**Advanced Platelet Rich Fibrin + (A-PRF+)**

**Advanced Platelet Rich Fibrin + (A-PRF+)** is a third generation product derived from a concentration of platelets and white blood cells (ant-infection). The protective membranes that are produced release key proteins that stimulate bone and soft tissue growth, accelerating soft tissue and bone healing. **A-PRF+** membranes are made from your own cells, not manufactured from animal products. Collagen membranes are only barriers and do not have the beneficial biological healing factors to speed your recovery and shorten your healing time. The **A-PRF+** membranes contain a large quantity of proteins that aid in increasing cell attachment to soft tissue and titanium. With the release of these proteins, healing is more rapid and more effective. The main property of the biomaterial is the slow release of these proteins from the **A-PRF+** material over seven to ten days which accelerates the natural healing phase. In the **Advanced** protocol, most monocytes are captured from the blood which makes it more active in stimulating bone grafts; monocytes transform into macrophages which release **BMP-2** and **BMP-7** (Bone Morphogenic Protein). There is also a greater release of **VEGF** for more rapid vascularization.

**Advanced-PRF** initiates the sustained release of multiple growth factors including platelet-derived growth factor **(PDGF)**, a protein that plays a significant role in replication of stem cells and osteoblasts that organize themselves to create new bone. Also released is **VEG-F** which stimulates the formation of new blood vessels, increasing blood flow to the site. Transforming growth factor **(TGF-B)**, another protein, stimulates tissue growth by recruiting stem cells to the surgical site and stimulates them to replicate and create the foundation for new bone. Also, thrombospondin 1, and adhesive glycoprotein, aids in cell interactions.

The **A-PRF+** method is based on a technique developed by Dr. Joseph Choukroun in 1999 in France. I met and studied with Dr. Choukroun when he introduced the protocol in the United States in January 2010 and continue to meet and confer with him over the past years. He developed a very specific centrifuge that is a critical part of the process. To create the **A-PRF+** material, we take a small quantity of your blood and centrifuge it in the office. This concentrates the platelets and white blood cells (leukocytes) from which the **A-PRF+** products are made. The platelet concentrate is placed in a special tray that produces membranes or cylinders of a constant size and thickness. The average amount of your blood that is taken is one to two ounces.