



# CHRONIC ANKLE INSTABILITY

- CONSULTANT ORTHOPAEDIC FOOT AND ANKLE

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Questions

PDF ON WEBSITE.



AIM

- ENHANCE UNDERSTANDING
- CRITERIA FOR SURGERY
- DISCUSS REHAB/RTS

# ANATOMY

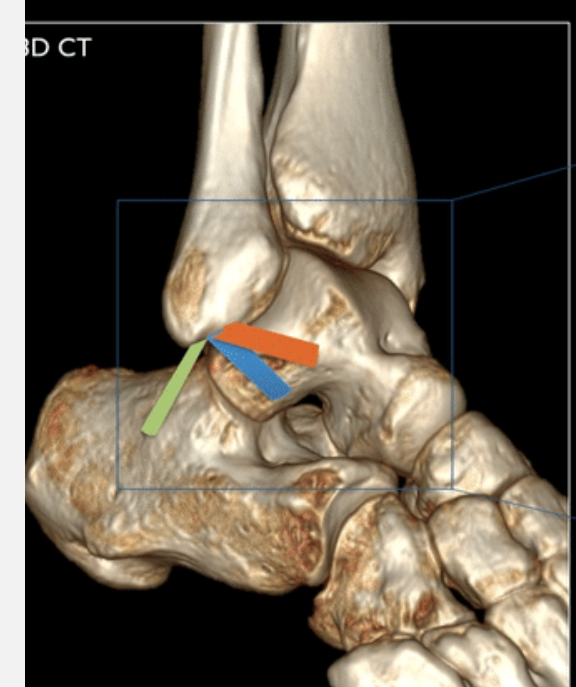
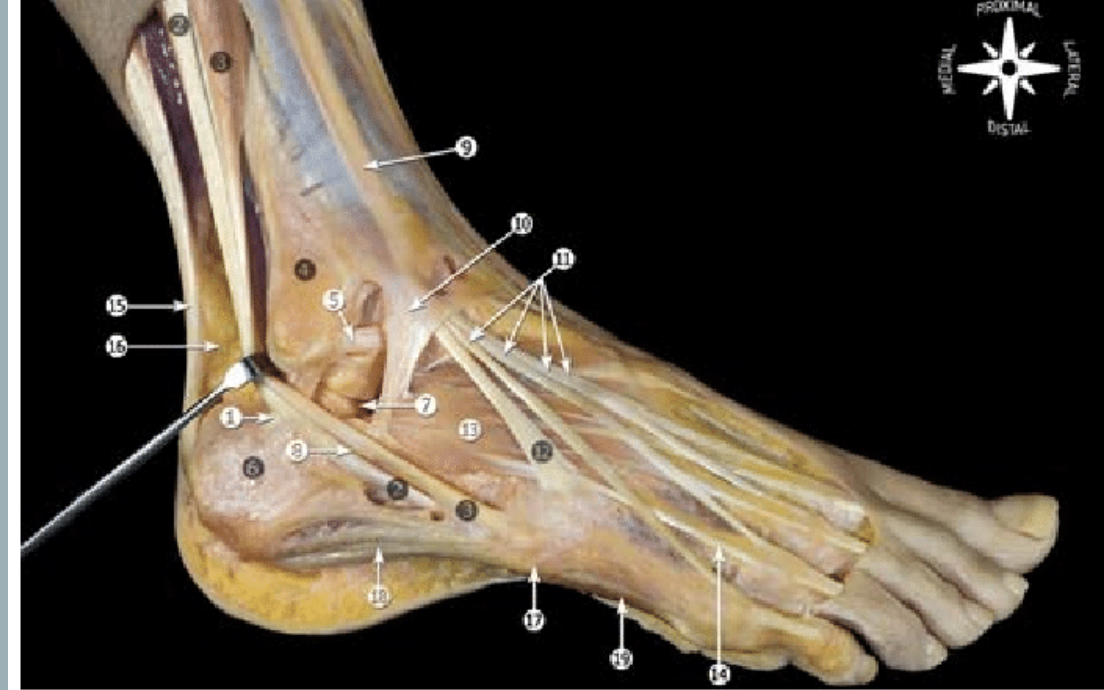
ATFL: inserts just anterior to lateral articular surface of talus.

