

Horse Health:

Suspensory Ligament Injury

What is it?

A suspensory ligament injury occurs when damage, strain, or inflammation affects the suspensory apparatus, one of the most important support structures in a horse's limb.

The suspensory ligament (sometimes known as the interosseous muscle) runs down the back of the cannon bone and divides into two branches near the fetlock, attaching to the sesamoid bones and joining the extensor tendon on the front of the pastern. Its main job is to support the fetlock joint and prevent over-extension during movement.

Injury to this structure is known as **suspensory desmitis**. It can occur in the origin (upper part near the knee or hock), the body (mid-cannon region), or the branches (lower limb). These injuries range from mild fibre strain to complete rupture and are a major cause of lameness and performance loss in horses.

What causes it?

Suspensory ligament injuries are most commonly due to overstrain or repetitive micro-trauma. The ligament works under enormous pressure, especially in horses performing fast or high-impact work.

Common causes include:

- **Excessive workload or fatigue:** This can be down to overexertion without sufficient rest.

- **Poor footing:** Deep, uneven, or slippery ground increases strain.
- **Poor conformation:** Straight hocks, long pasterns, or poor hoof balance can predispose to injury.
- **Sudden trauma:** Such as a mis-step, slip, or awkward landing.
- **Chronic overload:** Particularly in horses with uncorrected limb imbalance or weak musculature.
- **Age-related degeneration:** Older horses have stiffer, less elastic tissues that are more prone to tearing.

What horses are at risk?

While any horse can suffer a suspensory ligament injury, some groups are more prone:

- **Performance horses:** Racehorses, showjumpers, eventers, and dressage horses place an increased load on the ligament.
- **Older horses:** Degenerative changes weaken the ligament with age.
- **Horses with poor foot balance:** Long toes and low heels increase tension on the suspensory ligament.
- **Horses in intense or repetitive work:** Galloping, jumping, or repeated collection can all increase strain.
- Horses working on **poor or variable ground.**

Hindlimb suspensory injuries are especially common in dressage horses, due to the repetitive collection and weight-bearing required on the hindquarters.

What are the symptoms?

Clinical signs vary with the location and severity of the injury. Some horses show only subtle signs early on, so prompt veterinary evaluation is key.

Typical symptoms include:

- **Lameness:** This is often worse on soft ground or in circles.
- **Swelling or thickening:** Usually along the back of the cannon region or at the inside of the hock or knee.
- **Heat or tenderness:** When the area is palpated by your vet.
- Pain when the fetlock is **extended** or if the **limb is loaded**.
- **Reduced performance:** Reluctance to engage the hindquarters, jump, or collect.
- **Sinking fetlock appearance:** This may develop in chronic cases due to loss of support, or in acute cases where there is very severe damage.

Hindlimb proximal suspensory desmitis (PSD) can be particularly tricky to detect. Signs may be subtle, with poor impulsion or loss of power rather than obvious lameness.

How is it diagnosed?

Your vet will begin with a detailed history and physical examination, palpating the limb and assessing lameness on different surfaces and under varying conditions.

Diagnostic tests may include:

- **Nerve blocks:** Local anaesthetic helps to localise the source of pain.
- **Ultrasound scanning:** This is the mainstay of diagnosis; it shows fibre disruption, swelling, and scarring, and is used to monitor healing over time.
- **Radiographs (X-rays):** These are used to rule out associated bony changes or avulsion fractures.
- **MRI or CT:** Sometimes used for complex or chronic cases,

especially around the hock or fetlock.

- **Lameness evaluation under saddle:** This may help identify subtle performance issues, especially in hindlimb cases.

A clear diagnosis and grading of the injury are essential, as this guides prognosis and rehabilitation planning.

How can it be treated or managed?

Treatment focuses on reducing inflammation, promoting controlled healing, and preventing re-injury. Recovery is often slow - from six months to a year, depending on the site and severity.

1. Rest and controlled exercise

Initial box rest and hand-walking are usually prescribed, followed by a gradual, structured exercise plan guided by repeat ultrasound scans. Controlled loading encourages proper fibre alignment and reduces the risk of weak scar tissue.

2. Anti-inflammatory therapy

- Cold therapy in the early stages helps reduce heat and swelling.
- Non-steroidal anti-inflammatory drugs (NSAIDs), such as phenylbutazone, help ease pain and inflammation.

3. Regenerative treatments

In selected cases, modern regenerative therapies can enhance healing:

- **Platelet-rich plasma (PRP):** Delivers growth factors to stimulate repair.
- **Stem-cell therapy:** The horse's own stem cells are used, which helps reduce inflammation and help to regenerate healthy ligament tissue.

- **Extracorporeal shockwave therapy:** The shockwave (like medical ultrasound but at a higher amplitude) encourages blood flow and healing, particularly for proximal hindlimb lesions.

These treatments are most effective when combined with a carefully managed rehabilitation plan under veterinary supervision.

4. Corrective farriery

Balanced trimming and shoeing are crucial. Your farrier and vet may work together to adjust hoof angles, support the heel, and reduce strain on the suspensory ligament.

5. Physiotherapy and rehabilitation

Professional physiotherapy, including massage, laser, or therapeutic ultrasound, can improve circulation and flexibility. Core strengthening exercises, balance work, and gradual return to exercise help prevent recurrence.

6. Surgical options

In chronic hindlimb proximal suspensory desmitis, where conservative management fails, surgery such as fasciotomy and neurectomy of the deep branch of the lateral plantar nerve may be considered to relieve pain and pressure within the ligament compartment.

Can it be prevented?

Not all suspensory injuries are preventable, but careful management reduces the risk significantly:

- Maintain correct foot balance with regular farriery.
- Build fitness gradually, avoiding sudden increases in workload.
- Warm up and cool down properly before and after exercise.

- Avoid deep, uneven, or slippery surfaces when schooling or competing.
- Use conditioning and core strengthening exercises to improve stability.
- Allow sufficient rest and recovery time between intense training sessions.
- Schedule regular veterinary and farrier checks to identify subtle issues before they cause injury.

What to watch out for

If you notice any swelling, heat, or lameness in your horse's legs, especially around the back of the cannon bone, contact your vet for advice as soon as possible. Early intervention offers the best chance of full recovery.