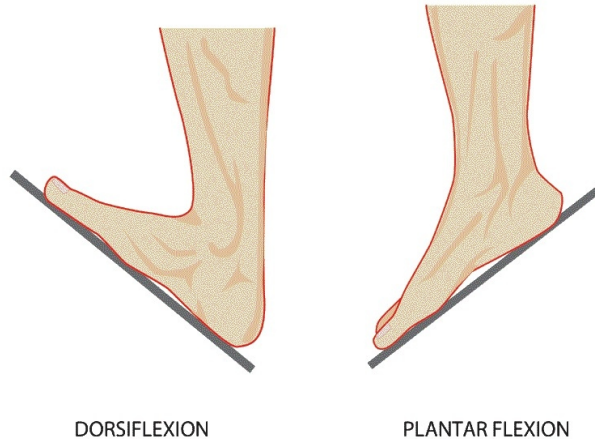


## Achilles Tendinosis Rehabilitation Exercises (Insertional)

Insertional tendinopathy occurs at the enthesis of the tendon where it attaches to the calcaneus.

Compression is considered a key factor in insertional tendinopathy.

In the achilles this occurs at end of range dorsiflexion (the upward movement of the ankle).



## Phase 1 - Reactive Phase – Reducing pain

### 1. Manage Load

- reducing activities that involve end of range dorsiflexion (such as walking uphill and 'heel drops')
- avoid tight shoes that cause direct tendon compression
- reducing or resting from running
- wearing shoes with a heel may help to reduce load on the tendon while flat running shoes or barefoot style footwear should probably be avoided at this stage.
- using a heel raise within your shoe may also help reduce achilles load as a short term measure
- activities that combine compressive and tensile load should be avoided such as running uphill and stretching the calf muscles. **Don't stretch the calf muscles** – it's likely to aggravate symptoms!

### 2. NSAIDS

- Ibuprofen can be helpful to reduce tendon swelling and pain.
- **Always consult your GP or pharmacist before taking medications.** T
- The tendon isn't really inflamed but the medication is thought to work **in the reactive stage** by regulating the activity of tenocytes (cells within the tendon that produce proteins which promote swelling).

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### 3. Isometric exercises

- tendon pain is likely to effect muscle function
- using isometric exercises to reduce pain and maintain strength can be very beneficial

#### Calf Raises:

	<ul style="list-style-type: none"> <li>• Standing balance yourself on both feet. ( you can use a chair for stability)</li> <li>• Rise up on your toes, hold for 30-60 seconds and then lower yourself down.</li> <li>• Repeat 3-4 times, 2-3 times a day</li> <li>• You don't need to push right up on your toes, mid-range is ideal.</li> </ul>
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#### Phase 2 - Strengthening

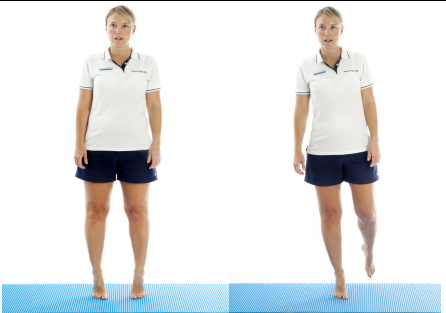
Once the pain has settled it is time to improve the load capacity of the muscle and tendon by improving calf strength.

Normally you should be able to manage 10-15 single leg calf raises with minimal increase in your pain before you progress to this level

The calf complex is composed of 2 main muscles – gastrocnemius and soleus – both need to be strengthened.

The most simple way of achieving this is by doing calf raises from the floor (rather than on the edge of a step).

#### Eccentric Calf Raises:

	<ul style="list-style-type: none"> <li>• Standing balance yourself on both feet. ( you can use a chair for stability)</li> <li>• Rise up on your toes, slowly lower on the injured leg with your leg straight.</li> <li>• Repeat 15 times do 3 sets of 15, 2 times a day, 7 days a week for 12 weeks</li> <li>• Gradually add load with some weight in a backpack</li> </ul>
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Or

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## Heavy Slow Resistance:

	<ul style="list-style-type: none"> <li>• Standing balance yourself on your injured foot</li> <li>• Rise up on your toes for a count of 3 and back down for a count of 3 with your leg straight and on the floor</li> <li>• Repeat 3 x 8 reps</li> <li>• Repeat 3 times / week</li> <li>• This is a heavy loaded exercise so load can be added to a back pack or you can use the smith machine at the gym.</li> <li>• Gradually increase load</li> <li>• The target for strength is to be able to complete 8 reps taking 6 seconds per rep, pushing 0.4-0.5 times body weight</li> </ul>
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## Single Leg Balance:

	<ul style="list-style-type: none"> <li>• Stand without any support and attempt to balance on your injured leg.</li> <li>• Begin with your eyes open and then try to perform the exercise with your eyes closed.</li> <li>• Hold the single leg position for 30 seconds.</li> <li>• Repeat 3 times, 2 times a day</li> </ul>
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## Phase 3 – Energy storage exercises

- Start these exercises when you have minimal or markedly reduced morning stiffness in the achilles tendon on waking.
- Very mild tenderness on palpation of the achilles tendon
- Have been tolerating some running without a flare in tendon irritability and symptoms.

## Double Leg (DL)

 <p>(Malliaris)</p>	<ul style="list-style-type: none"> <li>• Double leg (DL) quick jumps soft knees 3 x 60 jumps</li> <li>• Double leg quick jumps stiff knees 3 x 30 jumps</li> <li>• Double leg forwards/backwards 3 x 10 jumps</li> <li>• Double leg side/side 3 x 10 jumps</li> <li>• Repeat 3 x week</li> <li>• As a guide each week progress to include the next level</li> <li>• Eg week 1 DL 3x 60 jumps, then week 2 add DL 3x30 stiff knee jumps etc</li> </ul>
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## Single Leg (SL)



(Malliaris)

- SL 3 x 60 hops
- SL 3 x 30 stiff leg hops
- SL 3 x 30 forward/backwards hops
- SL 3 x 10 side hops
- SL 3 x 5 zig zag hops
- Add speed when familiar with above program
- SL 3 x 10 hop on 20cm box + speed
- SL 3 x 10 hopping for height (ie bounds for maximal power-increases rate of force development)
- Repeat 3 x week
- As a guide each week progress to include the next (ie add 1 set per session) based on tolerance

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