

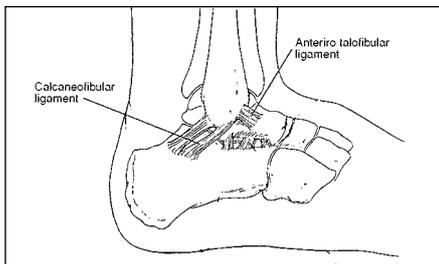
Chronic Ankle Instability

Ankle sprains are among the most common musculoskeletal injuries, accounting for up to 40% of all athletic injuries, while some result from just tripping over or stepping down badly (often alcohol assisted!). Ligament tears lead to chronic instability in 5-20% of cases, interfering with sports performance or daily activities. Surgery is most often called on when conservative measures fail, particularly with chronic inversion instability.

Other injuries that often occur simultaneously with ligament tears are:

- Osteochondral fractures of the talus.
- Peroneal tendon tears.
- Post-traumatic synovitis.

For the most common inversion injury, the lateral collateral ligament of the ankle is affected. The two components of the lateral collateral ligament are the ATFL (anterior talo-fibular ligament) and the CFL (calcaneo-fibular ligament). With a severe injury, both are torn (see Figure 1).



Emerging instability

Acute injury is followed immediately by (often global) ankle swelling, and worsening pain and tenderness over the affected ligament and talus. The more severe the tear the less likely the patient will be able to weight bear. With an inversion sprain, medial ankle pain or tenderness suggests associated injury.

In the acute stages, the degree of instability is difficult to assess and is not required because once associated injury has been excluded and the injury is deemed to be an isolated sprain then all patients should be referred for conservative therapy. Although acute injury usually responds to conservative management (see below), the scenario of chronic instability becomes evident as the ankle rolls with less and less provocation. Eventually, even day-to-day activities may be affected.

Early signs of trouble are:

- Medial pain for an inversion sprain.
- Persistent swelling.
- Inability to weight-bear more than 10 days
- Failure to steadily improve each week.



■ Severe instability on x-ray, with anterior displacement during the drawer test (A) and opening of the ankle joint on inversion (B).

The best indication of chronic instability on examination is the anterior drawer test, best performed with the patient seated and legs dangling over the couch (see Figure 2). There is no formal grading for instability, rather the test is compared to the other ankle and classified as mild, moderate or severe.

Which imaging is best?

No imaging can quantify the degree of instability resulting from a severe tear. The degree of instability is measured clinically by performing the anterior drawer test after pain and swelling has subsided (usually around 3-4 weeks) and on the history i.e. the ease with which the ankle rolls or gives way.

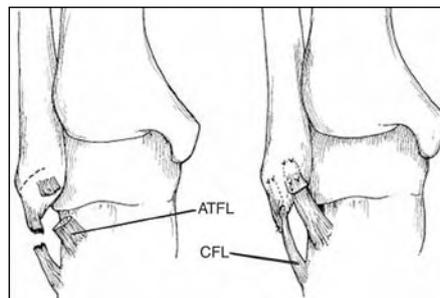
A plain x-ray is needed early to exclude fibular fractures or an intra-articular osteochondral fracture. Any displaced fracture may require surgery.

Ultrasound can confirm ligament rupture and exclude peroneal tendon tear, however MRI is the investigation of choice for this.

CT is only useful in defining a known fracture and is not a good screening test.

Treatment, including surgery

Treatment initially is conservative with rest, ice, compression and elevation followed by physiotherapy, which is essential both for treatment and to pick early failure to progress. There is no need to refer an acute, isolated



■ Fig 1. Diagram of repair, with actual suture anchors in fibula tip



■ Fig 2. Performing the drawer test for ankle instability.

lateral ligament tear for surgery – most patients (80%) make a full recovery following a typical isolated sprain, even with severe tears.

Surgery is indicated in patients who develop chronic inversion instability or when associated injuries also require treatment i.e. evident as a failure to progress.

Reconstruction of the ligament is done anatomically: the origins of the ligament are reflected off the fibula tip and then tightened with the ankle everted, using bony bioabsorbable suture anchors (Figures 3 & 4). Usually, an ankle arthroscopy is performed simultaneously to identify and treat associated injury.

Surgery usually involves overnight hospital stay, a GA, and post-operative protection using a weight-bearing fiberglass cast for six weeks. Thereafter, physiotherapy is commenced and sport resumed four weeks later. All patients are stiff after six weeks in plaster but this resolves within weeks.

All surgery carries some risks but most patients requiring this procedure are relatively young and fit – thromboembolism prophylaxis should be considered in some.

Surgical results

Lateral ligament reconstruction is a safe and extremely reliable procedure. The outcome of a strong anatomical repair is excellent with full return to function expected and in a relatively short time. Recurrence of instability is very rare. A successful ligament reconstruction may also reduce the risk of premature post-traumatic osteoarthritis. ■



■ Fig 3. Suture anchors inserted into fibular tip.



■ Fig 4. Final repair - sutures tightened and trimmed.