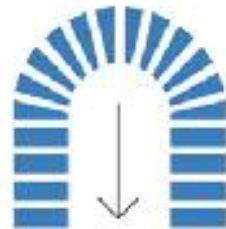
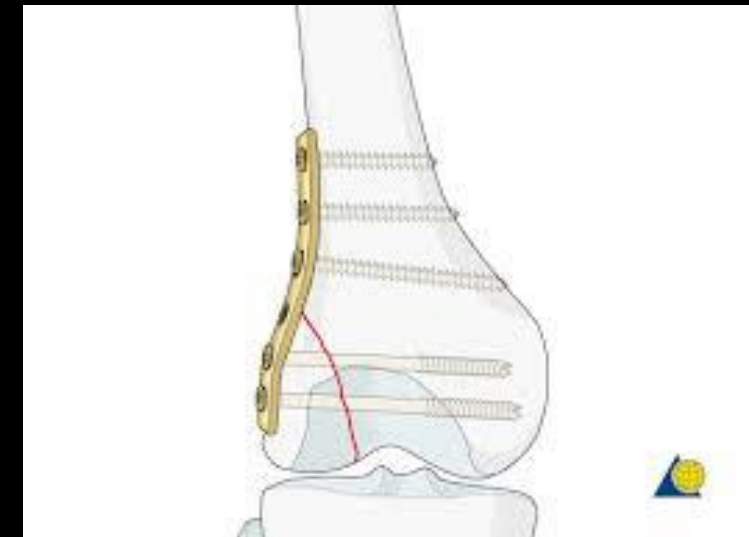
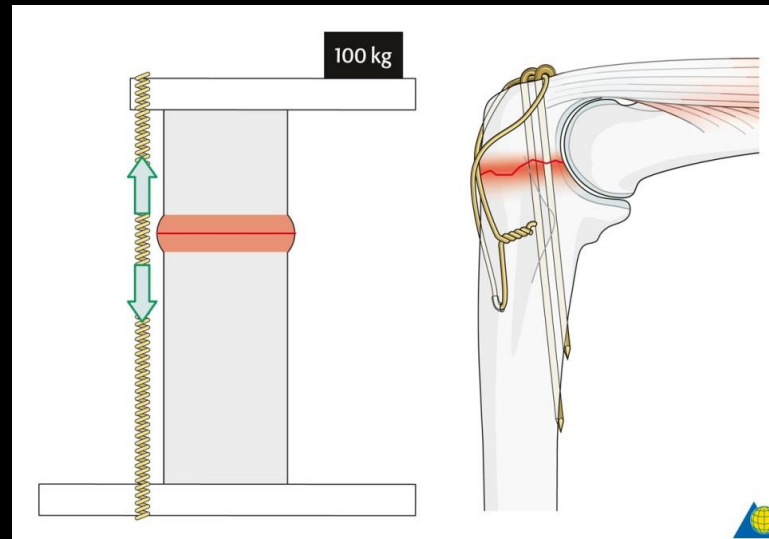
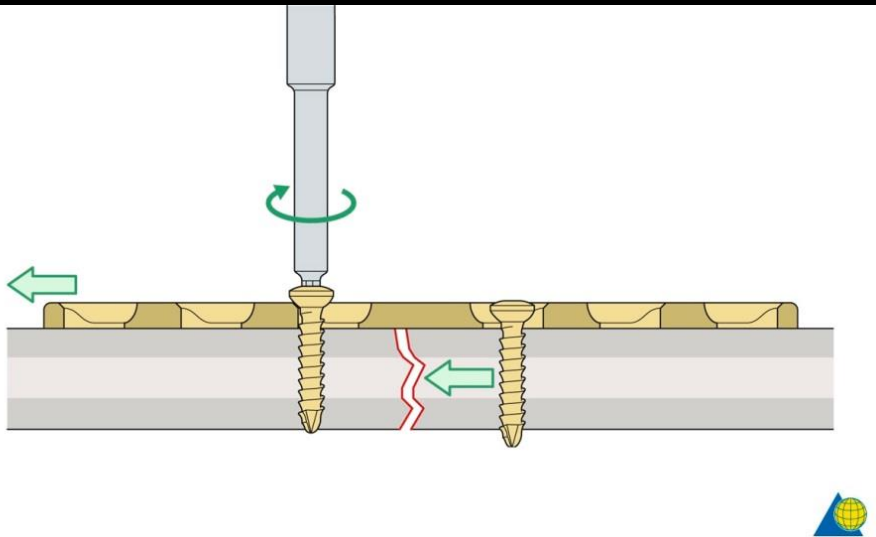
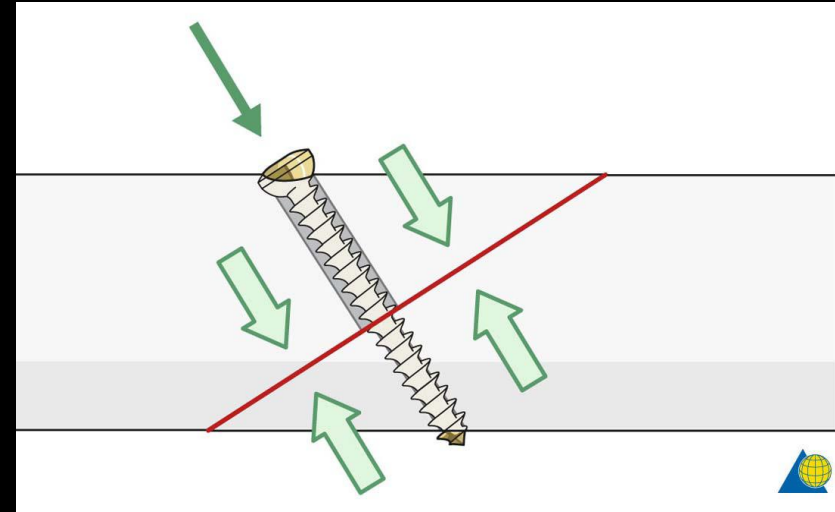


