



## YOU DO NOT HAVE ACHILLES TENDONITIS

by Dr. Chris Sanders, D.C.

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According to the latest research by Tendon Theorist Dr. Lois Almekinders, many patients have been incorrectly diagnosed with Achilles Tendonitis. After completing hundreds of Achilles biopsies on patients that reportedly had this condition, the data indicates quite the contrary. The presence of an inflammatory response (white blood cells) in the tissue biopsy was rarely found. However, an increased disorder of the collagen fibers was found. This implies fibroblastic activity (scarring) to repair a degenerative physiological reaction called *Tendonosis*.

How does this affect your aching tendon? The course of treatment for tendonitis has often included the following: non-steroidal anti-inflammatory medications, ice, Ultra Sound and the waste of time known as rest. This course of treatment does not help tendonosis. In fact, it does the opposite; it makes it worse. The aforementioned research indicates that non-steroidal anti-inflammatory (NSAID) medications suppress DNA synthesis stopping the creation of the new genetic material necessary to repair the degenerative tendon. Rest causes the musculo-tendonous structure to atrophy and weaken from disuse. **Thereby, resting tendonosis is a waste of time and actually makes it worse!**

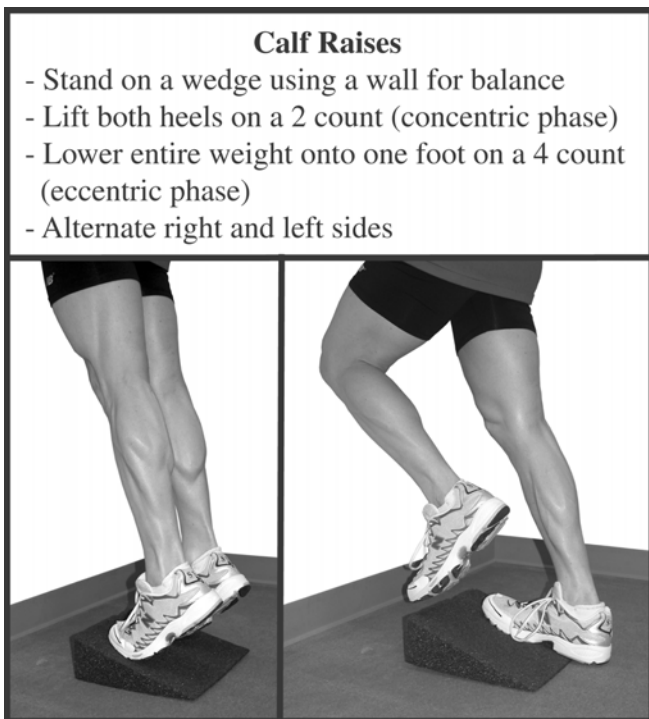
When dealing with a new injury, the patient actually controls the first course of treatment and has a great affect on their prognosis. If you are an athlete who increases mileage, hills or pace too quickly, you may notice some increased stiffness, pain or swelling the morning after your training error. You should ice the area immediately for 10-15 minutes three to four times per day for the first 72 hours, or until the swelling subsides. Also if there is swelling, you can take an over-the-counter Naproxen (Aleve), continue the ice, compress and elevate whenever possible. If there is no swelling, you should avoid the anti-inflammatory and just take Acetaminophen for the pain and continue the ice for pain and improved local circulation. Remember, the NSAID's suppress DNA synthesis or the cellular repair necessary to combat a degenerative tendonosis. If you have gross swelling, bruising, extreme pain or heard a loud pop at the time of the injury, you should immediately seek medical attention. The sooner a ruptured tendon is surgically repaired the better the prognosis.

If your injury requires medical intervention, choose a sports medicine doctor who treats athletes of all ages and levels, from the junior high school track team to the professional athlete. Also select a doctor, who participates in some type of sports activity. You want a doctor who remembers what it is like to be injured, treated, rehab and train through the occasional injury. It is also good to have a doctor you can see for all of your sports injuries. You should want someone who can effectively treat the majority of your injuries and when necessary order diagnostic testing and refer you to the appropriate specialist.

