

Review of the principles of fracture management

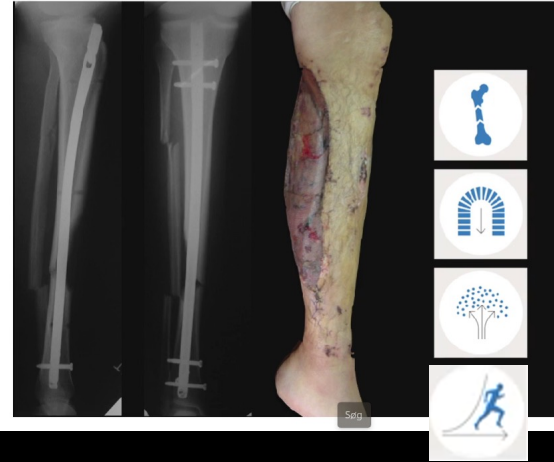


AO Advanced principles, Trinity april 2024
Lasse Bayer, Hillerød

Review of the principles of fracture management

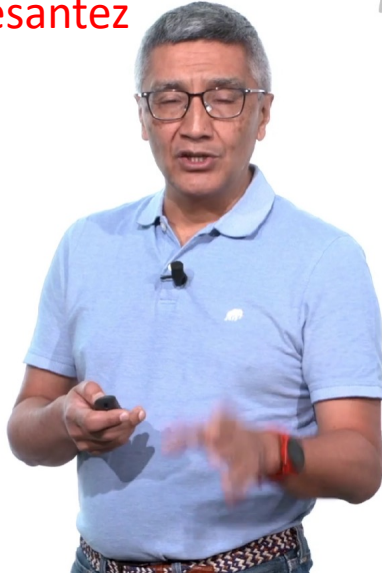
Clinical case

08.09.2006



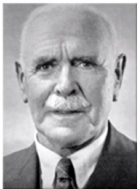
Rodrigo Pesantez
Columbia

AO



Tissue vitality and effect of injury

“Bone is a plant with its roots in the soft tissue”



Gathorne Robert Girdlestone (1881–1950)



Yazan Hattar
Jordan



MIO – minimizing surgical footprints

Bridge plating

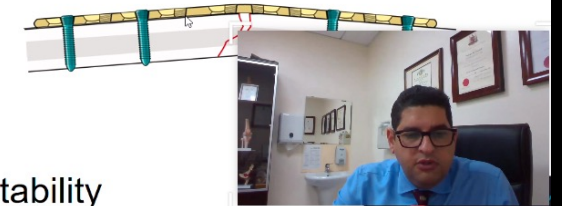
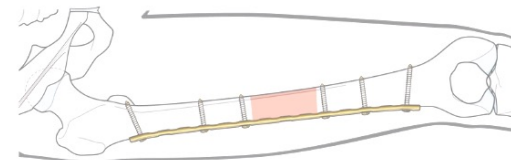
Hesham Al Khateeb
Dubai

Comminuted fractures

- Screws placed close to the fracture

Simple fractures

- Screws 1–2 holes away from the fracture



Relative stability

Fracture healing – the diamond concept

Summary—fracture healing is optimized by providing or allowing for all four “sides” of the diamond to work together

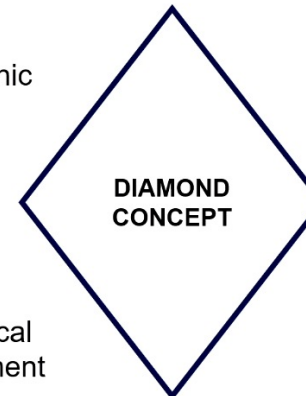
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Osteogenic cells

