Ankelfrakturer

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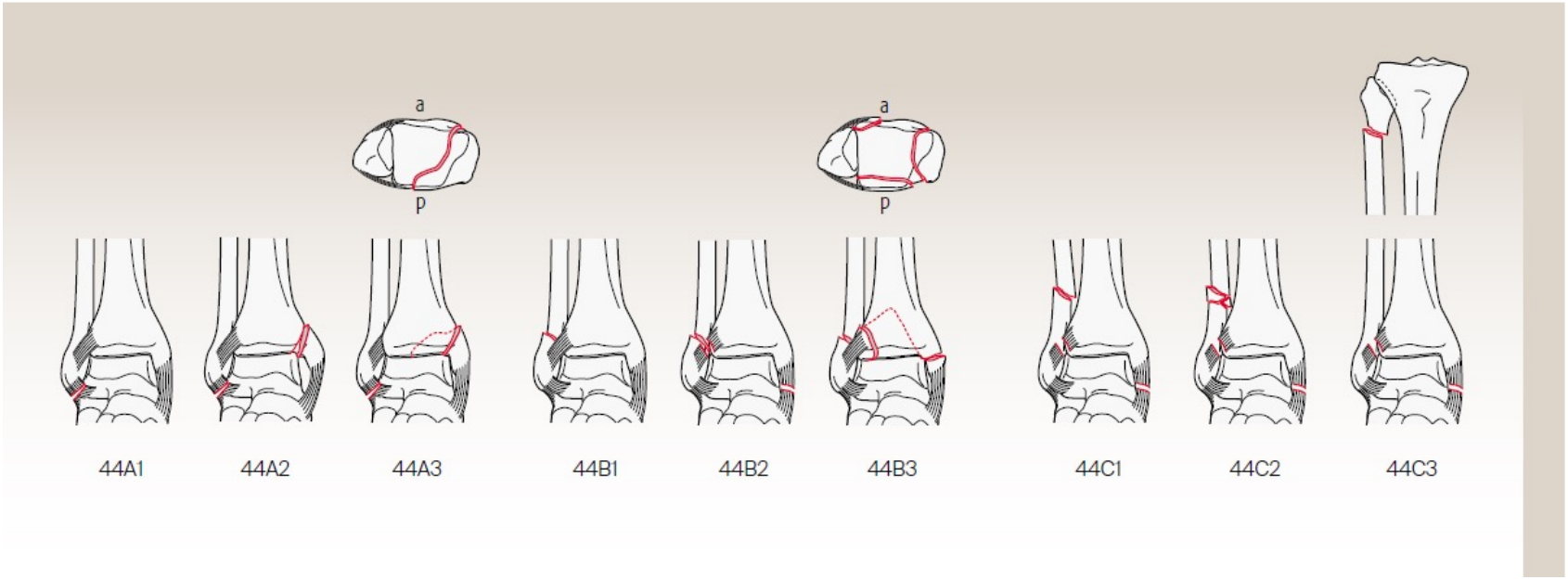
Klassifikation

- Lauge-Hansen
  - based on combination of foot position and direction of force applied at the time of injury
  - has been shown to predict the observed (via MRI) ligamentous injury in less than 50% of operatively treated fractures
- Danis-Weber (location of fibular fracture)
  - A - infrasyndesmotic (generally not associated with ankle instability)
  - B - transsyndesmotic
  - C - suprasyndesmotic
- AO / OTA
  - 44A - infrasyndesmotic
  - 44B - transsyndesmotic
  - 44C - suprasyndesmotic
- Anatomic / Descriptive
  - isolated medial malleolar
  - isolated lateral malleolar
  - isolated posterior malleolar
  - bimalleolar-equivalent
  - bimalleolar
  - trimalleolar
- Variants
  - Bosworth fracture-dislocation
  - hyperplantarflexion injury (6%)
  - curbstone fracture
    - avulsion fracture of posterior tibia resulting from tripping
  - LeFort–Wagstaffe fracture
    - AITFL avulsion off anterior fibular tubercle usually seen with SER-type fracture patterns
  - Tillaux–Chaput fracture
    - AITFL avulsion of anterior tibial margin (tibial counterpart of LeFort–Wagstaffe fracture)