CFL: crosses TTJ and STJ

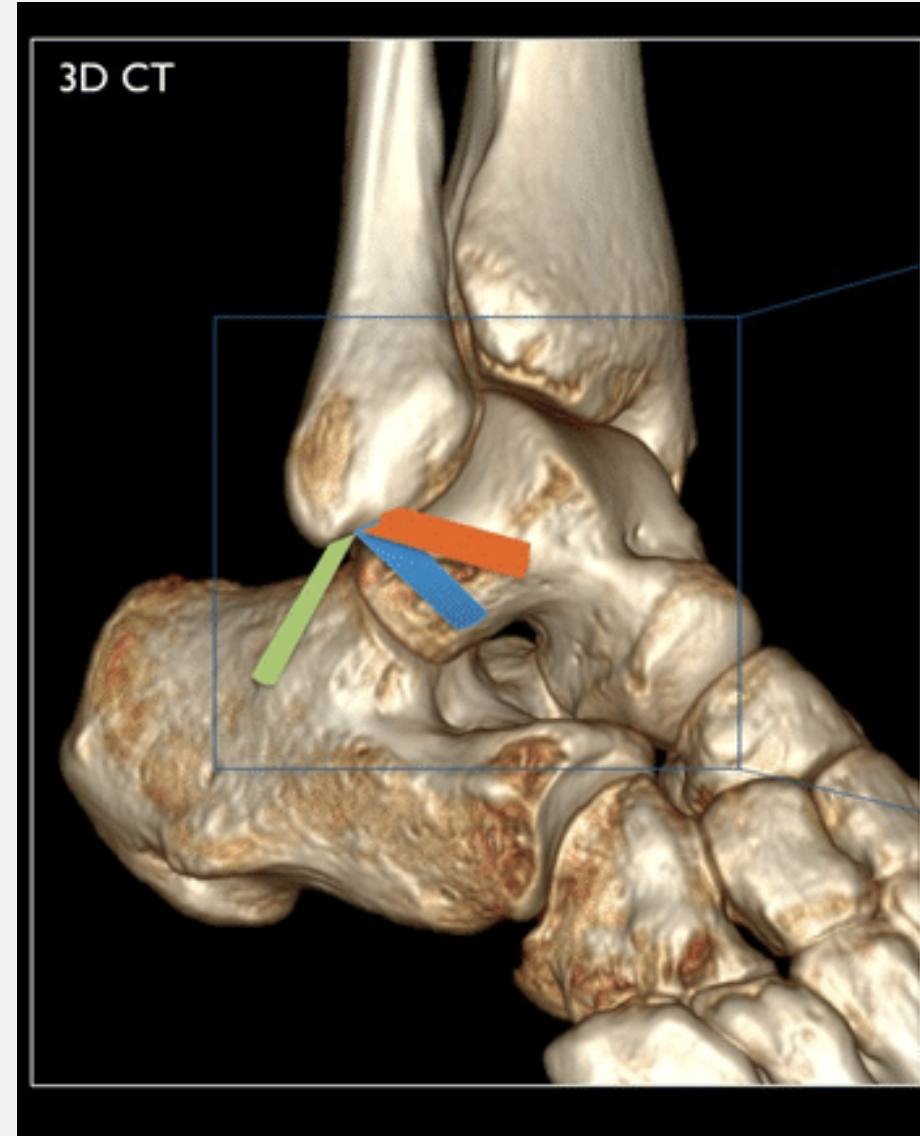
PTFL onto posterior talus

Ankle joint congruency

Dynamic: Peronei.



- ATFL TIGHT IN PF.
  - PREVENTS ANT DISPLACEMENT, IR.. WEAKEST.
- CFL TIGHT IN DF.
  - PREVENTS TT AND ST SUPINATION, HF INVERSION AND INTERNAL ROTATION.
- PTFL TIGHT IN DF.
  - PREVENTS ANKLE IR AND INVERSION.



# ACUTE LATERAL LIGAMENT INJURY

15-24 years: M>F

>30: F>M

INVERSION FORCE ON PF FOOT.

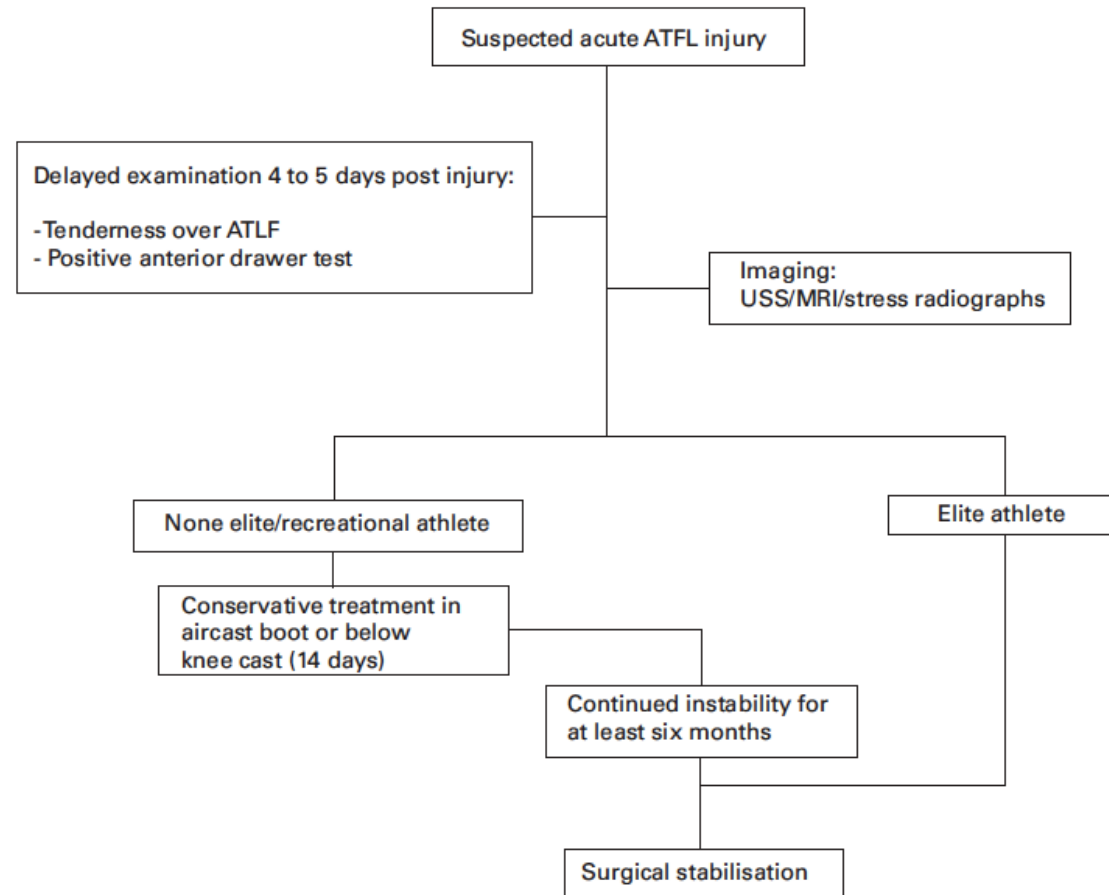
75% ISOLATED ATFL, 41% + CFL, 5% + PTFL

O/E

- BEST AT 5 DAYS
- TENDERNESS OVER ATFL
- ANT DRAWER (73% SENS, 97% SPEC)

IX

- STRESS RADIOGRAPHY ACCURACY – 67%
- USS – 91%
- MRI – 97%



Slightly lower CAI,  
slightly faster rehab

Fig. 2

Treatment algorithm for suspected injury of the anterior talofibular ligament (ATFL). (USS, ultrasound scan).



