

Castleknock GAA club member and Chartered Physiotherapist, James Sherry MISCP, has prepared an informative article on Calf muscle injuries and how best to treat them.

To book a physiotherapy appointment contact James on 087-7553451 or email [james\\_sherry8@hotmail.com](mailto:james_sherry8@hotmail.com).

## **I have torn my calf muscle - what should I do to get it better?**

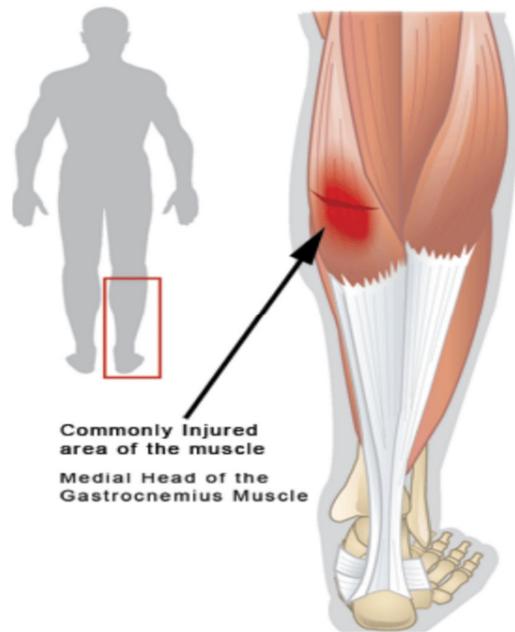
Your calf muscle (on the back of the lower leg), is made up of two muscles: the Gastrocnemius and the Soleus. The Gastrocnemius is the larger calf muscle, and forms the visible bulge under the skin. This muscle has two parts or "heads," which together create its diamond shape. The Soleus is a smaller, flat muscle that lies underneath the Gastrocnemius muscle. These two muscles join together to become the Achilles tendon which inserts into the heel bone (Calcaneus). During walking, running, or jumping, the calf muscle pulls the heel up to allow forward movement.



A tear in the calf muscle is referred to as a calf strain and depending on its severity it is classified as a first, second or third degree strain:

- A first degree strain is damage to a few muscle fibres.
- A second degree strain is damage to a more extensive number of muscle fibres.
- A third degree strain is a complete rupture of the muscle itself.

In sports, the calf muscle (or any other muscle) is subject to being strained or torn when it is asked to do more than it's used to doing. The risk of tearing your calf muscle is increased if other factors are involved, such as fatigue, an improper or incomplete warm-up, inadequate training and preparation or extreme weather conditions.



A torn calf muscle may happen as a gradual build up of pain or it may feel like you have just been hit in the leg or potentially hear a “pop”. There is sudden pain at the rear of your calf and your calf may then swell and bruise. You will probably have difficulty walking or standing on your toes if you tear your calf muscle.

As with most soft tissue injuries **initial** treatment should follow the **POLICE** principle – **P**revent further damage, **O**ptimal **L**oading, **I**ce, **C**ompression, **E**levation.

### **Preventing further damage**

If you have torn your calf muscle or suspect that a calf muscle is about to tear the first thing to do is to minimize the amount of damage you do. The easiest way to do this is to stop or minimize any activities that cause your calf muscle to get sore.

### **Optimal Loading**

Seek advice from your Chartered Physiotherapist on what optimal loading for your calf is. In very bad tears, pain relieving medications, crutches and time off work may be needed. In the less severe calf tears your Physiotherapist may advise you to stop running but may recommend other sports/exercises which don't put as much pressure on the calf such as cycling, swimming, stretching and strength rehabilitation work.

### **Ice**

Ice is an easy and effective way to help reduce your pain and swelling. It can reduce bleeding within the muscle and prevent tissue damage, making the recovery process quicker. You may notice that during the initial phase your calf may seem warm or hot. Use ice packs with a **thin towel layer between the ice-pack and your skin** (never put ice directly on the skin) for 20 minutes at a time. In the early stages of healing (within 48 hours of injury), you can apply an ice pack in 20 minute increments every 2-4 hours.