Type 44C fracture



Malleolar segment

44

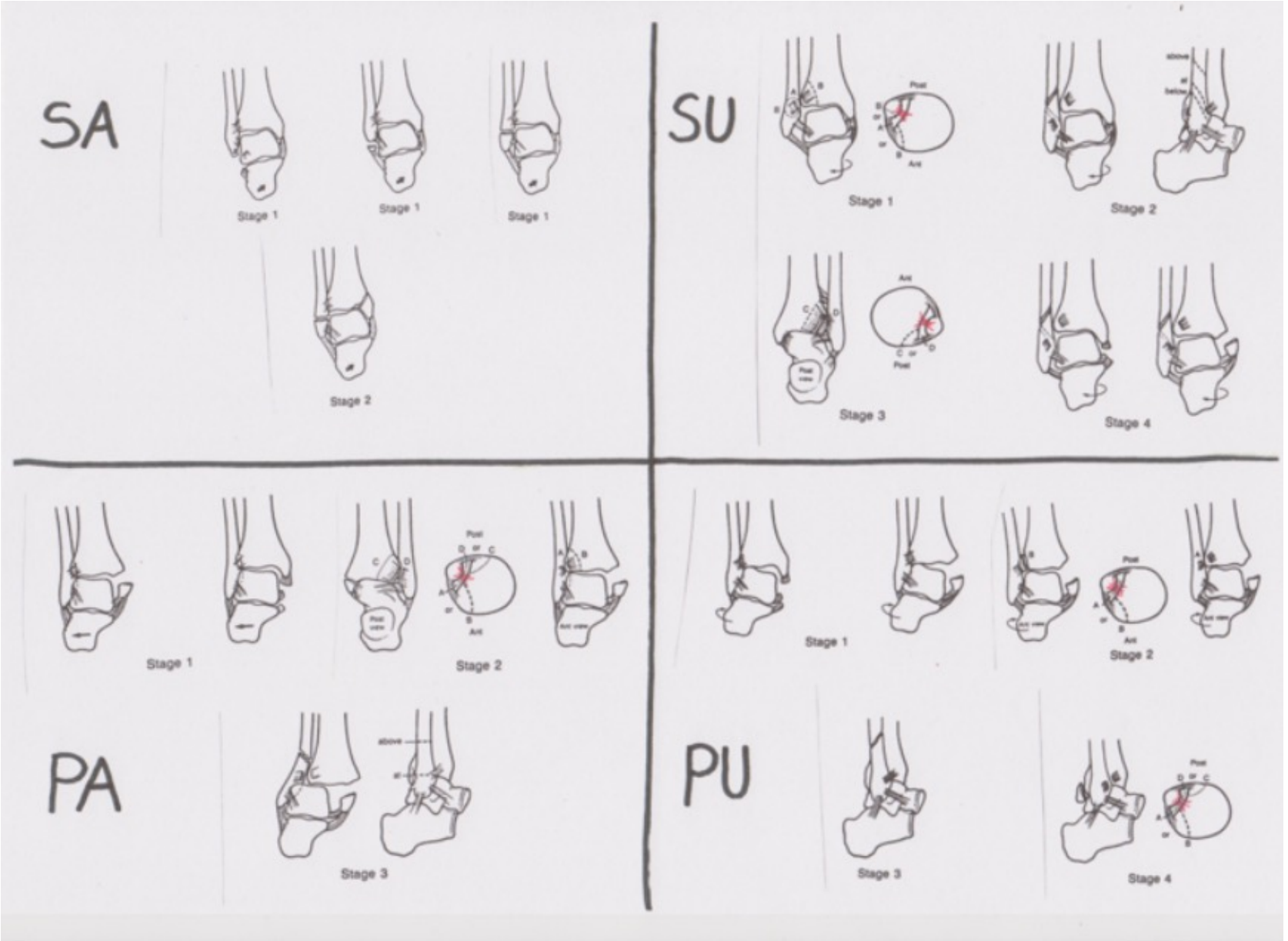
44A Infrasyndesmotic fibula injury
44A1 Isolated fibula injury
44A2 With medial malleolar fracture
44A3 With posteromedial fracture

44B Transsyndesmotic fibula fracture
44B1 Simple fibula fracture
44B2 With medial injury
44B3 With medial injury and fracture of the posterolateral rim (Volkmann's fragment)

44C Suprasyndesmotic fibula fracture
44C1 Simple diaphyseal fibula fracture
44C2 Wedge or multifragmentary diaphyseal fibula fracture
44C3 Proximal fibula injury

Klassifikation – Lauge-Hansen

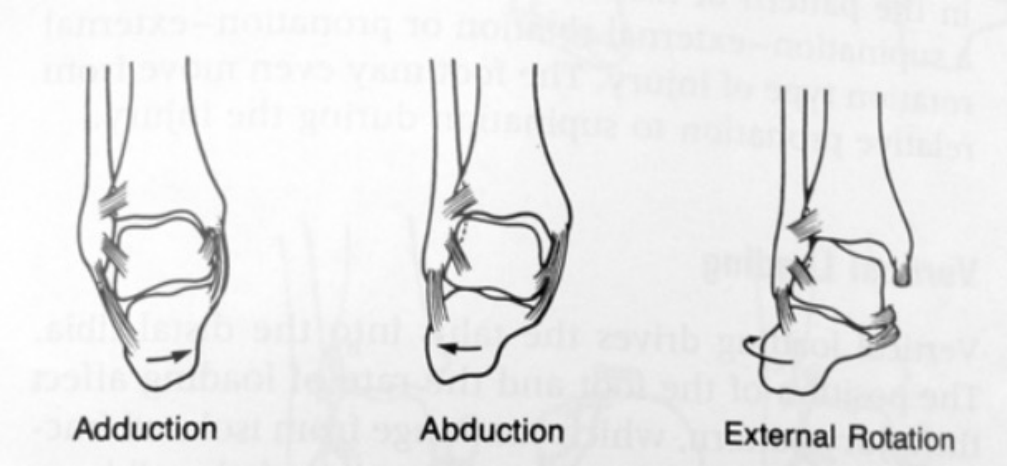
- Hvordan er foden placeret, og hvilken vej bevæger talus sig

