

## **PRP (Platelet Rich Plasma) FAQ**

### **What is PRP (Platelet Rich Plasma)?**

PRP is a natural product created from your own body. A small amount of blood is drawn from you and placed in a sterile tube that is spun down in a centrifuge to separate the different components of the blood. Red and white blood cells are divided from the platelets and the plasma (the clear fluid). A normal platelet count ranges from 150,000 to 450,000 platelets per microliter of blood. Therapeutic PRP (Platelet Rich Plasma) contains a higher than normal number of platelets concentrating the platelets by roughly five-fold. The difference between PRP (Platelet Rich Plasma) and PPP (Platelet Poor Plasma) is in the procedure of a 2 spin cycle in the centrifuge. It would seem intuitive that a higher platelet count would yield a high concentration of more growth factors and thus a better clinical result. A single spin will yield PPP (Platelet Poor Plasma) and not provide optimal treatment results.

### **The History of PRP**

PRP has a long history of being used in orthopedic medicine, dentistry, and reconstructive surgery, and now its benefits are being applied to other fields of medicine such as dermatology, skin wound healing, and cosmetic facial rejuvenation. Scientific studies dating back 30 years have documented that PRP grows new collagen when injected into the skin, and newer studies show that PRP can soften sun damage and aging skin issues. PRP is the essence of regenerative medicine and research suggests that as the study of this treatment continues, PRP therapies eventually may be able to treat a myriad of medical conditions.

### **PRP Introduction**

The basic idea behind PRP injection is to deliver high concentration of growth factors to an area of injury. The PRP process is enhancing the body's natural mechanism of healing. When you become injured the body sends platelets to heal the area, thus the swelling. **Therefore PRP is typically is done in conjunction with Micro-Needling or Laser Treatments which induces a controlled injury.** Injection of PRP to the treated area induces concentrated healing or tissue regeneration.

Once proteins and growth factors bind to the cellular receptors of skin tissue (fibroblasts, endothelial cells, and osteoblasts) at the injection point, they activate a variety of intercellular events, which help mediate:

- Angiogenesis (New blood vessel formation)
- Migration of stem cells to the injection area
- New cell proliferation
- Production of extracellular matrix proteins

## **What do these Growth Factors Do**

- There are many growth factors with varying responsibilities (listed below), however cumulatively they accelerate tissue and wound healing. After increasing the baseline concentration of platelets, we are able to deliver a powerful dose of growth factors that can dramatically enhance the healing process.
- The growth factors derived from platelets play an important role in tissue remodeling including neovascularization. These factors interact with the local cells and send signals that initiate cell division and migration.

## **How Platelets Rejuvenate Skin Summary**

The plasma now contains a high concentration of Growth Factors. Growth factors stimulate stem cells to create new, youthful tissue. Your body's own stem cells control the process of tissue building in the body. They direct the growth of new tissue, promoting collagen to smooth and tighten lax skin, softening wrinkles and evening out skin tone.

## **What to expect during and after the PRP procedure**

A small amount of blood will be drawn from you. While the PRP is being prepared, your skin will be cleansed and prepared for the treatment. Depending on the selected treatments, numbing cream may be applied.

PRP injection procedure takes about 30 minutes

PRP injections and Micro-Needling treatments take approximately 60 minutes.

PRP injections, Radio Frequency and Micro-Needling treatments take approximately 90 minutes

These treatments are relatively painless, and require minimal post procedure care or time off from daily events. Mild swelling, redness, or bruising fades within 1-3 days. The PRP is made from your own cells, virtually eliminating the possibility of negative side effects.

## **Results**

The goal of PRP skin rejuvenation therapy is to improve skin tone and texture, tighten skin, and soften lines and pores. Results begin to show 3-4 weeks after the treatment session and continue to improve with time. Three treatment sessions are generally recommended, spaced 1-2 months apart, to achieve the best outcome.

PRP therapy can be combined with laser treatments, microdermabrasion, chemical peels, Restylane, Juvederm, BOTOX® Cosmetic, and/or Dysport® to best target a patient's unique issues and thus achieve the final goal of younger looking skin. Maintenance PRP treatments should be given over time.

## **How are PRP Treatments Different at LeDerm?**

There are three reasons Platelet Rich Plasma (PRP) treatments are different at LeDerm from other facilities. First, we use the Purespin® PRP System, the most sophisticated system for the preparation of Platelet Rich Plasma. Second, by using a double centrifuge technique, we generate the optimal concentration of growth factors in PRP. Third, and most important, we have the knowledge to know when PRP is appropriate and the

skill to inject the proper quantity of PRP at just the right depth to achieve the desired result — a skill that cannot be overstated.

