

# Injuries of the Lower Leg

INJURY	Tissue and location	Cause	Diagnosis	Treatment	Prevention
<b>Suspensory ligament desmitis (pulled or torn suspensory ligament)</b>	The suspensory ligament is located along the back of the cannon bone, starting at the knee (front leg) or hock (hind leg) and traveling down to the back of the fetlock. This is a very common injury.	Overexertion of the tissue, typically from the fetlock dropping down in soft footing (sliding stops, twisting, galloping fast, and landing over jumps).	Severe tears of the tissue are easily seen as a swelling at the back of the leg with severe pain and lameness. Smaller injuries may only be evident as a slight swelling. Ultrasound of the area is the most common form of diagnosis. Ultrasound can image tears or simple strains.	Rest and walking. Support wraps help minimize the drop of the fetlock (which pulls on the suspensory ligament). When injury first occurs, cold therapy should be used. If there is a full tear in the ligament, stem cell injections can be used. Shockwave can be used to promote healing.  The majority of healing occurs in the first three months, but typically an additional three months is needed for rehabilitation to strengthen the tissue. More severe injuries require approximately a year for recovery.  Prognosis for a return to full workload is very good with use of stem cells/shockwave. Prognosis is guarded for rest-only therapy, with greater likelihood of reinjuring the area.	<ul style="list-style-type: none"> <li>• Proper conditioning, especially for sports such as racing, jumping, dressage and eventing.</li> <li>• Ride in good footing and minimize slipping.</li> <li>• Use support wraps around legs to minimize dropping of the fetlock.</li> <li>• Proper hoof trimming is essential. With a long toe/low heeled horse, have your farrier reduce the toe back to the white line and make every effort to grow heels and create a proper pastern angle along the three bones of the lower limb (long pastern bone, short pastern bone and coffin bone).</li> </ul>
<b>High suspensory ligament desmitis</b>	The uppermost part of the suspensory ligament as it attaches to the bone at the back of the knee or hock between the splint bones. Less common injury.	Similar to suspensory injuries but with added emphasis on twisting actions and hyper-extension of the knee (knee bending too far back) or sliding stops for the hind legs.	Can be very difficult. Swelling is often hidden between splint bones. Ultrasound can be difficult due to location, and fibers in the area fan out as they connect to the bone, making imaging more difficult. A combination of ultrasound and scintigraphy (bone scan) is most commonly used. The MRI is now becoming a very important mode of diagnosis.	This can be a career-ending injury due to the difficulty of the fibers in the ligament reattaching to the bone. The most effective treatment is injecting stem cells into the area of the injury and shockwave therapy. Rest for approximately six months to one year.	<ul style="list-style-type: none"> <li>• Similar to suspensory ligament injuries, with an emphasis on decreasing sliding stops, twists and overextending the knee (fast galloping in soft footing).</li> <li>• Proper conditioning is very important for performance horses such as reiners, ropers, eventers, barrel racers and racehorses.</li> </ul>
<b>Flexor tendon desmitis (superficial and deep)</b>	Long tendons at the back of the cannon bone adjacent to the suspensory.	Similar to suspensory injuries.	Similar to suspensory injuries.	Similar to suspensory injuries.	Similar to suspensory injuries.
<b>Deep digital flexor tearing at the level of coffin bone insertion</b>	Deep digital flexor tendon within the coffin joint as it attaches to the coffin bone. Typically occurs in the front limbs.	Not completely known but similar to other flexor tendon injuries. A very uncommon injury.	Very difficult. Most often diagnosed by scintigraphy and MRI. It can rarely be diagnosed by ultrasound and is impossible to diagnose with radiographs.	Stem cells injected into the coffin joint; IRAP; shockwave; therapeutic shoeing (eggbar with central midbar). Extended periods of rest. Very poor prognosis for return to the previous level of work. Horses are often retired because of this injury.	<ul style="list-style-type: none"> <li>• Similar to suspensory ligament injuries, with strong emphasis on trimming and shoeing; keeping the toe in good alignment with the pastern.</li> <li>• Good footing and conditioning.</li> </ul>
<b>Suspensory branch desmitis</b>	The last third of the suspensory ligament as it splits into branches that wrap around the sesamoid bones of the fetlock.	Similar to suspensory injuries but with added emphasis on twisting actions. A common injury in jumping and racing.	A definitive diagnosis is determined by ultrasound. MRI imaging gives greater detail as to the degree of damage.	Similar to suspensory ligament injuries. This injury can be career-altering. Many branch injuries heal but not to their former strength. Use of shockwave therapy and stem cell/IRAP/PRP therapies have greatly increased return to work for these horses. This is a more significant injury that typically needs one year to heal/rehabilitate.	Similar to suspensory ligament injuries with emphasis on decreasing twists.
<b>Annular ligament desmitis</b>	The wide, thin band of ligament tissue that wraps around the back of the fetlock from side to side.	Hyperflexion of the fetlock (fetlock dropping low); deep footing with a slippery base.	Easily diagnosed by ultrasound.	Rest; support wraps; shockwave therapy. Occasionally, if the ligament becomes re-injured repeatedly, it is cut to relieve stress on the fetlock. There is a good prognosis for healing and return to full work if only a minor injury is present. Horses suffering from more severe injuries that require surgery still may work but with decreased workloads. Typically requires three months to heal.	Similar to suspensory ligament injuries.
<b>Collateral ligament desmitis of the hoof</b>	The tiny ligaments at 10 o'clock and 2 o'clock within the coffin joint, running from the short pastern bone to the coffin bone. A common injury in jumping.	Twisting action on the coffin joint.	Diagnostic nerve blocking, scintigraphy and MRI. It is possible to ultrasound but difficult to image this ligament deep within the coffin joint. An MRI is the best imaging modality.	Rest; IRAP injections into the coffin joint; shockwave therapy. Very good prognosis if properly diagnosed and treated with IRAP. Most horses that are given rest-only treatment become sound with rest and lame with exercise.	Minimize twisting actions on the hoof, such as spinning and taking off in a different direction. Minimize chasing the horse in a small area for exercise.
<b>Blind soft injuries of the fetlock/joint strain</b>	The joint capsule; small intersesmoidian ligaments of the fetlock; and suspensory ligament as it wraps around the sesamoids.	Hyperflexion of the fetlock (fetlock dropping low); twisting. Very common in disciplines such as jumping, dressage, eventing, barrel racing, et cetera.	These injuries are referred to as "blind" because of the lack of visible symptoms. Diagnosis is difficult; most common are positive flexion tests (lameness after the fetlock is held in flexion for 1 minute). Often ultrasound and radiographs are within normal limits. Scintigraphy often reveals an area of inflammation. An MRI may or may not show any changes.	Shockwave is the best therapy; often used to treat the back portion of the fetlock. Many horses display a pain response (an indication of tissue abnormality) around the base of the sesamoids in the area of the suspensory. There is usually an excellent response to shockwave therapy, with the horse back to work in six to eight weeks.	Similar to suspensory ligament injuries.