

Treatment of a Ruptured Achilles Tendon

A completely ruptured Achilles tendon is most often repaired surgically. Surgery is often followed by immobilization in a plaster cast for up to nine weeks. Following this immobilization period the achilles will require intense rehabilitation followed by a strengthening program. These will be completed under the supervision of a sports medicine professional.

Prevention of Achilles Tendon Injuries

- A warm up and stretch should always be conducted before and after activity to prevent injury.
- If discomfort occurs the activity should be discontinued immediately and RICER should be followed.
- The eccentric strengthening program that forms the basis of rehabilitation exercises can also help with the prevention of injury.
- If the injury recurs the person should seek medical attention immediately.
- Training errors should be avoided and the intensity, duration and frequency of training should be carefully monitored and gradually progressed with no sudden increases.
- Muscle strength and flexibility should be maintained through regular strengthening and stretching sessions.
- The training surface should be appropriate to the sport and it is important to use the correct footwear.

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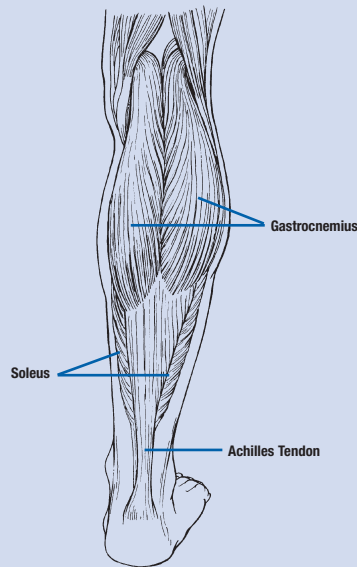
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Introduction

Until recently Achilles Tendinopathy was referred to as Achilles Tendinitis. However, research has found that this type of injury does not involve inflammation and is most likely due to a series of microtears (tendinosis) that weaken the tendon.



Functional Anatomy

The Achilles tendon is a large tendon at the back of the ankle. The tendon is an extension of the gastrocnemius and soleus (calf muscles), running down the back of the lower leg attaching to the calcaneus (heel bone). The Achilles tendon connects the leg muscles to the foot and gives us the ability to push off during walking and running.

Common Injuries

The two most common injuries of the Achilles Tendon are Achilles Tendinopathy, and tearing or rupture of the tendon. Other less common injuries include Peritendinitis and Retrocalcaneal Bursitis.

Achilles Tendinopathy

Until recently this condition was referred to as tendinitis. However, research has found that this type of injury does not involve inflammation and is most likely due to a series of microtears (tendinosis) that weaken the tendon. Symptoms of Achilles Tendinopathy may include:

- Mild to severe pain in the Achilles tendon area
- Swelling
- Tenderness in the Achilles tendon area (tenderness may be more noticeable in the morning)
- Stiffness that may diminish as the tendon warms up with use
- Decreased strength and movement; a feeling of sluggishness in the leg

Achilles tendinopathy can be due to one or a number of causes which may result in excessive loading on the achilles. These include:

- a sudden increase in the intensity, frequency and duration of activity
- a decrease in recovery time between activity
- wearing inadequate or incorrect footwear
- excessive pronation (force on achilles tendon increases)
- running on hard or uneven surfaces
- change of surface (seasonal)
- poor muscle flexibility (e.g. tight calf muscles, weak calf muscles)
- decreased joint range of motion (e.g. stiff ankle joint)
- inadequate warm up, stretching and cool down

Achilles Tendinopathy is graded from 1 - 4 according to severity.

Grade	Symptoms
I	Pain after running only
II	Pain before and after running Pain gradually lessens during a run
III	Pain with activity causing a decrease in volume of activity
IV	Pain during everyday activities (pain worsening or progressing)

Treatment

Early treatment by a sports medicine professional is most effective and can prevent further injury. Treatment includes rest, pain relief, stretching exercises, and changes in sports techniques and footwear to reduce stress on the tendon. Achilles Tendinopathy that is causing symptoms can require weeks to months of rest for the tendon to slowly repair itself. A sports medicine professional should be seen as soon as possible to determine the extent of the injury and to provide advice on treatment required.

The use of crutches may be recommended to keep weight off the injury. Taping, a heel raise or even a plaster cast may also be used if the injury is severe. Other treatment may include ultrasound, mobilisation, stretching, sports massage and orthotics. Anti-inflammatory medication may also be prescribed to reduce pain.

Rehabilitation

Once pain has settled a program of rehabilitation exercises may be prescribed to gradually strengthen the tendon to enable it to cope with increased load before return to activity.

Eccentric (where the muscle lengthens while contracting) exercises are predominantly used in rehabilitation. These should only be commenced under the guidance of a physiotherapist.

Return to activity

Return to activity should be gradual. When returning to activity a heel raise or taping may be used to reduce the load on the weakened Achilles tendon.

Achilles tendon tear or rupture

An Achilles tendon can partially tear or completely rupture. While a partial tear presents similar symptoms as a tendinopathy, a complete rupture causes pain and sudden loss of strength and movement. Complete rupture is often associated with athletes aged between 30 and 50 years. The sudden onset of pain associated with an Achilles rupture is likened to a hit or kick in the back of the leg.