Calf Muscle Strain

OVERVIEW
You have been diagnosed with a strain of the main calf muscle, which is the gastrocnemius muscle. This is sometimes called “Tennis Leg”. This injury is a strain or partial tear of the gastrocnemius muscle. While very painful, it usually heals with time and symptomatic care. Physical therapy is valuable to recover strength and flexibility and to prevent recurrent injuries.

BACKGROUND
Calf muscle injuries are extremely disabling when they occur, as they often do, during a short sprint on the tennis court, or soccer field, at the athletic track or during a high intensity aerobics class.

The most common type of calf muscle injury seen is described as a "tennis calf". This involves a partial tear to the medial gastrocnemius muscles which form the inside upper bulge of muscle at the back of the calf. The injury is certainly not exclusive to tennis players but is frequently seen in players of all racquet sports and other ballistic sports.

CLINICAL PRESENTATION AND DIAGNOSIS
Patients typically report that during activity that felt a sharp pain in calf, sometimes like someone kicked them. There is often significant pain, swelling, and bruising from the mid-calf down into the foot. A Thompson test is done to check the integrity of the Achilles tendon to rule out an Achilles tendon rupture. There can be excessive swelling and bruising down the back of the calf, sometimes leaving the whole foot black and blue for a week or more. Any stretch of the calf muscle such as with normal heel to toe gait during walking will cause pain during the healing phase so the afflicted will usually limp for several weeks or more. Xrays are usually normal, and the diagnosis of a gastrocnemius muscle strain usually does not require further imaging study. If the diagnosis is unclear, MRI is the preferred imaging technique.

TREATMENT
Initial treatment is for symptom control with pain medication, rest, ice, and elevation. Limited activity and the use of crutches are recommended during this period. Weight bearing on the leg is safe but will be painful. Weight bearing can progress as comfort allows. The use of ice over the painful area should be carried out several times a day for the first 72 hours. As with other soft tissue injuries treated with RICE (rest, ice, compression, and elevation), compression with an ACE wrap and elevation of the leg will also be helpful in the first two to three days. Ultrasound and other electrical modalities provided by the physiotherapists may have a role to reduce the amount of swelling and pain caused by the muscle damage. After the first five days however,
treatment should be concentrated more on stretching out the healing tissue in the line of the muscle and tendon to avoid a haphazard array of healing muscle units that will predispose to further tears. These stretches must address both the deep and superficial calf muscles, so will involve stretching the calf with the knee straight and the knee bent.

Depending on the severity of injury, after approximately 10-14 days, muscle-strengthening exercises can usually be started involving toe raises on the affected leg initially supported and then unsupported. These can again be carried out with the knee straight and the knee bent to strengthen both the calf muscle groups. It is beneficial to keep using the compression bandage until all the visible swelling has disappeared which may take two to three weeks.

Gastrocnemius muscle strains are best avoided by a good warm-up and regular attention to ensuring good calf muscle strength and flexibility. If you are unfortunate enough, however, to strain or tear a calf muscle, make sure you treat it with appropriate respect in the "early" stages and get the right treatment. In most cases this will prevent recurring calf injuries.

MORE INFORMATION
Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at www.aaos.org and www.emedicine.com.

FEEDBACK
If you have questions or comments, please contact the office or submit them to the web site at www.pedortho.com.