

## Regenerative Medicine Options:



Orthobiologics, in equine veterinary medicine, offer distinct advantages over corticosteroids due to their targeted and regenerative nature. While corticosteroids provide rapid anti-inflammatory effects, they may pose risks of long-term side effects and hinder the natural healing process. In contrast, orthobiologics such as Platelet-Rich Plasma (PRP), IRAP (Interleukin Receptor Antagonist Protein), and Prostride harness the horse's own healing potential by promoting tissue regeneration and reducing inflammation in a more sustained manner. This makes them particularly beneficial in cases where long-term healing and minimal systemic impact are crucial, such as in insulin-resistant/PPID cases, concurrent soft tissue injuries, less chondrodegenerative conditions, and in the management of young horses. Furthermore, orthobiologics often provide a favorable alternative in scenarios where corticosteroids may be associated with higher withdrawal times for show horses, ensuring compliance with competition regulations. In summary, orthobiologics emerge as a better-suited option in various scenarios, offering a balanced approach between anti-inflammatory action and tissue regeneration for improved and sustained therapeutic outcomes.

### 1. Platelet-Rich Plasma (PRP):

- **Description:**
  - High concentration of platelets in blood plasma.
- **Benefits:**
  - Recruits growth factors.
  - Acts as a scaffold for collagen in a core lesion.
  - Faster, stronger tendon healing with reduced reinjury risk.
- **Administration:**
  - Typically injected 2-3 weeks after injury.
- **Statistics:**
  - 80% of horses treated intralesionally with PRP returned to athletic work after 12 months (vs. 50% in the control group).
- **Uses:**
  - Intralesional injection for tendons/ligaments, intraarticular, wounds.
  - Often used in conjunction with shockwave therapy.
- **Processing:**

- Blood draw, centrifugation, and injection (20 minutes).
  - **Client Cost:**
    - \$800-900.
  - **Total Volume:**
    - 3-15 ml.
2. **IRAP (Interleukin Receptor Antagonist Protein):**
- **Description:**
    - Counters the inflammatory cytokine IL1.
  - **Benefits:**
    - Reduces cartilage damage in the joint.
    - Best for mild to moderate osteoarthritis.
  - **Administration:**
    - Typically used after arthroscopic surgery.
    - 3 injections spaced 2-3 weeks apart each.
  - **Processing:**
    - Blood draw, mixed with glass beads, incubation for 24 hrs, centrifugation, and injection.
    - Leftover IRAP can be frozen for up to 6 months.
  - **Client Cost:**
    - \$1100-1500.
  - **Total Volume:**
    - 20 ml.
3. **Prostride (Autologous Protein Solution):**
- **Description:**
    - Concentrated solution of platelets, growth factors, and anti-inflammatory cytokines.
    - Combination of PRP and IRAP.
  - **Benefits:**
    - Profound regenerative properties, moderate anti-inflammatory properties.
  - **Administration:**
    - Intraarticular or intralesional use in tendons/ligaments.
    - Cannot be frozen.
  - **Processing:**
    - Stall-side processing in 20 minutes with blood draw and centrifugation.
  - **Client Cost:**
    - \$850-1000.
  - **Total Volume:**
    - 2-3 ml.

4. **Alpha2 Macroglobulin (A2M):**

- **Description:**
  - A2M inhibits 4 classes of proteases that break down cartilage.
- **Benefits:**
  - Potent anti-inflammatory properties, minimal regenerative effect.
- **Administration:**
  - Stall-side blood draw that can be performed in 30 min.
- **Processing:**
  - Frozen for up to one year.
- **Client Cost:**
  - \$900-1400.
- **Total Volume:**
  - 15-30 ml.

**Choosing the Right Medicine:** The choice between these options depends on the specific condition, severity of the injury, and your horse's overall health. Consult with your veterinarian to determine the most suitable regenerative medicine approach for your horse's individual needs.