

CALF STRAIN



What is it?

An excessive stretch or tearing of muscle fibres and related tissues. This primarily occurs within one of two “calf” muscles: 1. Gastrocnemius and 2. Soleus. At their lower end they both attach to the achilles tendon. At their upper end, Soleus attaches to the back of the shin bone, Gastrocnemius attaches above the knee to the back of the thigh bone. Gastrocnemius has two heads of which the one toward the inside of the calf “Medial Head” is by far the most commonly injured.

What Causes this?

Calf strains are often acute in nature and caused by a sudden sprinting action such as accelerating from a stationary position or lunging forward - when playing tennis, for example.

Sudden “eccentric” over-stretching of the muscle, such as missing your

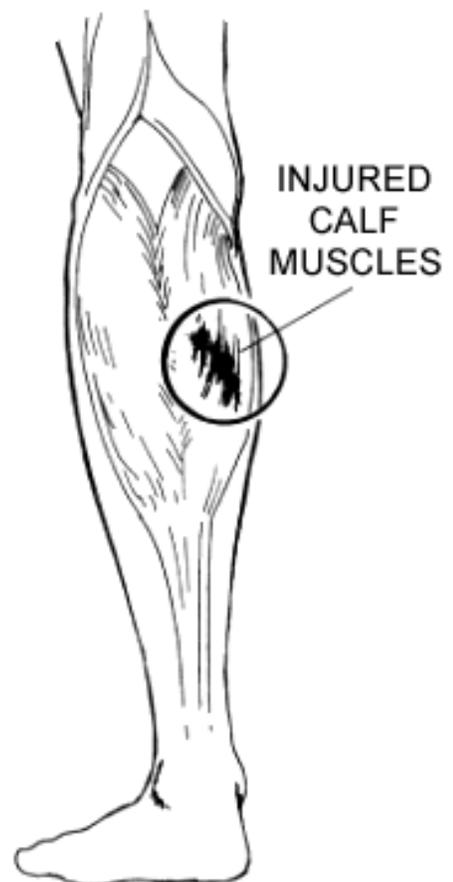
step on the kerb, is another cause. Calf muscle tightness, muscle imbalances and poor foot posture may predispose the individual to calf strains.

What are the signs & symptoms?

You may feel as though you have been hit in the calf, with acute pain felt anywhere along the length of the calf muscle.

There will be pain when standing on your tip-toes, and when your foot is pulled upward.

In severe strains the limb may become swollen and Bruised which develops within 24-48 hours.



What will physiotherapy consist of?

If left untreated calf strains may become chronic, leading to contractures and scar tissue. This will impair the ability of the ankle and foot during daily activities, such as walking, work and sport. Physiotherapy may include:

Massage encompasses a variety of techniques and is given with sufficient pressure through the superficial tissue to reach the deep lying structures. It is used to increase blood flow, decrease swelling, reduce muscle spasm and promote normal tissue repair.

Deep friction is an aggressive massage technique. It is applied across the tissue fibres. Pressure is given as deeply as possible. This technique is initially painful but can cause a numbing effect. It can be used to break down scar tissue, restore normal movement and prepare the injured structure for mobilisation or manipulation.

Mobilisation is a manual technique where the joint and soft tissues are gently moved by the physiotherapist to restore normal range, lubricate joint surfaces, and relieve pain.

Ultrasonic Therapy transmits sound waves through the tissues stimulating the body's chemical reactions and therefore healing process, just as shaking a test tube in the laboratory speeds up a chemical reaction. It reduces tissue spasm, accelerates the healing process and results in pain relief.

Interferential Therapy introduces a small electrical current into the tissues and can be used at varying frequencies for differing treatment effects. E.g. pain relief, muscle or nerve stimulation, promoting blood flow and reducing swelling/inflammation.

Other treatments that may be used

Laser Therapy emits beams of light into the tissues of the body, stimulating chemical reactions and having a similar effect to ultrasound though using light energy instead of sound energy.

Acupuncture is an oriental technique of introducing needles into the skin to increase or decrease energy flow to promote pain relief and healing.

Injection Therapy is a specialist procedure, which needs the consent of your G.P. A non-harmful steroid and local anaesthetic are injected directly into the injured structure. It has a dramatic effect on removing inflammation and promoting healing.

Podiatry involves an analysis of the foot mechanics and structure during walking or running and correction as appropriate. For calf strains this may include the use of a heel raise, or special orthotics to correct poor foot biomechanics.

What should the patient do to help their condition?

Active Rest – keep active but avoid activities that aggravate your condition i.e. any activity that places repetitive strain on your calf, such as running or lifting heavy weights at the gym.

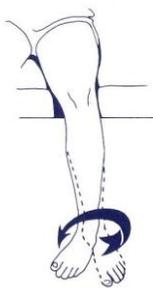
Apply an ice pack – for a maximum of 20 minutes. Do this in acute injuries where there is swelling, inflammation and pain. A bag of frozen peas wrapped in a damp cloth works well because it moulds to the shape of the heel. Ensure that the skin does not change colour (the sign of an ice burn).

Contrast bathing - From 5 days post injury put the foot into a bucket of water as hot as you can withstand for 5 minutes followed by one with water as cold as you can withstand for 5 minutes repeat for approximately 20 – 30 minutes.

Take ibuprofen/ analgesia - according to the directions on the packet, up to the maximum daily dose. It is not suitable for people who have a history of stomach ulcers, or for some people with asthma. If in doubt, ask your pharmacist for advice.

