

**My horse has
arthrosis,**



REVERDY

**what
should I do?**

MY HORSE HAS ARTHROSIS, WHAT SHOULD I DO?

Osteoarthrosis, more commonly known as «**arthrosis**» or “degenerative joint disease”, is a common joint disease that is very frequent in humans, but also in horses! All the more so as equitation, depending on the discipline (show jumping, dressage, eventing, racing, show, barrel racing, etc.), the training and care given to the horse (preparation, warm-up, physiotherapy, etc.), can put the horse’s joints to a severe test.

Osteoarthrosis is a **progressive degenerative disease of the cartilage** in the bones of a joint. Depending on its stage, it causes **stiffness, lameness, difficulty in moving** and even problems for feeding...

Let’s take a closer look.

I. What is osteoarthrosis?

II. How do you know if your horse is suffering from osteoarthrosis?

III. How can relief be offered to a horse with osteoarthrosis?

IV. Osteoarthrosis and performance: Conclusion?

I. WHAT IS OSTEOARTHROSIS?

A. COMPOSITION OF A JOINT

First of all, it is good idea to (re)define what a joint is.

A **joint** is a junction between two bones: roughly speaking, it allows the bones of the skeleton to be held together, and it is also what gives it a certain mobility.

Cartilage is located at the two bony ends of the joint. It has two main functions: it **protects** against friction between the two bones (the bony surfaces slide over each other), and considerably **absorbs** shocks.

B. CARTILAGE DEGENERATION

The onset of osteoarthrosis in the horse follows a natural process of wear and tear. Over time (or following traumas stemming from multifactorial causes), the articular cartilage will gradually degenerate. The affected areas will gradually become devoid of cartilage.

As the cartilage thins and crumbles, it loses (among other things) its shock-absorbing properties and the stress on the bones increases.

This degenerative process will lead to a chain reaction with-

If osteoarthrosis is very often associated with old horses, young horses are no less prone to it when their joints are heavily solicited during work.

This disease is **multifactorial**: apart from old age, many factors can be the cause of the onset of early osteoarthrosis in the horse.

Although the onset of osteoarthrosis is feared, it does not systematically call into question the continuation of the horse’s sporting career. There are multiple solutions to counteract the progression of osteoarthrosis and means of offering support to the joints of the horse with osteoarthrosis.

Thus, when the horse performs a movement, it guarantees the **fluidity** of a movement without pain (flexion, extension, rotation).

Within the joint, the cartilage is immersed in a liquid called **synovial fluid**, contained in the **joint capsule** and secreted by the **synovial membrane**. This fluid is mainly composed of water (*rich in nutrients, mineral salts and hyaluronic acid*). Its main function is to feed and lubricate the cartilage cells, the **chondrocytes**.

hin the joint and mobilise all of its constituents until inflammation occurs.

In cases of advanced osteoarthrosis where the cartilage has completely disappeared, **the joint is painful** and the horse, even at rest, has difficulty moving (stiffness, lameness). In order to compensate for the pain, the horse uses the surrounding muscles, ligaments and tendons.

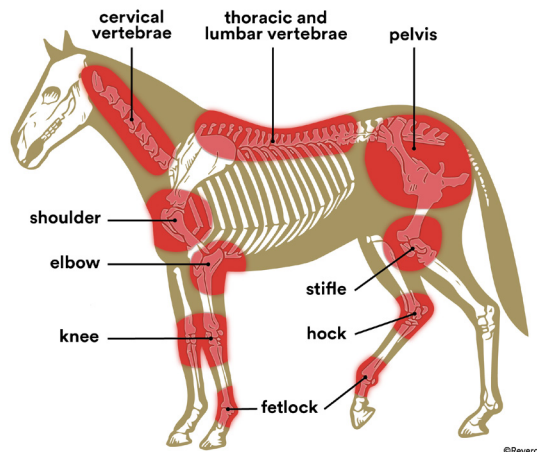
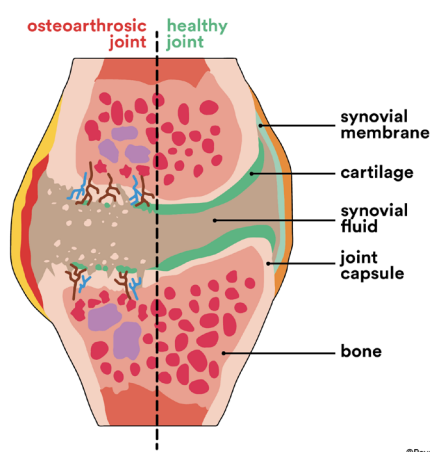
However, the over use of, and stress to these tissues can also be the cause of secondary damage.

