ANKLE SPRAIN

Epidemiology Incidence: 1/day/10,000

Site

ATFL	80%
ATFL and MCFL	20%

Grade

I-Mild injury (Microscopic tears)	2 weeks
II-Partial macroscopic	2-6 weeks
III- Complete (Talar tilt and anterior drawer test)	>6 weeks

Tests

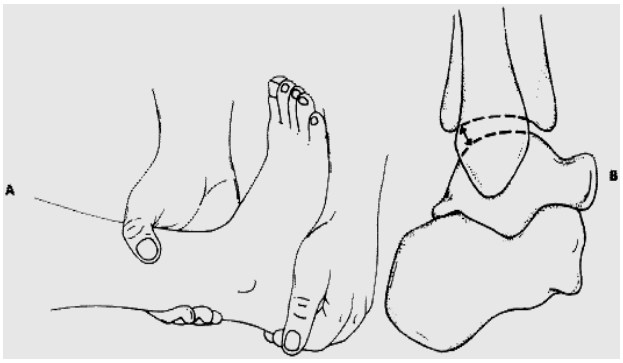
Anterior Drawer test

2 mm is normal

>10 mm is significant

> 5mm translation more than opposite side is significant

ATFL is torn



Varus test

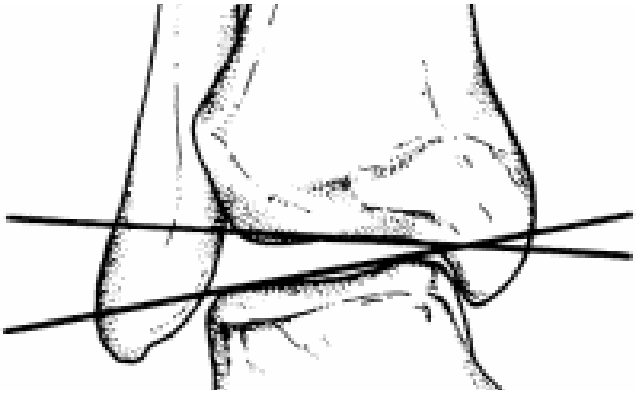
Mortise view

Talar tilt

Normal tilt is less than 10º

Tilt more than 10 º Or 5º tilt more than normal side is significant

ATFL and MCFL are torn



Instability may be mechanical or functional

Mechanical instability Radiographic talar tilt >10° and anterior drawer >10mm

Incidence 80%

Orthosis or surgical treatment

Untreated can lead to osteoarthritis

Functional instability Patients say that the foot tends to "give way"

Incidence is 20%

Clinical and radiological tests for instability were negative

Cause is due to motor incordination

Treatment: Physio proprioceptive exercises

Non-operative treatment

RICE: Rest, Ice, Compression, Elevation

In Grade III instability: The air cast walking brace is better.
Below knee cast is rarely required.

Functionally treated patients with ankle sprain, reached normal mobility and resumed work and sports earlier than immobilized patients

Chronic instability

50% cases can be treated by physiotherapy.

