

Achilles tendinitis: What is it, and what are the treatments?

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Chronic tendon issues are a frequent source of pain and can limit

activity. They become more common with age, weight and certain activities, and early and appropriate diagnosis by a doctor is critical to get the best outcomes.

The Achilles [tendon](#) is the biggest tendon in the [human body](#). It connects the calf to the foot, and it is responsible for push-off power. The tendon is critical for stability during standing, walking, running and other activities. During [muscle contraction](#), the tendon functions as a rope. It has elasticity to generate the tension required to handle the force of six times a person's body weight.

What is Achilles tendinitis?

Over time, the tendon can become strained, injured or inflamed. On a day-to-day basis, people put stress on their Achilles tendon. A healthy tendon will handle this stress, repair any "microtears," and a patient will have no symptoms. But over time, for various reasons, the Achilles tendon will develop inflammation and microtearing that will outpace the body's ability to repair and heal the damage, and the patient will develop symptoms including pain, discomfort, soreness and swelling. This is Achilles tendinitis, and I often treat such cases here at [Yale Medicine Orthopaedics & Rehabilitation](#).

In reality, Achilles tendinitis is not just inflammation of the tendon, as the name implies. Achilles tendinitis is the accumulation of degenerative changes in the tendon, especially in chronic cases, caused by disorganized repair of areas of tendon damage that have accumulated gradually over time. The tendon will become thickened and lose its normal elasticity in many cases.

Causes, risk factors

Too much exercise is a major cause. Sports with repetitive stopping and starting, like tennis, running, basketball and dance can increase the risk of Achilles tendinitis. Swimmers rarely develop Achilles tendinitis, because there is less tension on the Achilles tendon.

Another major cause is weight. Overweight patients are more likely to develop Achilles tendinitis than someone of normal weight. Increasing body weight by just one pound increases the force on the Achilles tendon by six pounds.

Tightness and weakness of the calf [muscle](#) is another major risk factor. A calf muscle that is tighter leads to more tension and stress on the Achilles tendon. Over time, this tension can lead to the microdamage that is tendinitis. Having a weaker muscle also increases this damage. Think of the Achilles tendon and calf muscle as one unit. The stronger the muscle is, the more it protects the tendon. The weaker it is, the more work the muscle puts on the tendon.

Achilles tendinitis symptoms

There are two main forms of Achilles tendinitis—insertional and non-insertional.

Insertional Achilles tendinitis is pain and inflammation (swelling, redness) at the back of the heel, where the Achilles tendon attaches to the heel bone. This results in pain, swelling, and soreness at the back of the heel. This can also create a bump and lead to pain with shoes rubbing against the heel.

Non-insertional Achilles tendinitis is also known as fusiform tendinitis. The pain is higher up, more in the mid portion of the tendon. Swelling is a bit less common, and more often the tendon achieves a thickened appearance. The main symptom here is pain with activity, and some

sensitivity of the tendon.

Achilles tendonitis treatment

Initial treatment usually involves rest. That means if the tendon is really hurting after tennis five times a week, stopping tennis for a bit and resting completely is usually a good idea. Occasionally, one can remain active, but avoid the higher impact sports—for example, do more biking or swimming and less tennis.

In severe situations, immobilization in a cast or boot is a first-line treatment.

After the initial pain and swelling has decreased, exercise is the key treatment. This does not mean just get right back to how you exercised before. Instead, it means stretching the calf and doing a specific type of exercise called eccentric calf strengthening. Eccentric exercises means strengthening the muscle while it is lengthening. Being able to do these exercises properly, so it works the calf muscle and does not aggravate the tendon, can be tricky. Often a physical therapist is your best bet to guide you on proper technique and load.

Achilles tendinitis stretching

In general, you want to stretch the muscle, not the tendon. The best stretch for Achilles tendinitis are calf stretches. Hamstring stretches also help. Stretching the calf in a way that the knee is straight and the stretch is felt closer to the knee is ideal. Stretching off the wall or stairs works well. You should stretch in whatever way you can so you feel it deeply and intensely in the [calf](#) muscle. It is also recommended to stretch the hips, lower back, hamstrings and neck. A yoga warmup stretch is a great way to achieve this.

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