Osteoconductive scaffolds

Mechanical environment

Osteoinductive growth factors

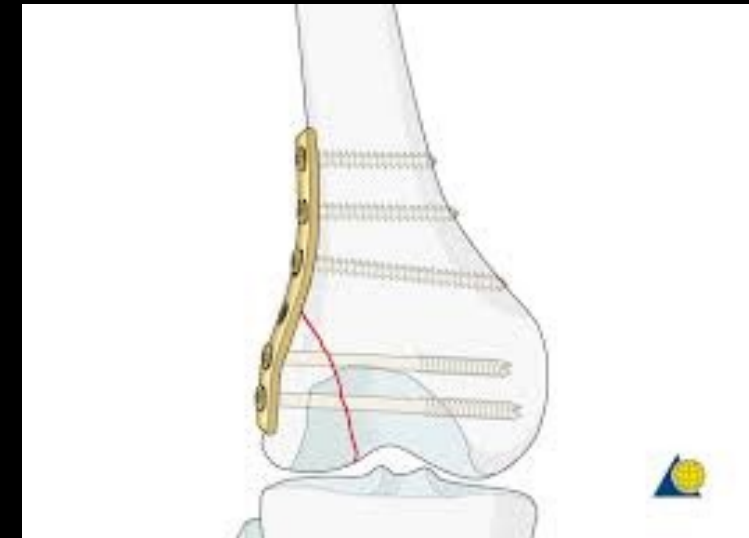
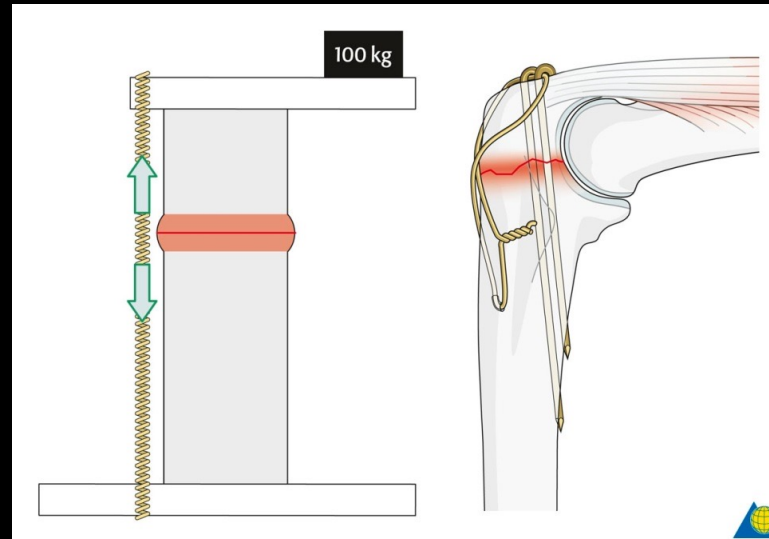
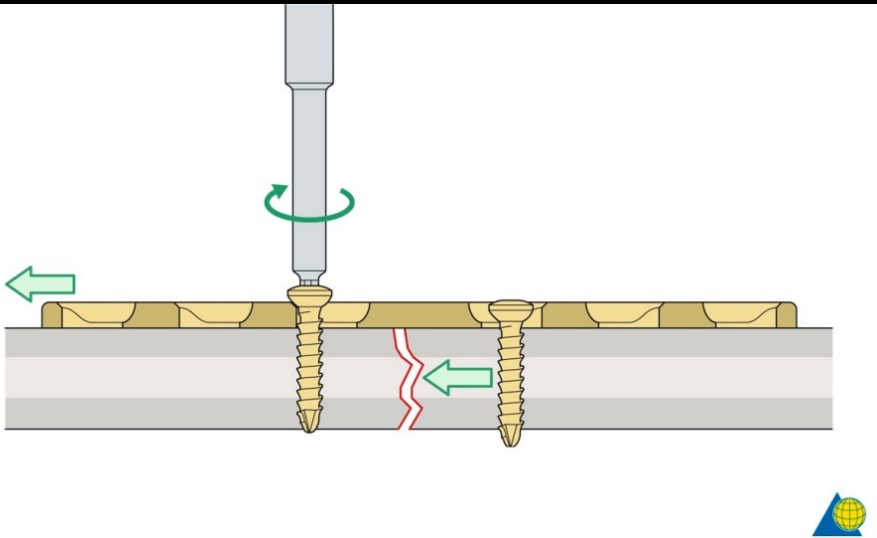
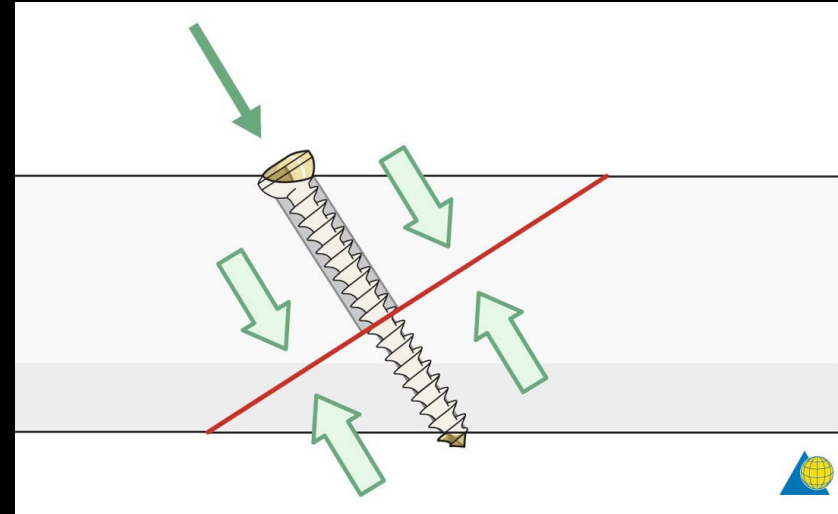