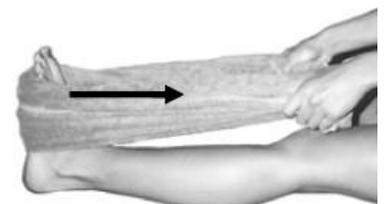
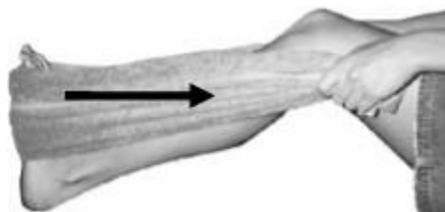
Exercise/Postural programme – comply with the prescribed exercise/postural programme. Your physiotherapist will instruct you as to which of the exercises to begin with, when to add the others, as well as how to progress the exercises.

1. Foot pump up & down 2. Circling 3. Pump in & out



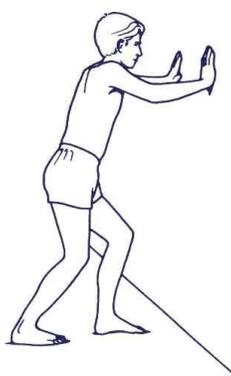
Exercises 1-3

Pump the foot in the 4 differing directions for approximately 30 seconds

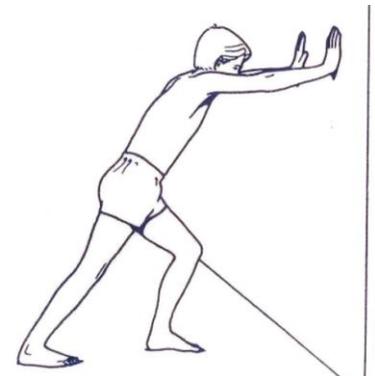


Exercises 4-5

Stretch slowly into the desired direction and then hold for approximately 30 seconds, during this period the stretch should ease and you should keep going further into the stretch without jarring or bouncing.



4. Soleus Stretch

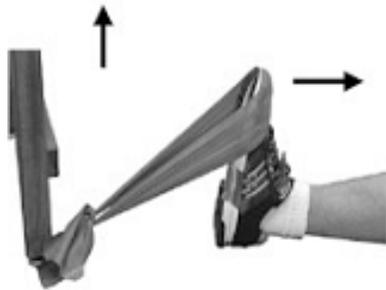


5. Gastrocnemius stretch

6. Ankle strengthening 1



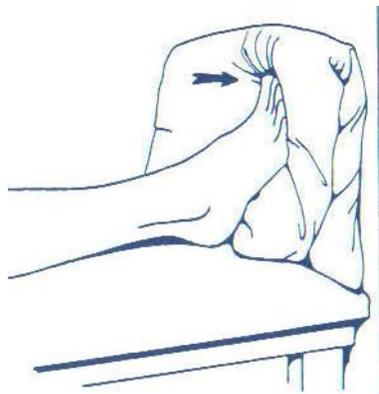
7. Ankle strengthening 2



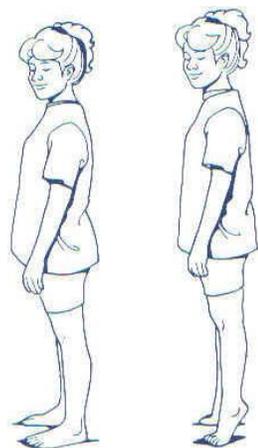
6-7. Dorsi-flexion strengthening

Sit on the floor with knees straight. Without moving your heel, pull your foot towards you. Hold for 10 seconds, repeat 8 times. As an advanced exercise this can be performed with a thera-band.

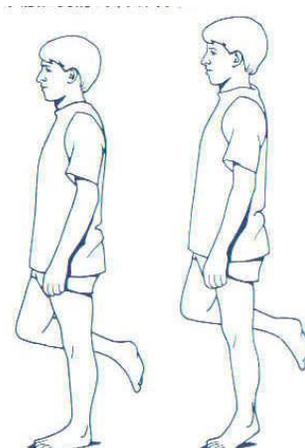
8. Calf strengthening



Stage 1



Stage 2



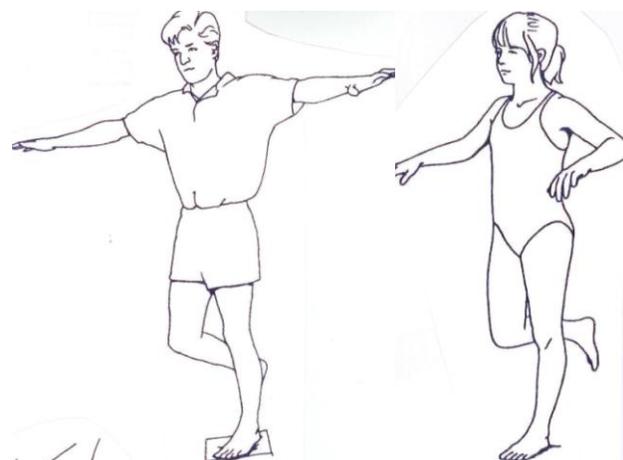
Stage 3



Stage 4

8. Calf strengthening –slowly press down through the toes so you are raising your heel and then lower your heel downwards. With the advice of your therapist work your way through the different levels, Repeat 10 -15 times and perform 2-3 times daily.

9. One legged balancing



9. Balancing – Stand on one foot and try to balance for one minute. When able to do this try with the eyes closed, then on uneven surfaces and then going onto toes - Do 2-3 times daily

What if physiotherapy does not help or resolve my condition?

It is very rare that physiotherapy does not resolve this condition, in these cases a cortisone injection may be appropriate and in very extreme cases surgery is a possible option. These options can be discussed with your therapist if appropriate.