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Ankle Sprains - A Patient Guide

What is it?

A sprain is a tear or disruption of the soft tissue structures in the body. This follows an injury and causes pain, swelling and disability. Ankle sprains usually involve the lateral ligament complex (outside of the ankle) and commonly involve 2 ligaments (anterior talofibular ligament and calcaneofibular ligament).

What causes it?

The classic injury is an inversion type, where the sole of the foot turns in and the outside ankle ligaments are stretched and injured. This may be sustained during sport or wearing high heels after a few too many drinks! However, any fall or trip on uneven ground may cause a sprain.

What are the symptoms?

Immediate pain and swelling around the ankle (usually the outside), the inability to bear weight on the foot. Bruising appears hours or days later and can be around the toes, mid foot, heel or calf. Symptoms can last a week to more than a month, depending on the severity of the sprain.

How is it diagnosed?

Mr Gordon will take a thorough history and examination and perform radiographs (x-rays) and this is normally sufficient to make a diagnosis. It is important to rule out a fracture or other ligament or tendon injury, which is why a review by an experienced foot and ankle specialist is often necessary. Sometimes the diagnosis may not be clear and a CT or MRI scan may be required.

How is it treated?

This will depend on the severity of the sprain, of which there are 3 grades.

Grade 1: Minor bruising and swelling – Weight bear as tolerated, no ankle support needed

Grade 2: Moderate bruising and swelling – Weight bear as tolerated but may need crutches and an ankle brace (picture)

Grade 3: Severe bruising and swelling and instability – Weight bear as tolerated in a rigid walking boot (picture)



Ankle braces with rigid side supports (left & middle images)

Eg. Lace up: McDavid, LP Elite, Mueller

Velcro: Aircast Airsport

Aircast SP rigid walking boot (far right image)

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In addition to these measures, for all ankle sprains, the following regime should be adhered to:

PRICE: Protection, Rest, Ice, Compression, Elevation

Protection: An ankle brace or rigid walking boot may be needed for comfort, but is not always necessary

Rest: Keeping the weight off the leg using crutches may make things more comfortable, but not always necessary

Ice: or frozen vegetables for 10 minutes with a 10 minutes break then for 10 minutes again, 3 times/day, until swelling has subsided (days to weeks)

Compression: This helps reduce swelling but is not essential

Elevation: Perhaps the most important factor, as gravity will cause the fluid to drain to the lowest part of the body. Keep the ankle elevated at the level of the chest for 23 hours/day during the first 2 days and continue this regime whilst significant swelling is present. Swelling will be the worst at the end of the day and best first thing in the morning.

Anti-inflammatory medication (ibuprofen, naproxen, diclofenac) may be taken, in addition to analgesics (pain killers eg paracetamol, coedine)

What exercises can I do to speed up my recovery?

Scientific evidence has shown that early mobilisation of the ankle following a grade 1 or 2 sprain can speed up recovery and ankle function and earlier return to sport, compared with immobilisation. Therefore, it is important to start exercises once comfortable to do so. There is also evidence that if these exercises are supervised by a physiotherapist, then faster recovery may occur.

How long before I can get back to sport/activities?

This will depend on the grade of the injury. Generally, after the first 2 weeks, things will feel considerably better and swimming or low impact activities may be attempted. It may be 1 month or more before full activities can be resumed.

What if I have persistent symptoms?

Between 5-34% of people at 1 year following an ankle sprain, continue to have pain. The risk of a re-sprain is 3-34% and recurrent instability can occur in up to 33%. If you have persistent symptoms you should make an appointment with Mr Gordon further evaluation to find the cause of your symptoms.

References

van Rijn et al. Effectiveness of additional supervised exercises compared with conventional treatment alone in patients with acute lateral ankle sprains: systematic review. BMJ 2010

van Rijn et al. What Is the Clinical Course of Acute Ankle Sprains? A Systematic Literature Review. AJM 2008

Bleakley et al. Effect of accelerated rehabilitation on function after ankle sprain: randomised controlled trial. BMJ 2010

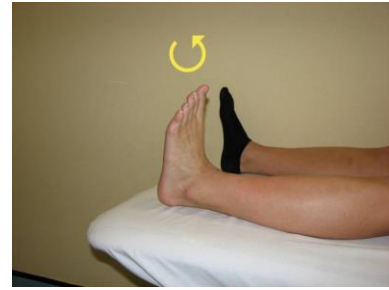
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Rehabilitation Exercises

1. Active Circumduction

Rotate the foot so the toes 'draw' a circle in the air, clockwise and anti-clockwise

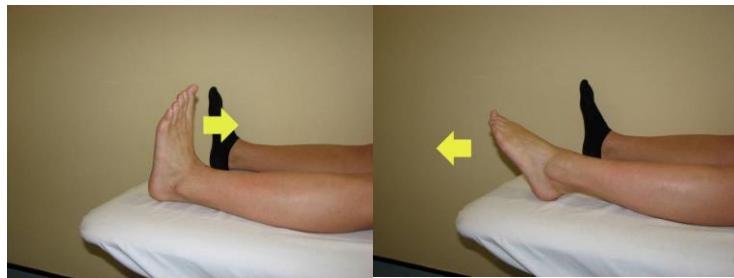
20 circles over 60 seconds



2. Active Ankle Dorsiflexion (foot up) and Plantarflexion (foot down)

Move foot up and down (1 repetition)

Repeat 20 times over 60 seconds



3. Static Strengthening of :

3a: Invertor muscles

Push both feet together and hold for 10 seconds

Repeat 5 times



3b: Evertor muscles

Cross legs over

Push both feet together and hold for 10 seconds

Repeat 5 times

Swap over feet



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3c: Dorsiflexion and Plantarflexion muscles

Place one foot over the other

Push up with lower foot, resisted by upper foot

Hold for 10 seconds

Repeat 5 times

Swap over feet and repeat

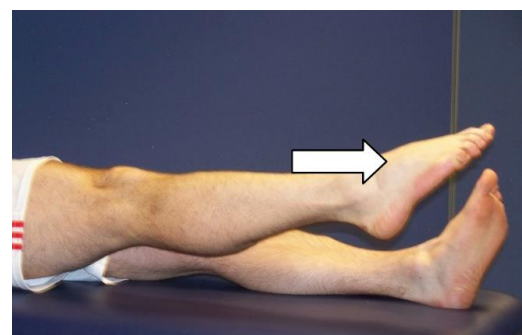


4. Triple Flexion/Extension (hip, knee, ankle)

Bring knee toward chest bringing foot and ankle up

Straighten leg, pointing toes

Repeat 30 times



5. Triceps Surae Stretch

Place feet apart and put hands on a wall

Have injured leg toward the rear

Keep feet in place on ground

Lean forward, keeping the heel of the rear (injured) foot on the ground

Hold for 20 seconds

Repeat 3 times

Swap feet