Gregory Della Rocca
Missouri

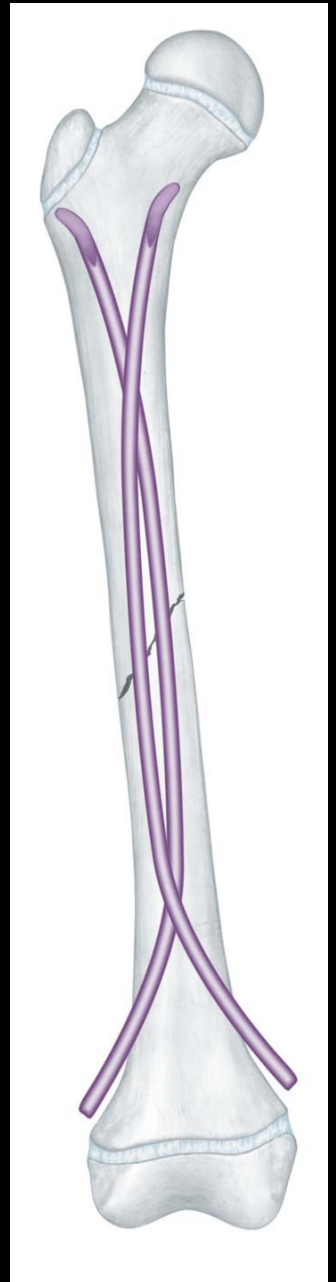
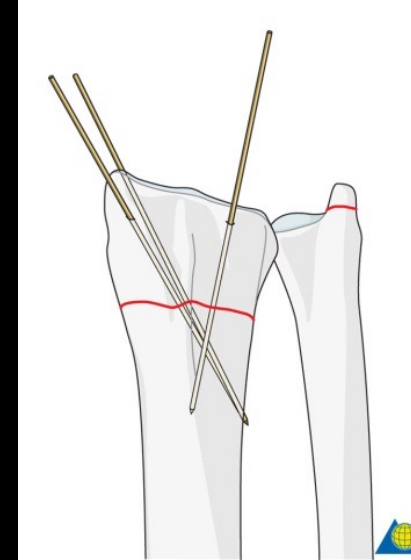
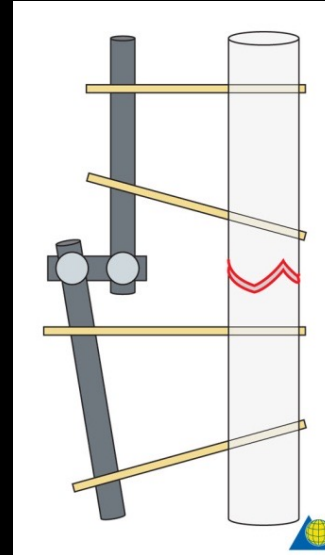


Fire metoder der giver absolut stabilitet

1. LAG skruer
2. Kompressionsskinner
3. Tension band
4. Buttress



Metoder der giver relativ stabilitet



Marvsøm

Nemt!

