

Achilles Tendon Disorders

What is the Achilles Tendon?

A tendon is a band of tissue that connects a muscle to a bone. The Achilles tendon, the longest tendon in the body, runs down the back of the lower leg and connects the calf muscle to the heel bone. Also called the “heel cord,” the Achilles tendon facilitates walking by helping to raise the heel off the ground.

Achilles Tendonitis and Achilles Tendonosis

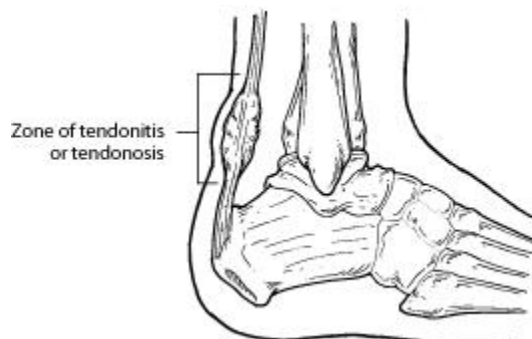
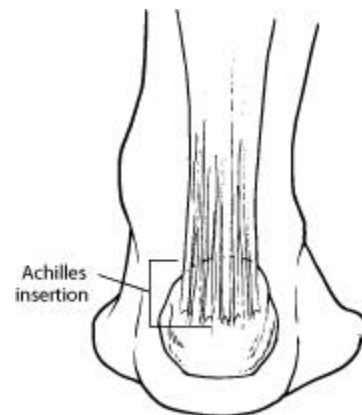
Two common disorders that occur in the heel cord are Achilles tendonitis and Achilles tendonosis. Achilles tendonitis can also be spelled Achilles tendinitis.

Achilles tendonitis is an inflammation of the Achilles tendon. This inflammation is typically short-lived. Over time the condition usually progresses to a degeneration of the tendon, Achilles tendonosis, in which the tendon loses its organized structure and is likely to develop microscopic tears. Sometimes the degeneration involves the site where the Achilles tendon attaches to the heel bone. In rare cases, chronic degeneration with or without pain may result in rupture of the tendon.

Symptoms

The symptoms associated with Achilles tendonitis and tendonosis include:

- There is pain, aching, stiffness, soreness, or tenderness within the tendon. This may occur anywhere along the tendon’s path, beginning with the narrow area directly above the heel and extending upward to the region just below the calf muscle. Often pain appears upon arising in the morning or after periods of rest, and then improves somewhat with motion. But later worsens with increased activity.
- There is tenderness, or sometimes intense pain, when the sides of the tendon are squeezed. There is less tenderness when pressing directly on the back of the tendon.
- When the disorder progresses to degeneration, the tendon may become enlarged and may develop nodules in the area where the tissue is damaged.



Causes

As with “overuse” disorders, Achilles tendonitis and tendonosis are usually caused by a sudden increase of a repetitive activity involving the Achilles tendon. Such activity puts too much stress on the tendon too quickly, leading to micro-injury of the tendon fibers. Due to this ongoing stress on the tendon, the body is unable to repair the injured tissue. The structure of the tendon is then altered, resulting in continued pain.

Athletes are at high risk for developing disorders of the Achilles tendon. Achilles tendonitis and tendonosis are also common in individuals whose work puts stress on their ankles and feet, such as laborers, as well as in “weekend warriors”, those who are less conditioned and participate in athletics only on weekends or infrequently.

People with excessive flattening of the arch (pronation) have a tendency to develop Achilles tendonitis and tendonosis due to the greater demands placed on the tendon when walking. If these individuals wear shoes without adequate stability, their over-pronation could further aggravate the Achilles tendon.

Treatment

Treatment approaches for Achilles tendonitis or tendonosis are selected on the basis of how long the injury has been present and the degree of damage to the tendon.

In the early stage, when there is acute inflammation, one or more of the following options may be recommended:

- Immobilization. Immobilization may involve the use of a cast or removable walking boot to reduce forces through the Achilles tendon and promote healing.
- Ice. To reduce swelling due to inflammation, apply Zip Lock bag of ice over a thin towel to the affected area for 20 minutes of each waking hour. Do not put ice directly against the skin.
- Oral medications. Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, may be helpful in reducing the pain and inflammation in the early stage of the condition.
- Physical therapy. Physical therapy may include strengthening exercises, soft-tissue massage/mobilization, gait and running re-education, stretching and ultrasound therapy.
- Orthotics. Foot orthotics with heel elevation relieves the stress on the tendon.

If non-surgical approaches fail to restore the tendon to its normal condition, surgery may be necessary.

Prevention

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