NON OP

- AIRCAST BRACE OR BOOT BETTER THAN TUBIGRIP
- FUNCTIONAL REHAB AFTER SHORT PERIOD IMMOBILISATION > 6 WEEKS IMMOBILISED.

# CAI

Def: Recurrent sprains or giving way after 6/12 ,  
? Year

10-30%

Functional: MRI/stress normal: proprioception  
and NM control. Delayed peroneal reaction time.  
Injury damages mechanoreceptors.

Mechanical: adverse anatomical changes.



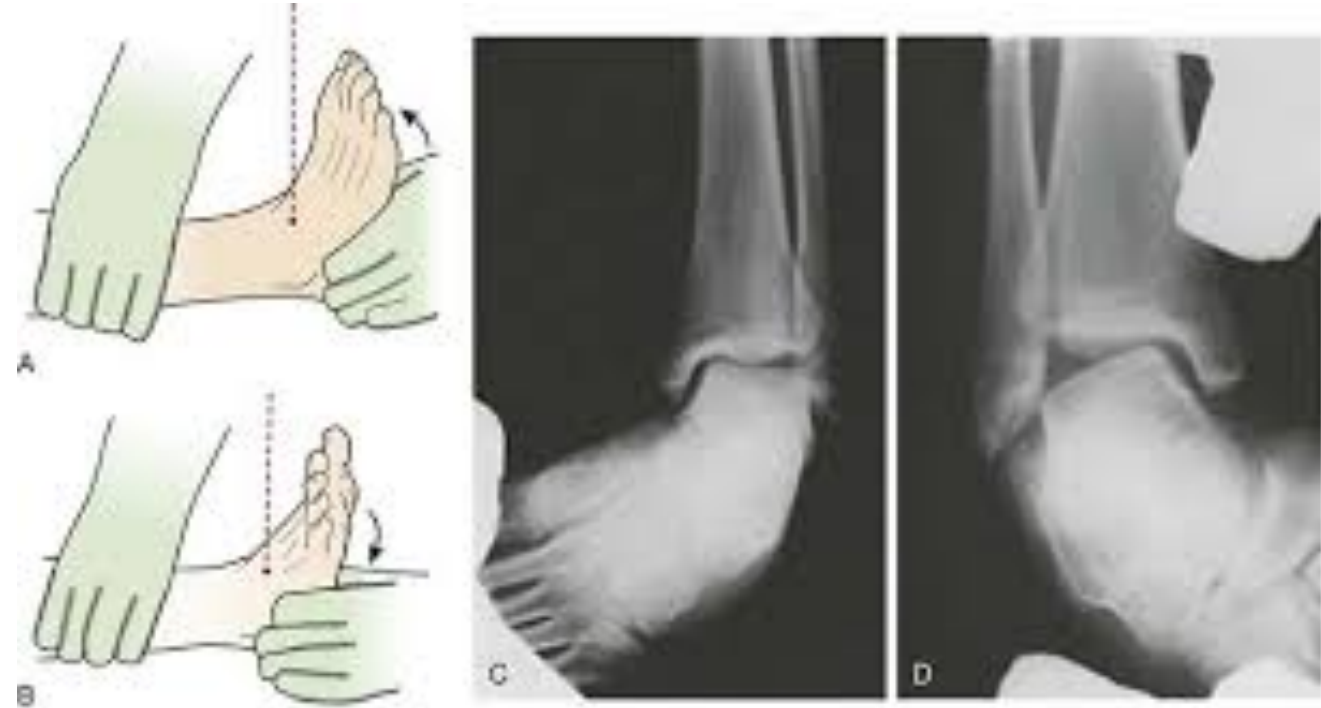
# EVALUATION

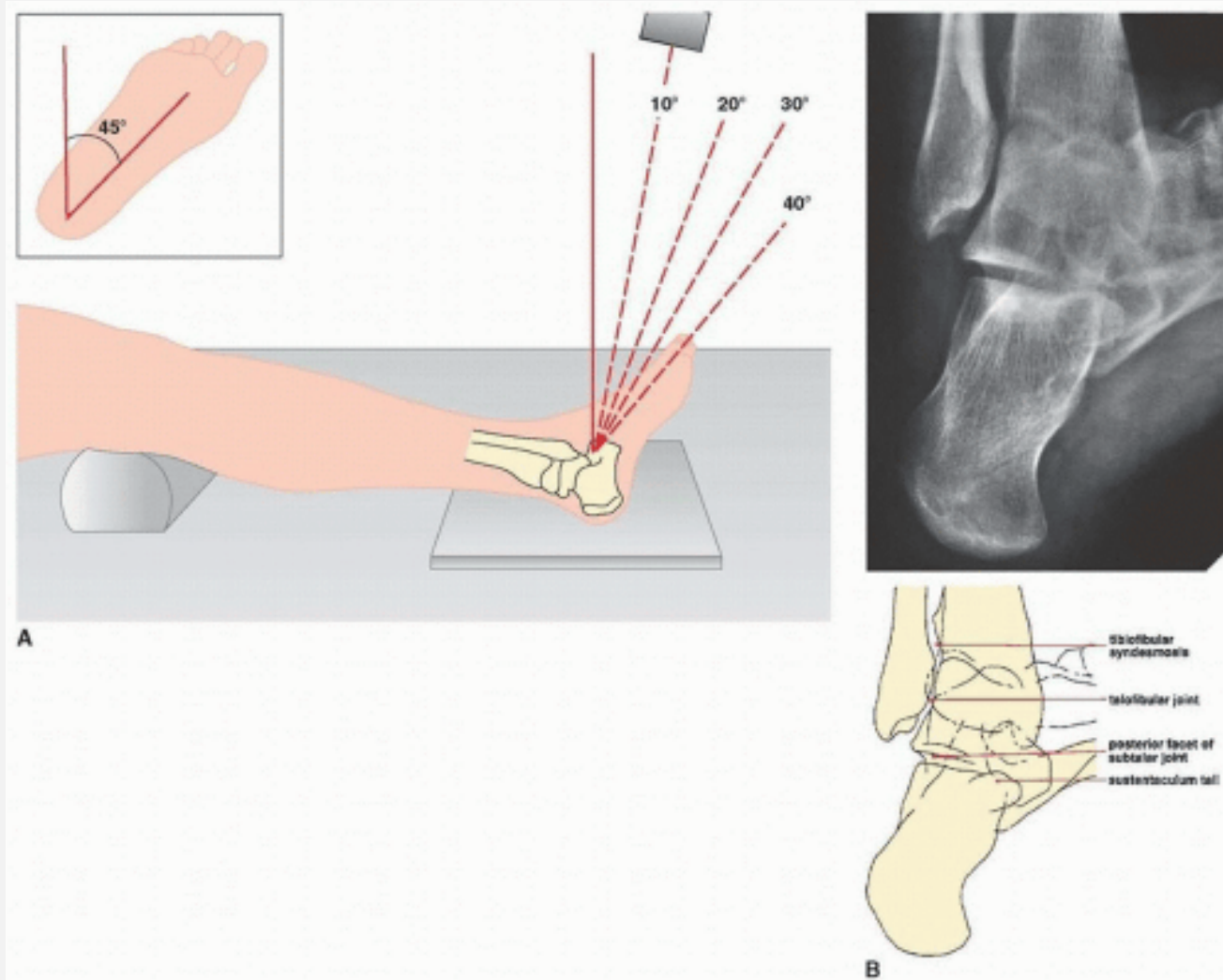
- HX
  - UNEVEN GROUND. SPORTS.
- O/E
  - BEIGHTON
  - HF ALIGNMENT.
  - LAXITY CF OTHER SIDE.
    - ADT ATFL.
    - TT/INV STRESS TEST CFL. DF.
  - PERONEAL STRENGTH – SINGLE LEG BALANCE TEST
- SPN



# IX

- STRESS RADIOGRAPHS
  - ADT LATERAL VIEW, TT AP VIEW
