



Vasu Pai MS, MCh, FRACS

Achilles Tendonitis and Achilles Tendon Rupture



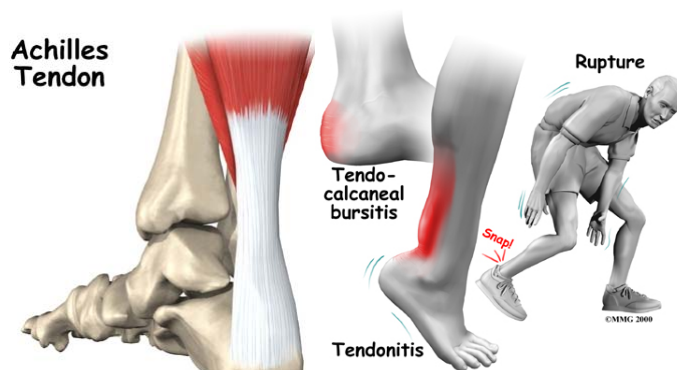
Introduction

Problems of Achilles tendon are common among active, middle-aged people.

These problems cause pain at the back of the heel.

Severe cases may result in a rupture of the Achilles tendon.

Where is the Achilles tendon, and what does it do?



The Achilles tendon is a strong, fibrous band that connects the calf muscle to the heel. The calf is actually formed by two muscles, the underlying soleus and the thick outer gastrocnemius. This tendon helps when you sprint, jump, or climb.

Tendocalcaneal Bursitis

A bursa is a normally found fluid-filled sac to limit friction between rubbing parts. These sacs, or

bursae, are found in many places in the body. When a bursa becomes inflamed, the condition is called **bursitis**. Tendocalcaneal bursitis is an inflammation in the bursa behind the heel bone.

Achilles Tendonitis

A violent strain can cause injury to the calf muscles or the Achilles tendon. This can happen during a strong contraction of the muscle, as when running or sprinting. Landing on the ground after a jump can force the foot upward, also causing injury.

Chronic overuse of the tendon may contribute to changes in the Achilles tendon as well, leading to degeneration and thickening of the tendon [**Tendinosis**]

Achilles Tendon Rupture

In severe cases, the force of a violent strain may even rupture the tendon. The classic example is a middle-aged tennis or netball player who places too much stress on the tendon and experiences a tearing of the tendon. In majority of instances, the rupture may be preceded by a period of tendonitis, which renders the tendon weaker than normal.

How do these problems develop?

Initially, irritation of the outer covering of the tendon, called the paratenon, causes paratendonitis. Paratendonitis is simply inflammation around the tendon. is. Either of these conditions may be due to repeated overuse or ill-fitting shoes that rub on the tendon or bursa.

As we age, our tendons can degenerate. Degeneration means that wear and tear occurs in the tendon over time and leads to a situation where the tendon is weaker than normal. The healing process in the tendon causes the tendon to become thickened as scar tissue tries to repair the tendon. This process can continue to the extent that a nodule forms within the tendon. This condition is called **tendonosis**. The area of tendonosis in the tendon is weaker than normal tendon. The weakened, degenerative tendon sets the stage for the possibility of actual rupture of the Achilles tendon.

What do these conditions feel like?

Pain is present with walking, especially when pushing off on the toes.

Tendocalcaneal bursitis usually begins with pain and irritation at the back of the heel.

There may be visible redness and swelling in the area.

The back of the shoe may further irritate the condition, making it difficult to tolerate shoe wear.

The Achilles tendon in this area may be noticeably thickened and tender to the touch.

An Achilles tendon rupture is usually an unmistakable event. Some bystanders may report actually hearing the snap, and the victim of a rupture usually describes a sensation similar to being violently kicked in the calf. Following rupture the calf may swell, and the injured person usually can't rise on his toes.

When the doctor is unsure whether the Achilles tendon has been ruptured, a magnetic resonance imaging (MRI) scan or ultrasound may be necessary to confirm the diagnosis. The MRI machine uses magnetic waves rather than X-rays to show the soft tissues of the body and this examination is very reliable.

What can be done to fix the problem?

Nonsurgical treatment for bursitis and tendonitis

1. Rest,
2. Ice
3. Compression bandage
4. Elevation of the leg
5. Anti-inflammatory medications such as aspirin or ibuprofen
6. Physical therapy.

A cortisone injection is not advised for this condition, due to the increased risk of rupture of the tendon following injection.

Surgery for tendinitis: This procedure is usually done through an incision on the back of the ankle near the Achilles tendon. The tendon is then split, and the degenerative portion of the tendon is

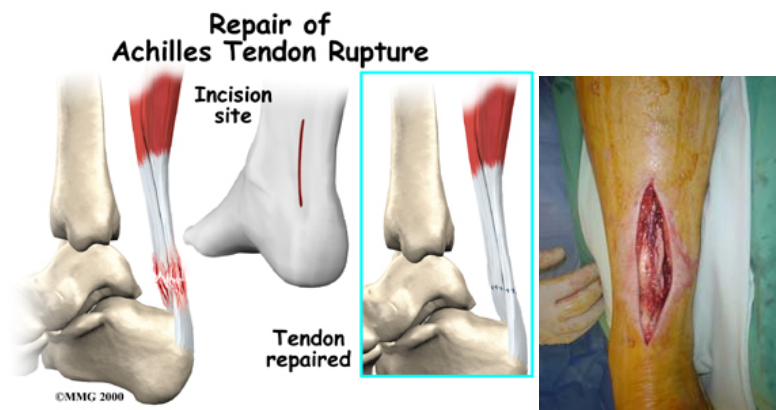
removed. The split tendon is then repaired and allowed to heal. It is unclear why, but removing the degenerative portion of the tendon seems to stimulate repair of the tendon to a more normal state.

Achilles tendon rupture

Treatment is somewhat controversial. It is clear that treatment with a cast will allow the vast majority of tendon ruptures to heal, but the incidence of rerupture is increased in those patients treated with casting for eight weeks when compared with those undergoing surgery.



In addition, the strength of the healed tendon is significantly less in patients who choose cast treatment. For these reasons, many orthopedists feel that Achilles tendon ruptures in younger active patients should be surgically repaired.



Non-operative treatment

- 1. Cast treatment:** The patient is casted for eight weeks.
 - Casting the leg with the foot pointing downward
 - A large heel lift is worn in the shoe for another 6 weeks
 - Crutches would be needed at first to keep from putting weight onto the foot.
 - Recommended physical therapy on removal of cast.
- 2. Moon boot or brace:** Avoids these problems of stiffness and improve quality of healing
 - Surgeons start doing motion exercises very soon after surgery.
 - Patients wear a splint that can easily be removed to do the exercises throughout the day.
 - A crutch or cane may be used at first to help you avoid limping.

Athletes begin running, cutting, and jumping drills by the fourth month after surgery. They are usually able to get back to their sport by six full months after surgery.

Surgery for ruptured Achilles

Reattaching the two ends of the tendon repairs the torn Achilles tendon.

This procedure is usually done through an incision on the back of the ankle near the Achilles tendon.

In the past, the complications of surgical repair of the Achilles tendon made surgeons think twice before suggesting surgery. The complications arose because the skin where the incision must be made is thin and has a poor blood supply. This can lead to an increase in the chance of the wound not healing and infection setting in. Now that this is better recognized, the complication rate is lower and surgery is recommended more often.

After surgery ankle is held in a cast for 2 weeks. Then moon boot mobilization exercises started in the brace as instructed by the surgeon or physio.