

ACHILLES TENDON DISORDERS

What Is the Achilles Tendon?

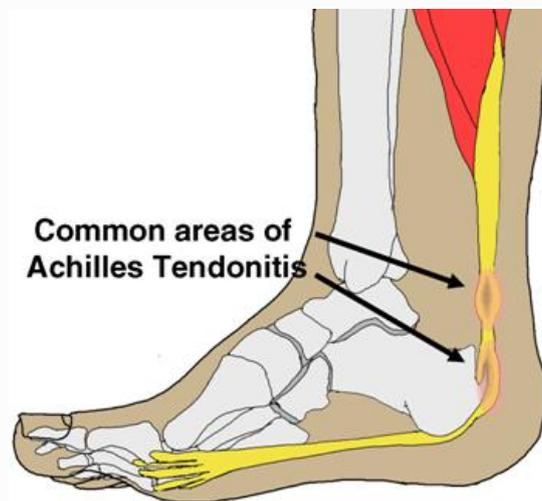
The Achilles tendon is a thick band of fibrous tissue that connects the calf muscles to the heel bone. It is found at the back of the leg and can work by pushing the foot down and raising the heel.

Problems that affect the Achilles Tendon:

Midsubstance achilles tendonitis – inflammation along the course of the tendon

Insertional Achilles tendonitis - inflammation where the tendon attaches to bone.

Rupture of the Achilles Tendon – a complete or partial tear of the tendon anywhere along its course in the leg.



Inflammation is usually a milder problem that occurs with increased stress or overuse of the tendon. If not treated or recurrent, the condition progresses to the tendon losing its organized structure and developing microscopic tears and cysts. This becomes infiltrated with scar tissue and weakens the tendon. This is known as degeneration.

Should the degeneration involve the site where the Achilles tendon attaches to the heel bone, the patient may develop a bump or spur. This is known as a Haglund's deformity or "pump bump".

In some cases, due to the degeneration, this can result in rupture of the tendon.

Causes:

Tendonitis is usually caused by sudden repetitive activity involving the Achilles tendon. Overuse puts too much stress on the tendon too quickly, leading to injury of the tendon fibres. If not given time to heal the tendon develops chronic inflammation which causes pain.

People with Achilles tightness or contracted tendons are most susceptible. They may also have foot deformities such as collapsed arches.

Runners or sportspeople are at high risk for developing disorders of the Achilles tendon. People whose jobs require a lot of walking or standing are also at risk.

Another subset of people are the so called “weekend warriors”—those who are less conditioned and participate in athletics only on weekends or infrequently.

Symptoms:

The symptoms associated with Achilles tendonitis include:

- Pain—aching or tenderness—within the tendon. This may occur anywhere along the tendon’s path, beginning with the tendon’s attachment directly above the heel upward to the region just below the calf muscle. Pain often appears upon arising in the morning or after periods of rest, then improves somewhat with motion but later worsens with increased activity.
- Tenderness, or sometimes intense pain, when the sides of the tendon are squeezed. Also pain on stretching of the tendon.
- As the tendon degenerates, it may become enlarged and may develop nodules in the area where the tissue is damaged.
- They may develop a bump at the back of the heel that can affect shoe wear.

Diagnosis:

The doctor will need to examine the patient’s foot and evaluate the range of motion and condition of the tendon. They will also look for associated deformities such as flat feet and contracted tendons. The extent of the condition can be further assessed with x-rays or other imaging modalities such as ultrasound or MRI.

Treatment:

Treatment depends on duration of the condition and the degree of damage to the tendon. In the early stage, when there is sudden (acute) inflammation, one or more of the following options may be recommended:

- **Immobilization.** Immobilization may involve the use of a cast, splint or moon boot to prevent movement of the Achilles tendon and promote healing.
- **Ice or cold compress:** To reduce swelling due to inflammation, apply a cold compress to the affected area for 20 minutes 3 times/day.
- **Oral medications.** Nonsteroidal anti-inflammatory drugs (NSAIDs), such as diclofenac or ibuprofen, may be helpful in reducing the pain and inflammation in the early stage of the condition.
- **Orthotics.** For those with overpronation or gait abnormalities, custom orthotic devices may be prescribed.
- **Night splints.** Night splints help to maintain a stretch in the Achilles tendon during sleep.
- **Physical therapy.** Physical therapy may include strengthening exercises, soft-tissue massage/mobilization, gait and running re-education, stretching and ultrasound therapy.
- **Surgery.** If nonsurgical approaches fail to restore the tendon to its normal condition, surgery may be necessary. The foot and ankle surgeon will select

the best procedure to repair the tendon, based on the extent of the injury, the patient's age and activity level, and other factors.

Prevention:

To prevent Achilles tendonitis or tendonosis from recurring after surgical or nonsurgical treatment, the foot and ankle surgeon may recommend strengthening and stretching of the calf muscles through daily exercises. Wearing proper shoes for the foot type and activity is also important in preventing recurrence of the condition.

References:

www.foothealthfacts.org

www.aofas.org

Pictures: Google images