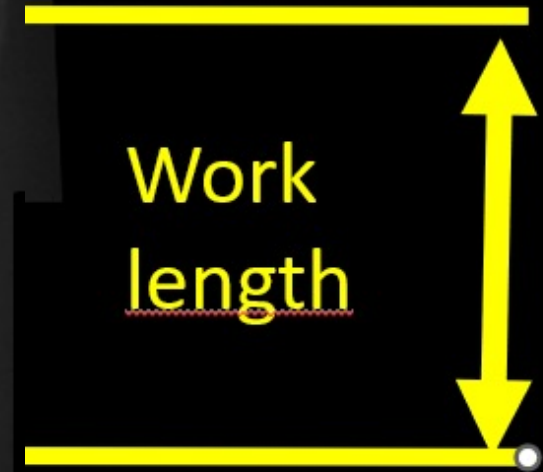
Så lange som muligt

Så tykke som muligt

Låst i begge ender

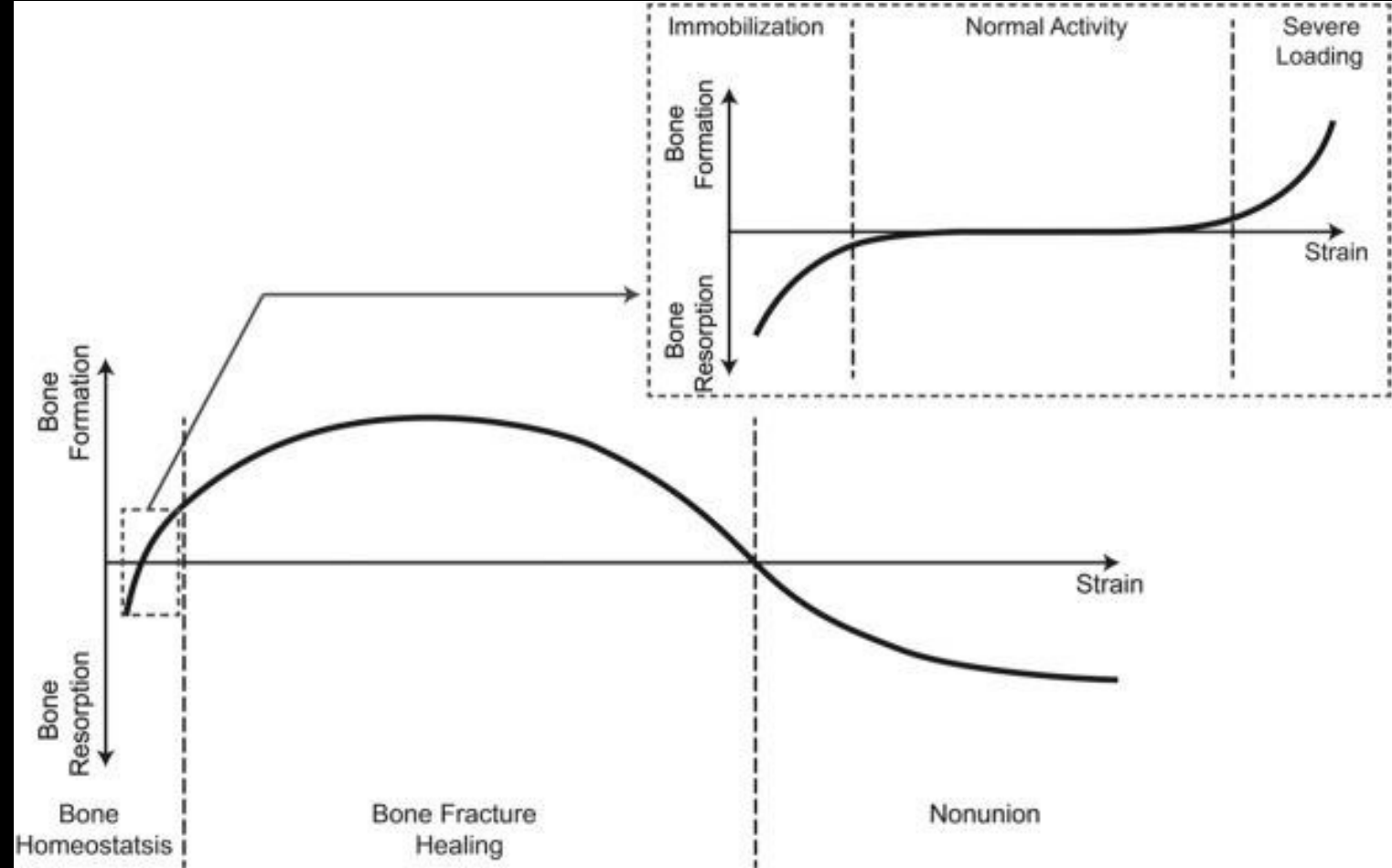
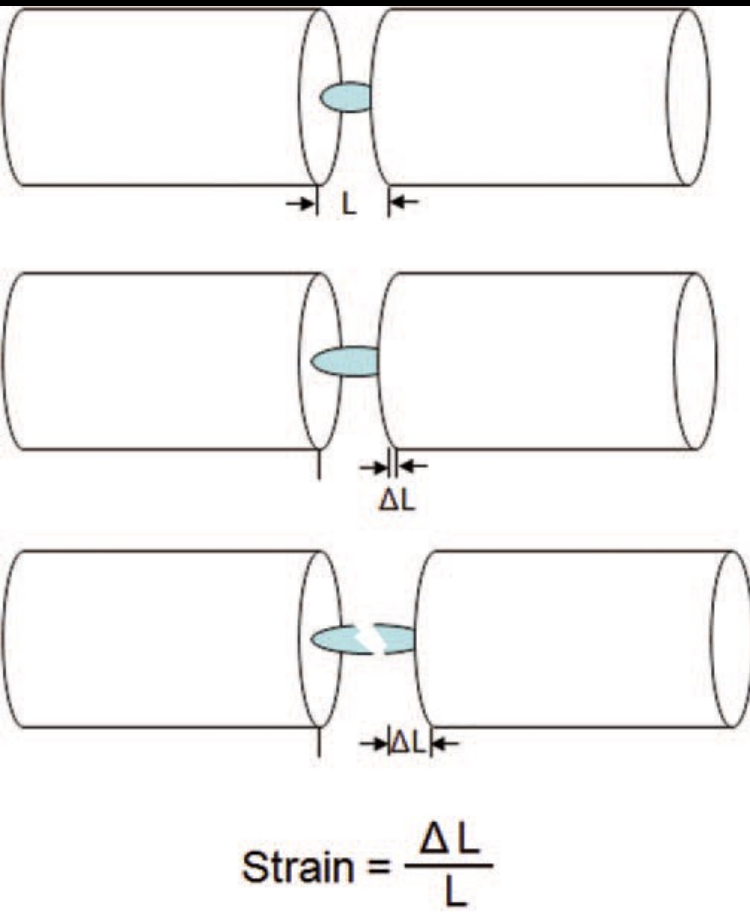


