Professor Carlos José Saboia-Dantas, DDS, MSc, PhD.
Implantology and Oral Rehabilitation
Tissue Repair Research Laboratory (LAPERT), Federal University of Uberlândia, Minas Gerais, Brazil
Scientific Director - Brain Storm GTR Academy, Rio de Janeiro, Rio de Janeiro, Brazil
INSTAGRAM: @prof.carlos.saboia

PRO-PRF (Progressive Platelet-Rich Fibrin): The Third Generation of Blood Concentrates

Blood Collection and PRO-PRF Clot Obtaining

PRO-PRF Clot for Giant Membrane (GMPro), Blocks (BlockPro) and Injectable PRO-PRF

The patient's own blood samples must be obtained by venipuncture, using scalp and plastic tubes (PET) without additives for blood collection. The number of tubes collected depending on the extent of the surgical area. They are immediately transferred to a fixed-angle rotor centrifuge to produce the PRO-PRF blood concentrate, and centrifuged for a total time of 15 min., with the progressive increase in RCF every 5 min. (60g / 200g / 700 g), according to the protocol developed ***by Saboia-Dantas CJ and Dechichi, P***, at the Tissue Regeneration Research Laboratory of the Federal University of Uberlândia (UFU) in 2019, and published in 2022 (Saboia-Dantas CJ, Limirio PHJO, Costa MDMA, Linhares CRB, Santana Silva MAF, Borges de Oliveira HAA, Dechichi P, Platelet-rich fibrin progressive protocol: third generation of blood concentrates., *Journal of Oral and Maxillofacial Surgery* (2022), doi: https://doi.org/10.1016/j.joms.2022.09.002). After centrifugation, the blood concentrate obtained in each tube was aspirated using a 10 ml hypodermic syringe. and a 16G hypodermic needle. The PRO-PRF volume obtained was deposited in a receptacle for the modeling of a PRO-PRF clot, being later pressed in a stainless-steel box for serum drainage and formation of a *giant PRO-PRF membrane* (GMPro). Prior to coagulation, PRO-PRF can also be used for *biofunctionalization* of bone substitutes and synthetic membranes, and tissue injection. In the first case, it must be added to the particulate biomaterial and carefully manipulated to shape the graft into blocks (BlockPro). Images shown in figure 1.

Figure 1

PRO-PRF Clot for Membranes and Plugs

Conventional PRO-PRF membranes and plugs can be produced by collecting blood in glass tubes and centrifuging using the protocol described above. Images shown in figure 2.

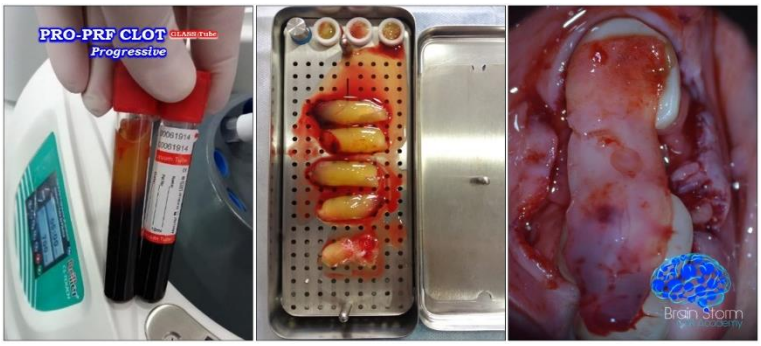

Figure 2