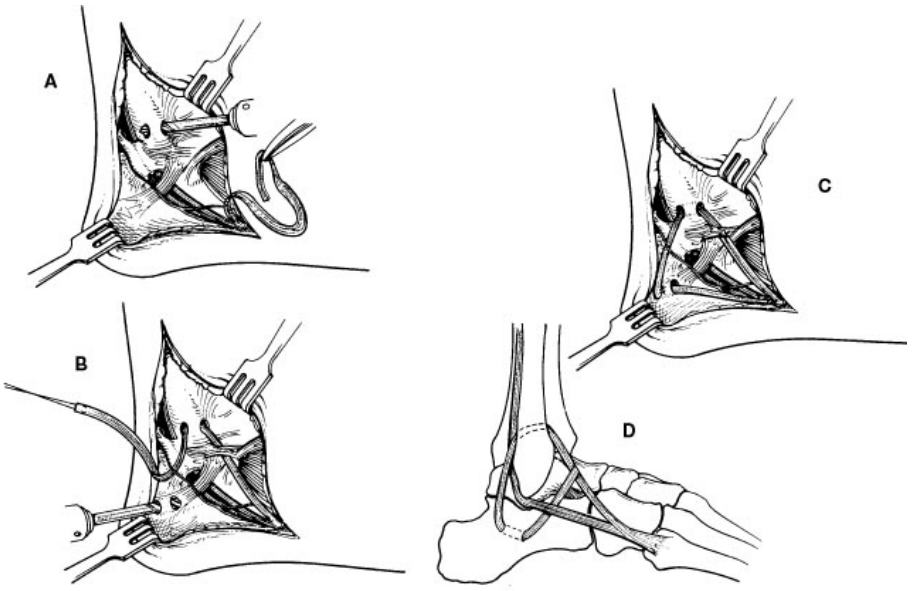
SURGERY

A. Non-anatomic stabilization

1. Christman Snook

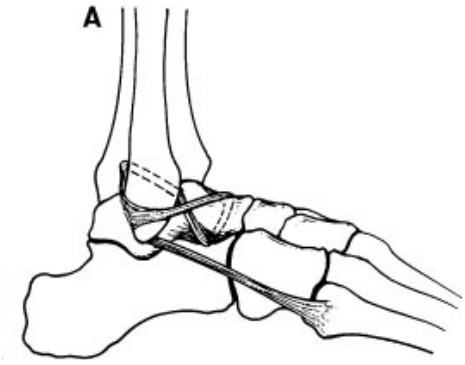
Peroneus brevis is used to replace

Both ATFL and MCFL are replaced



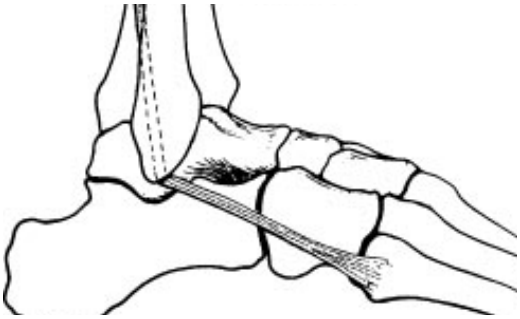
2. Watson-Jones

Released proximally, the distal based Peroneus brevis is passed through fibular tunnel from posterior to anterior then through the neck of talus from inferior to superior and to the outer periosteum of the fibula



3. Evans

The tendon of peroneus brevis is divided below the musculotendinous junction and passed through a tunnel drilled in the fibula, starting distally at the tip of the fibula and emerging posteriorly and superiorly. The tendon is then re-attached to its muscle belly.



B. ANATOMIC RECONSTRUCTION

Bostrum's reconstruction

Anatomical repair of both the ATFL and CFL through bony tunnels

Anatomic reconstruction of the injured ligaments restores normal resistance to anterior translation and inversion without restriction of subtalar or ankle motion

An anatomical repair with suture anchors provides effective treatment for chronic ankle instability with low risk of recurrence.

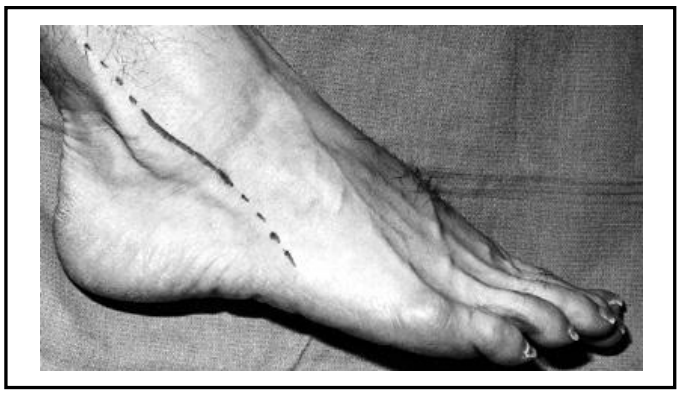
With ankle plantarflexed, a longitudinal incision centered over the posterior aspect of the lateral malleolus allows access to lateral ankle ligaments

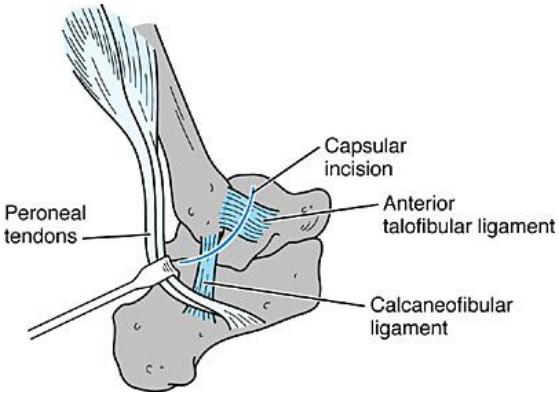
This incision completely avoids the lateral branches of the superficial peroneal nerve and the sural nerve, provides better access to the calcaneofibular ligament, and can be extended to perform an anatomic reconstruction with split peroneus brevis tendon, if necessary.

