

Platelet Rich Fibrin

Platelet rich fibrin (PRF) is exactly what the name suggests. The substance is a by-product of blood (plasma) that is rich in platelets. Platelets are important because they have multiple growth factors which allow the patient to heal faster. Until now, its use has been confined to the hospital setting. This was due mainly to the cost of separating the platelets from the blood and the large amount of blood needed to produce a suitable quantity of platelets. New technology permits the doctor to harvest and produce a sufficient quantity of platelets from only 20 cc of blood drawn from the patient while they are having outpatient surgery.

What is PRF?

PRF permits the body to take advantage of the normal healing pathways at a greatly accelerated rate. During the healing process, the body rushes many cells and cell-types to the wound in order to initiate the healing process. One of those cell types is platelets. Platelets perform many functions, including formation of a blood clot and release of growth factors into the wound. These growth factors (platelet-derived growth factors PDGF, transforming growth factor beta TGF, and insulin-like growth factor ILGF) function to assist the body in repairing itself by stimulating stem cells to regenerate new tissue. The more growth factors released into the wound, the more stem cells stimulated to produce healing. Thus, one can easily see that PRF permits the body to heal faster and more efficiently.

A subfamily of TGF, is bone morphogenic protein (BMP). BMP has been shown to induce the formation of new bone in research studies in animals and humans. This is of great significance to the surgeon who places dental implants. By adding PRF, and thus BMP, to the implant site with bone substitute particles, the implant surgeon can now grow bone more predictably and faster than ever before.

PRF Has Many Clinical Applications

This includes onlay and inlay grafts, sinus lift procedures, ridge augmentation procedures, and closure of cleft lip and palate defects. Repair of bone defects created by removal of teeth or small cysts. Repair of fistulas between the sinus cavity and mouth.

PRF Also Has Many Advantages

Safety:

It is a by-product of the patient's own blood; therefore, disease transmission is not an issue.

Convenience:

It can be generated in the doctor's office while the patient is undergoing an outpatient surgical procedure, such as placement of dental implants.

Faster healing:

The supersaturation of the wound with PRF, and thus growth factors, produces an increase of tissue synthesis and thus faster tissue regeneration. PRF slowly dissolves over a two-week period

releasing growth factors over an extended time. This process effectively allows the patient to heal as if they were twenty - thirty years younger.

Process:

Harvesting is done with only 20 cc of blood, and it is processed in the doctor's office.

Ease of use:

It is easy to handle and improves the ease of application of bone grafting products.

Frequently Asked Questions About PRF

Is it safe?

Yes. During the outpatient surgical procedure, a small amount of your own blood is drawn out via the IV. This blood is then placed in the PRF centrifuge machine and spun down. In less than 15 minutes, the PRF is formed and ready to use.

Should PRF be used in all bone-grafting cases?

Not always. In some cases, there is no need for PRF. However, in the majority of cases, application of PRF to the graft will increase the final amount of bone present in addition to making the wound heal faster and more efficiently.

Will my insurance cover the costs?

Unfortunately, not. The cost of the PRF application (approximately \$450) is paid by the patient.

Can it be used alone to stimulate bone formation?

Yes. PRF is best when mixed with either the patient's own bone, or a bone graft material. However, in certain situations it can be used alone to stimulate bone formation.

Are there any contraindications to PRF?

Very, very few. Only patients with certain hematologic diseases do not qualify for this in-office procedure. Check with Dr. Silva to determine if PRF is right for you.