Anti-inflammatory medication (if prescribed by your pharmacist or GP) and natural substances e.g. arnica may also help to reduce the pain and swelling in your calf. However, it is advised to avoid anti-inflammatory drugs during the initial 48 to 72 hours when they may encourage further bleeding within the calf muscle. Always liaise with your GP or pharmacist regarding safe use of anti-inflammatories.



### **Compression**

As your symptoms improve, your Chartered Physiotherapist will recommend whether a compressive bandage, supportive taping or an elastic calf support is appropriate. This will help to support the injured soft tissue and helps to prevent the pooling of blood in your foot.



### **Elevation**

Keep your foot elevated above your heart (where possible) to allow for gravity to help drain blood from your calf and prevent lower leg swelling.



If you follow the above steps in the initial few days and weeks then the torn muscle can be given every chance to successfully heal, however mature scar formation takes at least six weeks. During this period you should be aiming to optimally “remould” your scar tissue and strengthen the muscle to prevent re-injury in the future. Your Chartered Physiotherapist can help your healing scar tissue by lengthening and orientating the fibres through massage, muscle stretches and neurodynamic mobilisations.

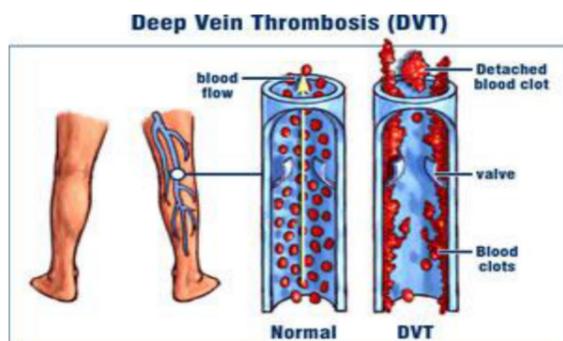
Following successful acute treatment more advanced rehabilitation strategies can be commenced under the guidance of your physiotherapist. Rehabilitative exercises should isolate the two calf muscles (Soleus and Gastrocnemius).



Passive stretching of the injured muscle at this stage helps to lengthen the maturing intermuscular scar and helps to prepare the muscle for commencing strengthening exercises. Strengthening the muscle should be started with unloaded isometric contractions as the range of motion returns. 10-14 days after the injury, the developing scar should have the same tensile strength as the surrounding muscle and further progression of rehabilitative exercises can begin. Isometric, isotonic, and then dynamic training exercises can be added in once each exercise can be completed pain-free. Before returning to running or your sport you will require a sport-specific rehabilitation programme and a progressive training regime to enable a safe and injury-free return.

***What potential complications can arise if this is not managed properly?***

Deep Vein Thrombosis (DVT). Symptoms of a DVT can include pain, swelling and tenderness in the back of the calf often accompanied by redness and heat of the skin. What makes things harder is that these symptoms are almost the same as those associated with a calf tear. If in doubt, we would advise you attend your GP or hospital as a DVT could (rarely) lead to a pulmonary embolism which is potentially life threatening.



### **Tips on preventing calf injuries:**

You can assist the prevention of a calf tear in the following ways:

- Do not increase the level of exercise intensity, frequency, or duration more than 10% per week.
- Work with a Chartered Physiotherapist to learn proper sport-specific techniques that minimizes the stress placed on your calf muscles.
- Allow more time for a longer warm up in cold weather conditions.
- Ensure your running shoes are comfortable (consider cushioned insoles that help to reduce calf muscle stress) and in good condition, changing them every 300-500 miles if running long distances.
- Avoid running on uneven surfaces that you are not used to.

*Castleknock GAA club have set up a Chartered Physiotherapy service lead by James Sherry M.I.S.C.P. This clinic is open to all club members and takes place in the Castleknock Hotel every Saturday. Treatment sessions are available by appointment only. James specialises in the diagnosis and treatment of back and neck pain and sports injuries with over 10 years' experience working in private and public practice.*

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