



### Orthopaedics - how to keep the old horse moving

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In the aging human population, musculoskeletal disorders have a great influence on quality of life and rank first as cause of years lived with disability. In a study of 69 horses aged 30 years and older, 77% were found to be lame at clinical examination with virtually all (97%) having a reduced range of motion in at least 1 joint.<sup>1</sup> When reducing the age above which a horse was deemed to be geriatric to 15 years, these figures were still 51% and 84% in a population of 200 animals.<sup>1</sup>

The vast majority of lameness cases in geriatric horses are owing to chronic degenerative joint disease or osteoarthritis (OA), as evidenced by the high prevalence of reduced range of motion in 1 or more joints. Beside OA of the limbs, leading to lameness and reduced range of motion, old horses can show degenerative changes of the spine. OA of the small thoracic and lumbal joints can lead to back pain, and degenerative changes in the caudal neck can manifest in neck pain, lameness and ataxia. “Sidewalker” or “crabwalker” is a recent syndrome which has been described in older horses with OA of the caudal spine/proximal limbs.<sup>2</sup>

According to one study, increasing horse age is associated with a decreasing frequency of farrier visits.<sup>3</sup> Reduced frequency of routine hoof care may be particularly significant as degenerative changes, concurrent disease and nutritional factors all contribute to a higher prevalence of hoof problems in the geriatric horse. Many of the hoof abnormalities identified within one study were consistent with laminar pathology, particularly those linked to chronic laminitis.<sup>1</sup>

In geriatric horses, the aim of therapeutic efforts is to reach a sustainable and preferably steady condition in which the horse is as comfortable as possible. Treatment may consist of local treatment of the affected joint(s), pain management, and supportive treatments such as farriery, physiotherapy, and exercise management, and is often a combination of these. Another important aspect of the management of chronic joint disease is the exercise regiment that is applied.

The best choice of treatment of OA in the old horse is an intraarticular injection of corticosteroids and some other drugs such as hyaluronan and polysulfated glycosaminoglycans (PSGAGs).<sup>4</sup> Further on, NSAIDs are very important category of drugs used for the treatment of musculoskeletal pain. In the old horse, pain treatment is palliative and does not treat the underlying disease process. Moreover, prolonged and often even life-long treatment may be necessary, making possible side effects as well as cost aspects very relevant.

Feed additives or nutraceuticals are used at a very large scale worldwide and many of them claim to be beneficial for (chronic) joint disease. Many of these supplements contain glucosamine and/or chondroitin sulfate, both natural components of articular cartilage, with or without addition of a large variety of other compounds.

Optimization of joint stability and proprioception is important to prevent aberrant loading of joints. This is of special importance in geriatric patients, because neuromuscular changes associated with aging are known to manifest as a decrease in strength and coordination preceding a loss in muscle mass. There are various physiotherapy techniques that aim at improving muscular fitness, strength, and coordination. Controlled exercise may play a role here too, but care should be taken to ensure that the surface is even and horses should not be forced to exercise during flare-ups of joint disease. To prevent aggravation of chronic OA, care should be taken that exercise is discontinued when signs of fatigue become apparent, because fatigue-induced incoordination may lead to increased joint instability. Manual flexing exercises to improve joint range of motion can be carried out, but are laborious and are of little benefit in elderly horses with end-stage disease. Low-grade continuous (pasture) exercise is more efficient in such cases.

Obese horses should lose weight, not only to reduce mechanical loading of the articulations, but also to decrease the low-grade inflammation that is a consequence of the systemic inflammatory load caused by cytokine production from adipose tissue, which is known to be an important etiologic factor of OA in humans.

#### References

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