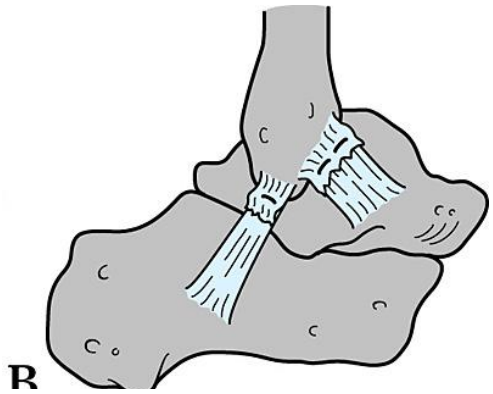
Starting anteriorly, incise the capsule in front of lateral malleolus. Demonstrate attenuated ATFL, CFL.

Divide the ligament 5 mm from their insertion on the fibula.

The calcaneofibular ligament is exposed, open the peroneal sheath and retract the tendons posteriorly.







Inspect the joint if it has not already been examined: debride chondral lesions, and remove loose bodies, as necessary.

Preserving the proximal attachments of the ligaments, perform gentle subperiosteal dissection of their fibular attachments in order to roughen the fibular surface for improved healing.

Advance the distal ligaments under the tips of their respective proximal attachments and fix the ligament using anchor stitches. Imbricate the proximal end of each ligament over its distal end

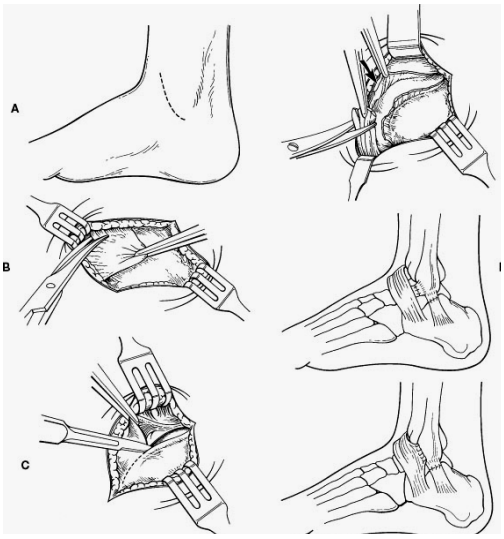
Repair the peroneal sheath

Modified Bostrum's technique

Make a curvilinear incision along the inferior border of the lateral malleolus

Divide and ligate the lesser saphenous vein

Identify the lateral portion of the extensor retinaculum



Repair ligament as explained in the previous slide

Reinforce the Ext retinaculum on the top

Check ankle stability

Post operative

6 wks in below knee cast

A CAM walker X 5 weeks.

Mobilise ankle and subtalar motion.

The patient usually returns to activity by 3 to 4 months.

OUTCOME

Return to preinjury level activity

	Functional	Acute repair	Cast
9 wks	68%	7%	13%
12 wks	81%	36%	57%
24 wks	98%	75%	88%

MENISCOID LESION

The discomfort is usually located antero-lateral aspect of the ankle.

This lateral gutter is bordered by the talus medially, the fibula laterally, the tibia and syndesmosis superiorly, and the anterior inferior tibio-fibular ligament inferiorly.

“Meniscoid” band of thickened tissue between the fibula and talus

This mass was thought to originate from a torn joint capsule.

Arthroscopic debride: 84% good results

D/D chronic sprain pain

1. Meniscoid lesion
2. Osteochondral lesions of the talus
3. Loose bodies
4. Occult fractures
5. Peroneal tendon subluxation

6. Syndesmotic lesion

7. Tarsal coalition

8. Subtalar instability Syndesmotic impingement

Basset's Lesion

The synovium over the anterior inferior tibio-fibular (AITF) ligament, often extending into the distal tibiofibular joint. Debride synovitis and fibrosis of the anterior inferior tibiofibular ligament.