Review of the principles of fracture management

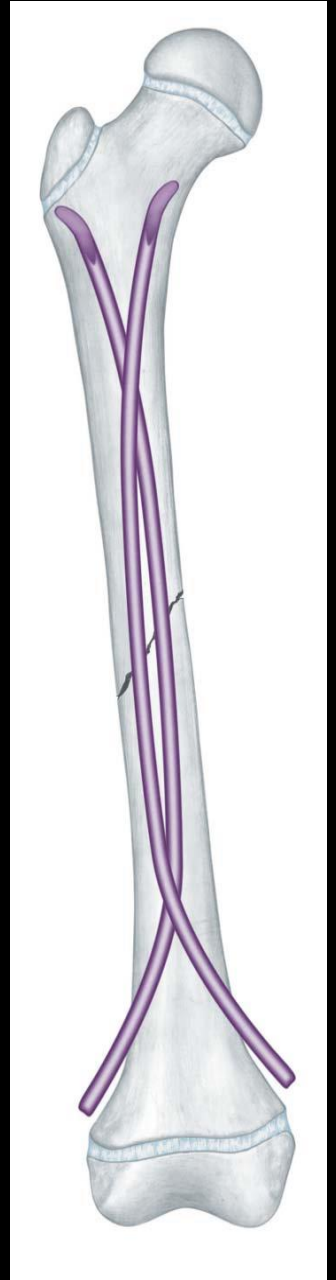
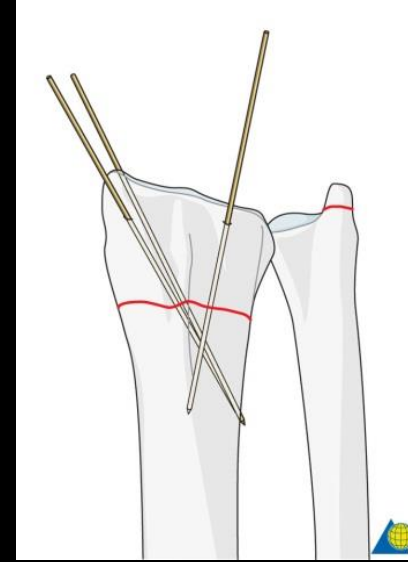
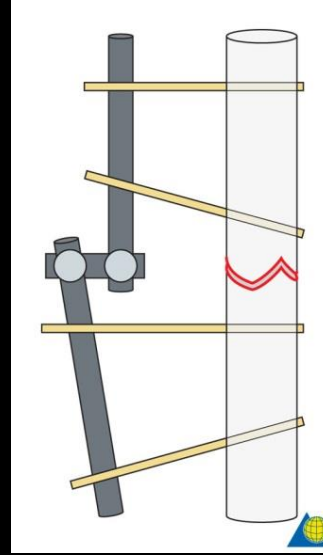


