

## Exploring Local Treatments for Arthritis in Dogs and Horses

Jun 26, 2025 | Small Animal Rehabilitation



Arthritis, whether it creeps in slowly or follows a traumatic event, is one of the leading causes of lameness and reduced performance in both horses and dogs. As veterinary rehabilitation professionals, we see firsthand how joint pain affects movement, behavior, and quality of life.

But with advances in regenerative medicine and joint therapy, we have a range of **local treatments**—injected directly into or around the joint—that can **reduce inflammation, slow cartilage degeneration, and support joint health**.

This blog explores the local therapies currently available in veterinary medicine, from classic corticosteroids to cutting-edge gene therapy. Whether you're looking to manage osteoarthritis (OA), synovitis, or support recovery from joint trauma, these tools offer powerful support when chosen wisely.

*Disclaimer: This article was partly written with ChatGPT during a*

### Blog Categories

[Business](#)[Skills](#)[Equine Therapy](#)[General Veterinary Rehabilitation](#)[Hydrotherapy for Animals](#)[Self Mastery](#)[Small Animal Rehabilitation](#)[Uncategorized](#)

### Recent Posts

[Exploring the 6 Types of Equine and Canine Arthritis](#)[Exercise Physiology:](#)

*study session. I take full responsibility for the accuracy of the information in this article – everything has been written, rewritten, edited or checked by myself.*

*I would love your feedback at the end of the article – do you think this blog is up to our usual standard, better, or lacking in some essentially human ways?*

## Why Local Treatment?

Local joint therapies are used when we want to:

- Reduce inflammation inside the joint
- Support synovial fluid quality
- Protect or encourage cartilage regeneration
- Avoid systemic side effects of oral drugs
- Target a specific joint without affecting the whole body

These treatments are primarily **intra-articular** (injected directly into the joint), although some also have **peri-articular** or **intramuscular applications**. Most are part of a **multimodal management plan** that includes rehabilitation, weight control, and systemic support.

Let's explore the available options.

### 1. Corticosteroids

Still widely used, corticosteroids are potent anti-inflammatories that **reduce synovitis and joint pain**. Common choices include:

- **Triamcinolone acetonide** (longer acting, often used in high-motion joints)
- **Methylprednisolone acetate** (shorter acting, sometimes preferred for low-motion joints)

**Pros:**

- Fast-acting and highly effective
- Cost-effective

Go Beyond to  
Prepare Your  
Patients for  
Life

Overcoming  
the Isolation  
of the Sole  
Practitioner  
Vet Rehab  
Practice

Exploring  
Local  
Treatments  
for Arthritis  
in Dogs and  
Horses

Bone  
Modelling  
and  
Remodeling  
for Vet Rehab  
Therapists

- Can provide significant relief and improve performance

#### Cons:

- Overuse may accelerate cartilage damage
- Should be used judiciously, especially in younger or high-performance animals
- May mask signs of deeper joint pathology

**Often combined with hyaluronan for a synergistic effect.**

## 2. Hyaluronan (Hyaluronic Acid)

Hyaluronan is a natural component of synovial fluid. In OA, its quality and concentration decrease, contributing to joint pain and stiffness.

Intra-articular HA can:

- Improve joint lubrication
- Reduce inflammation
- Support the synovial environment

**Best used in early or moderate OA**, or when synovitis is the main issue. It may be used alone or with corticosteroids. There are also **intravenous formulations** for horses (e.g., Legend).

## 3. Autologous Blood-Derived Products

These biologics use the animal's own blood to prepare powerful anti-inflammatory or regenerative products:

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

- Rich in growth factors like TGF- $\beta$ , PDGF, and VEGF
- Supports tissue repair, modulates inflammation
- Used in mild OA, soft tissue injuries, or post-surgically
- Can be injected intra-articularly or into ligaments/tendons

#### **IRAP (Interleukin-1 Receptor Antagonist Protein)**

- Targets **IL-1 $\beta$** , a key inflammatory cytokine in OA

- Prepared from the patient's blood that is separated into components before concentrating the IRAP
- Provides a concentrated anti-inflammatory effect
- Suitable for early to moderate OA, especially in high-motion joints

### Alpha-2 Macroglobulin (A2M)

- A broad-spectrum protease inhibitor
- Binds and neutralizes cartilage-degrading enzymes like MMPs
- Research is ongoing, but early results are promising
- Potential use in both early OA and post-traumatic joint management

These products are highly **individualized**, and their effects can vary depending on patient factors, preparation quality, and stage of disease.

## 4. Stem Cells

Stem cells offer the promise of **regeneration**, although their clinical outcomes vary. They are usually:

- **Mesenchymal stem cells (MSCs)** derived from **bone marrow** or **adipose tissue**
- Injected intra-articularly to modulate inflammation, support repair, and secrete growth factors

**Best used in early joint disease** or when regenerative support is needed (e.g., after surgery).

They are often combined with PRP or IRAP to enhance efficacy.

Research is ongoing to better define their role, but they remain an exciting option, especially in younger animals with good healing potential.