Be careful not to confuse «osteoarthrosis» with «arthritis in the horse.»

Arthritis is characterised by **inflammation of one or more joints**. This **acute or chronic** multifactorial condition can take different forms: **the infectious form** of arthritis involves a pathogen in the joint capsule (cartilage, membrane and synovial fluid) and **the non-infectious form** refers to the inflammatory reaction resulting from the degradation of the joint cartilage.

It should be noted that cartilage has **little or no healing capacity**. Once damaged, cartilage cannot regenerate. **The damage caused by osteoarthritis therefore irreversible.**

The joints most affected are located in the foot, fetlock and hock (see diagram below), which come under pressure daily, notably depending on the horse's body condition and physical activity.



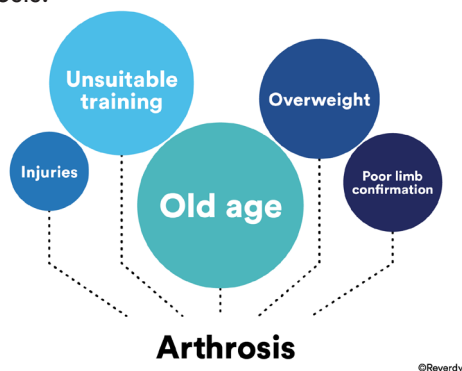
Dorsalgia (pain in the horse's back) is multifactorial and includes both joint pain (sometimes linked to arthrosis) as well as muscle pain (spasms).

II. HOW DO YOU KNOW IF YOUR HORSE IS SUFFERING FROM OSTEOARTHRITIS?

A. WHAT ARE THE CAUSES OF OSTEOARTHRITIS IN THE HORSE?

• OLD AGE

The prevalence of this pathology increases with age, as cartilage naturally deteriorates as the horse gets older. It is therefore very common to see osteoarthritis in older horses. However, there are other factors that give rise to micro-lesions in the cartilage favouring the development of osteoarthritis:



• UNSUITABLE TRAINING

Unsuitable training sessions: too frequent, long and intense, for a horse with a lack of preparation/warming up, suffering from deficiency or whilst still growing... can be traumatic. The speed, the brutal movement and the repeated impacts are harmful for his joints.

Overuse causes rapid wear and tear of the cartilage leading to early osteoarthritis.

Similarly, the quality of ground is also important: working frequently on surfaces that are too deep or too hard will have its consequences. Working on hard ground has a direct impact on the joints; on the other hand, a soft and deep surface puts pressure on the tendons.

It is therefore recommended to work on varied terrain and/or to alternate training on soft and hard ground.

Good to know: Some horses with osteoarthritis have more or less soft subcutaneous lumps, commonly known as «windgalls, windpuffs or blemishes». They are in the majority of cases located at the fetlocks. These lumps can be either tendon or joint. They form as a result of inflammation in the joint, or close to the tendon sheath. An excess of synovial fluid is produced as a result of the local inflammation and this leads to a distension of the synovial cavities. Although these puffs/galls occur for different reasons, they are often a sign of joints being intensively called upon and/or an arthritic condition.

• LIMB CONFIRMATION DEFECTS

Confirmation of the limbs and feet includes the way in which the horse stands on its four legs and moves. Defects in limb confirmation (which are deviations that do not meet the standard correct criteria) will have repercussions on the joints, muscles and tendons of the entire

locomotor system.

The correction of these defects is a determining factor to the quality of the locomotor system. In order to do this, regular attention from a farrier is essential, and this, right from the horse's earliest age.

• **OVERWEIGHT**

Undoubtedly, carrying excess weight (without necessarily talking about obesity) will favour the appearance of

osteoarthritis in the horse, and particularly in the joints of the locomotor system (limbs).

Excess weight exerts a continuous pressure which is an additional strain to the cartilage.

