

FACTSHEET

KISSING SPINES

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KISSING SPINES IN HORSES

Learn more about this increasingly prevalent condition

A healthy back is crucial to riding horses' performance and comfort.

The name might sound romantic, but in reality kissing spines often cause heartbreak and bring nothing but pain.

The term “kissing spines” refers to a decreased space between the dorsal (topmost) spinous process of the spinal vertebrae. The space can become so small that adjacent dorsal spinal processes can actually touch or, in some cases, overlap. These lesions are, therefore, referred to as “kissing” or overriding dorsal spinal processes (ORDSP), respectively.¹ As with most musculoskeletal abnormalities, this defect frequently results in pain at the affected site(s), causing abnormal strains on adjacent bones and tissues. In turn, horses can suffer from poor performance either with or without obvious lameness. Remarkably, some horses diagnosed with kissing spines don't appear to show adverse clinical signs.

ANATOMY OF THE SPINAL COLUMN AND VERTEBRAE

Horses typically have 54 vertebrae, which are the individual bones that comprise the spinal column through which the spinal cord runs. The neck or cervical region has seven vertebrae (C1-C7); the thoracic region that courses along the chest cavity has 18 vertebrae (T1-T18); the lower back region houses six vertebrae (L1-L6); the sacrum near the tailhead/pelvis has five fused vertebrae; and the tail consists of 18 coccygeal vertebrae. The total number of vertebrae can vary between 51 and 58, depending on breed. When looking at an individual vertebral body, the dorsal spinal process projects from the dorsal

aspect of the vertebrae. Two transverse processes project outward, and those transverse processes on adjacent vertebrae form small joints between the vertebrae, facilitating frictionless motion along the spinal column. (Note: In the thoracic vertebral region, ribs replace transverse processes.)

To help, picture a row of short, stumpy sharks in a line facing you with their mouths open. The spinal column runs straight through their mouths, the dorsal fins are the dorsal spinal processes, and the pectoral fins on their sides all reach out, eventually touching one another to stabilize the line as they move in concert. The dorsal fins don't normally touch in this scenario, just as a horse's vertebral dorsal spinal processes shouldn't.

WHO DEVELOPS KISSING SPINES?

Kissing spines most frequently affects performance horses such as sport horses and Thoroughbred racehorses. Contributing factors remain relatively vague but include conformation, horse-rider mismatch,

poor saddle fit, and even discipline.² Evidence of kissing spines is lacking in foals, suggesting the condition develops with age and that inappropriate riding technique might be an important contributing factor.³

Widely touted as the most common cause of back problems in horses, the prevalence of kissing spines remains unclear. One study involving 4,407 horses with lameness/poor performance showed that 310 of the horses had back pain. Of those, 212 (68%) were diagnosed with kissing spines based on radiographs (X rays). However, veterinarians diagnosed 39% of horses without back pain with kissing spines, highlighting the need to interpret radiographic findings in conjunction with clinical signs.⁴

The vertebrae in the distal aspect of the thoracic spine, T15-T18, are most commonly affected, presumably due to the spine's natural change in angulation at that location. The lumbar vertebrae can also be affected, and kissing spines aren't necessarily limited to only one or two vertebrae.²

DIAGNOSING KISSING SPINES

In addition to lameness and poor performance, clinical signs of back problems in horses are rather nonspecific. Common complaints include behavior changes, bucking, and an unwillingness to move forward or jump. Specific to kissing spines, horses reportedly have a change in head/neck carriage, unwillingness to move in a certain direction, concurrent hind-limb lameness, unwillingness to bend, and pain of varying degrees of intensity on firm palpation of the affected region.⁵

KISSING SPINES

Diagnostic analgesia (injecting the pain-reliever lidocaine) helps confirm the diagnosis. However, experts agree that a definitive diagnosis of kissing spines/ORDSP requires imaging. The most common techniques involve radiographs, ultrasonography, and nuclear scintigraphy (bone scan).¹⁻³

MANAGEMENT/TREATMENT OF KISSING SPINES

A wide array of treatment options exist, including:²

- ◆ Rest. A minimum of three to nine months is typically required, but success is limited with this approach alone;
- ◆ Local injection of anti-inflammatory drugs with an analgesic agent. Met with good short-term efficacy, repeated treatments are required every few months;
- ◆ Extracorporeal shock wave therapy. Vets recommend one to three treatments spaced two to three weeks apart;
- ◆ Bisphosphonate drugs. These drugs are designed to prevent bone-density loss in horses 4 years of age and older. When used off-label in mature horses to treat kissing spines, the patients presumably benefit from the drugs' abilities to minimize bony resorption of the affected dorsal spinal processes;

- ◆ Mesotherapy, acupuncture, chiropractic, and a variety of other physical modalities, with variable success;
 - ◆ Surgical resection (removal) of affected dorsal spinal processes; and
 - ◆ Surgically creating small cuts in the ligament between the spinal processes (interspinous ligament desmotomy) to increase the space between dorsal processes and relieve the tension/pain. Surgical techniques appear to have promising outcomes; however, recovery times can be extensive, with horses returning to only light work six months postsurgically. Horses that don't respond to treatment, regardless of the method, should likely be retired.²
- To date researchers haven't identified methods of preventing this condition.

WHAT ELSE COULD IT BE?

Veterinarians must consider a long list of musculoskeletal conditions and even neurologic issues when diagnosing a horse with poor performance with or without lameness.⁶ Rather than taking a wait-and-see approach, be proactive in seeking veterinary assistance to limit damage caused by kissing or overlapping dorsal spinal processes.

TAKE-HOME MESSAGE

Veterinarians should consider kissing spines in cases of both vague and overt lameness and back pain. Imaging is required for a diagnosis,

appreciating that the mere presence of kissing spines doesn't necessarily confirm it as the cause of lameness. Your veterinarian should perform a complete physical examination in addition to comprehensive lameness and neurologic examinations to rule out other causes of poor performance.

Resources

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