## 5. Growth Factors (Isolated or Recombinant)

Growth factors like:

- **IGF-1 (Insulin-like Growth Factor 1)**
- **TGF- $\beta$  (Transforming Growth Factor Beta)**
- **BMPs (Bone Morphogenetic Proteins)**

are key players in cartilage repair and remodeling. They are often:

- Delivered via **PRP or stem cell preparations**, or
- Being explored as **targeted therapeutics**, sometimes through gene therapy

These factors stimulate **chondrocyte activity**, matrix synthesis, and anti-inflammatory pathways—but clinical use of isolated growth factors is still under research.

## 6. Polysulphated Glycosaminoglycans (PSGAGs)

A well-established option, PSGAGs (e.g., Adequan) can be given **intramuscularly or intra-articularly**. They fall into the category of disease-modifying osteoarthritis drugs (DMOADs).

They:

- Inhibit cartilage-degrading enzymes
- Stimulate matrix synthesis
- Improve synovial fluid viscosity

Used regularly, PSGAGs may **slow OA progression** and support long-term joint health. They're especially helpful in early OA and post-injury recovery.

## 7. Pentosan Polysulfate (PPS)

Pentosan has **anti-inflammatory, chondroprotective, and fibrinolytic** effects. It:

- Inhibits MMPs and inflammatory cytokines
- Stimulates cartilage and bone marrow metabolism
- Improves subchondral bone perfusion

Used **intramuscularly**, it's especially popular in Australia and Europe, with growing use elsewhere.

Pentosan is a great option for **ongoing joint support**, particularly in older or at-risk animals.

## 8. Polyacrylamide Hydrogel (PAAG)

(e.g., Aquamid, Noltrex)

A relatively new player, PAAG is an **injectable hydrogel** that integrates into the synovial lining. It:

- Provides **long-term lubrication** and **mechanical support**
- Reduces joint friction and pain
- Can last **up to 24 months**

Especially useful for **mid- to late-stage OA** or when other treatments have not provided sufficient relief.

Growing in popularity, especially in Europe and performance horses.

## 9. Gene Therapy (Emerging)

Gene therapy aims to **deliver therapeutic genes** directly into the joint to produce:

- Anti-inflammatory cytokines (e.g., **IL-1Ra**)
- Growth factors (e.g., IGF-1)
- Cartilage-protective proteins

Still **experimental**, gene therapy has shown promise in both equine and canine models.

It offers the potential for **long-lasting, local production** of therapeutic agents with **fewer injections**.

As technology evolves, gene therapy may become a game-changer for **chronic, refractory OA**.

# Putting It All Together

Treatment	Best For	Key Benefits
Corticosteroids	OA flare-ups	Fast, powerful inflammation control
Hyaluronan	Early OA, synovitis	Lubrication, mild anti-inflammatory
PRP	Mild OA, soft tissue	Growth factor-driven repair
IRAP	Early/moderate OA	Blocks IL-1 inflammation
A2M	Early OA	Protects cartilage enzymes
Stem Cells	Early OA, post-op	Modulate inflammation, support healing
PSGAGs	Early OA, prevention	Chondroprotection, matrix support
Pentosan	Ongoing support	Multi-modal joint health
PAAG	Moderate-severe OA	Long-lasting joint lubrication
Gene Therapy	Refractory OA	Future potential for sustained treatment

## Conclusion: Tailoring Treatment to the Joint

With so many options available, it’s clear that **joint injections are no longer just cortisone and hope**. Local arthritis treatments now offer:

- Targeted inflammation control
- Cartilage protection
- Regenerative stimulation
- Longer-term joint support

But they work best when **chosen carefully** based on the animal’s age, activity level, disease stage, and long-term goals.

As always, these therapies are most effective when **combined with rehabilitation, exercise modification, weight management, and good diagnostics**. It’s not just what you put in the joint—it’s how you support it afterward that defines success.

*This text was generated in part with ChatGPT. The author reviewed, edited, and revised all generated content and takes ultimate responsibility for the content of this publication.*

# WATCH A FREE WEBINAR

Register for a FREE webinar of your choice. Free webinars air at a set date and time each month. No recordings or CPD certificates are available for free viewers.

SMALL ANIMAL ▶

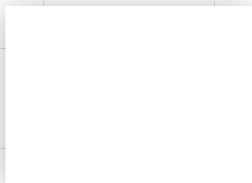
EQUINE ▶

HYDROTHERAPY ▶

---

Share this blog with your colleagues:

0 Comments



## CONTACT

Dr Megan Kelly  
+27 (0)72 9522  
541

[info@onlinepeth  
ealth.com](mailto:info@onlinepeth<br/>ealth.com)

Based in Cape  
Town,  
South Africa

## USEFUL LINKS

[MEMBERSHIP](#)  
[WEBINAR LINE](#)  
[UP](#)  
[LIBRARY](#)  
[PREVIEW](#)  
[PODCAST](#)  
[BLOG](#)

## ABOUT US

[OPH TEAM](#)  
[OPH](#)  
[LECTURERS](#)  
[VET REHAB](#)  
[DIRECTORY](#)  
[VETREHABSU](#)  
[MMIT](#)  
[BOOK A](#)



We use cookies to ensure that we give you the best experience on our website. If you continue to use this site we will assume that you are happy with it.

Ok

Privacy policy