• **GENETIC FACTORS**

Osteoarthritis is not hereditary. Instead, there are osteoarthritic diseases, such as osteochondrosis, (a multifactorial

disease which has a genetic factor) which predispose to the development of (early) osteoarthritis.

• **INJURIES, CONTAMINATIONS AND INFILTRATIONS OF THE JOINT**

Apart from injuries **caused by a fall or an accident, other events can also affect the cartilage, such as:**

- **contamination of a joint by pathogenic agent;**
- complications related to a **surgical intervention;**
- certain **intra-articular injections** (infiltrations with steroidal anti-inflammatory drugs, corticosteroids, etc.).

B. WHAT ARE THE SYMPTOMS OF OSTEOARTHRITIS AND HOW IS THIS PATHOLOGY DIAGNOSED IN THE HORSE?

The course of osteoarthritis in the horse is unpredictable. Osteoarthritis can develop more or less rapidly (over a few months, or decades), and unexpectedly.

As the damage is irreversible, it is important to detect the **first signs of joint discomfort in your horse.**

- Stiffness, resistance before/during warming-up;
- Swollen, hot joints;
- Difficulty moving;
- **Lameness.**

If suspected, we invite you to consult your vet.

Following a physical examination of the horse, and with the help of X-rays of his joints, he will be able to confirm or not the diagnosis. Although cartilage is not visible on the X-rays, the vet will be able to examine the impact on the bones.



Fetlock X-ray with presence of osteoarthritis

III. HOW CAN RELIEF BE OFFERED TO A HORSE WITH OSTEOARTHRITIS?

A. VETERINARY TREATMENTS

After clinical examinations and depending on the stage of the osteoarthritis, the veterinarian can prescribe different medical treatments to relieve pain in the horse suffering from osteoarthritis.

Non-steroidal anti-inflammatory drugs (NSAIDs) are prescribed by the vet. They will act directly on the inflammation to reduce swelling and decrease pain. Pain is very common in horses suffering from osteo-arthritis. The use of NSAIDs follows a pain management protocol aimed at improving their quality of life and favouring the amplitude of joint movement and therefore mobility. It is important to follow your vet's recommendations for the appropriate use of these drugs.

In the case of **intra-articular infiltrations or injections**, the vet injects a combination of different molecules into

the joint capsule. These may be **steroidal anti-inflammatory drugs**, or IRAP and PRP (preparations made from the patient's own serum and blood), **hyaluronic acid** (one of the major components of the joint capsule) or **polysulfated glycosaminoglycans**. The latter are used in particular for their **anti-inflammatory effects and chondroprotective properties**, without harmful effects.

Biphosphonate treatments (intravenous or intramuscular injections) slow down the activity of osteoclasts (= bone cells involved in the resorption of «aged» bone tissue - before it is rebuilt by osteoblasts when the system is functioning properly). This has the consequence of reducing osteolysis (destruction of bone tissue). Among the commonly used molecules for these conditions are tiludronate and clodronate (in the case of **navicular disease** and **spavins** for example).

Mesotherapy is a practice used in the treatment of pain. It involves injecting tiny amounts of medication (different combinations of molecules) locally on or around the areas to be treated. This treatment is particularly prescribed for back pain and cervical osteoarthritis.

Shockwave therapy is therapy by shock-waves, or extra acoustic waves, with the aim of relieving pain at different levels of the tissues.

Arthrodesis (joint fusion) is a surgical operation to weld two joints together.

B. FEED SUPPLEMENTS

Osteoarthritis is a condition that cannot be cured. The use of feed supplements helps to relieve the symptoms of horses suffering from osteoarthritis and to slow down its progression. However, one should not expect complete regeneration of the destroyed cartilage surface.

• **CHONDROPROTECTIVE AGENTS**

Chondroprotective agents are substances used with the aim of protecting joint cartilage and are mainly indicated in the prevention and treatment of osteoarthritis.

Glucosamine is the precursor of several components of proteoglycans and hyaluronic acid. In cartilage, hyaluronic acid is bound to proteoglycans and forms aggregates that ensure the proper hydration of this tissue. In the synovial fluid of the joints, hyaluronic acid acts as a lubricant and chondroprotective agent.

Available in our on-line shop is our range of nutritional supplements to soothe the joints of horses suffering from osteoarthritis.

