

# Hop, skip and jump for a stronger ankle

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**Have you ever twisted your ankle and recovered ... but found that it was just not quite right? Does it still feel as if it will give way again, so that you are never really 100%? Find out how to get your confidence back so you can perform at your very best.**

One to avoid ...

**M**anchester United striker Javier Hernandez and Arsenal defender Andre Santos have recently shown how disabling an ankle injury can be, with Hernandez expected to be out for 4–8 weeks and Santos needing surgery to correct the damage. And you certainly don't have to be a sports professional to twist your ankle: 10-30% of sporting accidents lead to ankle injury. However, you can work to avoid ankle injury altogether and prevent the confidence and performance problems that it can cause.

Hernandez and Santos will undertake a comprehensive rehab programme, where a key component will be neuromuscular rehabilitation, also known as proprioception training.

Below I look at that training in more detail – and give you some pointers for improving ankle control. It's living proof that prevention is better than cure!

## The anatomy

The most likely injury you will suffer will be an inversion – where your foot turns inwards (Figure 1), which will affect

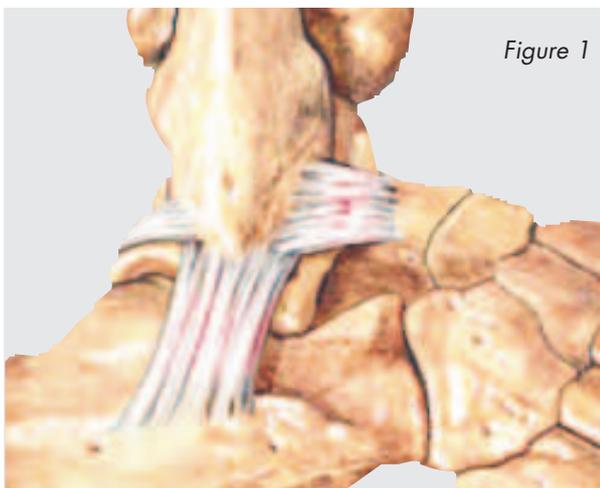


Figure 1



the ligaments and tissues on the outside of your ankle. This is due to the relative instability of the joint and the ligaments on this side of your ankle. In the worst case scenarios (which mainly include some form of force such as a tackle by another player), the joint can dislocate and fracture. The ligament most commonly injured is the anterior talofibular ligament (Figure 2), a thin, weak ligament on the front of the ankle. You are very unlikely to injure the ligament inside your ankle due to its strength

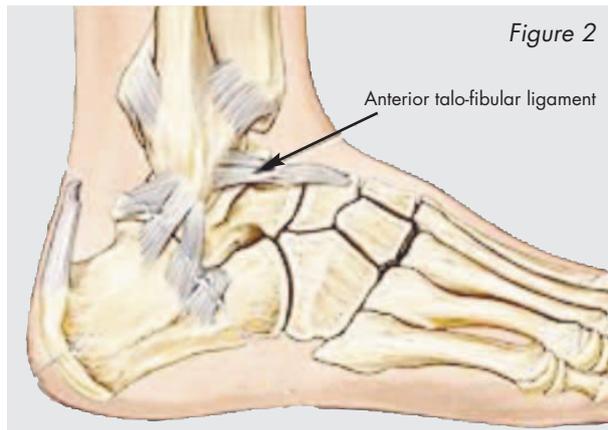


Figure 2

– before this will tear, you are more likely to fracture the bone on the inside.

## What is proprioception?

Proprioception is the process by which your brain is unconsciously aware of your joint position and movement. For example, when you are walking down the street you don't consciously think about the gradient of the footpath or if it is uneven. Your brain, however, is

aware of this due to nerves in the tendons, ligaments and the adjoining tissues that allow it to make adjustments without you even knowing about it. If this process is impaired due to an injury and you are trying to perform a high-stress activity (such as a rapid change of direction), your ankle is more likely to give way.

## What to do – and when?

Proprioception training aims to improve the 'internally automated' balance of a joint and is important in all lower limb joints, for co-ordination and the prevention of injury. As with any exercise, you need to find your own level to start with and then progress as appropriate: the aim should always be to use functional, sport-specific exercise. Proprioception training can be part of a routine to improve your co-ordination/balance and therefore performance - even if you haven't had any form of injury. The exercises given here focus mainly on post-injury rehabilitation, but the content of the Early stage section, below, is relevant to everyone.

### 1. Early stage – take it easy

In the period immediately following your injury (3–7 days), you should follow RICE protocol (Relative rest, Ice, Compression, Elevation) with the important point being 'relative rest'. You don't need to be out of action completely, but gauge how active you can be depending on the injury and levels of pain being experienced. At this stage you might not be supporting your full weight through your foot but you can still begin proprioception rehabilitation in some form.

#### Exercise suggestion:

- Place both feet on a rocking board (if you don't have a rocking board then flat on the floor or a pillow is fine) and rock back and forth, between the ball of your foot and your heel (see Figure 3).



Figure 3

- Progression 1 – One foot on the board at a time.

### 2. Weight-bearing – up the ante

At this stage you should be able to walk with no crutch and stand on one leg. You may not be completely pain free, but able to complete these exercise without too much pain.

#### Exercise suggestion:

- Stand just on your injured foot, preferably barefoot.
  - Progression 1 - Standing with eyes open.
  - Progression 2 - Standing with eyes closed.

- Progression 3 - Throwing and catching a ball against a wall or with a partner
- Progression 4 - Standing on an unstable surface (a wobble cushion, a mini-trampoline, or just a pillow), completing progressions as above.

### 3. Move it forward – a tailored routine

Having reached a higher level, you need to add in speed and change of direction, introducing your joint to more force and a sport-specific regime.

#### Exercise suggestion:

- Use some tape to make a cross on the floor. Then hop over the lines from one area to another, changing direction at intervals (Figure 4). Aim for the hops to be controlled. Start with your non-injured foot to get an idea of how controlled it should be.



Figure 4

### 4. Ring the changes – some alternatives

Try these as well, to add challenge and keep up the variety in your routine:

- Shuttle runs with sharp turns
- Skipping
- Hopping on and off a step in multiple directions
- Running on a hill/gradient and changing direction
- Sport-specific (eg, for tennis – changing direction while hitting a ball)

### The Physio Room says:

- Start rehabilitation early.
- Always make proprioception part of your training, whether to recover from an injury or prevent one.
- Challenge your ankle with plenty of hopping and jumping exercises, until you feel confident.

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