

# SYNDESMOSIS INJURY (HIGH ANKLE SPRAIN)

A syndesmosis injury, also known as a high ankle sprain, is an injury to the ligaments at the top of your ankle. These high ankle ligaments connect your tibia (shin bone) and fibula (outside leg bone) to your calcaneum (heel bones), and form part of your ankle. The injury involves the syndesmosis, a ligament that holds the lower part of your tibia and fibula together just above your ankle joint.

High ankle sprains are much less common but are more disabling than your traditional lower ankle sprain (when you roll over the outside of your ankle). They must be diagnosed early and appropriate treatment started, which differs from a traditional ankle sprain, in order to get best results.

## WHAT HAPPENS WHEN YOU HAVE A SYNDESMOSIS INJURY?

High ankle or syndesmotic injuries do not heal as well as more common lower ankle sprains. The main reason being a lack of ankle stability when weight-bearing, which can prolong recovery. It is important to determine whether your injury is stable or unstable. If you play sport at a high level, it may require surgical repair.

## WHAT CAUSES A SYNDESMOSIS INJURY?

High ankle sprains most commonly occur when your foot is planted on the ground and then an excessive outward twisting of your ankle occurs. This can be caused by you turning on a fixed foot due to studs on your boots, or due to a rigid boot used for skiing, skating or snowboarding. Another mechanism to injure your syndesmosis is if you are standing on your foot and another player makes impact with your lower leg or ankle – as in a sliding tackle in soccer or a tackle in rugby.

## WHAT ARE THE SYMPTOMS OF A SYNDESMOSIS INJURY?

- Pain felt above the ankle that increases with outward rotation of the foot
- Pain with walking and often significant bruising and swelling across the higher ankle rather than around the malleolus (ankle bones)
- Inability to perform a one-legged calf raise (going up onto your toes)
- Feeling of instability/'no confidence' jumping on the injured leg.

The severity of the symptoms will depend on the grade of ankle sprain. Patients with a high ankle sprain without fracture may be able to stand and walk. Pain over the back of the ankle is of particular concern and may be associated with a fracture or bone bruising.

## WHAT'S THE TREATMENT FOR SYNDESMOSIS INJURY?

It is important to have stability between the tibia and fibula because there is a tremendous amount of force that passes through this area when walking and running. Once you rupture or overstretch these high ankle ligaments, the bones of your lower leg move apart with every step causing pain and loss of function. You will often require crutches or a walking boot in the beginning. Most injuries will not require surgery, but all injuries will require good physical therapy rehabilitation.

Physical therapy treatment aims to effectively rehabilitate your ankle and prevent recurrence, or even worse, premature ankle arthritis. These include:

- Injury protection (boot, crutches, strapping), pain relief and control inflammation
- Regain full range of motion
- Strengthen your ankle and calf muscles

- Restore joint proprioception and balance
- Restore normal function
- Walking
- Running
- Jumping and landing
- Speed and agility
- Sport-specific skills
- Resume sport.

Phase 1 of treatment is focused around pain relief and reducing inflammation. This includes the RICE protocol - rest, ice, compression and elevation. Treatments may also include electrotherapy, strapping and gentle massage after the first 48 hours.

Phase 2 of treatment, the therapist will start mobilising your ankle joint to restore full movement and avoid stiffness. You will be prescribed exercises to move your ankle appropriately and safely without disturbing the stability of the healing ligaments.

Phase 3 is where strengthening of your ankle begins. These may include localised exercises for muscles around the joint and then progress to involve the entire lower limb and functional strengthening with squats and lunges. Balance and proprioception are key to rehabilitation and preventing a subsequent injury. Your therapist will teach you exercises to improve your ankle and foot balance and adjustments to movement.

Rehabilitation will progress introducing agility, and speed work as well as endurance (when you, and your ankle start to fatigue you increase your risk of injury).

Your physiotherapist will discuss your goals, time frames and training schedules with you to optimise your recovery for complete and safe return to sport. Depending on the severity of your injury, this may take anywhere from 2-6 weeks, up to 3-6 months if you've had surgery.

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