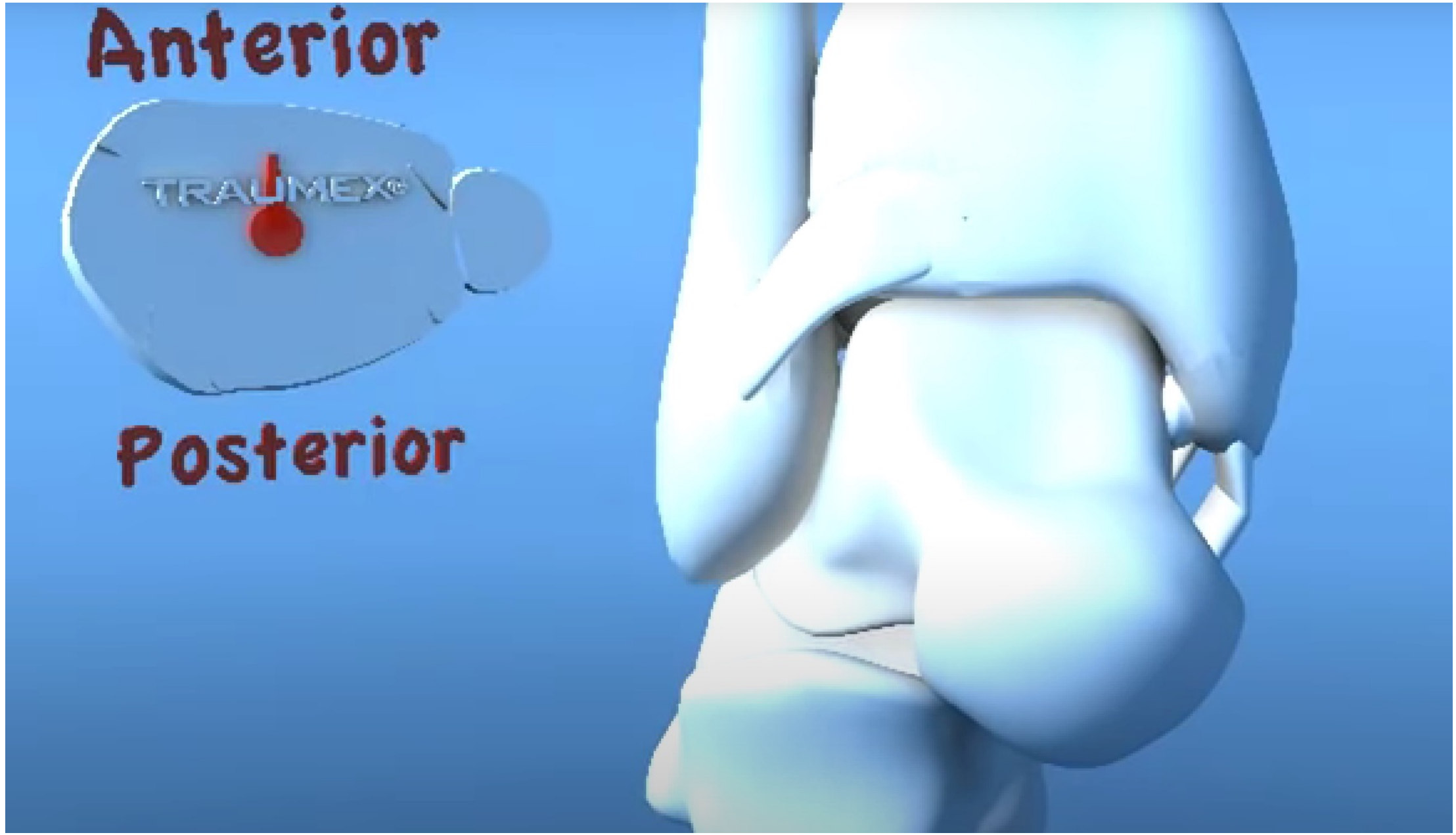


Traume mekanisme

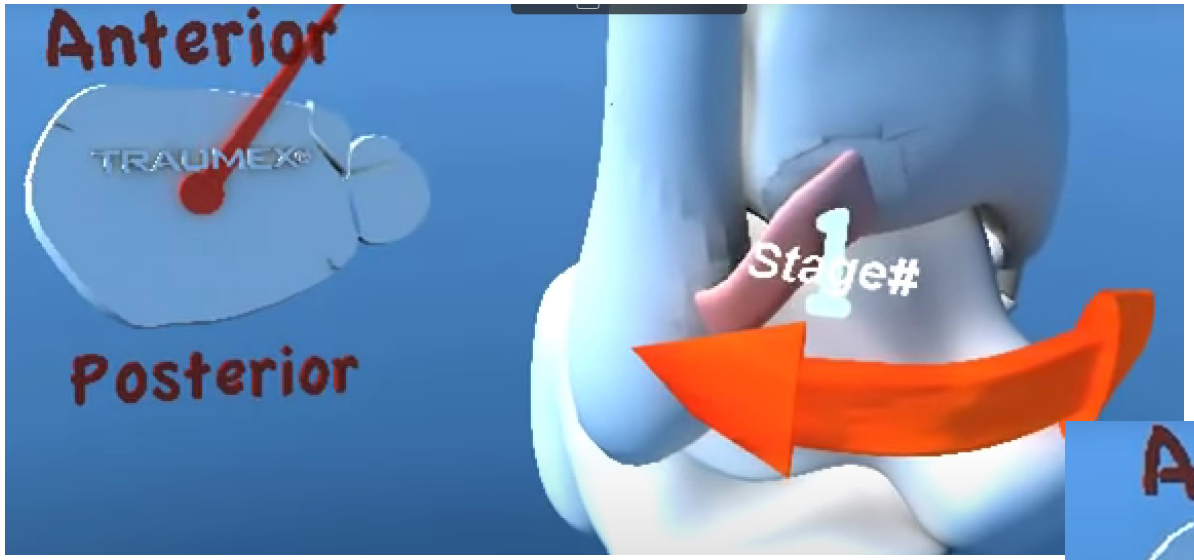
Fodens stilling i traumeøjeblikket

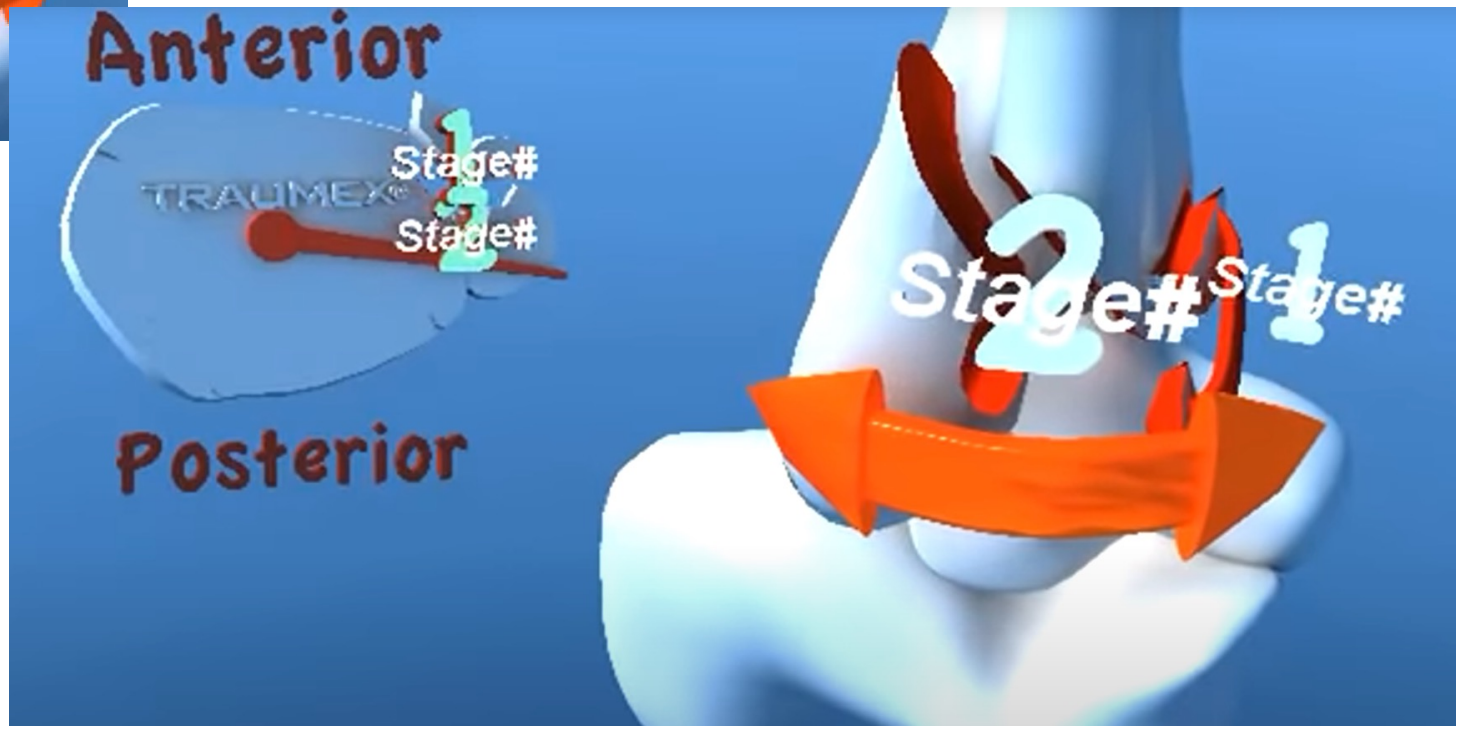
- Supination – laterale strukturer strammes
- Pronation – mediale strukturer strammes
- Det afgør hvor skade starter
- Skaden bevæger sig i den deformerende krafts retning



