



Poster Exhibits

Human Skin Fibroblast Proliferation In Buffered Platelet Rich Plasma

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Location: McCormick Place Hall B

Sports Medicine/Arthroscopy

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Unactivated, buffered platelet rich plasma augmented cell culture media increases human fibroblast proliferation when compared to control media alone.

Fibroblasts are important in proliferative phase of wound healing and may play a role in tendon healing. Platelet rich plasma has been used to accelerate wound healing and to treat chronic severe elbow tendinosis. Very little basic science data exists, however, on the effects of platelet rich plasma in human cell culture.

Human skin fibroblasts were isolated and grown in either D-MEM/F-12 with ten percent fetal bovine serum (control media) or the ninety percent control media with ten percent buffered platelet rich plasma (PRP media). The PRP was not activated prior to being added to the cell culture. Control and PRP media wells were seeded with 10,000 cells each and then incubated at 37 degrees for seven days.

Cell counts were then calculated. This experiment was repeated six times. The average cell count in the control group at 7 days was 87,700 fibroblasts. The average cell count in the PRP group at 7 days was 288,000. This represented a 3.28 fold increase over control. Student's T-test evaluation of the results revealed a p value of 0.004. Unactivated, buffered PRP also augmented fibroblast proliferation when the wells were seeded with 25,000 and 500,000 cells.

Unactivated, buffered platelet rich plasma augments human fibroblast proliferation when compared to control. This may have significant implications for the use of buffered platelet rich plasma for either wound or tendon healing.

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