

Insertional Achilles Tendinopathy

Many people talk about achilles tendinitis and achilles tendinopathy but it is important to understand that not all areas of the achilles warrants the same treatment.

Mid portion tendinopathy affects the mid portion, Typically 2 - 7 cm above the calcaneus, (heel bone). The area is likely to be swollen and painful when pinching the tendon. Insertional tendinopathy occurs where the tendon attaches to the calcaneus.

A major difference is that compression is considered to be a key factor in insertional tendinopathy. With the achilles, this occurs at end range dorsiflexion, (pulling the toes and foot upwards).

Mid portion tendinopathy is primarily thought of as a tensile loading problem, rather than compressive, although the plantaris muscle has been considered as a potential source of compression.

MANAGEMENT

PHASE I - Reducing Pain

- **Managing Load:** Insertional tendinopathy will be aggravated by compressive or tensile loads and with utilising the Stretch - Shortening - Cycle, where the tendon behaves like a spring during running, jumping and impact.
For the achilles, this means activity modification, reducing activities that involve end range dorsiflexion, such as walking uphill, running uphill, and heel drops past neutral. Tight shoes causing compression and running shoes or running/walking barefoot should also be avoided.

Shoes with a heel or using a heel raise may help reduce tendon compression at this stage.

Taping techniques that prevent excessive dorsiflexion may also be of benefit at this stage.

Activities that combine compressive and tensile load should be avoided such as running uphill and stretching the calf muscles. Stretching is likely to increase your symptoms!

- Isometric Exercises:
Tendon pain will affect muscle strength. Using isometric exercises to reduce pain and maintain strength is beneficial.

Push up into a calf raise on both feet and hold for 30 - 60 seconds, repeat 4 times and perform 3 times per day. You do not need to push right up on to your toes, holding mid range is ideal. Do this from the floor not on the edge of a step. Remember you want to avoid excessive dorsiflexion, (Heel drops). As pain settles you can progress this exercise from two feet to a single calf raise.



- Anti Inflammatory Medication (NSAIDs):
During the reactive stage of tendinopathy NSAIDs can be helpful to reduce tendon swelling and pain. It is important to check with your GP/pharmacist if you are able to take these and they should be taken as stated on the box. Long term NSAID use can actually be detrimental to tendon healing.

PHASE II - Strength Building

- Once the pain has settled, the next goal is to improve the load capacity of the muscle and tendon by improving calf strength.

As a general guide, you should be able to manage 10 -15 single calf raises with minimal increase in your pain.



If your symptoms haven't settled you need to continue with Phase I for a longer period.

The calf is composed of the Gastrocnemius and the Soleus. Both of these must be strengthened. The most simple way of achieving this is by performing calf raises from the floor.

A promising study was performed by Jonsson et al (2008). They used an eccentric programme but avoided moving into dorsiflexion. They used one key exercise: A calf raise on the good foot and eccentrically lowering to the ground on the injured foot. Patients completed 3 sets of 15 reps twice a day, 7 days a week for 12 weeks. Load was progressed with a weighted backpack. Following this, 67% of patients were satisfied with their outcome and returned to their sport. In contrast Rompe et al (2008), exercised into dorsiflexion, (heel drop), and only 28% of their patients reported a significant improvement.

Two essential exercises are performing a single calf raise with the leg:

1) straight



2) slightly bent



Flexing the knee does increase dorsiflexion at the ankle and can cause pain, so at the beginning the knee should only be flexed approximately 15 degrees and progressed when comfortable.

Wearing a trainer with a reasonable heel may help. Others have also stated placing a book under the heel prevents excessive dorsiflexion again.

As a general rule, 3 sets of 15 reps for each exercise should be performed and repeated 3 days per week with rest days between each session.

When this is possible with minimal pain, the load can be increased with a weighted backpack or dumbbell.

Gradually progress your load to the point where you can only manage about 12 reps with good technique. Aim for 3 sets of 12 reps for both the knee straight and slightly bent.

Some mild pain during the exercise is acceptable if it settles quickly and there are no additional morning symptoms the following day. As the exercise becomes easier, increase the load and gradually reduce the reps so you are working at 10 RPM and then 8 RPM and even 6 RPM.

Phase III: Return To Running

Ideally you should have equal strength with the left and right sides. Straight leg and slightly bent leg strength as described above. In addition, functional tests such as repeated hopping on the injured leg should be pain free and should equal the good side.

The most sensible approach when measuring pain should stick to the “ Safe Zone “ of 0 - 3 out of 10 is less likely to aggravate symptoms. Anything above may well set you back.

In essence, the key is a gradual return to running while monitoring symptoms to prevent excessive reaction. Mild pain when running is acceptable but it should settle quickly. Mileage should be increased gradually and ideally 1 - 2 rest days should be left between runs to allow recovery. Hills should also be avoided in the beginning as this places the foot in dorsiflexion which you need to avoid initially.

If you are struggling with achilles pain and you aren't sure how to rehabilitate, contact Berkley Physiotherapy on 07792043241 and one of our physios will assist you.