  - >10MM/DEGREES OR 5MM/DEGREE DIFFERENCE
  - CAN BE EQUIVOCAL. ROTATION
- US
- MRI
  - GOOD FOR ASSOC LESIONS





## ASSOCIATED LESIONS

- BONY/SOFT TISSUE IMPINGEMENT
- OCD
- LOOSE BODIES
- PT TEAR
- STJ INSTABILITY
  - 10-30%
  - BRODEN VIEW.

# SEQUELAE

- OA
  - 13% PT ESAA ATTRIBUTED TO CAI.
  - MEAN TIME LAG 25-38 YEARS,



NON OP

PROPRIOCEPTIVE,  
PERONEAL  
STRENGTHENING,  
SPORTS SPECIFIC  
TRAINING,

INSOLES?

BRACING

TAPING

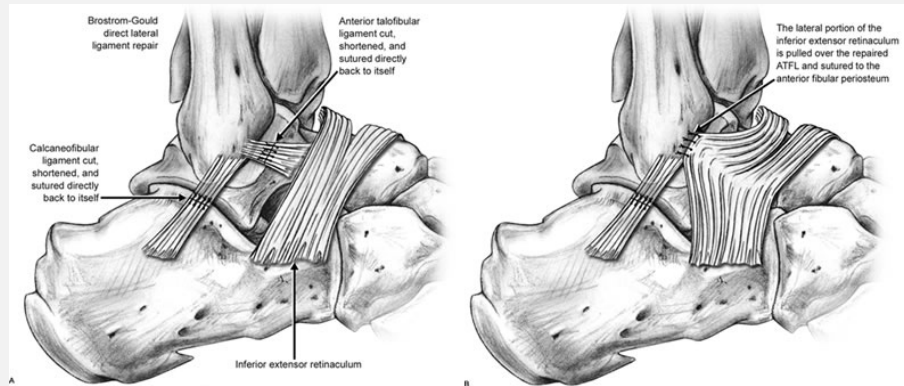
# OPERATIVE

- OP

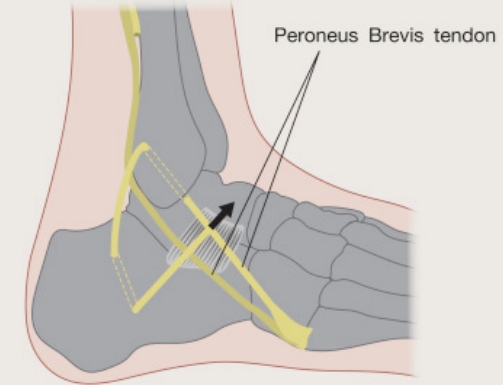
- RETURN TO SPORT 94-100%
- EARLY MOBILISATION FOLLOWED BY CRITERIA BASED MILESTONES.
- WORSE IF ASSOC LESIONS

- INDICATIONS

- 6/12
- O/E:AD positive or tilt
- Imaging: Stress or MRI.



