



hether it's a strain, spasm, tear or pull, the result is the same: A significant injury to the muscle. While a certain level of soreness is expected after performing physical exercise, an injury to your muscles can result in sitting on the sidelines while you treat it and wait to heal properly. We'll show you how to identify, categorize, treat and repair muscle injury so that you can safely return to optimal athletic performance.

## **Identify trouble spots**

While narrowing down muscles that are most susceptible to injury can be sport specific, typically in clinic we see patients present with muscle injury on high-speed and load muscles. Specifically, hamstrings, quads, calves, back and biceps. Based on the activity you perform, certain areas are more likely to be affected.

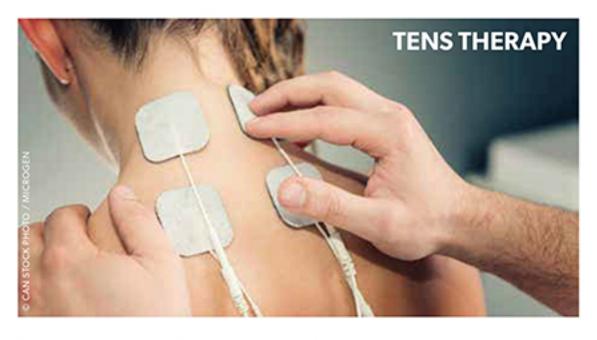
For example, athletes who perform throwing movements (pitchers, tennis players, etc.) will present with affected rotator cuffs and athletes such as horseback riders have a tendency to tear their adductor muscles.

In addition to feeling the burn (not in a good way), whether that's tightness, weakness, or an inability to perform a full muscle stretch, you can also often visually identify a strained muscle through bruising or discolouration.

Muscle injuries are classified in two ways. Traumatic injury means a muscle takes on a load it can't handle and rips apart. Non-traumatic injury can be the result of various degenerative causes such as aging or certain types of medicine use, until the muscle takes on a load it cannot handle and then tears.

There are also three grades of muscle tear to be aware of:

GRADES OF MUSCLE TEAR	
Grade one	Mild strain
Grade two	Moderate strain
Grade three	Severe strain or rupture



## Treating muscle injuries

A grade one muscle tear can often be treated at home using the PRICE formula: Protection, Rest, Ice,
Compression and Elevation. When icing the affected area, be sure to keep treatment under 20 minutes and take at least 40 minutes off to allow the surface area to warm up again. This is an effective and easy-to-do method to reduce swelling and relieve pain.
When compressing the affected area with, for example, an elastic bandage, be sure not to wrap the area too tightly. Typically, a grade one tear will take two to four weeks to heal properly.

When dealing with a grade two or three tear, seeking professional treatment is a sound idea. It's easy to identify this high-grade injury by a loss of muscle function, excessive bruising and moderate to severe pain.

These injuries can take anywhere from four to eight weeks to heal. Affected patients may be tempted to "power through the pain" but this can result in further injury and longer recovery time. It's always best to let the muscle fully heal before returning to sport, otherwise you may face a recurring, repetitive injury pattern.

A physiotherapist or chiropractor can assess the muscle function and biomechanics, and soft-tissue massage treatment from a registered massage therapist will ensure that scar tissue doesn't form in the area. Regardless of the grade of injury, most medical professionals will advise that you take some time away from the sport to fully rest and recover.

## **Nutrition and repair**

Food can also assist with the recovery process. Most exercisers and athletes are familiar with stocking up on protein post-workout to assist with muscle repair. Anti-inflammatory foods like leafy greens, salmon and blueberries, as well as foods high in bromelain, such as pineapple, will help treat injured muscles.

Proper muscle rehabilitation will combine elements of strength, endurance, speed and flexibility and can be tailored to your needs with the advice of a medical professional. Treatment options may include physiotherapy, chiropractic care, kinesiology taping, or TENS (transcutaneous electrical nerve stimulation) therapy—a low-voltage electrical current designed for pain relief. Once you're ready to return to activity, be sure to start slow, training at a low level where you feel no pain, before ramping it back up to your regular level of intensity.

Drs. Marco and Paolo De Ciantis are Torontobased chiropractic doctors and co-owners of Sports Specialist Rehab Centre. The identical twins specialize in pain and injury prevention, working with a range of patients from athletes looking to improve their performance to individuals who simply want day-to-day tasks to be easier, in an effort to restore optimal wellbeing.

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