

Evidence based rehabilitation of achilles tendinopathy

Tommy Pearson Physiotherapy Student

An eccentric muscle contraction is when the muscle gets longer as it contracts. Research has found that eccentric exercises are an integral part of achilles tendinopathy management as it stimulates the tendon to undergo structural adaptation (O'Neill, Watson and Barry, 2015).

Warm up – Calf stretch 3 x 30 seconds, one with the leg straight to stretch the gastrocnemius muscle and one with the leg bent at the knee to stretch the soleus muscle.

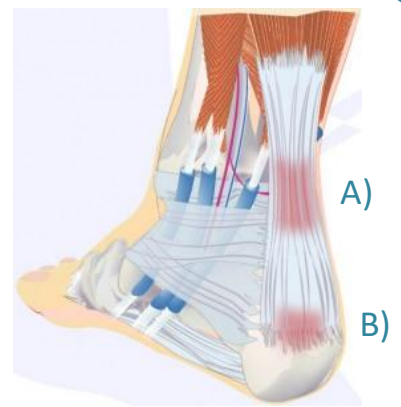
Gastrocnemius heel drop exercise - based on Fahlström et al. (2003)

1. Stand on a step with both heels over the edge of the step.
2. Propel up on the uninjured side, so that both heels are in the air.
3. Take the weight on the injured side and lower the heel slowly and controlled over 5 seconds to go all the way down, over the edge of the step.
4. Propel back up on the uninjured leg.

Soleus heel drop exercise

This exercise uses the same technique as above but you should have a slight bend at the knee on the injured side.

Perform two sets of 10-15 repetitions of each heel drop.



Locate the site of the pain

A) If the pain is on the main body of the tendon you should do the exercises on a step as described.

B) If the pain is on the back of the heel you should do the exercises as described but on a flat surface so the foot does not go beyond the horizontal.



Starting position



Gastrocnemius heel drop



Soleus heel drop

Provoking pain - The exercise may provoke some pain and you may have to start with fewer repetitions and build up to a full set over time.

Progression - If you can complete the exercise easily with no provocation of pain, you can increase the number of sets of each exercise, or progress by wearing a backpack with 5-10kg weights.

References

Fahlström, M., Jonsson, P., Lorentzon, R. and Alfredson, H. (2003). Chronic Achilles tendon pain treated with eccentric calf-muscle training. *Knee Surgery, Sports Traumatology, Arthroscopy*, 11(5), pp.327-333.

O'Neill, S., Watson, P. and Barry, S. (2015). Why are eccentric exercises good for achilles tendinopathy. *The International Journal of Sports Physical Therapy*, 10(4), p.553.

Sussmilch-Leitch, S., Collins, N., Bialocerkowski, A., Warden, S. and Crossley, K. (2012). Physical therapies for Achilles tendinopathy: systematic review and meta-analysis. *Journal of Foot and Ankle Research*, 5(1).