Four methods that provide absolute stability

1. LAG screw
2. Compression plate
3. Tension band
4. Buttress



Methods that provide relative stability



Nails

Easy!

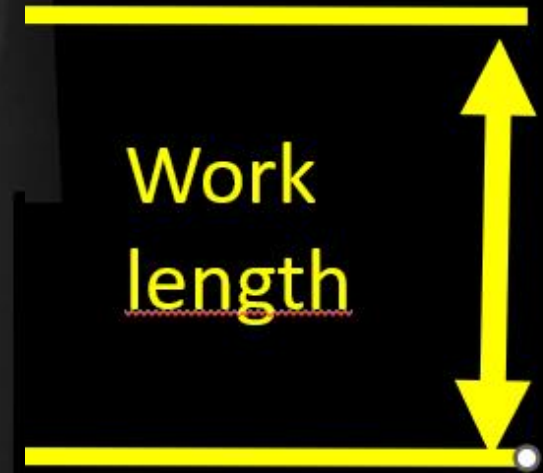
As long as possible

As thick as possible

Locked at both ends



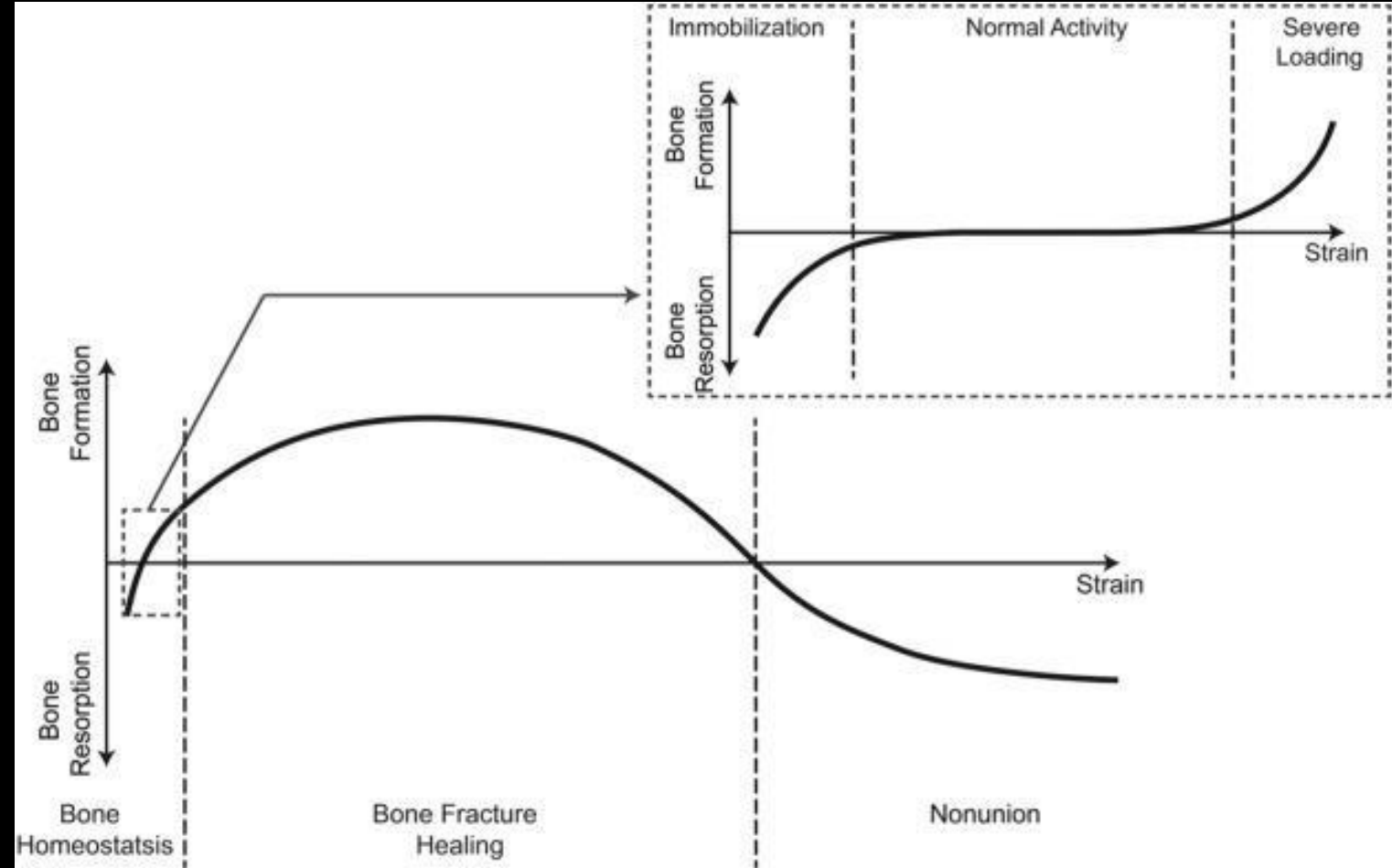
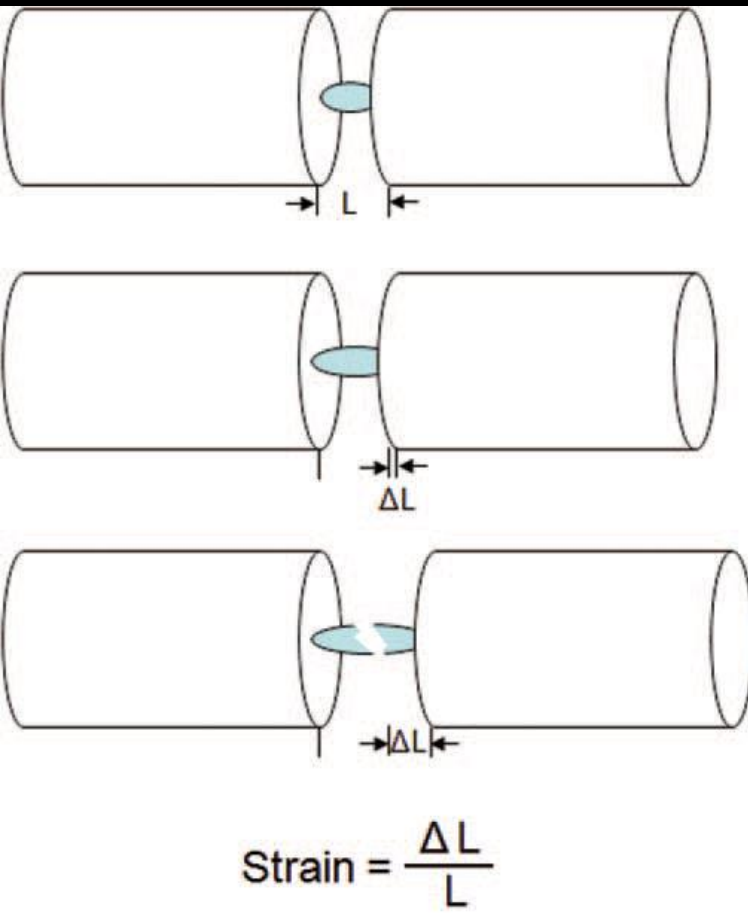
Plates



Difficult!

