use in the above mentioned applications, although many are currently

proliferation, chemotaxis, cell differentiation, and angiogenesis. In this way, PRP injections have been shown to augment the body's natural



PRP Injection into Elbow

underway. In fact, PRP administration is currently considered experimental and is not reimbursed by third party payers. Despite the paucity of research, the use of PRP in sports medicine will likely continue to grow. Given its excellent safety profile and significant basic science and anecdotal history of success, PRP may just be the "next best thing."

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by third party payers. Despite the



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About Dr. Brad Bernardini

Brad Bernardini, MD is a Board Certified Orthopedic Surgeon, Fellow of the American Academy of Orthopedic Surgeons, and is a Fellowship Trained Specialist in Sports Medicine. Dr. Bernardini focuses his specialized practice on arthroscopic shoulder



and knee surgery and sports related injuries. Currently, he serves as an Associate Masters Instructor

and a faculty member for the Arthroscopy Association of North America and he serves as an associate reviewer for "Arthroscopy", the Journal of Arthroscopy and Related Research. Dr. Bernardini has also been honored as an Active Member of United States Ski and Snow-

board Team Physicians Pool Program and he covers World Cup and Olympic caliber events annually.

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