# GUIDE TO ANKLE INJURIES

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**PHYSIOTHERAPY** • **REHABILITATION** 

#### Introduction

Ankle injuries are common and can be debilitating. The aim of this e-book is to provide an overview of ankle pain, as well as what to expect from a treatment provider. It is not a diagnose yourself or treat yourself guide. There are several potential sources of ankle pain, most of which are not medically serious. However pain is often a warning sign and sometimes serious pathology can cause ankle pain. **If you have a problem you need to be professionally assessed**.



## **Basic anatomy**

The ankle joint is a synovial joint, which means it has a thick fibrous capsule surrounding the joint and an inner lining that contains fluid. The fluid helps to nourish and lubricate the joint whilst acting as a shock absorber. The bones of the ankle joint are the talus, the tibia and the fibula (Figure 1). Strong ligaments firmly anchor these bones in place to create a deep socket-like bracket. The ends of the bones are covered with shiny white hyaline cartilage which allows them to glide smoothly over each other. The ankle mainly allows hinge like dorsi-flexion (pointing foot towards body), plantar flexion (pointing foot away from body) and inversion (turning your foot in). The tendons of several muscles cross the ankle, to provide it with control and support.



#### Figure 1



Figure 2

#### Some different injuries to the ankle



The ankle region is complex and packed densely with numerous supportive structures. Problems may include any of the following:

- Ligament tears and avulsions
  - Tendon degeneration
- Tendon tears
- Arthritis
  - Fracture, stress fracture and bony bruising
- Soft tissue impingement
- Growth plate overstress
- Muscle tears and contusions
- Nerve injuries

Because the ankle is a complex joint, several structures may become affected at the time of the injury. The most common ankle injury is a sprain to the lateral ligament complex *(Figure 3).* 

## What to do if you have a recent ankle injury

As with many acute (recent) soft tissue injuries, it's advisable to follow the RICER principle: **R**est Ice **C**ompression **E**levation **R**eferral.

- Resting will give the injury a chance to start healing. This
  means that you should not participate in some activities for a while.
  Inflammation is a part of the healing process and acts as a
  handbrake on your body to make you rest. However, too much
  inflammation can minimise joint movement and muscle activation.
- **Icing, compression and elevation** allows the inflammation to settle as the by-products of the damaged tissue are reabsorbed by the body. These steps can also reduce the pain.
- Referral means seeing the right professional after the injury for
   diagnosis and management. Your physiotherapist is the best person
   to see.



#### What to expect from your treatment provider



#### Be wary of thinking "it's just an ankle sprain"

Sprained ankles are one of the most common ankle injuries. A sprain is a tear within a ligament/s. There are different grades of sprains, depending on what percentage of ligament has been torn. Tearing the ligaments on the outer side of the ankle is far more common due to the positions of the bones around the ankle.

If an ankle is not as 'stable' after injury, with excessive ligamentous laxity, decreased muscular control (proprioception) and balance, then more demands and pressure may be placed upon the knee, hip and back, as these areas try to compensate. This may then increase the risk of injury to these areas.



## **Medical imaging**

Medical imaging of the ankle may be required for different reasons such as when a fracture or complex ligament damage is suspected, or when healing is taking longer than expected. Imaging may include an MRI, CT scan or X-Ray.



#### **Basic ankle injury management principles**

These are the approximate steps that your physiotherapist will take you through after an injury. These steps are not mutually exclusive and can overlap. You should discuss each of these with your physiotherapist.

**Acute Phase (Pain management):** This can be achieved by activity modification, some exercises, medication, hands-on treatment and strapping / bracing.

**Return to function (Restoring movement and strength):** this can be achieved by gradually increasing your activity levels and by exercises you are given. Your physio should provide you with a graded exercise program. You may also be taught different ways of moving, jumping and landing. There are markers that should be met before returning to activity and sport and your physio will guide you through these.

**Injury prevention phase:** Strengthening and balance exercises will help to keep your ankle healthy and minimise the chance of re-injury. Bracing and strapping can also be useful in preventing ankle sprains

**Remember, always seek professional advice.** Your Physiotherapist is the best person to guide your treatment. We hope this guide is helpful. Please feel free to share it with anyone you think would benefit from it.

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