



Horse Health:

Osteoarthritis

What is it?

Osteoarthritis, otherwise known as *degenerative joint disease* in equids, is one of the most common causes of lameness and poor performance in horses. It is a progressive, non-infectious disease of the joint.

Healthy joints rely on smooth cartilage surfaces to allow friction-free movement and effective shock absorption. In osteoarthritis, this joint cartilage becomes damaged and breaks down over time, causing inflammation of the joint lining and changes to surrounding bone. These changes then go on to cause pain, stiffness and reduced range of motion.

Once established, osteoarthritis cannot be cured, but its progression can often be slowed and managed effectively to minimise discomfort.

What causes it?

There are many factors which can contribute to the development of osteoarthritis in horses.

As the joint cartilage does not have its own blood supply, it cannot repair itself once damage occurs. Ultimately, osteoarthritis develops due to the joint being damaged either due to “age-related wear and tear” or “secondarily to other problems”. Such problems include osteochondrosis lesions (OCD), trauma or injury, chronic inflammation of the joint (synovitis) and poor joint or limb conformation. Repetitive stress and microtrauma, common in performance horses, also can accelerate the degeneration process.

Inflammation is a key mediator in the development of osteoarthritis. When cartilage is damaged, inflammatory mediators are released which perpetuates further cartilage breakdown and pain.

What horses are at risk?

Older horses are at a greater risk, as their cartilage has had more time to be damaged over their lifetime.

However, osteoarthritis can occur in any horse secondarily to other problems as discussed above, such as:

- **Discipline and workload:** Horses in high intensity sports (such as eventing, show jumping, racing, polo and endurance) experience greater repetitive joint loading.
- **Previous joint injury:** Trauma, sepsis or surgical intervention all can predispose to the development of osteoarthritis.
- **Conformation faults:** Poor limb alignment (such as base-narrow, upright pasterns) increases uneven joint loading and stress.
- **Poor hoof balance or shoeing:** Can alter weight distribution and joint mechanics.
- **Genetics and development:** Horses with osteochondrosis are predisposed.
- **Body condition:** Overweight horses experience greater joint stress, thus are at a higher risk of joint degeneration and subsequent osteoarthritis.

What are the symptoms?

The signs of osteoarthritis depend on the specific joint affected and severity.

Common clinical signs include:

- **Lameness:** Usually low grade and chronic, often worse after rest or hard work.
- **Stiffness:** Especially after stabling or on cold mornings; may improve with gentle exercise.
- **Reduced performance:** Reluctance to engage or perform specific movements, shortened stride.
- **Joint swelling or thickening:** Inflammation of the joint can lead to a collection of joint fluid (synovial fluid) pooling around the joint (effusion – in some locations may be referred to as “bog spavin” or “bursal enlargement”); as well as the development of bony changes to the joint itself (e.g. “bone spavin”).

- **Pain on flexion:** Notable during flexion tests in lameness examinations.
- **Reduced range of motion:** The joint may feel “restricted” or less easy to move.

Common sites to develop osteoarthritis include the hocks (bone spavin), stifles, carpi (knees), fetlocks and pasterns. Early signs can be subtle, so owners should monitor any changes in movement, willingness or behaviour closely.

How is it diagnosed?

Diagnosis is based on a combination of clinical examination, diagnostic analgesia and imaging.

1. **Clinical examination:** The vet assess gait in straight lines and circles, performs flexion tests and palpates joints to detect swelling or pain.
2. **Diagnostic analgesia:** Otherwise known as nerve/joint blocks, local anaesthetic is used to temporarily numb specific areas or joints to pinpoint the source of lameness.
3. **Imaging:** Several different modalities can be used here. **Radiography** (x-ray) is incredibly common and can be used to identify the formation of bony spurs (osteophytes), any narrowing in joint spaces and any breakdown of bone or cartilage. **Ultrasonography** can be used to evaluate surrounding soft tissue structures or the internal joint capsule. Advanced imaging, such as **CT** or **MRI**, can be used in referral centres to give vets a more detailed view of the joint in question, allowing more specific analysis. And finally, **arthroscopy** can also be used, where a camera is inserted into the joint whilst the horse is under general anaesthesia, to directly visualise the problematic joint, allowing for both diagnosis and treatment.

Early diagnosis is incredibly important, as prompt management can slow progression and preserve comfort and function.

How can it be treated or managed?

Although there is no cure for osteoarthritis, many horses can remain comfortable and in work with appropriate, multimodal management. Treatment aims to reduce pain and inflammation, improve mobility and slow disease progression.

Medication:

Different types can be used.

- **Non-steroidal anti-inflammatory drugs (NSAIDs):** Such as phenylbutazone or suxibuzone, reduce pain and inflammation associated with osteoarthritis. Long term use requires veterinary supervision due to potential side effects.
- **Polysulphated glycosaminoglycan:** An injectable product intended to enhance the manufacture of healthy joint fluid and slow down the breakdown of cartilage.
- **Intra-articular injections:** Such as corticosteroids and hyaluronic acid. These can be injected directly into the problematic joint, either aiming to be anti-inflammatory or helping to lubricate the joint, to reduce friction.
- **Oral joint supplements:** Although not as effective as licensed medications, your vet may advise supplementation as an adjunct, to further help your horse's comfort.

Exercise and physiotherapy:

Seeking the advice of a licensed physiotherapist can be incredibly beneficial in cases of osteoarthritis. They may advise controlled exercise with regular, low-impact movement, as complete rest can often worsen osteoarthritis stiffness and pain. The importance of thorough warm-up and cool-down routines may be highlighted, and hydrotherapy may even be recommended.

Farriery:

Correct and balanced hoof trimming and shoeing reduces uneven loading and may be required in certain cases. Supportive shoeing may also be recommended.

Weight management:

Keeping your horse at a healthy weight and body condition is essential, as even moderate obesity increases joint loading and subsequent discomfort.

Biological therapies:

Advanced biological therapies such as **stem cell therapy**, **Platelet Rich Plasma**, or **Interleukin-1 Receptor Antagonist Protein** are all derived from the horse's own

tissues, and are used to reduce inflammation, enhance tissue repair, and potentially even encourage tissue regrowth. These are sometimes referred to as **Regenerative Therapies** but are complex and not suited to every patient. If your horse is a suitable candidate, however, your vet will explore the options with you and help you choose which, if any, is the most suitable.

In advanced cases, surgical intervention may be recommended to fuse affected joints.

Can it be prevented?

Whilst not all cases are preventable, good management and early intervention can significantly reduce risk. Balanced nutrition to ensure a healthy weight, training schedules appropriate for the age and performance of your horse, and good farriery can all reduce the risk of developing osteoarthritis.