**PRP is Approved by the FDA**

Currently, there are two methods of PRP preparation approved by the U.S. Food and Drug Administration. Both processes involve the collection of whole blood (with the anticoagulant citrate dextrose) that undergoes two stages of centrifugation designed to separate PRP from platelet-poor plasma and red blood cells.

**Create PRP in 10-15 Minutes**

If a procedure requires 10 cc of PRP, 60 cc of anticoagulated blood must be drawn and processed. Per manufacturer’s instructions for use, a volume of anticoagulant (ACD-A) is drawn into a 60cc syringe. The skin is prepared in a sterile manner much like that of a blood donor. The blood is gently drawn into the anticoagulated syringe. Care is taken to not activate the platelets or rupture the RBCs. The specimen is transferred to a sterile, single-use processing device.

A 2-stage centrifugation process is used. The first spin separates the red cells from the PRP where the RBCs are discarded. The second spin concentrates platelets and white cells with the supernatant being the Platelet Poor Plasma (PPP). The PPP is removed and properly labeled. The remaining 7 to 10 cc of plasma is used to re-suspend the concentration of platelets and white cells. This syringe is labeled PRP. This mixture is drawn into separate syringes for their respective treatments. The PRP syringe is then placed in the Adilight-2 LED system to activate the growth factors. After 10 minutes, the PRP can be placed directly into a wound, incision lines for example, or mixed with bone graft material and then placed into a wound bed, or injection into the scalp for male pattern baldness. For additional hemostasis, the PPP and calcium activator may be applied directly to an injury or joint.

**What PRP Treats**

- Osteoarthritis
- Degenerative Knees
- Muscle Tears
- Tendon Injuries
- Ligament Injuries
- Joint Pain

**Length of Treatment**

The usual course of treatment for knees involves three treatments, one week apart. Other injuries may only require one treatment. Follow standard protocols outlined by your PRP manufacturer.

If you are performing PRP procedures, reduce your patient call backs and complaints by adding Adi-Light 2 to your treatment protocol.

**Adi-Light 2: PhotoActivation**

**Contact Us**

Contact us below to find out more about Adistem technology – and to get started.

**THE BENEFICIAL EFFECTS OF PAINLESS PHOTOACTIVATED PLATELET RICH PLASMA THERAPY**
Platelets Contain an Abundance of Growth Factors

These proteins are specifically involved in the regeneration of injured tissue. Studies suggest that platelets contain an abundance of growth factors and cytokines that can affect inflammation, postoperative blood loss, infection, osteogenesis, wound, muscle tear and soft tissue healing.

Research now shows that platelets also release many bioactive proteins responsible for attracting macrophages, mesenchymal stem cells and osteoblasts that not only promote removal of degenerated and necrotic tissue, but also enhance tissue regeneration and healing. Recently, however, there has been an emerging literature on the beneficial effects of Platelet Rich Plasma (PRP) for chronic non-healing tendon injuries including lateral epicondylitis, planter fasciopathy and cartilage degeneration. Some of these growth factors are listed in the following table:

<table>
<thead>
<tr>
<th>Platelet Derived</th>
<th>PLASMA - 55% of Total Blood Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>91% Water</td>
</tr>
<tr>
<td></td>
<td>7% Blood Proteins (fibrinogen, albumin, globulin)</td>
</tr>
<tr>
<td></td>
<td>2% Nutrients (amino acids, sugars, lipids)</td>
</tr>
<tr>
<td></td>
<td>Hematines (erythropoietin, insulin, etc.)</td>
</tr>
<tr>
<td></td>
<td>Electrolytes (sodium, potassium, calcium, etc.)</td>
</tr>
<tr>
<td>Cellular Components</td>
<td>45% of Total Blood Volume</td>
</tr>
<tr>
<td>Butyryl CoA</td>
<td>White Blood Cells (7000-9000)/mm³ of blood</td>
</tr>
<tr>
<td>Red Blood Cells (RBCs)</td>
<td>(250,000) per mm³ of blood</td>
</tr>
<tr>
<td>Red Blood Cells</td>
<td>About 5,000,000/mm³ of blood</td>
</tr>
</tbody>
</table>

Painless PRP is the result of performing a PRP injection with the use of the Adi-Light 2 LED. Through the use of three color spectrums (red, yellow, and green), growth factors are enhanced within the PRP. One factor that is enhanced within 10 minutes of exposure is Interleukin-1RA. IL1RA is a member of the interleukin 1 cytokine family. IL1RA is secreted by various types of cell including immune cells, epithelial cells and adipocytes, and is a natural inhibitor of the pro-inflammatory effect of IL1β. This protein inhibits the activities of interleukin 1, alpha (IL1A) and interleukin 1 beta (IL1B) and modulates a variety of interleukin 1 related immune and inflammatory responses.

In other words, the use of the LED photoactivation jump starts the healing cascade. In addition, photoactivated PRP acts as an anti-inflammatory injection. This is called PAINLESS PRP. Patients begin to feel relief of their pain in a couple of days, instead of weeks or months.

How Patients Benefit:

Light Activation of PRP has been shown to:
- Significantly Reduce the Intensity of Pain
- Significantly Reduce the Duration of Pain
- Accelerate Healing