Treatment should not be limited to the reduction of pain and swelling, but also address the cause of the malfunction. All contractile tissue must lengthen and shorten in an exact manner according to its linear structure (striation) otherwise an injury will occur. Treatment should involve some type of hands-on therapy that establishes the linear component of the previously mentioned chaotic collagen fibers. While working the tissue in the proper linear direction and contracting the antagonist muscle, said collagen is guided and remodeled to function like healthy tissue. Palliative treatments such as Ultra Sound, Microcurrent, EMS or

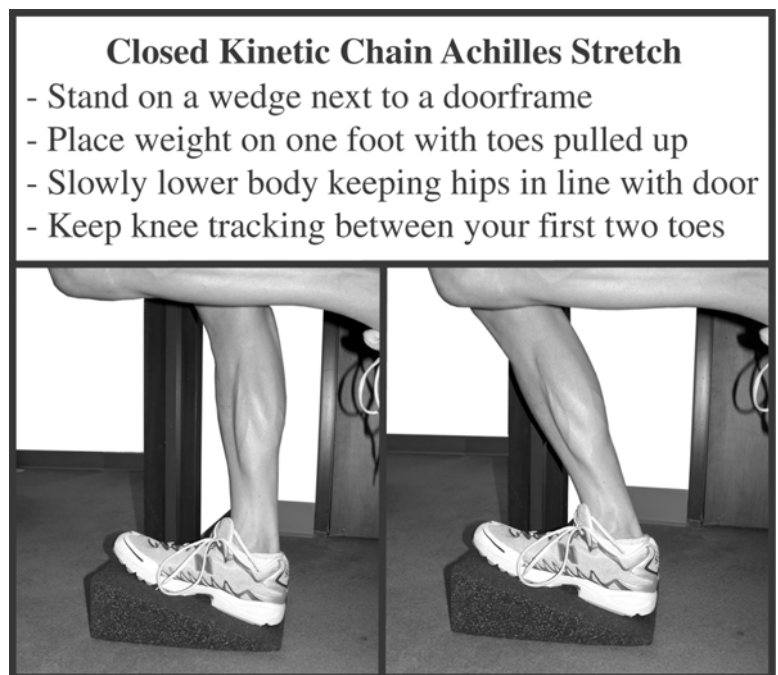
likewise should be used on a very exact and limited basis due to the fact that they are not very successful nor cost effective.

**Achilles rehabilitation** should be focused upon improving overall lower extremity function not just the injured musculo-tendonous junction. Generally with injuries of the Achilles tendon, you see a reduction of dorsiflexion. This is usually because the Gastrocnemius and Soleus muscles are tight and strong concentrically and weak eccentrically or the Tibialis Anterior and the foot/ankle extensors are too weak comparatively for proper foot function. It is best to start your exercises with either body weight or 25% of maximum with special attention on the negative (eccentric) phase. The best way to stretch and strengthen the Achilles tendon and the muscles of the posterior lower leg is by contracting the opposite muscle group.



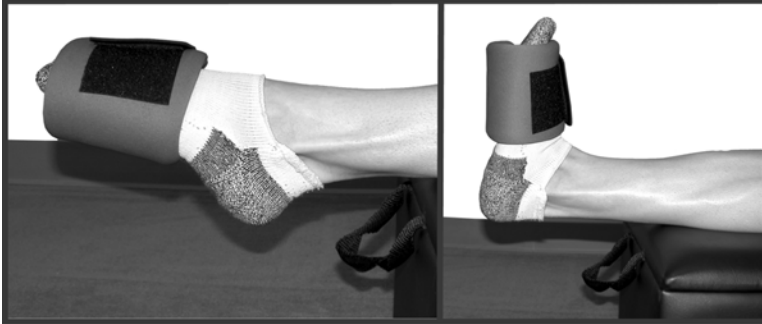
1. **Calf Raises** are performed either standing or sitting on something that elevates the forefoot and allows the heel to drop, like a foam wedge. Lift both heels up together on a 2 count, then lower with all your weight onto one foot on a 4 count. Alternate right and left sides. This exercise places twice the load on the eccentric phase creating a strong and long tendon. Repetitions should be determined by the extent of the injury.

