Acute Calf Strains/Tears

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Calf pain is a common complaint. There are multiple structures that can cause calf pain and if it is not diagnosed and treated appropriately it can persist or continue to reoccur for months.

Your calf consists of 2 major muscles:

1. Gastrocnemius
2. Soleus

These 2 muscles have a joint tendon, the Achilles, which inserts into your calcaneus (heel bone).

Calf strains occur most commonly in the medial (inside) head of the calf muscle or lower down on the calf at the musculotendinous junction (where the muscle begins to turn into tendon). The larger gastrocnemius is more commonly injured, possibly because it crosses over the knee joint to attach to the end of your femur (thigh bone).

With acute strains there will usually be a specific incident that caused your pain however a calf strain can sometimes just gradually begin to ache. Acute calf strains can roughly be graded by severity:

Grade	Initial symptoms	Signs
1	Sharp pain during (or after) activity but you may be able to continue	Performing a 1 leg calf raise will most likely hurt
2	Unable to continue activity	Performing a 2 leg calf raise or just moving your toes/ankle up towards your toes may cause pain
3	Immediate severe pain in lower calf	There will likely be an obvious defect in you calf

Your recovery time will depend on many factors including the grade of injury, your age, previous calf muscle injury history, and the level of activity/sport you wish to return to.

Effective initial treatment (stage 1) for your calf include:

- The first 72 hours the RICE and HARM principles should be applied (Refer to additional handouts on these principles)
- Muscular release (around the pain spot) of the calf muscles
- Dry Needling of the calf muscles
- Mobilisation of the ankle

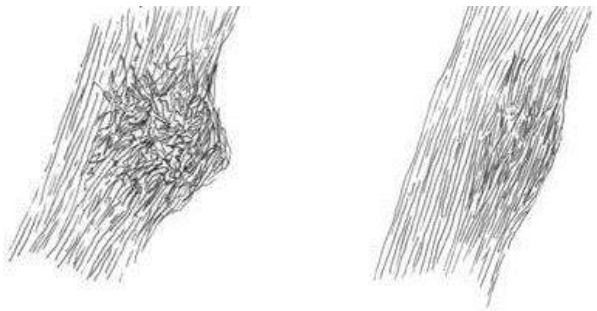
Effective stage 2 treatment for your calf may include:

- Strengthening of the calf muscles
- Pain free stretching can usually begin 3-7 days post injury

Effective stage 3 treatment for your calf may include:

In most circumstances stage 3 focuses on 'how strong can you get the injured muscle?' It is an opportunity to get it stronger than before.

During this stage of rehab it is also a great opportunity to assess other possible contributing factors to your calf strain/tear and to try and prevent it from returning in the future.



Stretching /strengthening of the calf muscle is advised to help repair and re-align the muscles. If stretching/strengthening is not performed then injury reoccurrence and chronic calf pain risk increases.

Common assessments and contributing factors include:

- Strength/flexibility assessment up the chain. For example, are your hamstring muscles tight causing your calf muscles to work harder? Do you have a 'sleepy bum' when running causing your calf muscles to do extra work?
- Footwear and boot analysis – are they appropriate for you? Are they worn out?
- Video running and sporting technique analysis – are you moving in a way that will put increased pressure on your calf muscles?
- Training load – Are you increasing your training too fast?
- Training surface – are you spending too much time on hard concrete?

Stage 4 and returning to sport and activity:

Because your calf muscle is put under high repetitive load in running sports there is a high risk of injury reoccurrence. If imbalances are identified in the tests above then it is strongly advised that you address these prior to returning to vigorous sport again.

To improve your chance of a successful return to sport you need to gradually increase your weight-bearing activity. For example, progressing through walking, easy jogging, running, sprinting, changing direction, and finally sport specific drills will help the calf muscle to gradually adapt to increased forces.

When returning to team sports is it recommended to spend a couple of weeks (longer for reoccurring or significant strains) coming off the bench or playing only part of the game.

At the time of writing there is no conclusive evidence that suggests that taping, massage, or specific stretching prior to playing sport will help you avoid injury reoccurrence.

This educational hand-out was developed by Peter Halstead in 2012. The content is based on the most up-to-date research available at the time and it is reviewed on a yearly bases. The information contained is for the general public. If you have current pain or issues with your health please discuss this with your health professional prior to beginning the exercises discussed. If you have any questions regarding the content of this hand-out please contact Peter at www.PTPete.co.nz