### **Areas Typically Treated for Aesthetics**

- Crinkling around the eyes
- Naso-labial folds
- Superficial rhytids
- Rhinoplasty
- Marionette folds
- Bags & dark circles around the eyes
- Cheeks, midface (malar pads, temporal area)
- Neck
- Jaw-Line
- Peri Auricular area
- Chest and Decolletage
- Back of the Hands and Arms
- Lips
- Acne and Scars
- Stimulate hair growth on scalp and increase change of hair color from grey to black/normal (Alopecia Areata)

### **How does PRP therapy differ from other injections or fillers**

Hyaluronic acid fillers, such as Restylane and Juvederm, are composed of solid material that fills lines and skin folds. These fillers are indicated to soften deeper lines such as the folds around the mouth area, or to plump lips. They usually last from 6-18 months; repeated treatments are required to fill the area again.

PRP stimulates your own collagen to grow for total facial rejuvenation rather than individual wrinkle improvement. PRP is used for volumizing faces that are beginning to look drawn, to plump out cheek indentations, soften under eye hollows, improve the skin tone, tightness, and texture, and fill in areas where hyaluronic acid fillers cannot reach or are not safe to use.

Restylane and Juvederm can be used with PRP as the two types of treatments are meant for different purposes; they supplement each other to give the best final outcome of a more youthful looking face. Restylane and Juvederm fill specific lines and folds; PRP improves overall volume, fullness, and skin tone. PRP acts to improve overall quality, tightness, and texture of the skin rather than filling individual deeper wrinkles.

## Important Factors When Evaluating a PRP System

### 1. Platelet Recovery

Purespin® has the highest recovery of all devices on the market 81% for the GS30-PurePRP®, and 62% for the MAGELLAN platforms. Platelet recovery for the two gel systems each averaged 35% for REGEN and 30% for ECLIPSE. The average platelet concentration factor was 6.6 times baseline for the Purespin® PRP® systems and 5.7 time baseline for the MAGELLAN platform.

### 2. Platelet Concentration

Deliverable platelets are the actual volume of viable platelets contained in a PRP sample. Purespin® PRP® provide upwards of 9.5 billion platelets in a 7ml Purespin® PRP® treatment sample (significantly higher than its closest competitor).

### 3. Granulocyte Depletion (reduces post injection tissue inflammation)

Purespin® depletes Inflammatory Granulocyte by 98% compared to Magellan at 79.7%,

### 4. Reduction of Red Blood Cells (low viscosity PRP improves tissue infiltration)

RBCs add to the PRP viscosity which increases injection difficulty. Purespin® PRP® has a hematocrit of less than 1%. This reduction of RBCs allows for use of smaller gauge needles and less patient discomfort than other devices on the market

### 5. Closed System

Purespin® PRP is consistently prepared with resounding cell concentrations in a completely closed processing chamber.

*Purespin® provides the fastest PRP procedure on the market. 2 spin cycles totaling 6 minutes, is significantly faster than even most single spin inferior PPP (Platelet Poor Plasma) systems on the market today. This means less blood drawn from the patient, less time in the treatment and the highest yield of platelets for the best outcome of the treatment,*

## Platelets Functions

- There is no doubt that the platelet is the most important cell for the repair process of the body and adequate platelet count is necessary in order to heal and regenerate tissue
- Platelets contain alpha granules that store large numbers of “growth factors” - healing proteins
- Release of growth factors, which consist of polypeptides, regulate cell differentiation and proliferation and play an important role in the different stages of tissue healing and repair.

## How Does PRP Help Heal the Body?

- The body’s first response to soft tissue injury is to deliver platelet cells
- Packed with growth and healing factors, platelets initiate repair and attract the critical assistance of stem cells.
- PRP’s natural healing process intensifies the body’s efforts by delivering a higher concentration of platelets directly into the area in need.

- The PRP is then injected into and around the point of injury, jump-starting and significantly strengthening the healing process.

### **List of Growth Factors and Function:**

#### **Transforming growth factor**

- Is a potent stimulator of collagen synthesis
- Greatly decreases dermal scarring
- Directly stimulate mesenchymal, epithelial and endothelial cell growth
- Stimulates endothelial chemotaxis

#### **Epithelial Growth Factor**

- Stimulates re-epithelialization
- Stimulates angiogenesis
- Stimulates collagenase activity

#### **Fibroblast Growth Factor**

- Stimulates angiogenesis
- Stimulates collagen synthesis
- Stimulates wound contraction
- Stimulates matrix synthesis
- Stimulates epithelialization
- Produces keratinocyte growth factor (great for hair growth)

#### **Vascular Endothelial Growth Factor**

- Mediates extracellular matrix synthesis and deposition
- Promotes angiogenesis
- Chemotactic for endothelial cells
- Mitogenic for endothelial cells and keratinocytes
- Believed to increase blood vessel permeability to improve tissue nutrition

#### **Platelet Derived Growth Factor**

- Stimulates smooth muscle cells
- Stimulates collagen synthesis and collagenase activity
- Stimulates angiogenesis