2. **Closed Kinetic Chain Achilles Stretch** is done standing on a wedge with one foot against a doorframe with the toes pulled up (increases stretch). Slowly lower your body keeping the hip next to the doorframe and your knee tracking between your first two toes until you feel discomfort in your Achilles. As you practice this exercise, you should notice an increased depth in your knee bend as your injury heals.



### Anterior Strengthening with Achilles Stretch

- Support leg on a bench with foot hanging over the edge
- Place weight or theraband around the forefoot
- Pull toes towards chest on a 2 count (concentric phase)
- Lower toes towards floor on a 4 count (eccentric phase)



3. **Anterior Strengthening with Achilles Stretch** places a Theraband or ankle weights around the forefoot as it hangs off the edge of a bench. Pull the toes and forefoot up toward your chest on a 2 count and lower on a 4 count to emphasize the eccentric phase of the contraction. Remember your concentric strength is 40%, while eccentric strength is 60% of your maximum. This really means the eccentric phase is 150% of the concentric.

4. **Heel Walk** is another good functional active stretch of the lower leg muscles. It can be achieved by walking on your heels with your toes pulled up and rotated out for 2-3 sets of up to 3 minutes each. This is really an isometric contraction of all the muscles of the lower leg with the Achilles in a lengthened position.

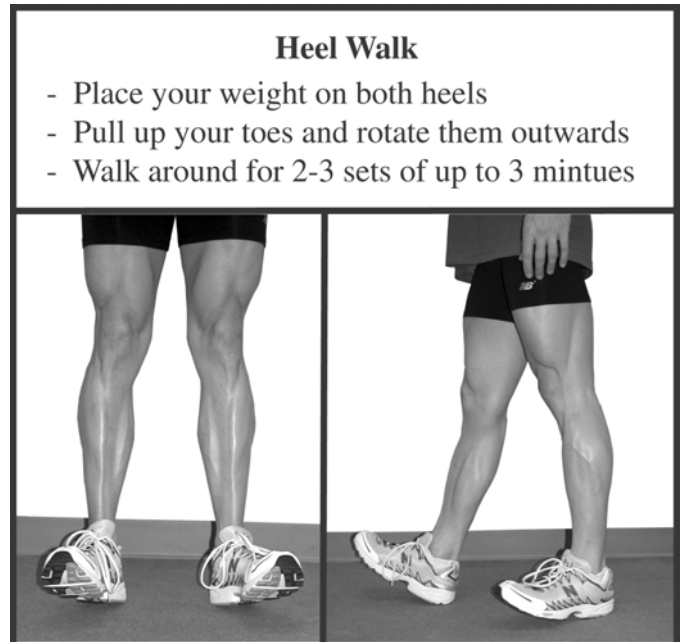
One final note, Tendonosis is not to be confused with a condition called *Tenosynovitis*. This occurs when there is a Tendonosis which is irritating the sheath surrounding the tendon. This is much like a bike cable that has a wire surrounded by insulation and plastic. If the wire gets a snag, it will catch in the surrounding insulation limiting the wires ability to move without causing friction and malfunction. In the Achilles tendon, this reduced range of motion results in pain and injury and requires a slightly different course of treatment.

Good luck on the road. Remember do not let a small injury or training error, become your “*Achilles Heel*”. All active individuals and women who wear heels can benefit from the aforementioned exercises, even if you are not experiencing pain or discomfort.

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### Heel Walk

- Place your weight on both heels
- Pull up your toes and rotate them outwards
- Walk around for 2-3 sets of up to 3 minutes