

Neck, Back, and Pelvic Pain in Sport Horses

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KEYWORDS

• Nuchal • Bursa • Cervical • Vertebrae • Back • DSP • Pelvis • Sacroiliac joint

KEY POINTS

- Acute cases of nuchal bursitis with little or no evidence of synovial proliferation can be managed with intrabursal therapy of anti-inflammatories; other cases benefit from nuchal bursoscopy.
- Osteoarthritis of the articular vertebral facets can be treated successfully with ultrasound-guided therapy of anti-inflammatory medications.
- Proper diagnosis of impingement or overriding of the dorsal spinous processes of the thoracolumbar spine requires the use of radiography and nuclear scintigraphy.
- Medical and surgical management of impingement or overriding of the dorsal spinous processes can be highly effective.
- Thorough evaluation of the sacroiliac region is imperative to correctly identify cases suffering from pain arising from this region.

NECK

Neck pain or stiffness in horses can limit their athletic potential and can develop secondary to a number of different conditions.^{1,2} Definitive diagnosis can be difficult due to the variability in clinical signs and the common presence of concurrent lameness. In this article, we discuss disorders of the neck that can have a significant impact on the horse's performance, such as nuchal bursitis and osteoarthritis of the cervical articular facets. Neurologic conditions created by impingement of the spinal cord are discussed elsewhere in this issue.

Nuchal Bursa

The nuchal ligament is a structure that helps support the weight of the horse's head. It consists of 2 clearly defined portions or segments: funicular and laminar. The funicular (dorsal) portion is a thick cord extending between the highest spinous processes of the withers and the external occipital protuberance of the skull. The laminar portion forms

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a fenestrated sheath that fills the space between the funicular portion and the cervical vertebrae. In horses, there are 2 bursae associated with the nuchal ligament in the cervical region. These are the atlantal or cranial nuchal bursa (*bursa subligamentosa nuchalis cranialis*), which is consistently present above the dorsal arch of the atlas (C1) and ventral to the funicular portion of the nuchal ligament, and the caudal nuchal bursa (*bursa subligamentosa nuchalis caudalis*), which is inconsistently present in horses and is located between the spinous process of the axis (C2) and the funicular portion of the nuchal ligament.^{3,4} The cranial nuchal bursa, which is the bursa most commonly affected and the one that is consistently present, is bilobed with an incomplete septum separating the left and right lobes. The bursa is composed of synovium, a variable amount of fat tissue, and bundles of fibers of the laminae part of the nuchal ligament.⁴

Cranial nuchal bursitis is a relatively uncommon disease, but a differential diagnosis in horses suffering from pain associated with the neck region.³⁻⁵ Clinical signs of nuchal bursitis include swelling and pain on palpation around the poll (Fig. 1), and unwillingness of the horse to flex the neck. Some horses will carry the head in a locked extended position (Fig. 2). Aseptic and septic nuchal bursitis has been reported in recent years, with isolates such as *Staphylococcus* spp. and *Streptococcus* spp. identified.³ Although the use of nuclear scintigraphy and MRI have been used to diagnose this condition, definitive diagnosis is best achieved with the use of ultrasound and radiographs.^{3,5} An unaffected nuchal bursa will show minimal fluid during ultrasonographic examination⁴; however, affected bursae will show a variable amount of wall thickening, synovial proliferation, and fluid distention that can range from anechoic to markedly echogenic, especially in cases with copious amounts of rice bodies within the bursa^{3,5,6} (Fig. 3). Radiographic evaluation of the affected region often shows a variable amount of mineralization of the surrounding soft tissues or bony involvement of the atlas or axis in more chronic cases^{3,5} (Fig. 4). Ultrasound-guided fluid aspirate for cytologic analysis and culture should be performed to assess the degree of inflammation within the bursa and to differentiate septic and nonseptic cases.^{3,5}

Management of nuchal bursitis includes the use of anti-inflammatory and antimicrobial medications, both systemic and locally, as well as endoscopic debridement and lavage.^{3,5} In 2017, Bergren and colleagues⁵ published the largest retrospective study to date of horses suffering from cranial nuchal bursitis. In that study, 30 horses were

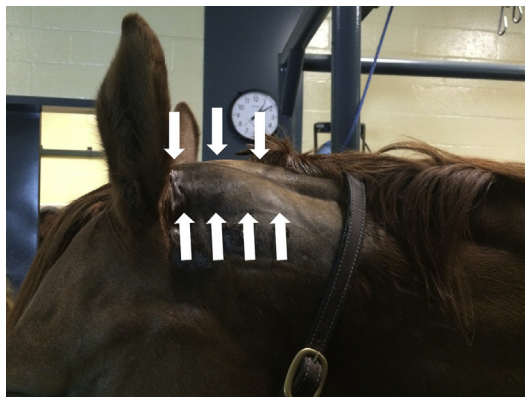


Fig. 1. Horse with swelling in the poll region (arrows) secondary to aseptic cranial nuchal bursitis.

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