



VET NOTES

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Dr. Connie Finley was born and raised just outside of Oklahoma City, OK. She attended Oklahoma State University for a Bachelor's in Animal Science followed by a Doctorate in Veterinary Medicine.

After graduating she began her pursuit to become specialized in large animal surgery which took her from Oakridge Equine Hospital in Oklahoma to Chino Hills Equine Hospital in California and finally to Peterson and Smith. She completed an internship at Peterson and Smith in June 2018, and is now a first year surgical resident.

Her career interests are in soft tissue surgery, especially colic, upper airway, and eye surgery.

Hindlimb Proximal Suspensory Desmitis

Connie Finley, DVM

Hindlimb proximal suspensory desmitis (PSD) is an injury and associated inflammation of the origin of the suspensory ligament. This injury most commonly occurs in sport horses, especially dressage, eventers, and jumpers, but also has been seen in racehorses and endurance horses. Horses with a straight hock conformation appear to be predisposed to this injury and frequently will have reoccurrence of the injury because of their conformation. PSD can be a confusing and frustrating lameness to diagnosis and treat. This article will briefly review the diagnostic and treatment options for proximal suspensory desmitis of the hindlimb.

The proximal aspect of the hindlimb suspensory ligament is confined on all borders, it lies on the back of the cannon bone, with a splint bone on either side, and held in place by dense fascia. When inflammation and swelling develops from an injury there is limited space for it to swell. Pain may arise from the injury itself or research has suggested a compressive damage to the nerve that innervates the proximal suspensory ligament (deep branch of the lateral plantar nerve).

Most horses have a subtle, consistent lameness; they may display resistance behavior (refuse to jump, bolting) or simply poor performance. The lameness tends to persist even after having adequate time off and can affect one limb but more commonly affects both hindlimbs. Nerve blocks at the origin of the suspensory ligament should dramatically improve the lameness during an exam but may not completely eliminate the lameness. Unfortunately, nerve blocks in this area have

the potential to improve a lameness associated with the lower hock joints, such as osteoarthritis. Care should be taken when trying to differentiate a lameness associated with the hock joints or the proximal suspensory ligament.

Diagnostic imaging is helpful to determine the source of the lameness once nerve blocking has confirmed the area that is causing pain. Radiographs of the hock and proximal cannon bone can identify osteoarthritis changes with the lower hock joints and bony changes of the cannon bone where the suspensory ligament originates. These changes are more likely to be seen when the lameness has persisted for several months because of the time it takes for the affected bone to remodel. Ultrasonography is an excellent modality for imaging of the suspensory ligament. Overall ligament enlargement and disrupted fiber pattern are common findings of PSD. The confined space of this location can limit the ability to evaluate the entire proximal suspensory ligament, especially in large horses. Imaging of the opposite, hopefully sound, hindlimb is critical to compare with the ultrasonography findings of the lame limb.

Radiography and ultrasonography are the most commonly performed imaging modalities. Nuclear scintigraphy may be pursued when a lameness is not easily located to a specific region. Nuclear scintigraphy is used to scan the entire body of a horse and identify areas of inflammation within bone especially and soft tissues to a limited extent. Furthermore, magnetic resonance imaging (MRI) offers the most detailed image of the suspensory ligament possible. This modality may be limited by expense and may necessitate general anesthesia in order to attain a detailed image.

As these horses tend to not improve with adequate stall rest alone, medical or surgical therapy is recommended. First-line medical therapy is directed at decreasing inflammation and promoting healing, including intralesional therapy, extracorporeal shock wave therapy, or high-power laser therapy. Return to athletics with medical therapy is approximately 40-60%, though this may be underestimated because many of these therapies are not well documented in veterinary literature. Surgical procedures are directed at removing a segment of the deep branch of the lateral plantar nerve which innervates the proximal suspensory ligament and transecting the fascia over the suspensory ligament to lessen the compression over the injury. Prognosis for return to athletics is approximately 70-90% with surgical therapy. Though this injury can be difficult to diagnose and to successfully treatment, the current medical and surgical therapies offer a good chance of these horses returning to athletics.

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