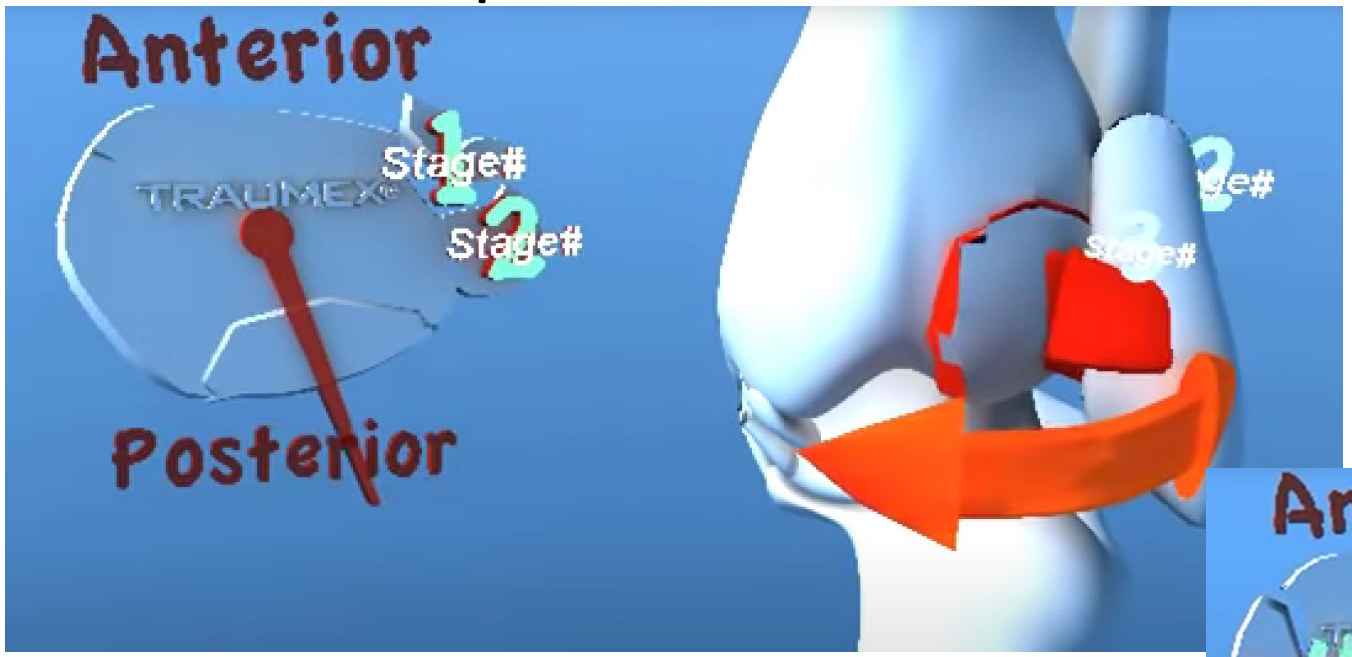

Anterior
TRAUMEX®
Posterior

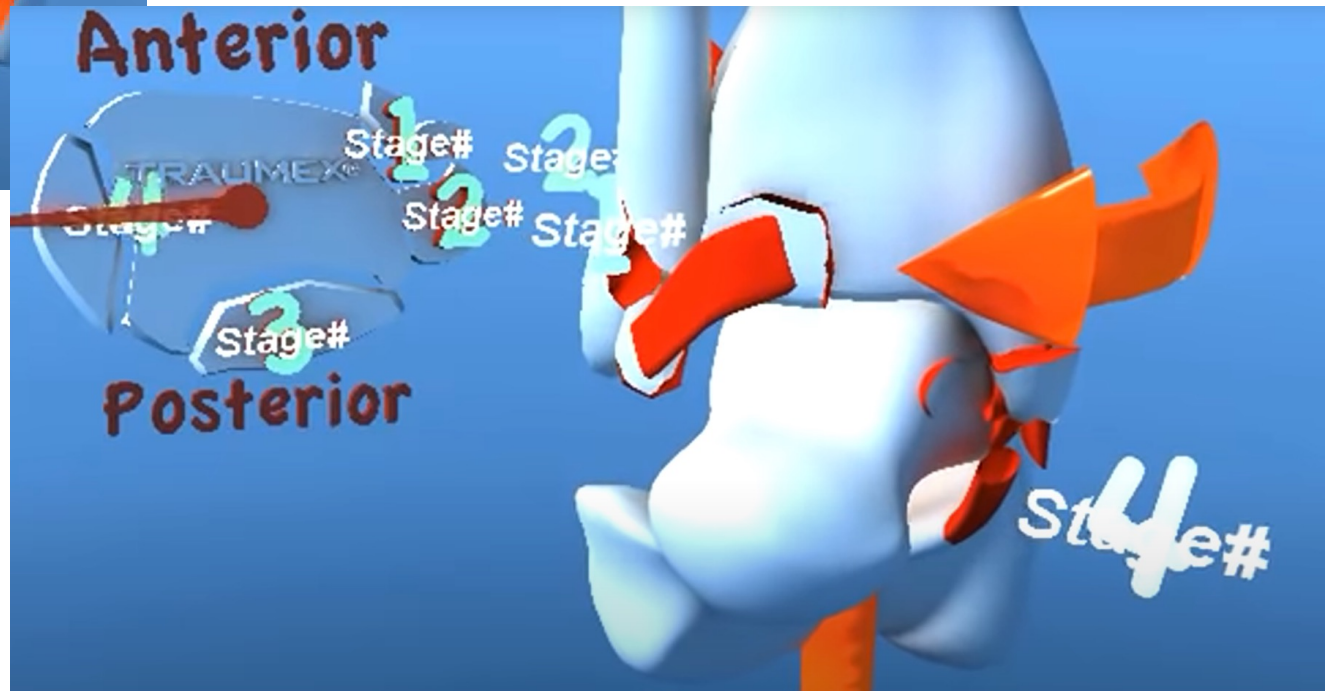
Eksempel - SU


Anterior
TRAUMEX
Posterior
Stage# 1


Anterior
TRAUMEX
Stage# 1
Stage# 1
Posterior
Stage# 2
Stage# 1

Eksempel - SU


Anterior
Stage#
Stage#
Posterior


Anterior
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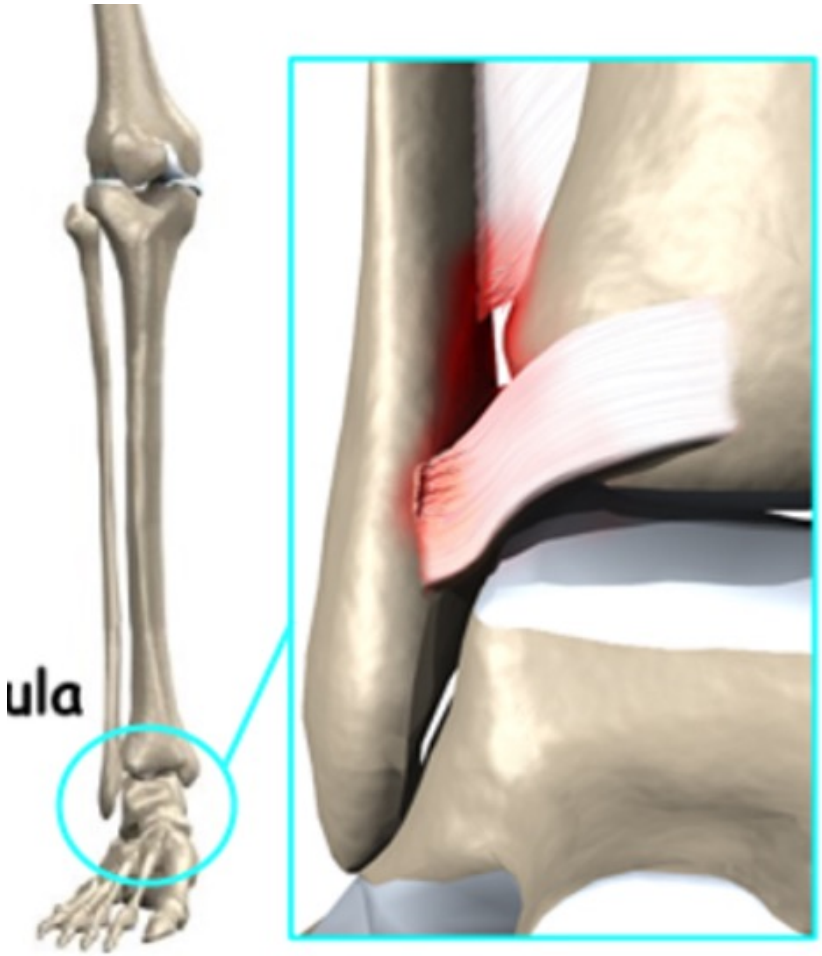
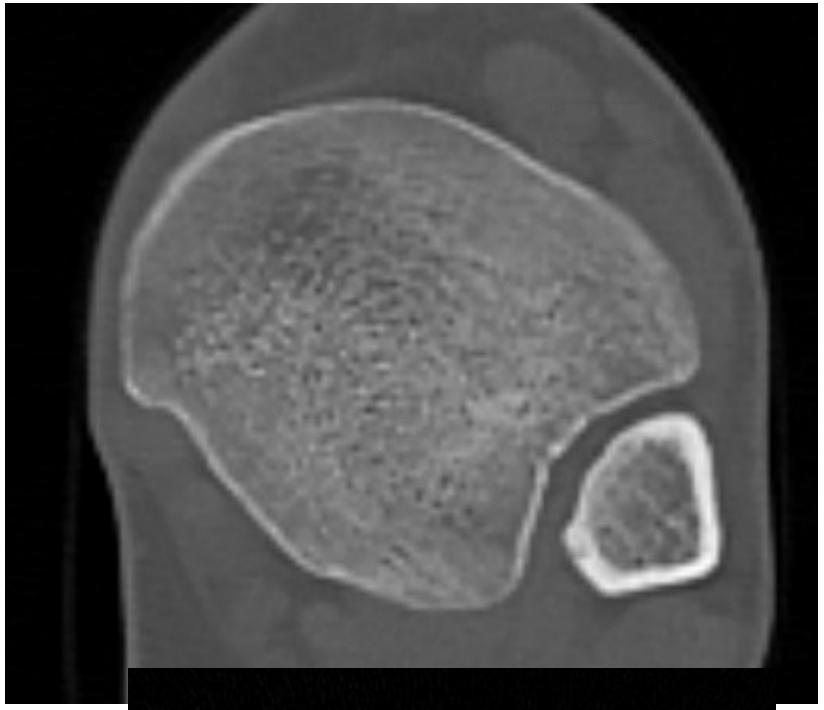
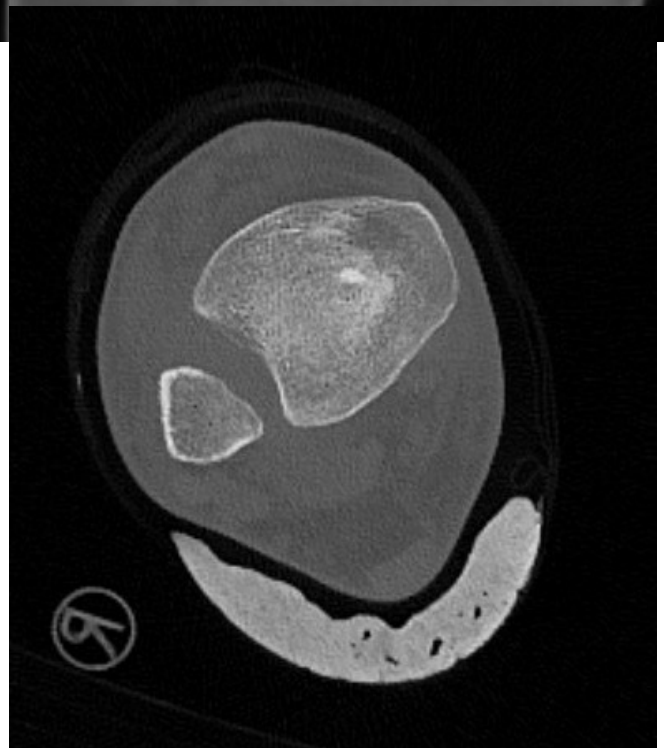
Posterior

