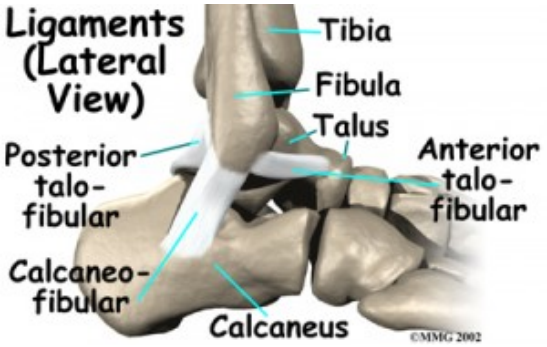
Management of Acute Ankle Sprains

Ankle sprain is one of the most common injuries in athletic and recreational activities. These injuries are particularly common in sports and activity involving jumping, twisting or rapid change of direction such as netball and touch football. Many people will make a full recovery after spraining their ankle, however ankle sprains that are left untreated can often lead to chronic pain, instability and a high rate of recurrence. Altered biomechanics from ankle injury is often a common contributor to onset of pain and injury in other joints of the body.

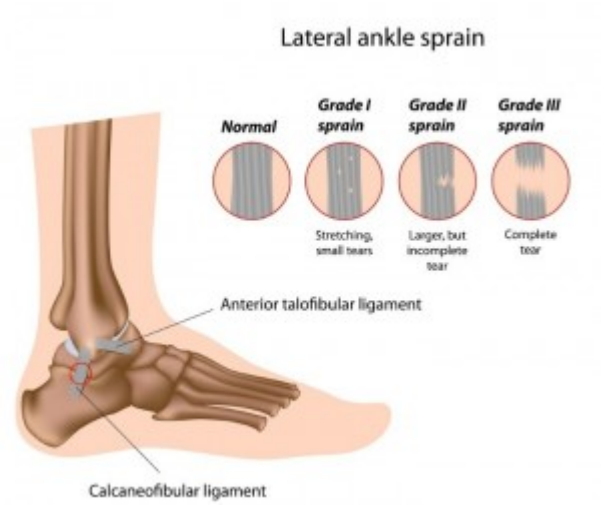


The ligaments of the ankle hold the ankle bones and joint in position and thus are the primary source of stability. They protect the ankle joint from abnormal movements-especially twisting, turning, and rolling of the foot.

Ligaments are elastic structures which usually stretch within their limits, and then go back to their normal positions. When a ligament is forced to stretch beyond its normal range, a sprain occurs. A severe sprain causes actual tearing of the elastic fibers. Ankle sprains happen when the foot twists, rolls or turns beyond its normal motions. If there is a severe rolling in (inversion) or out-turning (eversion) of the foot relative to the ankle, the forces cause the ligaments to stretch beyond their normal length resulting in strain or tearing of the ligament.

Inversion sprains (rolling in) are far more common (>90%) than an eversion ankle sprain (rolling out) due to the relative instability of the lateral joint and weakness of the lateral ligaments compared with the medial ligament.

The amount of force determines the grade of the ankle sprain.



Grade 1 sprain: Mild Sprain
Slight stretching and some damage to the fibers (fibrils) of the ligament.

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Grade 2 sprain: Moderate Sprain

Partial tearing of the ligament. If the ankle joint is examined and moved in certain ways, abnormal looseness (laxity) of the ankle joint occurs.

Grade 3 sprain: Severe Sprain

Complete tear of the ligament. If the examiner pulls or pushes on the ankle joint in certain movements, gross instability occurs.

The symptoms of an ankle sprain are often immediate and quite painful. A 'pop of cracking noise may occur and there is generally an immediate onset of pain and difficulty with weight bearing through the injured leg. Swelling may be immediate of may occur after a few hours, with the degree of swelling generally consistent with the degree of damage to the ankle. In grade 2 and 3 injuries, bruising in and around the area is a common feature and this may track down away from the ankle into the foot. Often in more severe injuries, there is a perceived feeling of instability and weakness in the ankle.

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Initial management (0-72hrs) – PRICE regime and Analgesia as appropriate. Protect from further damage, Rest, Ice, Compress, Elevate. Avoid anti-inflammatory medication during this period as it may retard the healing process. In severe cases crutches may be needed to decrease the load on the injured area.

The second phase of management of an ankle sprain focuses on reduction in pain and swelling and restoration of full range of motion as soon as possible. During this phase, manual therapy techniques such as massage mobilisation and stretching are used to break up scar tissue, decrease swelling in the area and restore normal joint movement. Gentle exercise is introduced in order to get the stabilising muscles of the ankle working and to prevent them from becoming weak. Taping and bracing in more severe cases may be required to offload the damaged ligaments and tissue around the ankle.

As the injury improves, the next phase of management involves provision of a program of strength, control and balance exercises of increasing intensity. It is important that these exercises should be as functional as possible, meaning exercises that mimic normal movement and load of the ankle joint. The intensity of any exercise program should be governed by the control of the ankle as well as pain levels when the ankle is loaded. Any biomechanical issues should be addressed at this stage.

The final phase of management of ankle sprain is return to sport. The time frame for this is variable and largely dependent on the demands of the sport as well as the degree of initial tissue damage and should be guided by your physiotherapist. In cases of significant damage, or when returning to sports which involve contact or rapid change of direction, an ankle brace or guard may need to be work in order to prevent re-injury.

Article by Leighton Bradgate October 2014

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia