Kiewa Valley Sports & Spinal Physiotherapy

Achilles Tendonitis

The Achilles tendon is the rope that attaches your calf muscles (soleus and gastrocnemius) to your heel. When your calf contracts, it pulls via the Achilles tendon on your heel which plantar flexes (points) your foot. This allows you to push off your foot when you walk or run. The tendon is made of parallel bundles of collagen fibres which have high tensile strength. The suffix '-itis' implies inflammation, and hence refers to inflammation of this tendon.

Causes

The Achilles tendon can become inflamed in the acute setting as a result of short-term overuse such as a longer run or excessive stress due to poor biomechanics or footwear. A partial tear will also cause inflammation. The Achilles tendon can also become painful gradually through overuse and inadequate opportunity to recover and repair. Rapidly growing teenagers can be susceptible to Achilles tendonitis as the calf can become chronically tight when the length of the muscle lags behind the growth in length of the shin bone (tibia). This places increased tension through the tendon. The Achilles tendon has a poor blood supply which makes it less able to adapt and recover from stress.

Characteristics

Achilles tendonitis can vary significantly in severity. It can be quite mild and the symptoms may disappear once the person warms up a bit. In other cases it can be severe enough that the person is unable to run or jog, and may be forced to walk with a significant limp. It is typically as the person goes to push off when walking or running that the pain is most pronounced. When the tendon has been painful for a period lasting weeks and months, it is common for some deterioration to have occurred, where collagen fibre disorganisation and poor quality attempts at repair are evident. This can cause the tendon to thicken and for adhesion to develop between the tendon and surrounding tissue.

Treatment

In the acute setting lasting a week from onset, relative rest, ice, and anti-inflammatory medication can reduce the inflammation. Taping may decrease the tensile stress going through the tendon. A small heel raise inserted in the shoe will do likewise. Poor quality footwear should be avoided. If the calf muscles appear tight, careful stretching can be performed. Once the acute phase has passed, a progressive strengthening program may be required if the tendon is still symptomatic.

In the more chronic case, collagen fibre disorganisation will require a progressive strengthening program, starting off carefully but performed with increasing vigour right through to exercises that mimic the activities or sports that the person participates in. This can be a lengthy process due to the slow adaptive response of the tendon resulting from its poor blood supply. Frictional massage may help to reduce adhesions between the tendon and surrounding tissue. If the calf muscles are tight, they will need to be stretched. Ice and anti-inflammatory medication are of limited use in this phase unless there is an acute exacerbation. Any biomechanical abnormality will need to be corrected by wearing better quality footwear or possibly the use of an orthotic.