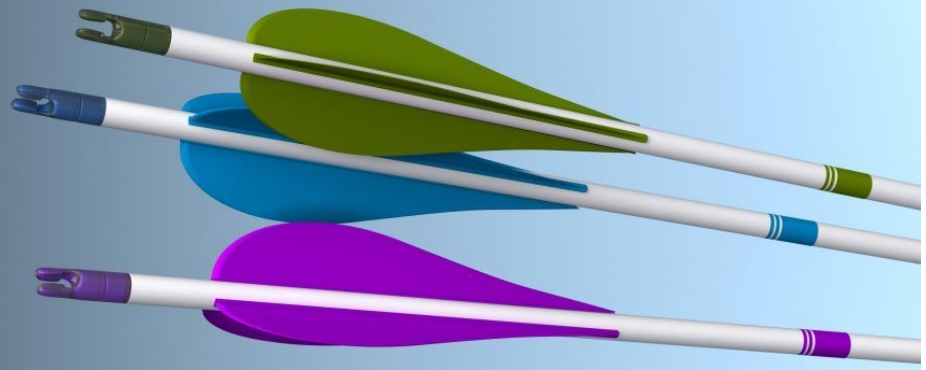
Syndesmosen







Eksempel - PU

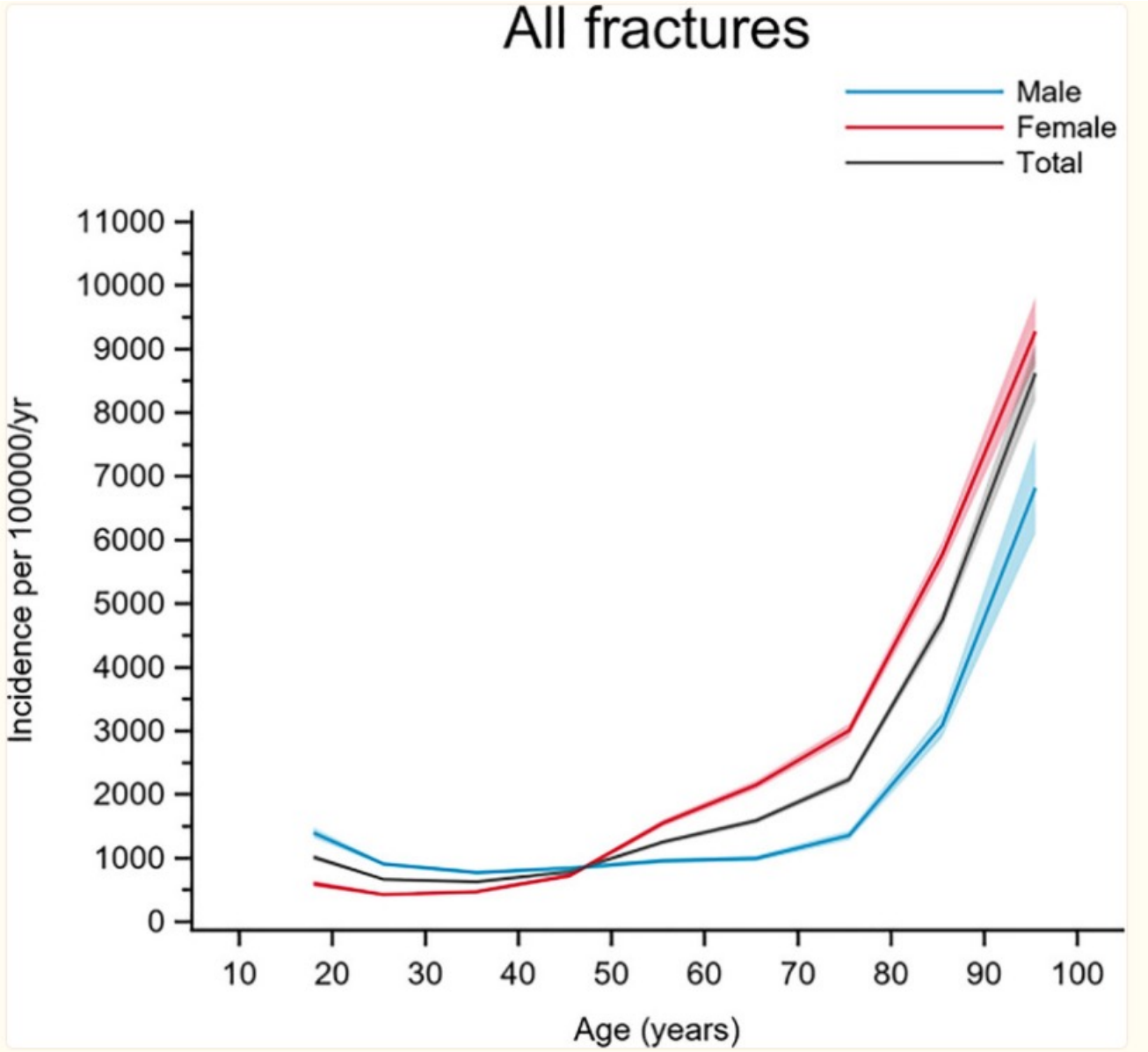


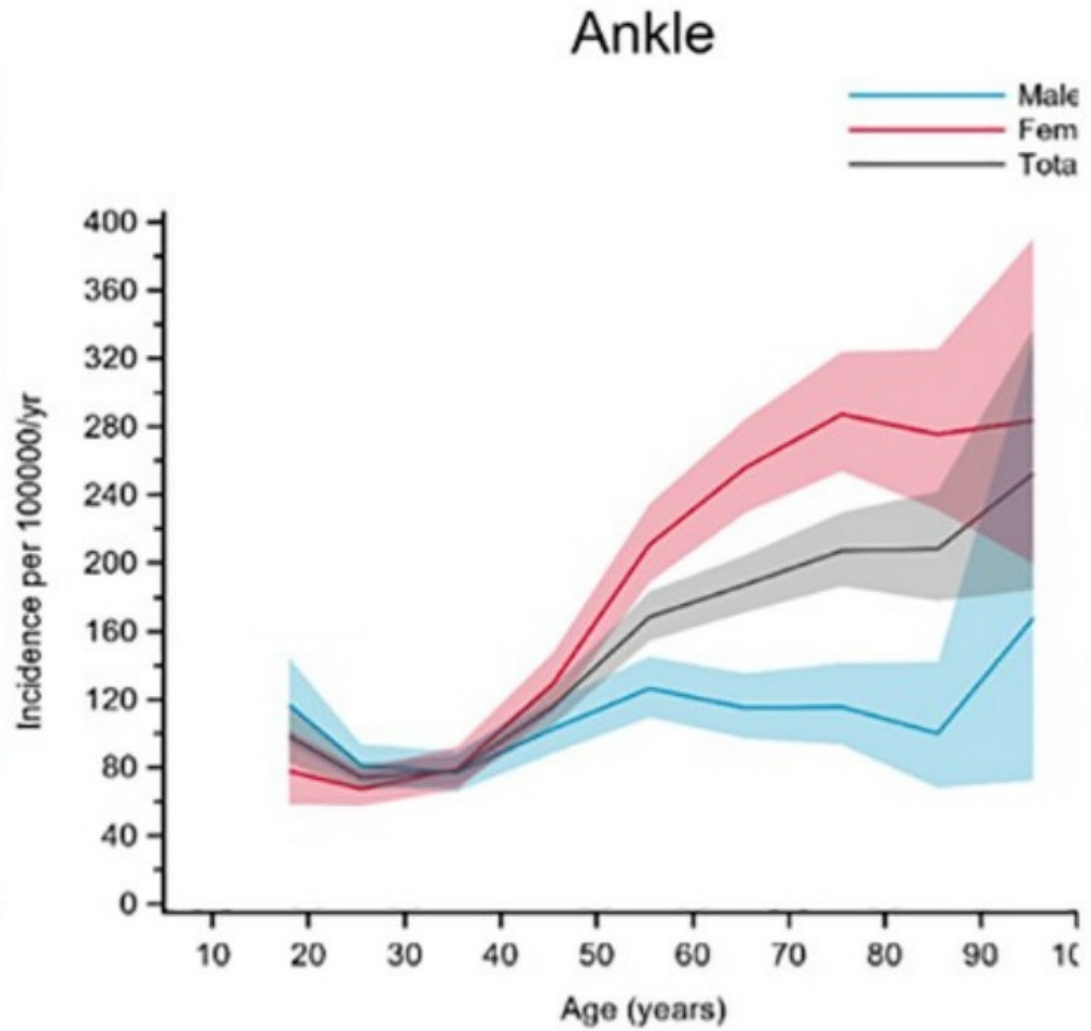
Hvad er målet

- At placere talus under tibia-plafonden
- At holde den der til frakturen er helet

- Hvordan gør vi så det?
  - Ved at forstå frakturen
  - Ved vurdere patienten
  - Ved at forstå osteosyntese principperne

Fracture incidence in adults in relation to age and gender: A study of 27,169 fractures in the Swedish Fracture Register in a well-defined catchment area






NOT in osteoporotic bone

Bløddelene

Behandlingsprincipper -

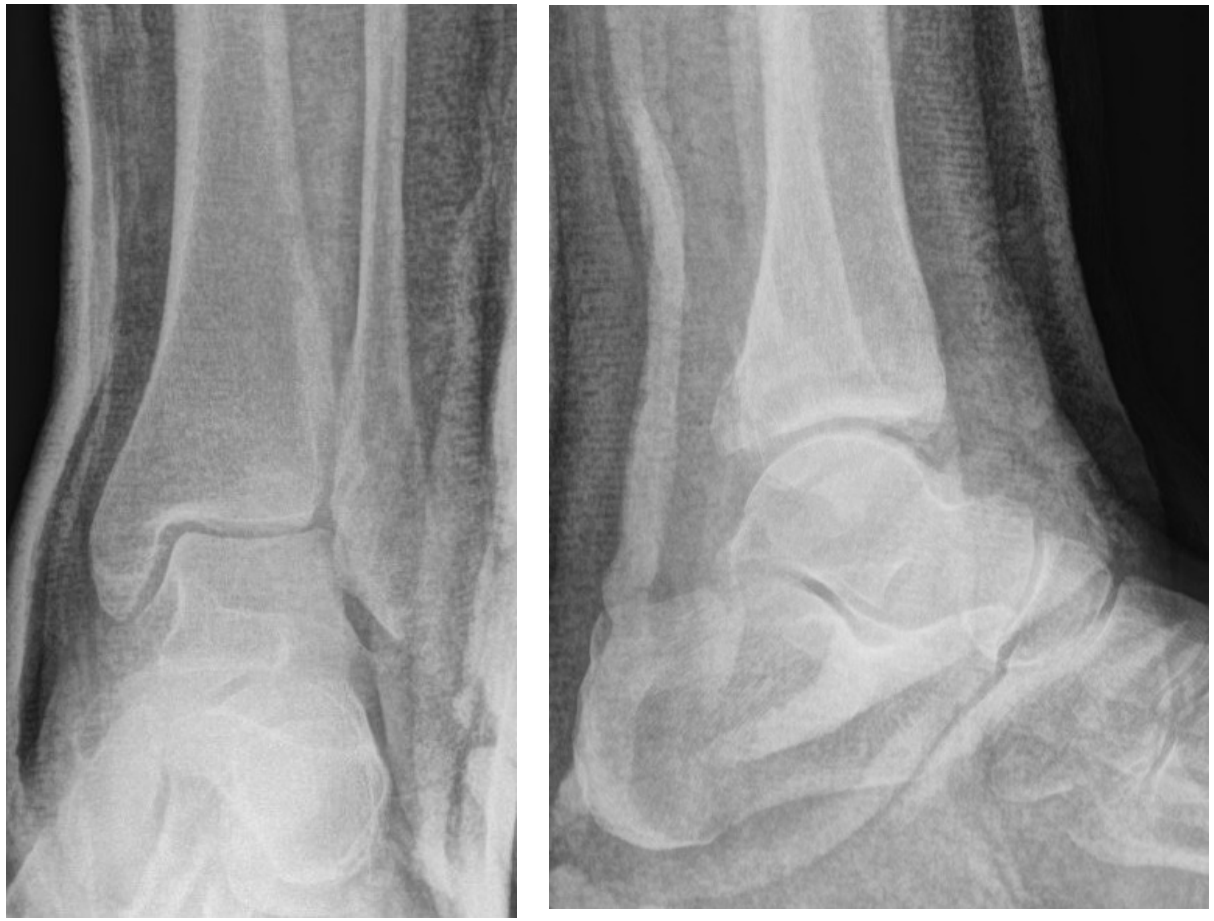
Kvinde 80 år
Fraktur type?
Behandling?

Behandlingsprincipper

Behandlings principper

- Kvinde 41 år gammel
- Fraktur type?
- Behandling

Behandlingsprincipper



SU4 fraktur
Reponeret til fin stilling
Foden placeret i neutral

Behandlingsprincipper

- Lateralt eksakt reposition
- Absolut stabilitet opnås med en 3,5 mm lagskrue – by technique
- Semitubulær skinne fikseret med 3,5 mm corticalis og låseskruer
- Placeres skinnen som her lateralt er det en neutralisations skinne, placeres den posteriort er det en buttress skinne

- Medialt eksakt reposition
- Absolut stabilitet opnås her med 4,5 mm spongiosaskrue med halvt gevind. Lagskrue by design.

- Syndesmosen testes altid, den kan være gået i stykker også ved en SU fraktur.