

MEDICAL MANAGEMENT OF KISSING SPINES

How shock wave therapy, mesotherapy, and ongoing maintenance helped a young event horse return to performance



COURTESY VIRGINIA EQUINE IMAGING

The team of performance horse practitioners at Virginia Equine Imaging, in The Plains, sees more than their fair share of back pain cases. Practice owner Kent Allen, DVM, Cert. ISELP, estimates one-third of his cases are horses with back problems coming in for second opinions.

“These cases can be difficult,” he says. “They’ll come in sometimes with a history of bucking their riders off or having significant performance and avoidance issues.”

A textbook example of one of these patients arrived at the clinic in July 2020. The 5-year-old gelding’s rider, who was preparing him for an eventing career, reported he’d recently become back sore under saddle.

On physical examination, Allen noted moderate pain when he palpated the dorsal spinous processes along the thoracic and lumbar regions of the horse’s back. He also detected mild pain of the epaxial musculature—along the sides of the spine—and mild to moderate pain at the sacroiliac region. The gelding had minimal development of the topline musculature.

Radiographs confirmed the horse had dorsal spinous process impingement, aka kissing spines, ranging from Grades 1 to 4 on the commonly used 0-to-4 scale (0 being no impingement and 4 being severe). He also had evidence of arthritis of the articular processes, which Allen informed the owner might not be the current cause of the horse’s back pain but would need to be managed throughout the horse’s career.

Allen explains that spinous processes with Grade 1 impinge-

ment have about 5 millimeters of space between them. Grade 2 impingements have less than 5 millimeters of separation. Grade 3 means the processes are touching, and Grade 4 involves aggressive cystic remodeling of the bone. If a horse has just one impingement, he can typically tolerate it well, says Allen. More significant and numerous impingements become painful problems. Kissing spines usually develops between thoracic vertebra T12—the base of the withers—all the way back to T18, the last vertebra with ribs attached, before the lumbar spine.

“These developmental problems are a combination of genetics and growth,” Allen explains, in the first two years of life. “What tends to happen is that as horses get ridden more and are doing sport that requires them to bend their back, they typically get progressively worse.”

In fact, he says, in an unpublished study (TheHorse.com/185315), his team found that the average age of 314 predominantly English sport horses presenting with back pain or poor performance was 6.5 years.

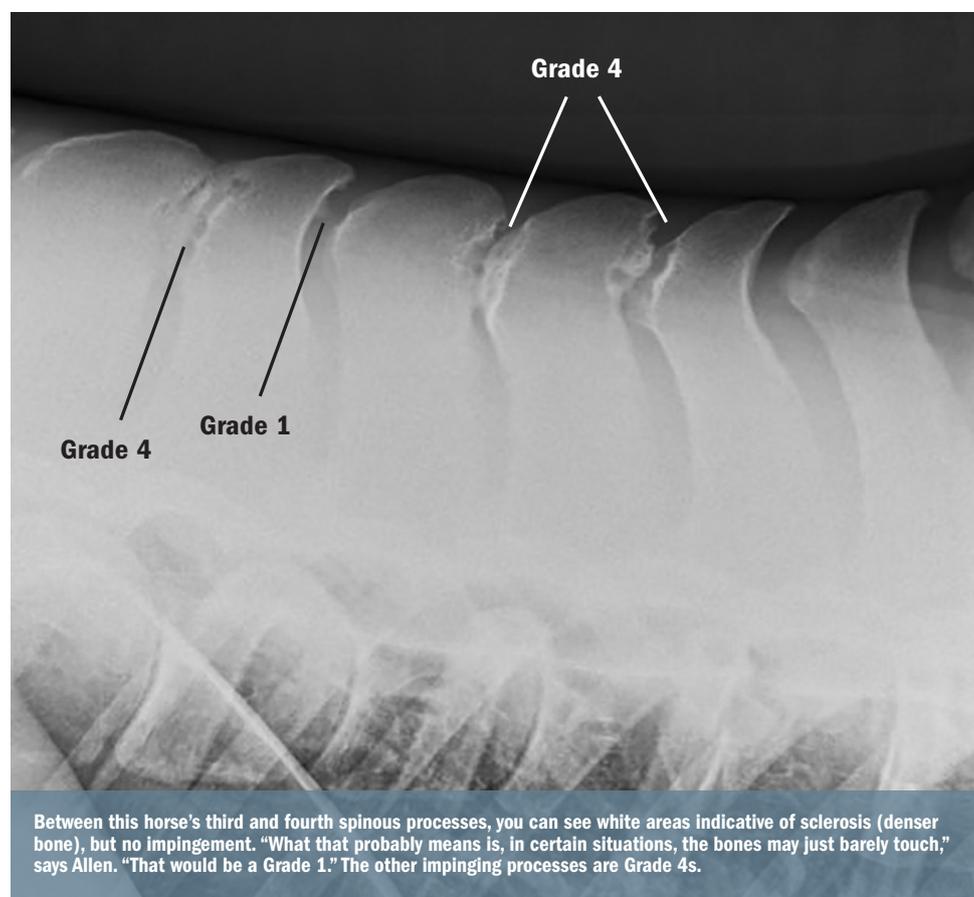
“So, this horse—the 5-year-old event horse—was an overachiever,” he notes.

