ACVS | AMERICAN COLLEGE of VETERINARY SURGEONS

Achilles' Tendon Injuries

Associated Terms:
Calcaneal Tendon Injuries, Gastrocnemius Tendon Rupture

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Overview:

The Achilles' tendon or **common calcaneal tendon** is made up of multiple tendons from several different muscles of the hind limb. The superficial digital flexor muscle and tendon and gastrocnemius tendon are the two main components of the Achilles' tendon. A multitude of injuries can occur in the Achilles' tendon, but **two main types of injuries** occur most commonly.

- *traumatic* (lacerations, blunt force trauma, severe stretching/pulling)
- *atraumatic* (chronic and degenerative in nature)

Any dog or cat can injure the Achilles' tendon by external trauma (for example, sharp edges coming into contact with the tendon). Atraumatic injuries can be seen in any breed of dog or cat, but Labrador Retrievers and Doberman Pinschers are overrepresented. The cause of this chronic degenerative condition may be due to repetitive injuries.

Signs and Symptoms:

The signs of an injury to the Achilles' tendon can vary. Many animals will be **lame on that limb with a variable amount of swelling** around the injury. An animal with a complete rupture of the Achilles' tendon will walk "flat-footed" or "dropped" (a *plantigrade* stance), and the toes can be curled downward (crab claw stance) like the animal is trying to grip the floor (Figure 1). The reason that they can have this "crab claw" stance is that all the components except the superficial digital flexor tendon have ruptured or been cut.

Diagnostics:

The **physical exam is very important** to diagnosing where the injury is and what therapies might be needed. Other tests that your veterinarian may recommend to diagnose the problem are x-rays (Figure 2) and ultrasound (Figure 3), or other advanced imaging such as CT or MRI.

with an Achilles' tendon injury a plantigrade stance.

Figure 2. Radiograph of a dog with an Achilles' tendon injury.

Figure 3. Ultrasound of a dog with an Achilles' tendon injury.

Treatment:

Treatment options are varied and dependent on your veterinary surgeon's preference and experience. Depending on the severity, **some injuries can be treated medically with external support** (orthotics, casts, or splints). Your primary care veterinarian may refer you to an ACVS board-certified veterinary surgeon. Most repairs are performed by **surgically attaching healthy ends of the tendon back together** with suture, mesh, or other types of grafts. Most repairs to the tendon need to be protected after surgery to prevent excessive weight-bearing by the healing tendon. A variety of options exist for immobilizing the lower limb, including casts, splints, custom orthotics, temporary screws (Figure 4), linear external skeletal fixator, or a circular fixator (Figure 5). The surgical repair should be protected for an average of 6-12 weeks, depending on what your veterinary surgeon determines is the best option for your pet. Newer therapies that are being developed and can be used in conjunction with more traditional repairs are the use of platelet rich plasma and stem cells.

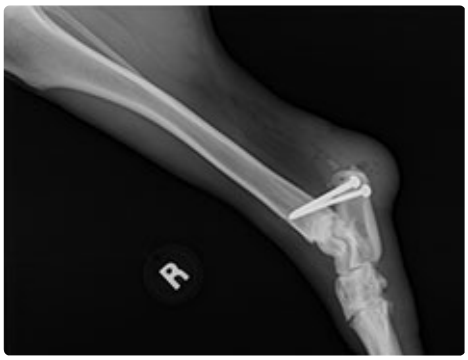

Figure 4. Postoperative radiograph of a dog with an Achilles' tendon injury. The ankle has been temporarily immobilized with two screws. These screws will be removed after the tendon has healed.

Figure 5. A circular external skeletal fixator has been used to immobilize the ankle and protect the tendon repair. The fixator will be removed after tendon healing is complete.

Aftercare and Outcome:

Aftercare usually includes **very restricted activity for 6-12 weeks** post surgery and protecting the surgery repair with the aforementioned options for that time. If your veterinary surgeon has applied a splint or cast to your pet's limb, regular bandage changes and monitoring will be required while the bandage is in place.

Potential complications include re-rupture or break down of the surgical site. These can often be avoided with appropriate postoperative care and restrictions.

The **prognosis is usually very good for the majority of injuries**. Between 70-94% of dogs have a good to excellent return to function.

This Animal Health Topic was written by and reviewed by Diplomates of the American College of Veterinary Surgeons. Any opinions stated in this article are not necessarily the official position of the American College of Veterinary Surgeons.

The American College of Veterinary Surgeons recommends contacting an ACVS board-certified veterinary surgeon or your general veterinarian for more information about this topic.

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