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Cutting edge concepts in the use of stem cell and PRP injections in an office setting

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The presentation concerns PRP and stem cell (both bone marrow, adipose and V-cell) injections for musculoskeletal conditions in an office setting. Indications are given as to which type of cell and technique to use to accomplish repair. Stem cells, both bone marrow derived (BMAC) and adipose, are used for the more difficult problems. PRP injections are utilized for the less severe problems. One aspect of the discussion centers on the newest thinking of PRP, in that all components of the blood have importance. Indications are given when to use stem cells verses PRP and when to use both. The newest concepts in stem cell science are presented. These concepts include the clinical use of Muse cells, exosomes, and very small embryonic like stem cells. Basic science of both PRP and stem cells are discussed. This presentation defines what constitutes an effective PRP preparation. Myths concerning stem cells are dispelled. One myth is that mesenchymal stem cells are the most important stem cell. The discussion centers on the fact of the relationship between stem cells and the immune system. Current thinking is that MSCs have an immunomodulation capacity affecting joint chemistry and biology. We now learn in the talk that the hematopoietic stem cells are the drivers of tissue regeneration. Also discussed are adjuncts used which enhance the results. These therapies include supplements, LED therapy, lasers, electrical stimulation, and cytokine therapy. The scientific rationale is presented for each of these entities as to how they have a direct on stem cells.