



## The beneficial effects of the PRF membranes in a clinical setting

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Platelet-rich plasma (PRP) and platelet-rich fibrin (PRF) are autologous platelet concentrates prepared from patient's own blood. Contemporary dentistry is focused on the development of alternatives that might result in the local release of growth factors accelerating tissue healing. However, the plasma content and preservation of platelets depends on the compression methods used. To accurately evaluate the clinical outcome of PRF, the preparation protocol should be standardized.

Platelet-rich plasma (PRP) is a platelet-rich fraction of plasma and is clinically available as a source of growth factors to facilitate tissue repair and regeneration. To improve the handling efficiency, the retention at application sites, and the release of growth factors, bovine thrombin and/or calcium have been preferentially added to PRP to directly or indirectly facilitate the conversion from fibrinogen to fibrin.

In the field of dental medicine, there are three major applications of PRF preparations. These applications include 1) biodegradable barrier membranes for guided tissue regeneration, including alveolar ridge augmentation, 2) a reservoir of growth factors as a gel form of PRP for tissue regeneration, such as bone induction and 3) biodegradable scaffolds for tissue engineering.

For the standardization of PRF preparations as a grafting material, the use of the region of the PRF membrane with the greatest platelet enrichment is proposed and not to squeeze out all of the plasma contained in the original PRF clots. In this regard, the novel compression device would be useful for preparation of biologically active PRF.

