



**QUESTION** | I AM FAIRLY COMFORTABLE TREATING AN ANKLE SPRAIN AND GETTING THEM TO A POINT WHERE THEY CAN RETURN TO SPORTS. HOWEVER, OCCASIONALLY A PATIENT WILL TAKE A LOT LONGER TO IMPROVE, OR WILL BE UNABLE TO FOLLOW OUR REHAB PROTOCOL. WHY IS THIS SO?

**ANSWER** |

An ankle sprain is the most common injury to occur in sports, and about 90% will improve without problems within 3 months. When the ankle inverts, commonly the anterior talofibular ligament and the calcaneofibular ligament are injured, but other structures are intact. These ligaments heal by scar tissue without the need for immobilisation. Rehabilitation with strengthening of the peroneal muscles helps to retrain the ankle and prevent further sprains.

When patients do not fit this predictable pattern, one should question whether this is “just an ankle sprain” or is something else involved. Numerous other injuries can occur from inversion of the ankle, leading to a different or prolonged pattern of response.

Let’s review some common reasons, based on anatomy:

**BONES** - a fracture can lead to more intense pain. This can occur in the fibula, 5<sup>th</sup> metatarsal, talar dome, or lateral process of the talus.

**What to do?** X-ray first, followed by CT or MRI to look for “missed fractures”.

**LIGAMENTS** - A high ankle sprain involves the syndesmosis ligaments or tibiofibular ligaments. This type of ankle sprain invariably takes longer to heal -- on average 45 days.

**What to do?** Examination of the syndesmosis ligaments will demonstrate pain. A **WEIGHTBEARING** ankle x-ray is important to check for instability of the syndesmosis, and refer to an orthopaedic surgeon if suspicious.

**TENDONS** - Pain on the outside of the ankle may be related to a peroneal tendon tear or subluxation of the tendons. This diagnosis can be confirmed by ultrasound or MRI.

**What to do?** If there is a tear, referral to an orthopaedic surgeon is important as these may cause persistent symptoms and require treatment.

**ANKLE JOINT/CARTILAGE** - An ankle sprain can bruise cartilage within the ankle joint, and damage can occur leading to prolonged pain. A SYNOVITIS can occur within the ankle. While a synovitis can resolve on its own, it can persist leading to prolonged symptoms.

**What to do?** An MRI will demonstrate an osteochondral lesion or bone marrow oedema, loose bodies and synovitis. Cortisone injections may help settle the synovitis, and arthroscopy can be considered to treat the synovitis or osteochondral lesion.

**NERVES** - Any injury to the lower extremity can cause a complex regional pain syndrome. One should suspect this diagnosis when symptoms do not fit any of the above diagnoses. Pain is usually severe, in areas not previously injured. Unusual swelling and colour changes may occur.

**What to do?** Rule out other diagnoses first so that nothing is “missed”. An MRI will help to look for other causes. Physio and referral to a pain management physician are important mainstays of treatment.

Our textbooks and lectures will teach us common patterns and responses to injuries. It is often quite satisfying to see patients “fit the mould” and respond well to the treatment we provide. I hope the above explanation broadens your mould to allow a better understanding of other diagnoses that are less common after an ankle sprain.

**Conclusion:**

If an ankle sprain is not behaving as you would expect, look for other reasons. An MRI will reveal the most information, but other studies (CT, Ultrasound, X-ray) are helpful depending upon what is suspected.

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