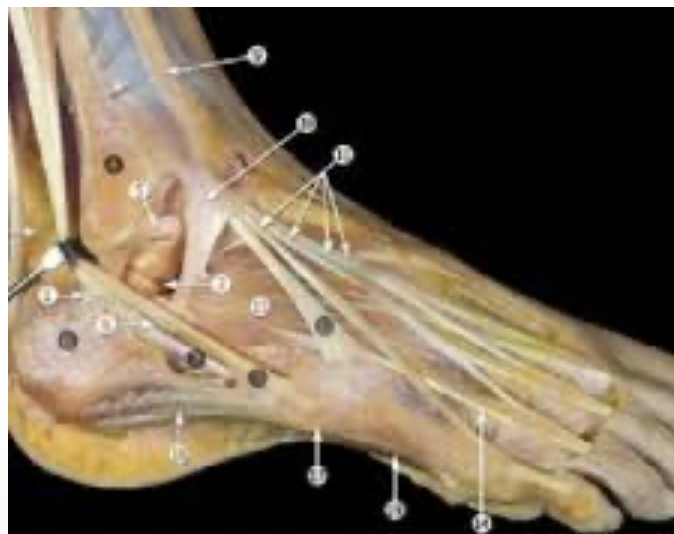
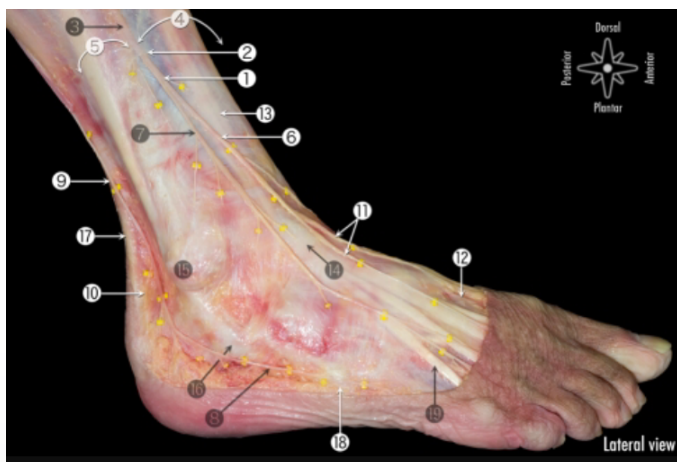
A diagrammatic illustration of Chrisman-Snook reconstruction



NON ANATOMICAL –  
EVANS, CHRISMAN  
SNOOK

ANATOMICAL –  
BROSTRUM GOULD  
NORMAL  
BIOMECHANICS

STIFFNESS



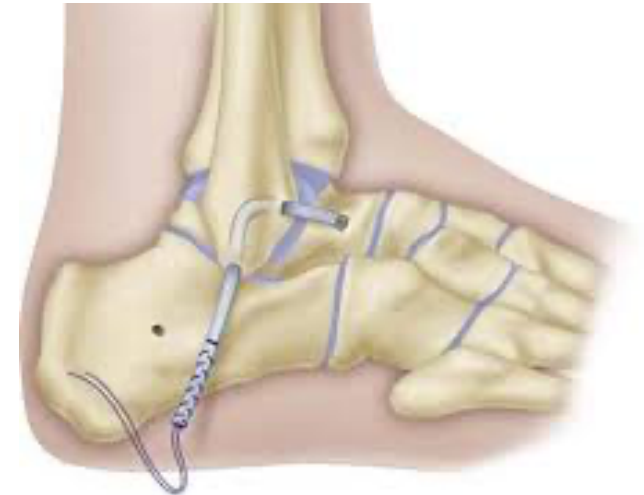


## REHAB AND RTS

- Average RTS 77 days (2.5 months)
- 94-100% RTS without assoc. injuries.
- Early ROM Me: Cast for 2 weeks PWVB, then boot with ROM, then brace.