Skinner



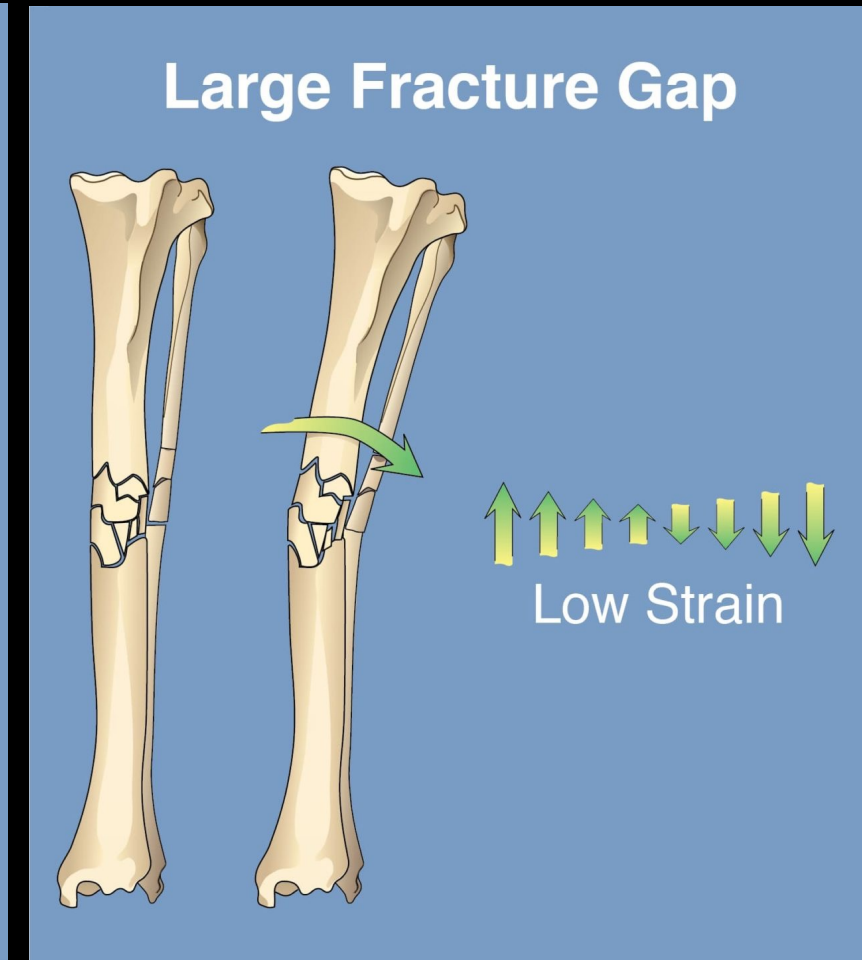
