

PRP

PLATELET RICH PLASMA FOR ORTHOPEDIC CONDITIONS IN DOGS & CATS



WHY THE NEED FOR PRP?

Healing involves a complex array of cellular, molecular, intracellular, intercellular and extracellular events. Slow or poor-quality healing of bones, joints, tendon/ligaments and other soft tissues are common clinical problems in all veterinary species. The ideal modality to heal these wounds should be: autologous, minimally invasive, affordable and efficacious.

It is known that platelets and the formation of a provisional matrix play a prominent and likely determinant role in the initiation and maintenance of wound healing. Platelets are naturally activated by exposure to damaged tissue. Primary hemostasis and initiation of the clotting cascade are just the beginning of the platelets role in healing.

Upon activation, platelets release their granular contents into the wound environment. The contents of the platelet α -granule are of particular interest to healing as they contain a host of anabolic growth factors responsible for the initiation, propagation and maintenance of all phases of healing. Growth factors such as platelet derived growth factor (PDGF), transforming growth factor β (TGF- β) and vascular endothelial growth factor (VEGF) represent the milieu created by activated platelets. Individually and synergistically these growth factors stimulate angiogenesis, progenitor cell localization and subsequent matrix production. In concert with the provisional matrix or scaffolding, growth factors initiate and propagate healing.

PRP CONTAINS:

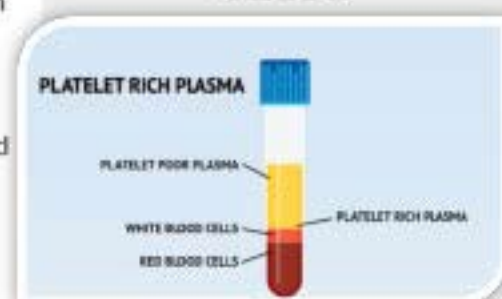
PLATELETS

PLASMA

GROWTH FACTORS

FIBRIN MATRIX

+/- WHITE BLOOD
CELLS





Whole blood can be taken from the patient and used to concentrate platelets. Platelets have been used for well over a decade in humans to treat non-healing wounds, augment bone grafts, provide hemostasis, and improve healing in invasive surgeries such as total joint replacements.

By definition, PRP is simply platelets suspended in plasma at a concentration greater than whole blood. While there is no single optimal concentration for PRP, there is evidence that PRP is better than platelet-poor plasma (PPP) and that very high concentrations may be contraindicated.

First, not only do the available PRP systems concentrate their products differently, but platelet levels also vary between individuals and even within the same individual at different times. Second, and possibly more important, not all wounds are equal. Namely, an acute wound is not the same as a chronic wound and a clean wound is not the same as a contaminated wound. Does it then make sense that a single PRP formulation should work best for all applications? Intuitively the PRP should be selected for the particular injury.



Thus, it seems probable that for optimal results, PRP should be formulated for a specific wound. For example, within an acute injury inflammation is typically abundant. Thus, using a PRP product with additional WBCs is likely not necessary and may even be contraindicated. Chronic musculoskeletal wounds on the other hand are typically characterized by an absence of inflammatory cells. In these wounds, addition of WBCs and may help to reboot the healing process. And to make matters more complicated, wounds can have both acute and chronic components.

ENSO'S REBOUND PRP:

- Validated in dog, cat, horse, and cow
- Fully adaptable PRP system
- No special centrifuge required
- University validated
- \$95 per kit

ASK THESE QUESTIONS BEFORE YOU BUY:

- Has the system been validated for the intended species?
- Is the system closed (thus minimizing risk of contamination)?
- Is the system adaptable (i.e. able to make high or low: WBC's, RBC's, volumes, platelets)?
- Is the system easy to use?
- Is the system affordable?
- Will I have to buy expensive dedicated centrifuge?

