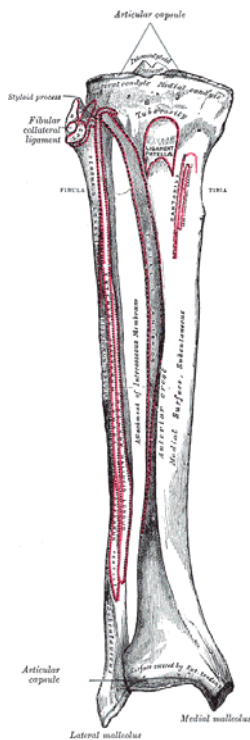


# Lower Leg

## Anatomy:

The lower leg consists of two bones, the Tibia and the Fibula, which move very little in regard to each other. The Tibia is the primary weight bearing bone, while the fibula allows delicate and rapid adjustments at the ankle without compromising the transfer of weight.



Attaching to these bones are the origins of the muscles that move the ankle and foot, as well as the insertions of the muscles responsible for moving the knee.

## Common Problems:

### *Calf strains*

The calf is made up of two large muscles that both run into the Achilles tendon which attaches to the heel. These muscles are responsible for plantarflexion at the ankle, and are most commonly injured or ruptured by excessive forced contraction while the muscle is in a stretched position, such as pushing against a heavy object or starting a sprint. Muscle tears can be of varying severity, and physiotherapy treatment will include RICE, massage, stretching, strengthening, mobilisation, and electrotherapy.

### *Achilles tendinosis*

The Achilles tendon is the strongest and largest tendon in the body, and it is built to withstand a great deal of force. However it is commonly injured when athletes are improperly prepared for intense sport, such as with a lack of warm-up or stretching. The tendon can also be affected by altered biomechanics of the lower limb, such as gait pattern, foot position, inadequate footwear and decreased muscle strength or flexibility. Due to the poor blood supply of the Achilles tendon, these injuries can be very slow to heal, and unless the underlying biomechanical factors are corrected the pain may become chronic and persist for years. Physiotherapy for degeneration of the Achilles tendon may involve soft tissue mobilisation, massage electrotherapy, relative rest from aggravating activities, and most importantly an intense eccentric strengthening and stretching program.

### *Shin splints*

Shin splints is a colloquial term encompassing several different conditions. Periostitis is probably one of the most common of these, which involves irritation or infection and inflammation of the connective tissue around the bones in the shin. Compartment syndrome is another chronic-type disease of the lower leg and occurs where swelling

occurs within the muscle fascia and restricts supply of nutrients and blood to the area. For most shin splint conditions, a period of rest will be very important. Acute treatment can involve massage, myofascial release, ice, strapping and electrotherapy. Other important components will include determining and correcting the predisposing factors and strengthening the anterior muscles of the shin to avoid recurrence.

### *Stress fractures*

Another chronic overuse-type injury to the shin is a stress fracture of the tibia, often presenting with similar symptoms as shin splints. Treatment will involve rest from sporting activities, sometimes requiring a period of non-weightbearing on crutches until pain settles. Once this has been achieved a gradual return to activity and strengthening program will be implemented, combined with frictional massage over the area, and correction of the predisposing factors.