MAKING A TREATMENT PLAN

For this case Allen prescribed his go-to treatment for kissing spines: extracorporeal shock wave therapy and mesotherapy. He also injected the sacroiliac joint to relieve the pain in that area.

Mesotherapy involves injecting corticosteroids and local anesthetics into the middle layer of skin on either side of the spine to block nerve fibers. “It’s essentially a technique where we’re trying to interrupt the sensory pain that the horse is receiving from the area,” says Allen. “If we can downgrade that pain and we can attenuate it, then the horse will feel more comfortable.”

Shock wave therapy has a similar effect but on a deeper level, using very powerful sound waves. “Normal bone has very few pain receptors, but abnormal bone or arthritic bone has a lot of pain receptors in it,” Allen explains. “When you hit shock wave on this reactive bone, whether it’s deep at the articular processes or it’s more superficial at the kissing spines, very



Between this horse’s third and fourth spinous processes, you can see white areas indicative of sclerosis (denser bone), but no impingement. “What that probably means is, in certain situations, the bones may just barely touch,” says Allen. “That would be a Grade 1.” The other impinging processes are Grade 4s.

COURTESY DR. KENT ALLEN

quickly you will downregulate the pain receptors.”

He performed high-energy focused shock wave therapy on the horse’s entire affected area, starting just behind the base of the withers and continuing into the caudal thoracic and lumbar region. He used different-depth probes to treat the kissing spines and deeper arthritis of the articular processes.

“We find that mesotherapy and shock wave seem to work well together,” Allen says. “Mesotherapy will cover a broader area, and shock wave therapy has to be fairly specific—you have to get your shock wave right over the lesions into the areas of bony change.”

The goal is to control and manage the pain so the horse isn’t hurting, can go back to work, and can develop muscle to remain comfortable.

This horse, like many that have been struggling with chronic pain for some time, had muscle loss on either side of his spine.

“When there’s pain like this in the back, the muscles spasm because of the pain,” Allen explains. “You can ride them, you can exercise them, do all the things that normally would grow muscles in the back,

but they won’t grow muscles in the back because that muscle is in spasm. The pain and constant spasm will slowly atrophy those muscles.”

ONGOING MANAGEMENT

Horses with chronic back pain typically need lifelong management to stay comfortable. Fortunately, says Allen, many can have productive careers if their owners keep up with commonly recommended maintenance therapies. For this horse Allen recommended the rider always warm up at the walk and canter prior to doing any trot work.

“It’s not intuitive to most people, but when you think about it, it actually makes good sense,” he says. “At the walk and the canter, you’re not pounding on the back, and it’s giving the horse the ability to stretch and exercise without that pounding. Then the trot work comes later.”

He encouraged riding the horse long and low, getting him to stretch his head and neck, which stretches the spine. On the ground Allen recommended doing carrot stretches—not the neck-to-side stretch many people practice but, rather, stretching the nose down toward the knees. He

advised the owner to keep an eye on the horse's saddle fit due to changing musculature, but reminded them saddle fit is a side issue, not the issue.

He says chiropractic and acupuncture might be useful therapies for this horse, as well, but their effects typically last a few weeks versus the months of relief modalities such as shock wave, mesotherapy, injections, and bisphosphonates (bone drugs FDA-approved to manage navicular pain but often used off-label on backs) provide, when used in combination with mindful warmups and stretching.

"We don't want to be out there treating this horse every other week," says Allen. "That's not the goal. The goal is to get it pain-free, so the rider can get the horse back to doing his job. Just riding the horse is a tremendous rehabilitation process, because they're going to start building

“If you don't relieve the pain, nothing changes.”

DR. KENT ALLEN

muscle again. But you've got to relieve the pain. If you don't relieve the pain, nothing changes.”

Allen rechecked the gelding a month after his initial visit, then subsequently every six months. He continues to treat him with shock wave and mesotherapy twice a year to control the back pain, which has allowed the horse to return to competition. As of February 2022, at the horse's most recent exam, he had only mild pain on palpation of the dorsal spinous processes, which is an improvement from 18 months ago.

FINAL THOUGHTS

Allen describes this horse as a typical chronic back pain case he treats. If the gelding hadn't responded to these less-invasive therapies, he says he'd recommend injecting the spinous process with corticosteroids or biologics such as platelet-rich plasma or alpha-2-macroglobulin, the effects of which can last months to years, he says. A last-ditch effort would be surgery to remove the affected bone and/or ligaments, but Allen tries to avoid this route at all costs. Of the hundreds of kissing spines cases he sees a year, he says he only refers one or two to surgery on average.

"The surgery is not without risk and has a lengthy rehabilitation process associated with it," he says. "It would behoove you to pursue medical therapy before you even think of surgical therapy."

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