Amongst the ingredients that we favour in order to support joints, we find :

Chondroitin is a constituent of proteoglycans whose role is to maintain good hydration of cartilage and bones. In addition, it directly protects cartilage cells against enzymatic reactions and free radicals

MSM, or methylsulfonylmethane, also has chondroprotective properties. It is also a source of organic sulphur, which is essential for the synthesis of collagen, a protein found abundantly in cartilage that gives it its properties of hydration, strength, elasticity and flexibility.

As a preventive measure, using a supplement with chondroprotective agents, such as REVERDY FLEXY, is recommended for sport horses in order to protect their locomotor system and limit the risk of joint damage*. As a preventive measure in a healthy horse it also contributes to **suppleness and flexibility**.

*Especially during breaking-in/pre-training, intensive training, during competition or when working on hard ground.

In the case of osteo-arthritis, chondroprotective agents prevent the worsening of cartilage damage and contribute to **slowing down the process** of cartilage degeneration.

The results of supplementing with chondroprotective agents are not visible immediately. With REVERDY FLEXY and SUPER FLEXY, **it takes about 1 month to see an improvement**.

Numerous clinical studies have scientifically validated the effectiveness of these three chondroprotective agents.

• **AVOCADO AND SOYA UNSAPONIFIABLES**

The unsaponifiable fractions of avocado and soya oils **improve healing of joint lesions** located in the synovial membrane and cartilage tissue. They also increase the **synthesis of glycosaminoglycans** (proteoglycan components) within articular cartilage.

This is why we have chosen to incorporate these ingredients into our range of FLEXY and SUPER FLEXY joint supplements to combat arthritis in horses.

The combination of chondroprotective agents and avocado and soya unsaponifiables gives **an enhanced action on horses suffering from osteoarthritis**.

(→ REVERDY SUPER FLEXY)

... and phytotherapy for horses?

Natural herbal supplements do exist. Among the favourite plants for joints, harpagophytum is the most widely used. **Harpagophytum** or Devil's Claw is a plant famous for its pain-relieving and anti-inflammatory properties. Its use is particularly widespread to give relieve from joint pain, especially those caused by arthritis.

Phytotherapy carries doping risks. Its use should therefore be avoided in competition horses.

C. HOOF CARE

In general, care of the foot by a farrier is of **utmost importance**.

It must be regular to prevent any deviations and to rebalance the distribution of the body's weight on the feet. De-

pending on the various deficits observed, and in collaboration with the vet, trimming and/or shoeing are means of mechanical correction to compensate for imbalances and reduce pain linked to osteoarthritis.

- **A SUITABLE ENVIRONMENT**

It is recommended to keep the joint mobile. Without talking about physical activity, movement allows the joint functions to be solicited and the muscles adjacent to the joints to be worked. The presence of osteoarthritis should not be a barrier to activity, **if it is not painful for the horse.**

The monitoring of the horse's body condition must also be taken very seriously. Indeed, it should be remembered that being overweight is one of the main factors that can encourage the onset of arthritis, and aggravates the symptoms in the case of proven arthritis.

To be remembered:

- Hooves must have regular attention from a farrier.
- A sedentary lifestyle will only accelerate the progression of osteoarthritis.
- Maintain activity while respecting the horse's physical tolerance threshold.

IV. OSTEOARTHRITIS AND PERFORMANCE, CONCLUSION?

As you will have understood, in preventing joint problems, and in particular the onset of osteoarthritis, **prevention is key.**

The horse's joints are sensitive and become vulnerable as he ages. It is entirely possible to prevent the onset of joint problems by adopting the right measures: **a balanced diet** covering the daily nutritional requirements and **regular hoof trimming.** In young sport horses, **preventive supplementation with chondroprotective agents** helps to reduce the risk of joint problems.

The presence of osteoarthritis in sport horses is com-

mon and does not necessarily mean that they stop competing. The development of osteoarthritis is closely linked to the pursuit of performance (top level sport), and sport horses are the most exposed.

A horse can continue to perform despite the beginning of osteoarthritis. Indeed, many solutions exist to relieve the pain from osteoarthritis and to slow its development, notably through feed supplements. Nevertheless, it is essential to **adapt training and work intensity levels** to the evolution of the arthritis and the degree of degradation, and to ensure regular monitoring of its evolution.