

## EVALUATION OF TWO AUTOLOGOUS PLATELET CONCENTRATION TECHNOLOGIES

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**Poster:** Platelet-derived growth factors (GF) have been shown to be critically involved in the early and later stages of the healing process in bone, cartilage, and soft tissue repair. We studied two commercial systems used to concentrate platelets into a platelet-rich plasma (PRP), The GPS® II Platelet Concentrate System (GPS II) and the FIBRINET® Platelet Rich Fibrin Matrix (PRFM) system. Platelet recovery and growth factor release over 72 hours post blood draw were studied. From each of 10 donors, the GPS II recovered an average 30.5% (+/-16.2 SD) and the PRFM system recovered an average of 49.5% (+/-9.8 SD). In a second study, the PRFM system was also compared to whole blood clots from 5 additional donors for growth factor release. From 5 donors, the average platelet recovery for the PRFM system from 30 samples (6 blood collections tubes per donor) was 49% (+/-0.1 SD). These systems were studied for growth factor release using ELISA analysis of platelet gel supernatant. *In vitro* growth factor release from the PRFM gradually increased over the 72-hour study from the initial time point for five out of six growth factors measured, with only IGF decreasing over time. Approximately twice as much GF per  $10^6$  platelets was released from the PRFM gel as released from the whole blood clot.

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