Calf strains can happen to anyone and can linger for long periods of time. The Kent Sport Physiotherapy Clinic treats a lot of people who have a calf strain. Often it is after they have attempted to return to their activities too quickly and a few months have passed with minimal progress or there has been an increase in training volume. Calf strains vary from being sudden with extremely sharp pain to a gradual onset that is less severe and causes less functional restrictions.

The calf is made up of a number of different muscles, including the gastrocnemius, soleus, plantaris, deep toe flexors and tibialis posterior. The gastrocnemius, the most superficial calf muscle, is most commonly involved in acute strains. Whether we are running, walking or playing other sports, we all use our calf muscles differently. Unknowingly, we could be using more of certain muscles which can then fatigue meaning we are left with a calf that needs some help!

The majority of calf injuries are treated non-operatively and the rehabilitation programme and treatment is very important to ensure a full recovery. As a very general rule, muscle strains can take around six weeks to heal. On a more in depth level, muscle strains can vary in time depending on which structures are involved. Some calf symptoms could be purely from over exertion of a specific muscle leading into cramp or DOMS (delayed onset of muscle soreness), some may be radiating from the spine, and others may be partial or complete tears.

You could just rest and allow the calf to heal, however, if you get to understand which structures are involved, you can treat them differently and address them specifically. This could potentially mean a much shorter recovery period. Historically, the grading of injuries was simply minor, moderate and complete injury. There are new and exciting ways to differentiate and it is important to be assessed by a good sports physiotherapist or another health care professional who is experienced in running injuries and biomechanics. Here at the Kent Sport Physiotherapy Clinic we have Vicky Annis who has worked with British Athletics and British Triathlon for over 7 years and Line Malan who is a biomechanist with a speciality in running and sports massage.

With regards self-treating a calf sprain, there are many recommendations, however, we cannot stress enough how many people leave an injury like this to linger and because “it isn’t too bad”. It is important to consider the scar tissue formation, the current strength capacity and the required capacity for the activities you enjoy. There is no point in purely doing 10 calf raises. When we run or land, we put more than four times our body weight through the foot so we must tackle strength in a specific way.
Having felt a tightness in the calf which stops you from continuing your run/ activity, we may recommend some or all of the following:

1) Off load the area as soon as possible and protect it (using crutches and tape).
2) Ice the area for 10 minutes and then 10 minutes without and keep repeating (taking care to avoid ice burns).
3) Apply compression during the day (compression bandage or calf compression socks).
4) Book in after 5-7 days for a physiotherapy assessment. The physiotherapist may start some light soft tissue work at this time.
5) Do not have any deep massage in the first few days.
6) Do not take anti-inflammatory medication in the first 72 hours after a severe injury, as this can interfere with your normal healing process. Simple painkillers such as paracetamol are normally okay in this instance, but if in doubt, we recommend that you consult your pharmacist or GP.
7) Do not attempt to stretch the muscle or carry out any strengthening exercises in this acute period, as these may lead to further trauma to the damaged tissues.
8) Start gentle movement exercises (pointing and pulling toes back, and turning your foot inwards and outwards), if these are pain free. This can be done while applying the ice packs, which helps to avoid the build-up of adhesions and any subsequent tethering of structures that occurs with prolonged immobilisations.
9) Start pain-free muscle recruitment exercises (light theraband resistance) when pain allows after the acute period has settled.
How to avoid calf injuries and how to return to court after suffering a calf injury.

It is important that you condition your calves. This conditioning should include strengthening exercises, flexibility work, proprioception exercises, functional stability work and plyometric loading exercises, as well as the appropriate skilled movement patterns and fitness.

**Strengthening:**

- It is important to target all the different muscles within the calf. Bent knee calf raises and straight knee calf raises are useful but do not think the 3 sets of 10 repetitions will make your calf strong. Progressively add more resistance with weights (i.e. weighted rucksack or leg press resistance machine).

**Flexibility:**

- The best time to stretch is when you are still warm after your exercise.
- Bent knee and straight knee calf stretches - Pictures attached
- Rolling self-massage of calf, varying depth and position of roller to address local areas of tightness.

**Proprioception/ functional stability:**

- A good way to test your functional stability is by doing a single hop and hold and then measure the difference between your left and right leg. You can also do this laterally. Be aware to keep a good upper body position during these movements.

- Standing on a bosu ball throwing and catching. If you really do struggle with your balance, there is nothing wrong with holding on or using a TRX for balance to practise standing on one leg.

**Massage can help with improving flexibility.**

**Joint reaction/plyometric:**

This is something we forget as we get older but can be a great way to keep your body used to the movements:

- A simple ‘step back’ action with a quick return to standing feet together
- Trampette work; double leg bounce, jogging, single leg bounce
- Skipping
- Box jumps

Vicky Annis (MCSP)