

The Difference Between Platelet Rich Plasma Treatment and “Stem Cell” Treatment

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Platelet rich plasma treatment is a method of treating musculoskeletal disorders by tapping the regenerative ability of the body’s own platelets. Platelets are a normal component of blood. Platelets are produced by bone marrow. Cells within the bone marrow, called megakaryocytes, produce platelets. Platelets circulate in our bloodstream as a normal component of blood. Platelets have the ability to release signals that initiate a healing cascade in the body. When platelets release their growth factors they induce the construction of new connective tissue. This results in the formation of new blood vessels and connective tissue. Platelets have been found to release over 300 bioactive substances when they are triggered to induce healing. Some of these bioactive substances send a signal to stem cells to come to the area in need of healing.

The term “stem cells” is a broad definition of living human cells that are part of human pain and degeneration. “Stem cell” treatments can include any number of different treatment modalities.

Stem cells exist in the human body in many locations. They are found in high concentration in the bone marrow. They live in many other locations in the human body. Stem cells are a fundamental building block of a healing response. When one breaks a bone the miracle of fracture healing involves stem cells. The stem cells migrate from other parts of the body to the fracture site. At the fracture site some trigger occurs that tells the stem cell to turn into regular bone. A cascade of miraculous healing steps takes place that results in the bone becoming completely solid. If one looks at a piece of the bone tissue that is newly formed as a result of the stem cell process, it is indistinguishable from normal bone under a regular light microscope. It will test as normal bone under biologic assay testing.

A tremendous amount of information known about stem cells yet much about them remains unknown. What is the best way to gather stem cells? How do we segregate the desired stem cells from undesired stem cells? How do we know that we even have stem cells? Should we get stem cells from the person or should we collect them from other people? Are stem cells collected from deceased people functional? Is it okay to use stem cells that are collected from multiple deceased people and used “pooled stem cells”? Should we retrieve stem cells from bone marrow? Is amniotic fluid the best source? We share the intense curiosity and excitement as high as science unravels some of these mysteries.

We are currently using platelet rich plasma treatment to help lessen the pain and stiffness of certain arthritic disorders. We are using PRP for tennis elbow, rotator cuff tendinopathy, and partial rotator cuff tear, tennis elbow, and plantar fasciitis. We are using a refined technique with proven safety and efficacy. We use a closed sterile system that uses your own platelets and your own plasma. This technique of using platelet rich plasma seems to trigger a healing cascade related to stem cells.

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