

Achilles Tendinopathy

What is it and how can Physical Therapy help? Jeffrey Latz, PT, MS, CMPT, CSCS

Pathophysiology:

Achilles Tendinopathy is a condition that causes pain, stiffness and possible swelling of the Achilles tendon. In most cases the tendon is injured from repeated microtrauma that disrupts its collagen properties and doesn't allow the tendon to heal properly.

Anatomy:

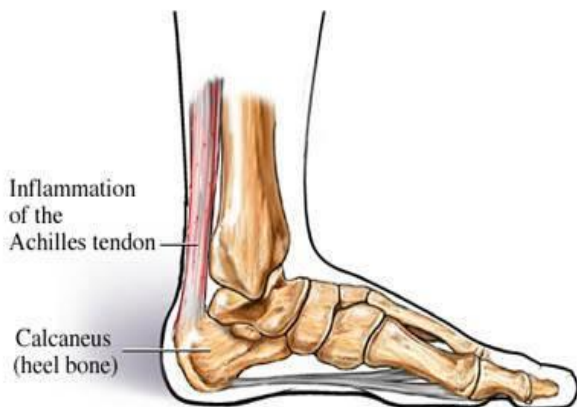
The Achilles tendon is comprised of two muscles, the Gastrocnemius and Soleus muscles. They attach proximally from the lateral femur and posterior aspect of head of Fibula/medial Tibia, to the posterior surface of calcaneus via the Achilles tendon. These muscles act together to point the foot down and to raise the heel (during walking, dancing and standing on the toes). The Gastrocnemius produces the rapid power movements during running/jumping. The Soleus steadies the leg on the foot during walking and balance. The tendon also sits within a sheath that helps it glide properly.

Causes of Injury:

- Overuse – usually runners, dancers or any sport that involves a lot of jumping/repetitive movement
- Training without appropriate footwear/support (switching from high to low heel shoes)
- Poor running/training technique, possibly rapidly increasing training intensity/frequency

Symptoms:

Pain and stiffness typically develop gradually; can be worse in the morning and after activity. Runners often feel stiffness at the beginning of a run and then pain/stiffness after the run. There may be tenderness within the tendon/sheath and tightness within the Gastroc-Soleus muscle complex, pain with resistance and possible compensatory findings within the Foot/Ankle. In chronic cases, there may be visible thickening of the tendon as well as a palpable area of scar tissue. Tears of the tendon usually occur traumatically resulting in significant weakness and in some cases no muscle contraction at all. In these cases, surgery may be appropriate.



Physical Therapy Treatment:

After biomechanical evaluation by your PT, treatment typically involves Soft tissue mobilization to help align the tissue and reduce molecular cross-linking during the healing process, thus stimulating the natural tissue repair mechanisms. It is vital to properly stress the healing tissue with appropriate strengthening exercises, especially eccentrically (muscle lengthening). Other PT interventions might include Electrical stimulation, taping and footwear recommendations.