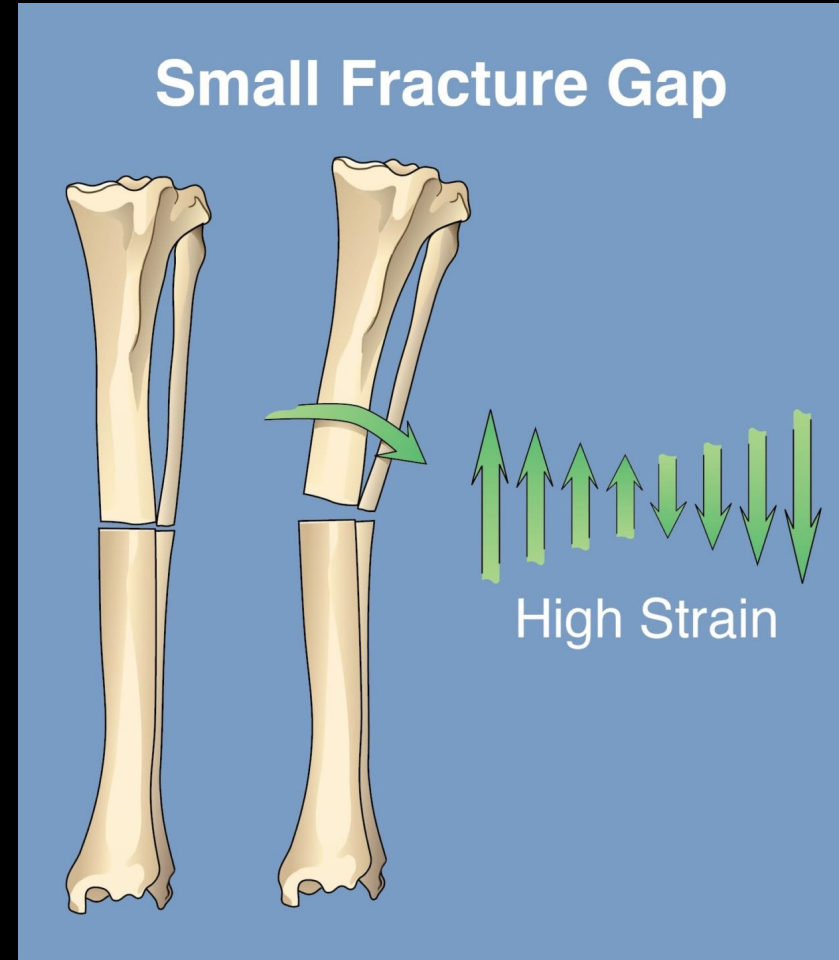
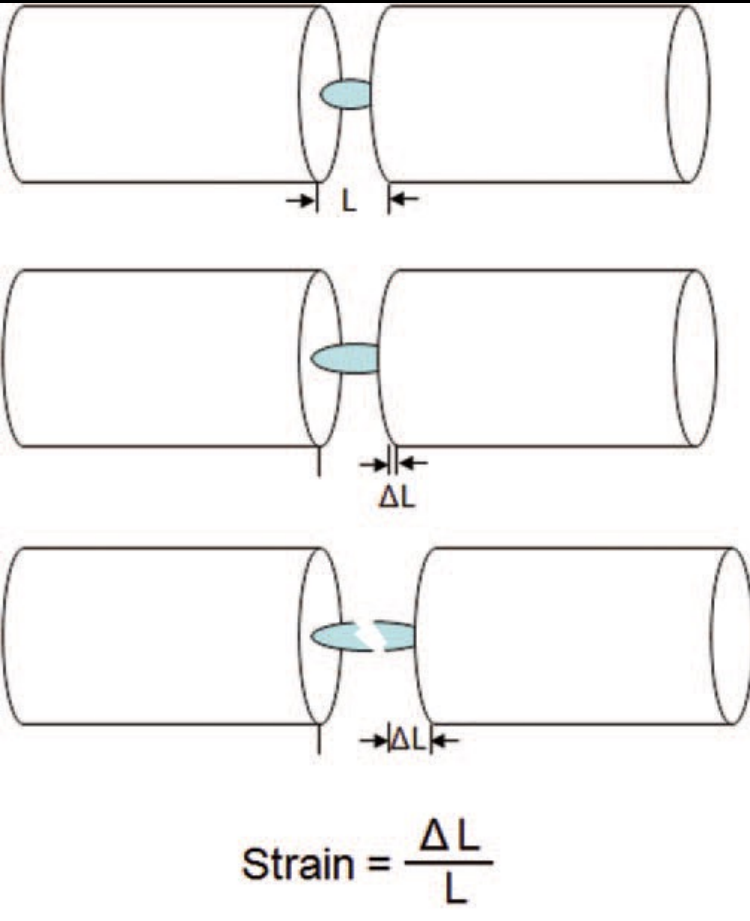
Svært!