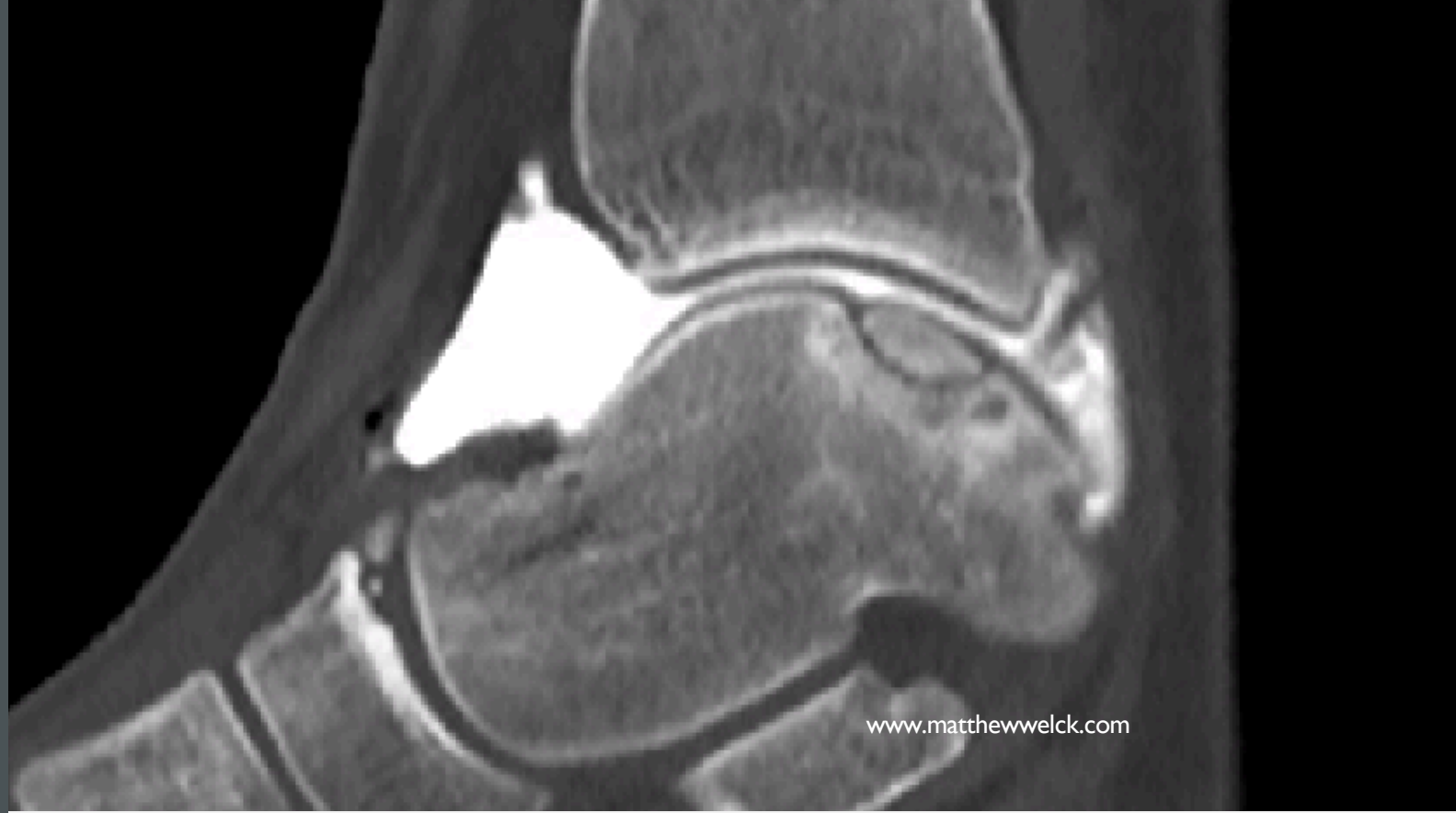
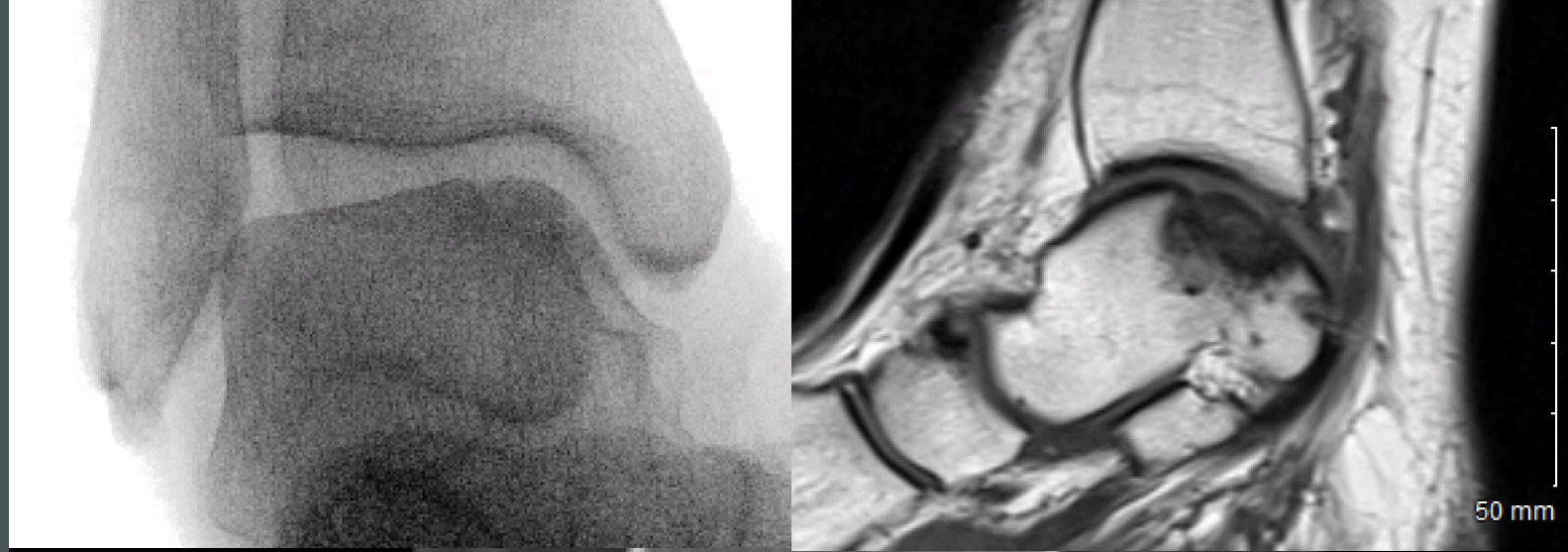
## OTHER BITS TO CONSIDER

- Associated lesions
  - OCD. Impingement. Worse outcome RTS.
  - Arthroscopy at same time.
- Open vs Arthroscopic:
  - Equivalent in experienced hands.
- Recurrence, Lig laxity.
  - Internal brace or hamstring.

