

PROXIMAL SUSPENSORY LIGAMENT INJURIES IN THE RACEHORSE

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THE SUSPENSOR LIGAMENT IS A KEY COMPONENT OF THE STAY APPARATUS AND THE MAJOR MECHANISM BY WHICH HORSES GENERATE SPEED AND POWER.

The suspensory ligament originates on the back of the cannon bone and inserts and branches on each sesamoid bone in the fetlock. The ligament is best described by the three locations and subsequent sites of injury:

- 1) The suspensory branches
- 2) The suspensory body
- 3) The proximal suspensory.

The proximal suspensory can be injured in one or both of forelimbs or hindlimbs at any one time and is typically associated with hock lameness.

An acute injury to the proximal suspensory ligament may be seen as a sudden onset of lameness that is observed consistently, then seen to resolve rapidly. Acute injuries are more common in the forelimb, with hindlimb injuries more frequently chronic and have been associated with low-grade lameness/poor movement in hindlimb. Deep palpation of the proximal suspensory region will often elicit a painful response.

The diagnosis of a proximal suspensory ligament injury is typically made by an ultrasound after a thorough examination. A major limitation of ultrasound is the ability to detect subtle changes in the proximal suspensory. In many cases, ultrasound may only detect an enlargement of the ligament, rather than a distinct tear making subtle

lesions challenging to diagnose. Therefore, to complete the diagnosis, additional procedures such as targeted nerve blocks are essential. Injuries can also be detected by nuclear scintigraphy when damage to the bone insertion is apparent.

Magnetic resonance imaging has also been a valuable adjunctive for prognosticating injuries and determining treatment.

Treatment options for proximal suspensory injuries are dependent on the site of lesion, severity, age and expectations of horse, and chronicity of the lesion.

- 1) Conservative treatment: Usually reserved for acute injuries without significant ultrasound or radiographic changes. Options for conservative treatment include rest with controlled exercise for two to three months and then back into work. This can be followed by six to nine months of paddock rest.
- 2) Anti-inflammatory treatment: Attempted in horses with apparent mild acute injuries and short-term expectations. Intra-lesional or peri-lesional injections with corticosteroids are attempted to reduce inflammation in the ligament, however they limit overall healing. This can lead to fair short-term, with poor long-term success.
- 3) Regenerative options: Reserved for focal acute injuries and should be

combined with controlled exercise and rehabilitation. Platelet rich plasma, IRAP, Bone-Marrow Concentrate and Pro-Stride have all been used with good success. These regenerative products aim to improve the quality of healing and have encouraging success long term.

- 4) Shockwave therapy: Shockwave therapy aims to reduce inflammation, provide analgesia (pain relief), and improve blood flow to the site of injury. Shock wave therapy is typically directed at every two-week treatment for a minimum of three treatments and rehabilitation.
- 5) Surgery: Surgical options in the thoroughbred racehorse include a fasciotomy alone due to a neurectomy being prohibited in the racehorse. A fasciotomy is performed to release the constricting fascia around the ligament, allowing swelling and healing to occur without pain from constriction.

Regardless of the option selected for treatment, prognosis ranges around 50-70 per cent returning to athletic function. It is not uncommon for injuries to this region to be associated with concurrent lameness in other locations such as pelvis, foot, and fetlock.

A thorough examination and nerve blocks are essential to select the best treatment and achieve a successful outcome. ▣