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## Tips for Managing Suspensory Disease

Suspensory ligament (SL) disease is one of the leading causes of poor performance in horses. Injury to this structure (which originates from the back of the fore and hind cannon bones, courses between the splint bones along the back of the cannon bone and divides into two branches that insert on the sesamoid bones) can be frustrating to manage.

At a table topic forum during the 2015 American Association of Equine Practitioner's Convention, held Dec. 5-9 in Las Vegas, Sue Dyson, MA, VetMB, PhD, from the Center for Equine Studies Animal Health Trust, in the United Kingdom, and Lane Easter, DVM, Dipl. ACVS, of Performance Equine Associates, in Oklahoma, discussed suspensory treatment options and ideas with a group of veterinarians.

**Q: How many practitioners do surgery on chronic hind leg suspensory disease?**  
Upon being asked this question, one-third of the practitioners in the room raised their hands.

Ultrasound is a useful diagnostic tool for suspensory injury, and if the veterinarian makes a positive diagnosis of SL disease, then he or she should consider surgery. Horses not considered surgical candidates are those with straight hind limb conformation or hyperextended rear fetlocks. Dyson pointed out that the presence of sacroiliac pain does not obviate surgery but might impact the prognosis. There is no point in waiting three months to go to surgery, she added.

Together, a neurectomy (cutting the nerve) and fasciotomy (cutting the fascia to relieve pressure on the enlarged ligament) often produce the best results, said Dyson. Fasciotomy alone does not yield as good a result.

With neurectomy alone, said Dyson, "We have seen an association between tightness of the fascia at surgery and the degree of lameness. We also have evidence of compressive nerve injury. Therefore, there is value in cutting the fascia along with neurectomy."

She noted that, because the suspensory ligament is anatomically related to the hock, surgery might alter the mechanical loading of the hock slightly and predispose the horse to low-grade lameness associated with hock pain. Veterinarians can manage this with pain-relieving medication.

**Q: How many horses have bilateral surgery?**  
Many horses with hind limb suspensory disease are bilaterally (on both sides) lame.

If the horse is only lame in one hind limb but the veterinarian identifies pathology via diagnostic tests in the nonlame hind limb, he or she should operate on both hind legs.

It is important to do a comprehensive ultrasound exam of the hock and cannon region, including the flexor tendons and the entire suspensory ligament, from top to bottom. It is important not to overlook injury to another structure, said Dyson.

**Q: What is the protocol following surgery?**  
Dyson recommended horses be stall-rested for two weeks and then started in a walking program of 45 minutes per day for six weeks to build core strength. Physiotherapy by a qualified individual is also an important part of rehabilitation. The veterinarian should perform a reassessment and ultrasound at two months post-op. If all is well, then the horse can begin trotting, and at 10 to 12 weeks he can slowly begin cantering.

With this surgical and rehabilitation approach, about 78% of affected horses returned to full athletic function for at least two years post-op, said Dyson. Of approximately 500 horses, five had poor results and progressive deterioration. Dyson stressed that it is critical to work the horse correctly, as prescribed by the treating veterinarian, during the rehab program.

**Q: What is the prognosis for horses with chronic hind limb suspensory disease that don't go to surgery?**  
In general, only 14% of affected sport horses on long-term rest alone returned to athletic function.

Easter noted that many horses competing in Western performance disciplines are a younger population—around 3 to 7 years old. "Many of these young horses with chronic suspensory disease can be managed without surgery for a while, allowing them to complete early age events," he said, adding that he has had good results using biologic therapy, especially autologous conditioned serum (IRAP), on these horses. The biologics provide both pain relief and healing.

Dyson observed that young horses are put through rigorous work in preparation for high-performance sales, and many have SL changes. If the horse is given enough time, these can be managed conservatively.

A nuclear scintigraphy scan can help the veterinarian identify a bone problem at the SL's attachment, which may influence convalescent time and prognosis, she added.

**Q: What role does footing play in development of SL disease?**  
Certain surfaces cause a horse to stop abruptly rather than slide, which puts strain on the SLs. Even more important is the footing's uniformity, said Dyson. Patchy arenas pose a risk for injury.

Good footing is not only important for prevention but also for rehabilitation.

Repetitive motion exercises, such as repetitive circling, no matter the discipline put the suspensory ligaments at risk of injury.

**Q: How do you go about treating and managing forelimb suspensory disease?**  
Veterinarians rarely recommend surgery on the forelimbs in these cases. Dyson said proximal limb SL injuries in sport horses are different than those seen in the hind limbs. It is more often related to an acute injury rather than repetitive/strain injury, often with greater compromise of the ligament's infrastructure, she explained. In contrast, Easter said he believes repetitive stress/strain accounts for the majority of forelimb suspensory disease in Western performance horses.

"With acute forelimb SL injury in sport horses, giving them three months often results in a 90% success rate," said Dyson.

Easter recommended treating forelimb-affected Western performance horses with a combination of rest and IRAP. "Many are sound to resume work in three months with this protocol," he said.

In contrast to sport horses, SL lameness in endurance horses mostly shows up at more maximal work and distance. The injury is often complicated by concurrent bone pathology at the SL's attachment to the cannon bone. For best results, give these horses full rest for eight to 12 months.

For forelimb suspensory disease in all horses, it is important to assess the condition of the feet, as well. Low heels or mediolateral foot imbalance are risk factors for suspensory injury.

**Q: How do you shoe horses with hind limb suspensory disease?**  
Easter cautioned that elevating the heels too much might increase stress and strain on the suspensory ligament because it decreases tension on the deep digital flexor tendon (DDFT).

"Ideally, in a horse being managed for suspensory ligament injury, you want the horse to load the toe early when landing," he said. "This places early load-phase tension on the DDFT to use it as a sling for the fetlock as it begins to sink, thereby reducing stress on the SLs."

"A therapeutic shoe—one with a wide-toe portion and narrow branches—that builds on this biomechanical principle may be attempted for managing suspensory disease," he added.

**Q: What role does shock wave play in SL disease treatment?**  
Dyson reported a 40% short-term success rate using shock wave therapy: "With shock wave treatment, a horse is able to resume work for approximately six months but in a proportion of horses, the injury is likely to relapse."

This therapy can be a useful management tool if used repeatedly to provide pain relief. Shock wave does not appear to have deleterious effects on the suspensory ligament's infrastructure. However, using shock wave to enable a horse to work with an injury might worsen the injury.