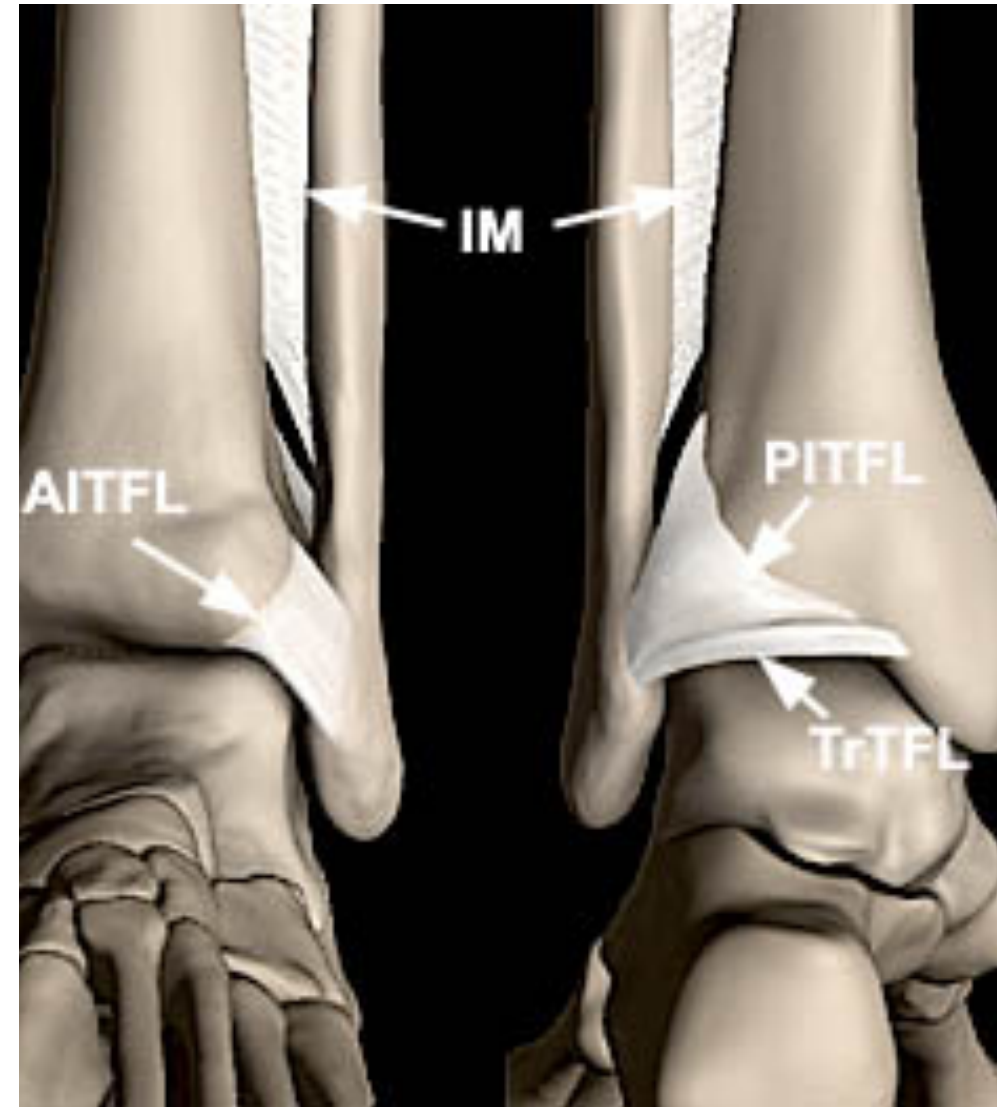


## CASE STUDY

- 19F PROFESSIONAL DANCER.
- CARTWHEELING ON A WALL.
- 6 MONTHS
- LARGE OCD WITH INSTABILITY.
- EUA + INJECTION
- SCOPE + BROSTRUM + INTERNAL BRACE



## SYNDESMOTIC INJURY



## MOI

- ER TALUS ON PLANTED FOOT
- 1-18% ANKLE SPRAINS.

## O/E

- HIGH ANKLE PAIN
- DF/ER TEST SENSITIVITY 92%
- SQUEEZE TEST 33% SENSITIVE, BUT HIGH SPECIFICITY.

## WEST POINT GRADING SYSTEM

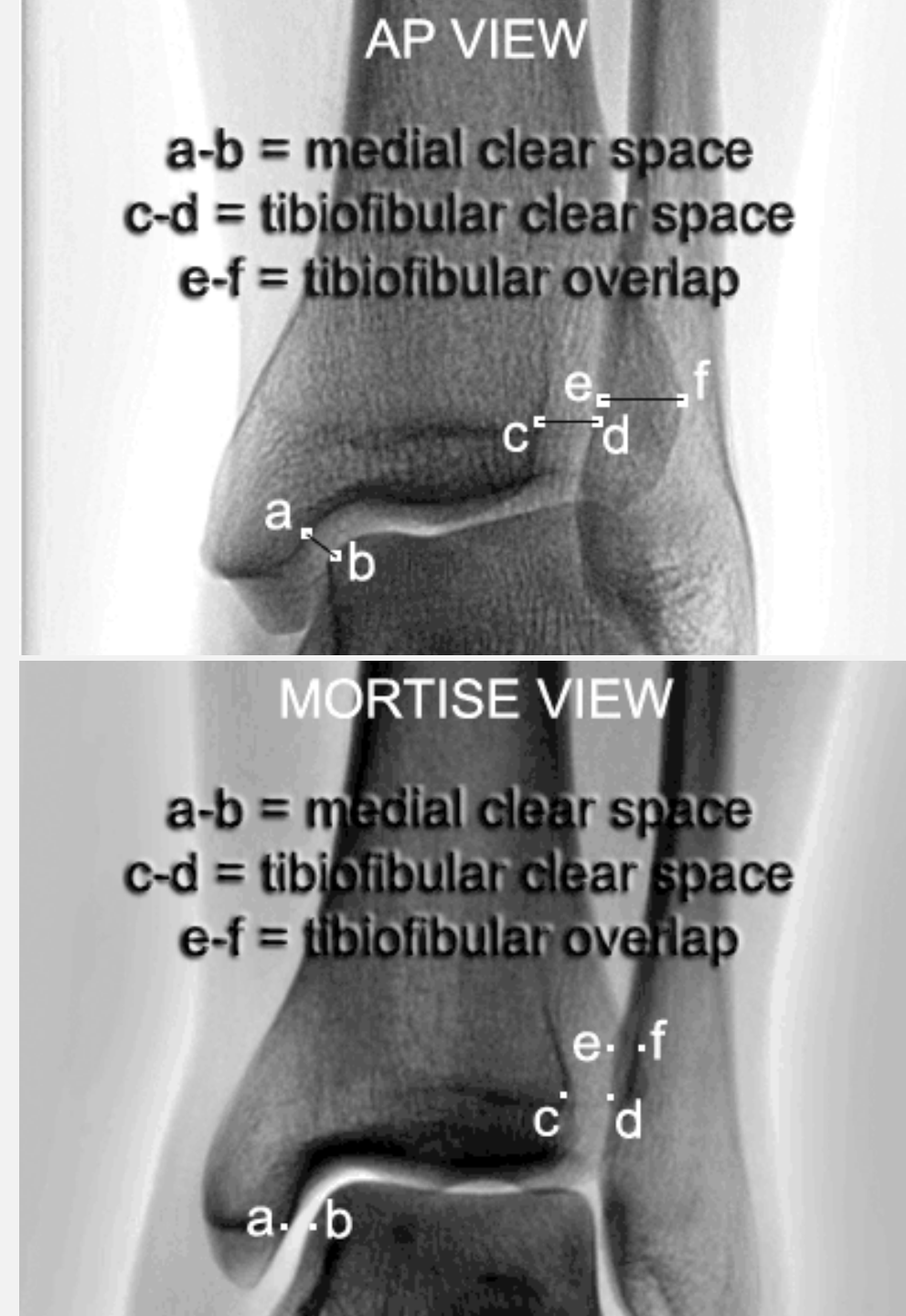
- 1. SPRAIN AITFL. NO INSTAB
- 2. TEAR AITFL, INCOMPLETE IOL – slight instab
  - AT 5 DAYS.
  - DELTOID LIGAMENT INJURY, POSITIVE ER AND SQUEEZE, TENDERNESS >6CM PROX TO ANKLE, WIDENING ON XR
  - A OR B. DYNAMICALLY UNSTABLE
- 3. COMPLETE OF ALL AND GROSS INSTAB

