

## Suspensory Ligament Injury

The suspensory ligament (SL) runs down the back of the cannon bone from just below the hock/knee, between the splint bones and beneath the two flexor tendons, before dividing into two branches that insert on two small bones (sesamoid bones) immediately behind the fetlock joint.

The main function of the SL is to prevent excessive extension of the fetlock joint; the two branches also contributing to joint stability. There are three regions of the SL that can be injured; proximal (top end), mid-body and the two branches. SL injury can follow a single traumatic event, be due to a repetitive strain or age related longer term degeneration.



**THE SUSPENSORY LIGAMENT CAN EASILY BE SEEN AND FELT IN THE MID CANNON AREA (ARROWS)**

### Clinical signs

- Lameness – variable in severity and speed of onset. Often worse on soft going or with the affected limb on the outside of a circle on the lunge.
- May be poor performance rather than obvious lameness if both fore or hindlimbs are affected.
- May be positive to flexion test.
- Localised heat, pain and/or swelling.
- Fetlock joint or digital flexor tendon sheath filling (windgalls) with SL branch injuries.

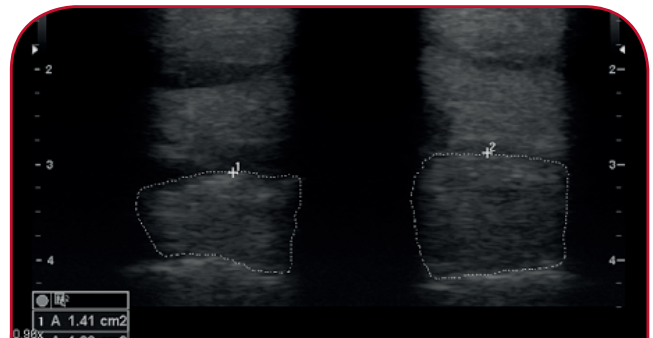
Some conformation faults e.g. straight hocks, and foot imbalance may predispose to injury.

### KEY POINTS

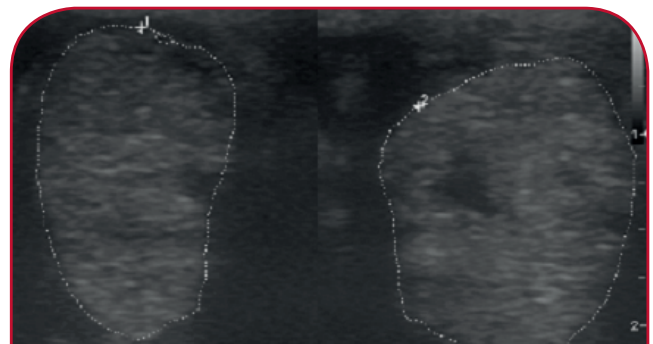
- The function of SL is to prevent overextension of the fetlock joint.
- Injury can occur to the top end, mid-body or SL branches.
- Lameness can be variable.
- Ultrasound examination is required to diagnose and monitor an injury.
- Treatment includes rest, shockwave therapy, injections into the injured ligament, controlled exercise and correction of foot imbalance.
- Prognosis is affected by limb and location as well as severity.

### Diagnosis

Diagnosis is based on clinical signs and ultrasound examination. Nerve blocks and x-rays may also be used and less commonly MRI or nuclear scintigraphy (bone scan).



**ULTRASOUND IMAGE SHOWING ENLARGEMENT OF PROXIMAL SL OF RIGHT FORE**



**ULTRASOUND IMAGE SHOWING ENLARGEMENT WITH CORE LESION IN LATERAL BRANCH OF RIGHT HIND**

### TREATMENT

Treatment will include a combination of the following depending upon the site and nature of the injury:

**Box/small paddock rest** - at least three months is required to allow inflammation to subside, repair to start and to reduce the risk of further injury.

**Controlled exercise** - a gradually increasing programme over three to nine months to strengthen the SL and help align fibres during repair.

**Foot balance assessment/correction** - poor foot balance can increase strain on the SL and predispose to injury.

**Egg bar shoes** - may be used to reduce fetlock extension and strain on SL.

**Extracorporeal Shockwave Therapy**  
Shock waves targeted at the injury are thought to provide pain relief, increased blood flow and directly affect cells to improve healing. A course involves up to four treatments at weekly intervals.



**Anti-inflammatory medications** - A range of anti-inflammatory medications may be used in the early management of these injuries.

**Platelet Rich Plasma (PRP)** - Some acute tears of the SL can be treated with PRP therapy. Blood is taken from the patient and passed through a special filter before being injected under ultrasound guidance into the tear. Natural growth factors contained within the PRP promote tissue repair and healing.

**Surgery** - (for certain hindlimb suspensory injuries) involves removing the nerve branch supplying the injured tissue and cutting through the surrounding constricting tissues to relieve pain associated with increased pressure in a restricted space.

**Monitoring response to treatment**  
Check ups will be scheduled to monitor clinical signs and healing using physical exams and ultrasound scans. A graduated exercise program will be tailored to each individual patient and injury.

### PROGNOSIS

For recovery to pre-injury level of use (guidelines only).

Upper SL	Forelimb	Good > 80%
Upper SL (Proximal)	Hindlimb	Without surgery: Poor <30%
		With surgery: Good 75%
Mid SL		Poor < 25%
Branch	1 branch 2 branches	Good > 80% Guarded 40-60%



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