

## Sprains strains fractures



### DIAGNOSIS AND TREATMENT OF ANKLE INJURIES

Although sprains, strains and fractures may appear to be relatively minor compared to other injuries, aggressive treatment plans are essential for the prevention of chronic joint problems and weakness requiring long-term care and more-invasive treatment strategies — including surgery — over time. There are a number of issues affecting treatment for common ankle injuries, including patient delay before seeking treatment; clinician delay or lack of detailed treatment plan due to the minor nature of the injury compared to other injuries coming into casualty; and recorded patient history failing to take pre-existing injuries into account. Correct diagnosis and treatment of these injuries is crucial to patient recovery and to the reduction in the resources and costs required for long-term patient care.

#### Diagnosis

1. Ascertain the range of motion that led to the injury and the sensations at the time of injury— was there a ‘pop’ or sound accompanying the injury, how would the patient describe the pain?
2. Check for pre-existing foot injuries that may have precipitated the strain, sprain or fracture. Injuries to other parts of the foot may cause gait abnormalities that lead to increased pressure and instability in the ligaments, tendons and bones of the ankle.
3. Following an initial physical exam, ultrasound can be effective for the diagnosis of tendon and ligament damage.
4. Unless the bone has punctured the skin, an X-ray will be necessary to confirm a fracture. Minor fractures usually involve avulsion injuries and are easily repaired without surgical intervention. A minor fracture will usually heal well. Severe fractures usually involve bone shattering and fragmentation beyond mere avulsion, presenting with more-severe symptoms and sometimes requiring invasive treatment strategies, as surgery may be necessary to adequately realign the bone for optimal patient outcome.
5. For suspected tendon or ligament tears requiring surgical repair (5–10% of cases), a CT scan or MRI may be needed.

## Treatment

1. Immobilisation in the form of a plaster cast is often recommended for fractures to ensure bone realignment. Sprains and strains can be immobilised using an ankle brace during the day to limit movement and decrease the chance of further injury.
2. The RICE protocol: rest, ice, compression, elevation should be followed for all ankle injuries for the initial 36–72 hours after injury.
3. NSAIDs can be recommended for the reduction of pain and inflammation. Prescription pain medication may be required for severe fractures.
4. Any associated injury should be treated alongside the main injury and prescription of orthotics may be required to adjust biomechanics and support the ankle as the main injury heals.
5. Rehabilitation for strains and sprains should include stretching and strengthening exercises to promote movement and enhance stability. Unless the injury is a fracture, the patient should be encouraged to walk on the ankle as soon as they can do so without pain as movement has been shown to reduce the formation of scar tissue in sprains and strains, which can limit healing. The patient should try to walk normally, without limping.
6. If treatment is showing no resolution of symptoms, consider a CT scan or MRI to diagnose a more-serious problem that may require surgical intervention.

Ensure that treatment and recovery strategies are initiated immediately. Delayed rehabilitation can lead to a lifetime of ankle problems.



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