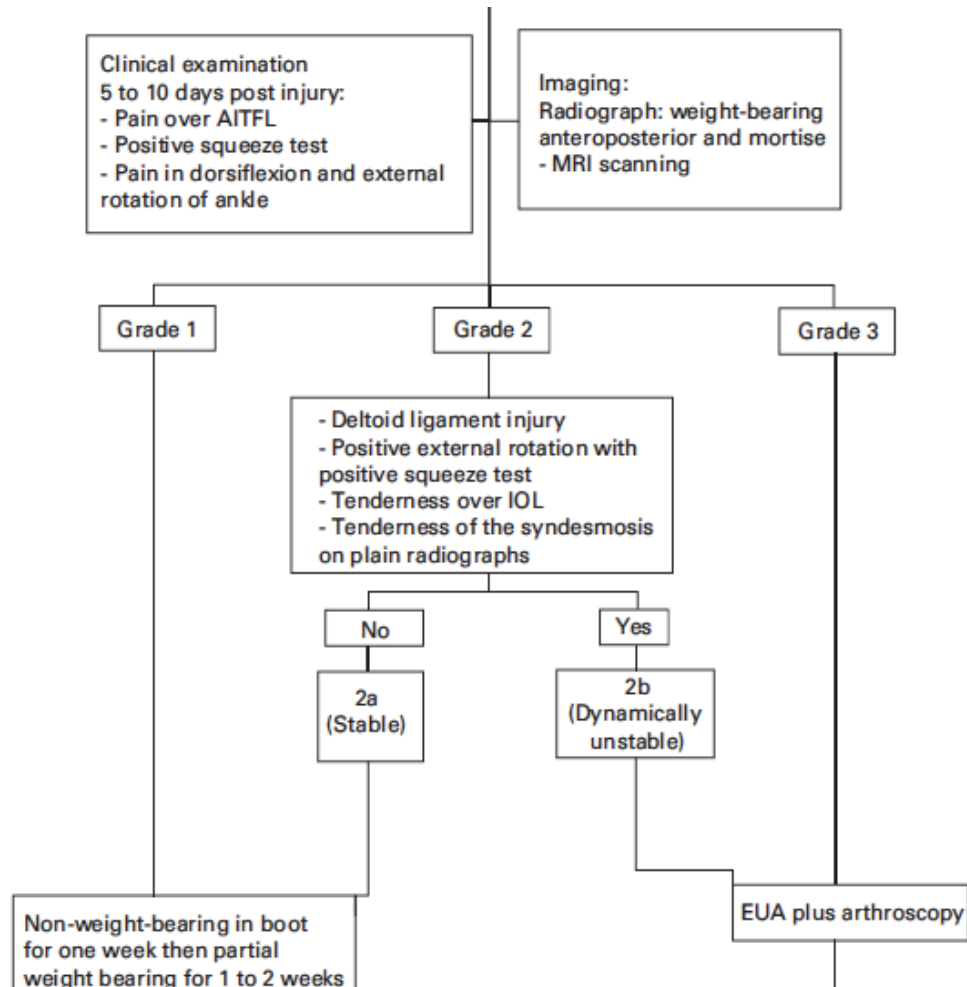
## IX

- AP, LATERAL, MORTICE WB XRAYS
  - MCS, T/F OVERLAP, T/F CLEARSPACE.
- MRI
  - MORE SENSITIVE AND SPECIFIC.
- EUA AND ARTHROSCOPY

## TRADITIONAL WAYS TO ASSESS SYNDESMOSIS

- **TIBIOFIBULAR OVERLAP (1cm. 6MM VS 1MM)**  
**TIBIOFIBULAR CLEAR SPACE (1cm. 6MM),**  
**MEDIAL CLEAR SPACE (mortice, 4.5MM),**





SL hop 30 secs  
good sign healing



# SYNDESMOSIS REPAIR

- REPAIR
  - SCREWS – I, 2, TRI, BI, REMOVE
  - TIGHTROPE
- NWB 2 WEEKS
  - THEN BOOT. PWB 2-4. ROM. FWB 4-6 IN BOOT.
- RTS 8 WEEKS.

# THANK YOU

- MR MJ WELCK

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