Strain theory of healing (Stephan Perren)



Absolute stability: < 2(-5)% strain

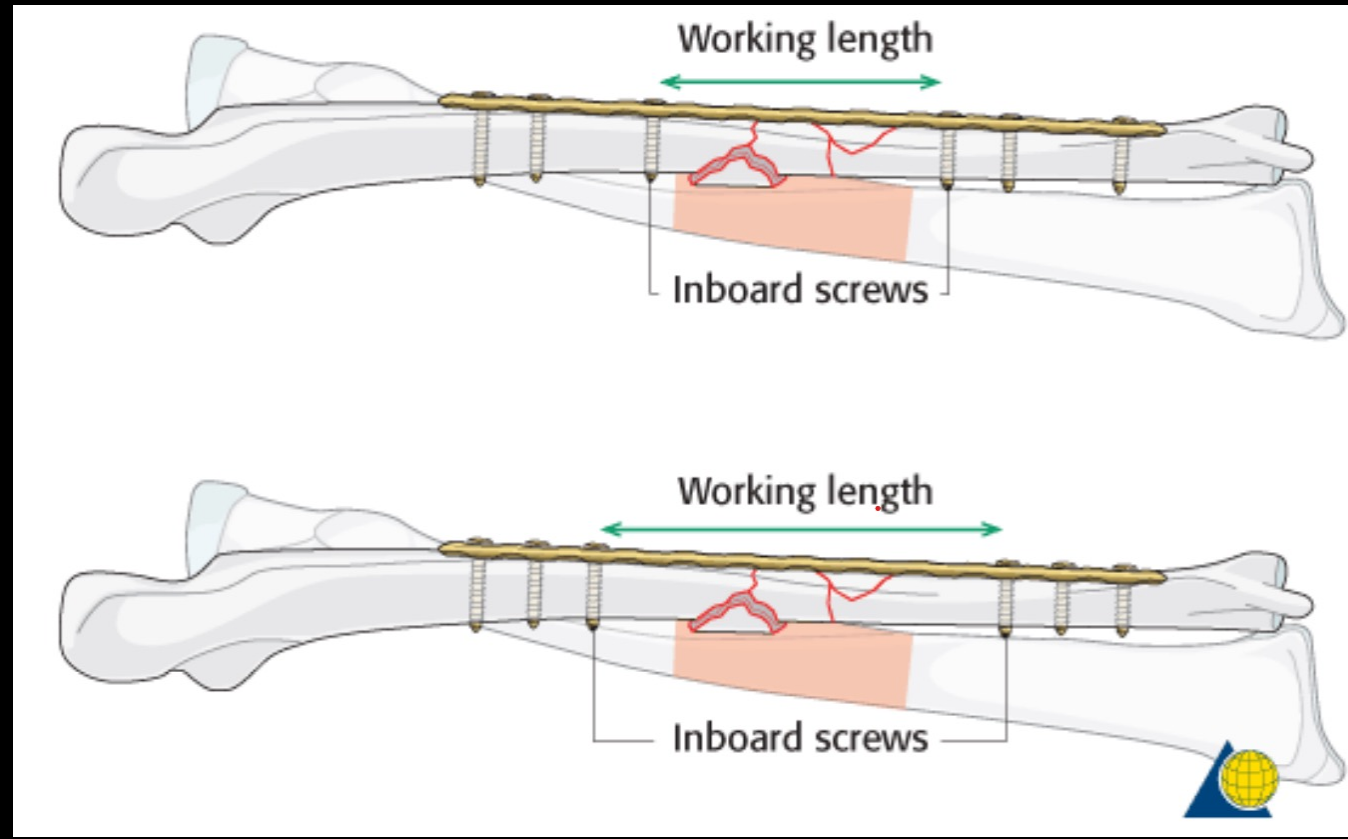
Strain theory of healing (Stephan Perren)

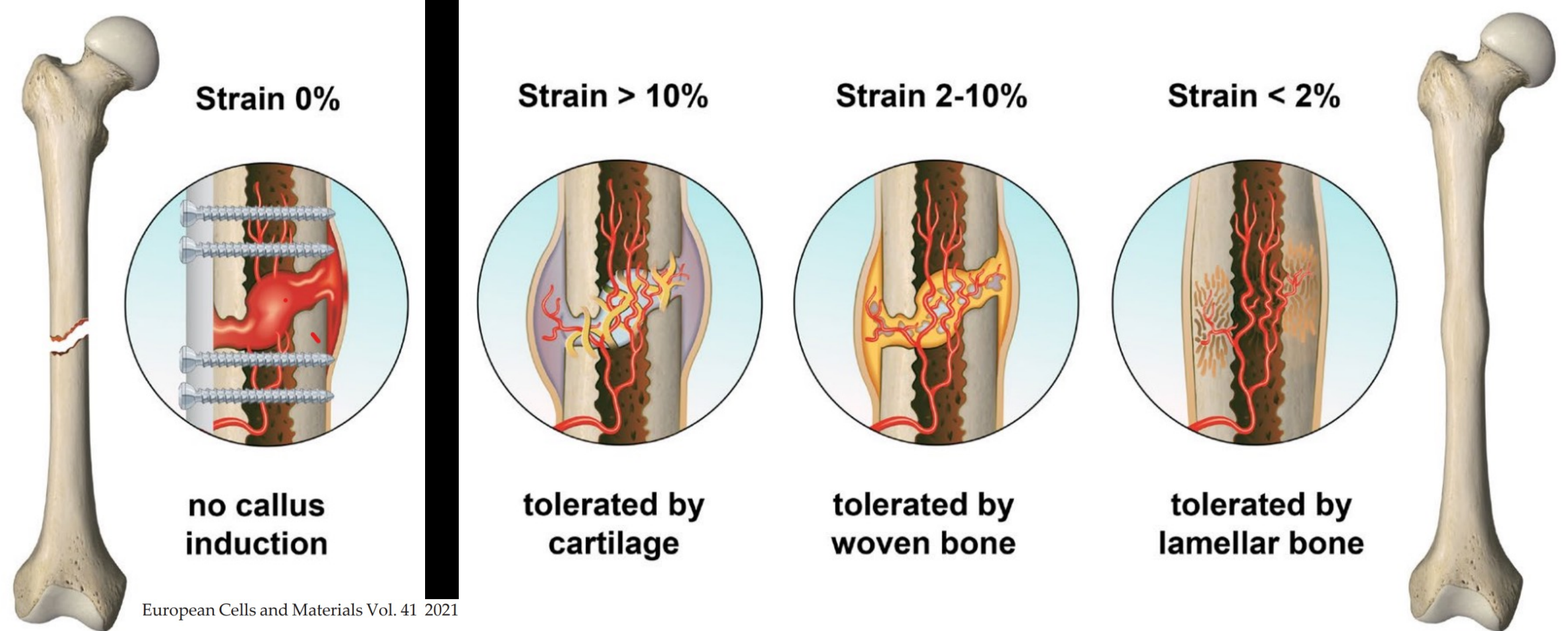


Absolute stability: < 2(-5)% strain

Faktorer med indflydelse på valg af arbejds længden:

