



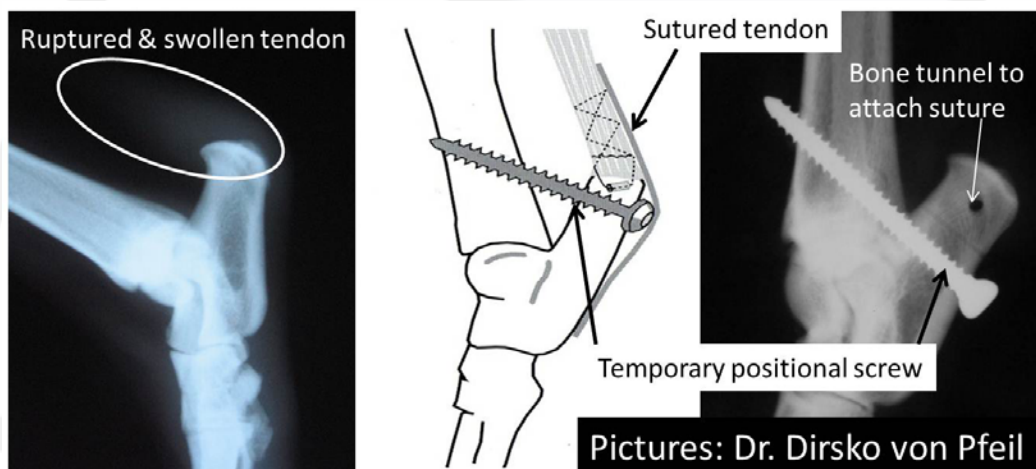
Information on treatment and rehabilitation of Achilles tendon injuries in dogs

Dirsko J.F. von Pfeil, Dr.med.vet., DVM, DACVS, DECVS; Mike Edwards, DVM, MS, DACVS

The Achilles tendon is composed of multiple tendons that arise from different muscles. The muscle best known by most people is the gastrocnemius. The first, proximal part of the Achilles tendon consists of a muscular part, followed by a junction of muscle and tendon, which eventually develops into a pure tendinous part. In humans, Achilles tendon injuries are associated with poor training methods, administration of a specific antibiotic (fluoroquinolones), and poor blood supply to the tendon. Poor blood supply does not seem to be a significant factor for the development of this injury in the dog. Achilles tendon injuries in dogs are frequently associated with repetitive injury and/or heavy exercise. The use of corticosteroids has also been suggested to play a role for this injury to occur in some dogs. Most injuries occur close to the insertion of the tendon to the calcaneus (point of the hock), but occasionally, mainly in racing sled dogs, tendons can also rupture at the musculo-tendinous junction. The following discussion is related on the more frequent tendon injuries of the pure tendinous part.

Achilles tendon repairs can be long lasting, and possibly complicated cases to treat. Tendons need approximately one year after surgery to heal completely, but even then they only achieve about 80% of their total original strength. However, if healing occurred without complications, this should not influence overall function.

The recommended treatment for Achilles tendon injuries depends on the amount of injury. If there is only swelling of the tendon but no rupture and no plantigrade stance (the dog does still walk on the toes), treatment consists of placement of a positional bone screw, reaching from the calcaneus to the tibia, and application of a bivalved cast. With partial or complete rupture, often associated with plantigrade stance (the dog walks on the hock instead of on the toes) stabilization consists of surgical repair of the tendon, placement of a positional bone screw, and application of a bivalved cast.



Radiographs showing typical tendon swelling (left), drawing of repair (middle) and radiograph taken after surgery (right). After surgery, a cast is also applied to the dog's leg for additional support..



Veterinary Specialists of Alaska, P.C. Client Information Sheet:

Depending on leg function and appearance of the cast, cast/bandage changes are performed on a regular basis, most commonly every two weeks. This is important to monitor the foot for development of pressure sores on a regular basis. If it becomes evident at any time while the cast or bandage is on the leg, that a pressure sore develops, bandage changes will have to be performed more frequently.

For best recovery and to decrease the risk of skin irritation, it is recommended to strictly limit the dog's activity for the first 6 weeks after surgery. Severe strain on the surgical site may result in failure of the repair. Too much activity may result in sores of the skin.

It is important to keep the cast clean and dry, to watch the toes twice daily for severe swelling and to contact the surgeon immediately if there are any concerns. The bivalved cast is usually left in place for 6 weeks.

At 6 weeks after surgery the positional screw is removed. In a few cases the screw may become loose or break earlier than 6 weeks post surgery. This is usually associated with a sudden onset of lameness. In these cases, the top of the screw is removed and the remainder left in place. This does not negatively affect the overall outcome. After screw removal, a caudal part of the cast stays in place for 2 weeks, and a bandage is left for another 2 weeks.

At 10 weeks after surgery all bandage material is removed and it is recommended to initiate physical rehabilitation for the following 4-6 weeks. Physical rehabilitation settings are recommended twice weekly.

The total duration of limited activity is 9-12 months. This protocol provides slow increase of stress to the repaired tendon tissue, minimizing the risk for repair failure, and increasing chances for an optimal outcome.

It is important for all parties involved to understand that there is no guarantee that every single dog with Achilles tendon injury will return to full function. Some dogs may always have some degree of lameness, abnormal limb position, or abnormal toe nail position. In the worst case scenario, if unsatisfactory healing occurs, a pantarsal arthrodesis (fusion of the hock joint) may be necessary to provide comfort. However, if the time from injury to surgery is relatively short, it can be anticipated that the prognosis is favorable (1-14 days is optimal).

Prognosis is also associated with the significance of clinical signs at presentation. Dogs with a plantigrade stance (the hock is touching the ground) and dogs with severe pain, swelling, a large defect of the Achilles tendon, or dogs with underlying metabolic diseases may have a worse prognosis compared to dogs who are still having a close to normal stance without significant pain, swelling, or tendon defects.

In dogs that have an injury of the musculo-tendinous junction of the gastrocnemius muscle, treatment protocol and prognosis vary and need to be discussed on a case to case basis. The description above is tailored to dogs that have a true tendon injury.

Your VSOA-Team!