- Fraktur gap
- Frakturtypen – simpel/komminut
- Osteosyntesematerialet – ss/ti – tyk/tynd skinne
- Belastning
- Type af belastning: axial, shear, bending
- Stivheden af vævet i frakturspalten – som ændrer sig i løbet af helingsprocessen





REVERSE DYNAMISATION: A MODERN PERSPECTIVE ON STEPHAN PERREN'S STRAIN THEORY

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Augmentative lag screws as a treatment for aseptic hypertrophic nonunion after internal fracture fixation[☆]

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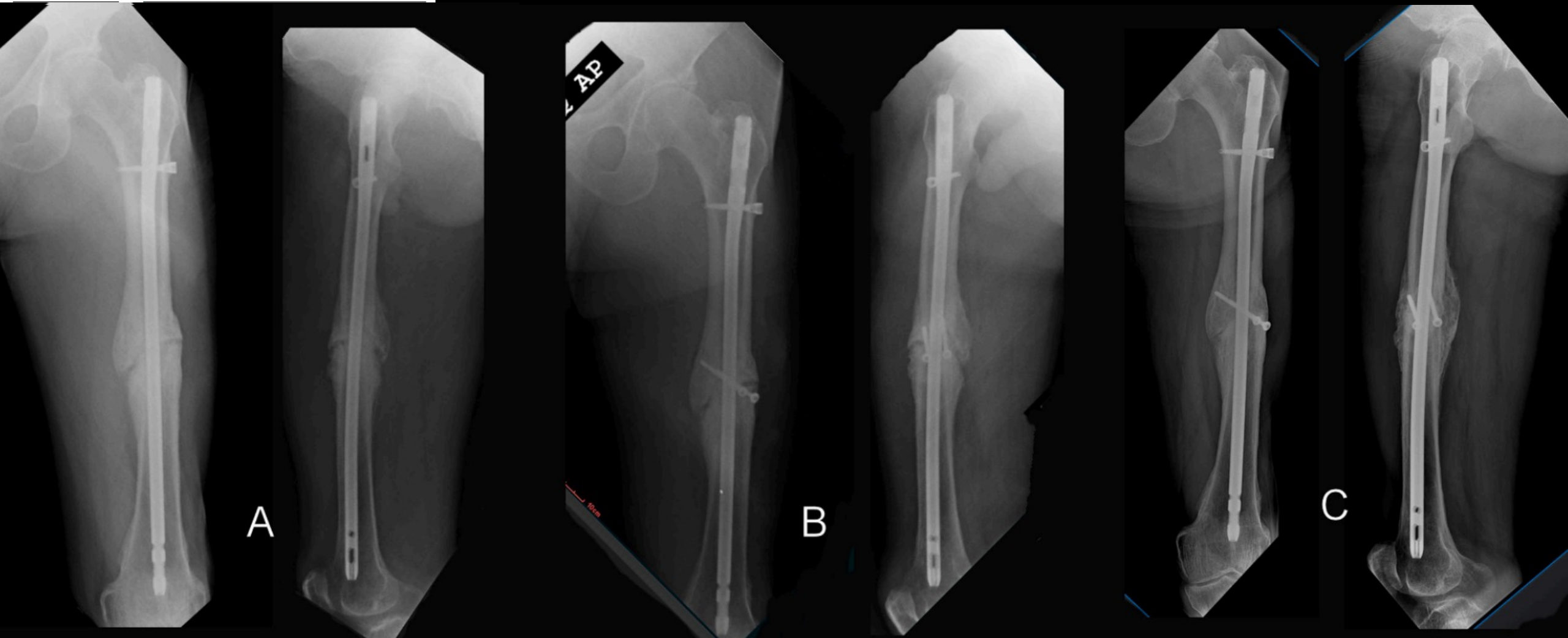
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ARTICLE INFO

ABSTRACT



Take home message

- Reposition – LAR – ikke for store gaps
- Stabilitet
 - 4 metoder giver absolut stabilitet
 - Relativ stabilitet – OBS arbejdslængde
- Blodforsyning
 - Skånsom bløddelshåndtering
- Tidlig mobilisering