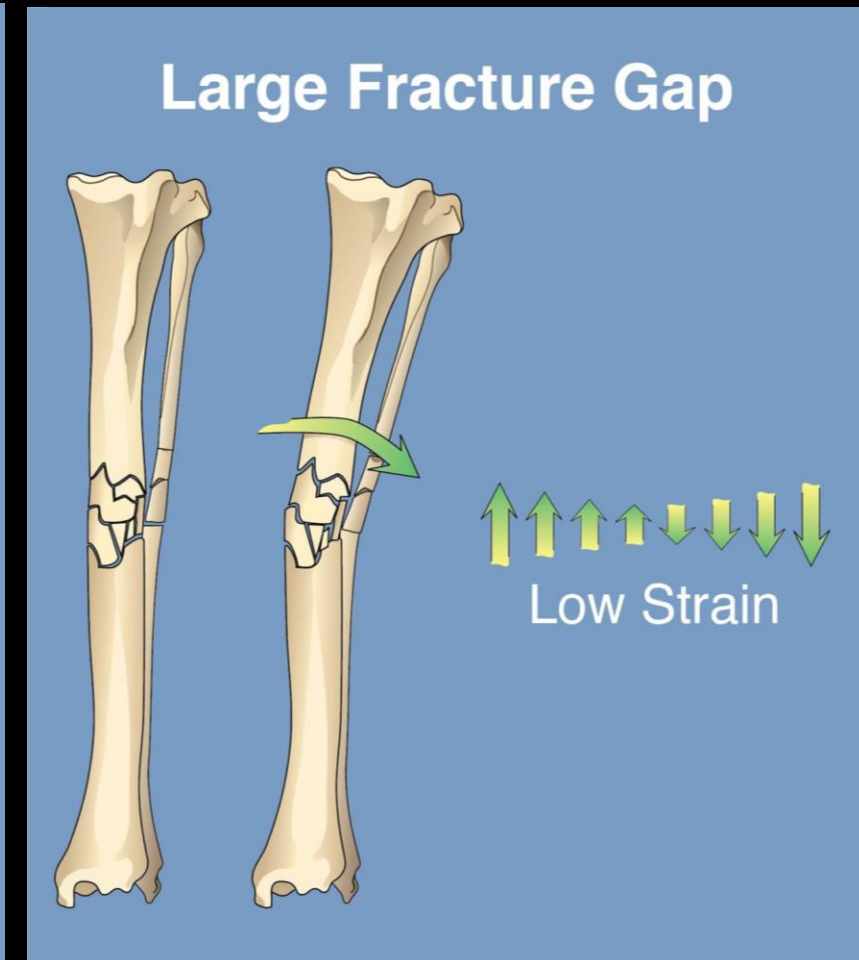
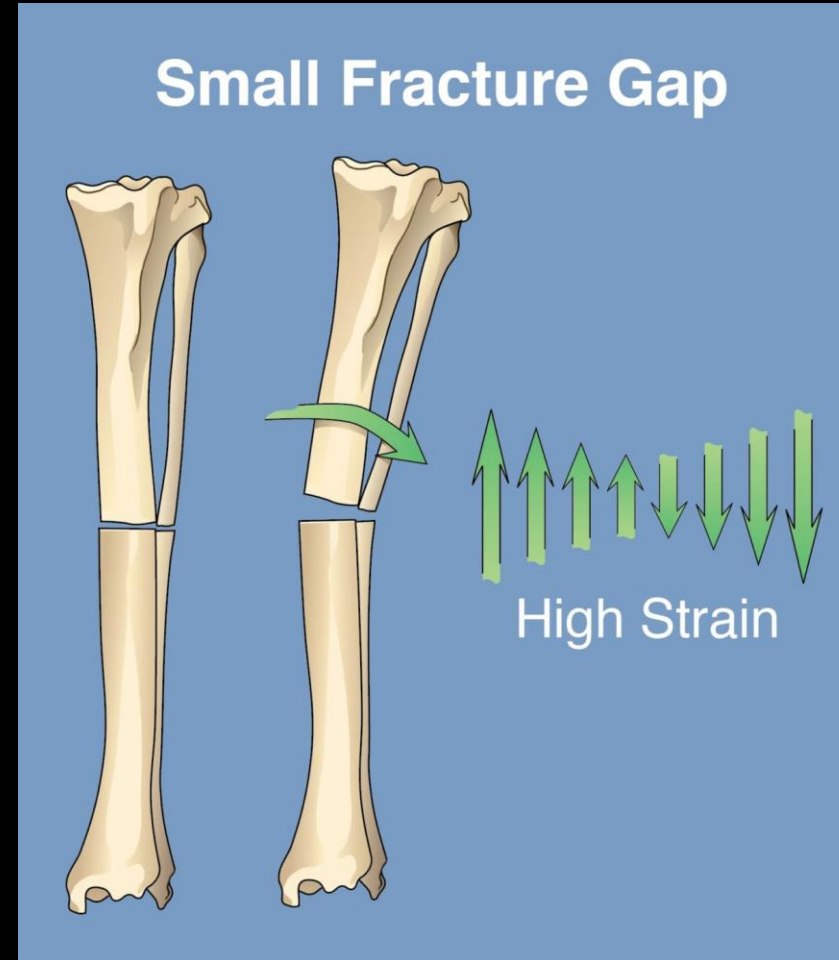
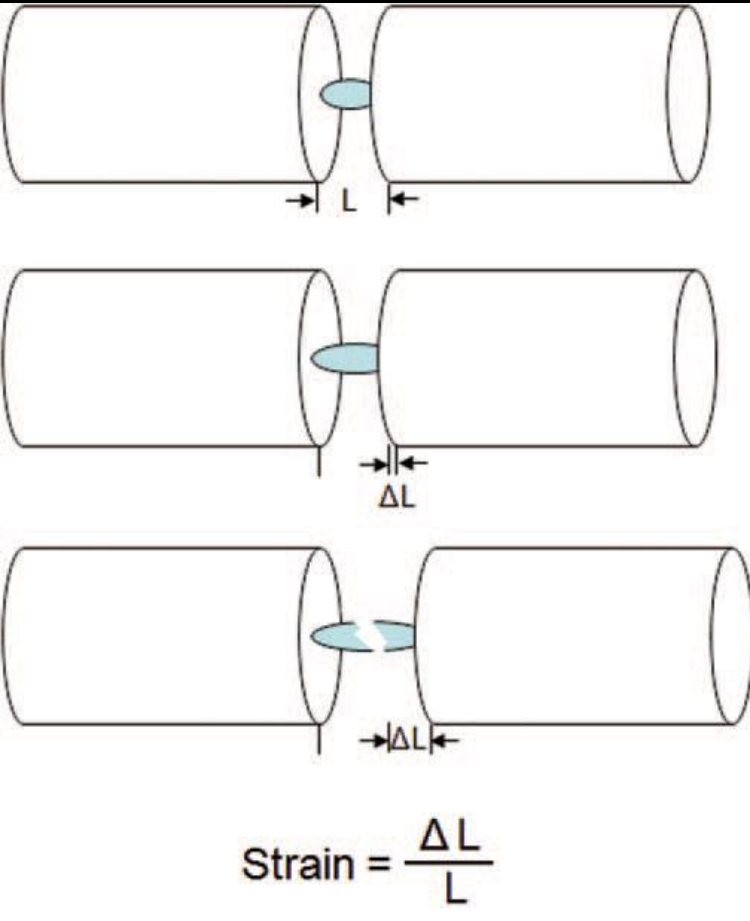


Strain theory of healing (Stephan Perren)



Absolute stability: < 2(-5)% strain

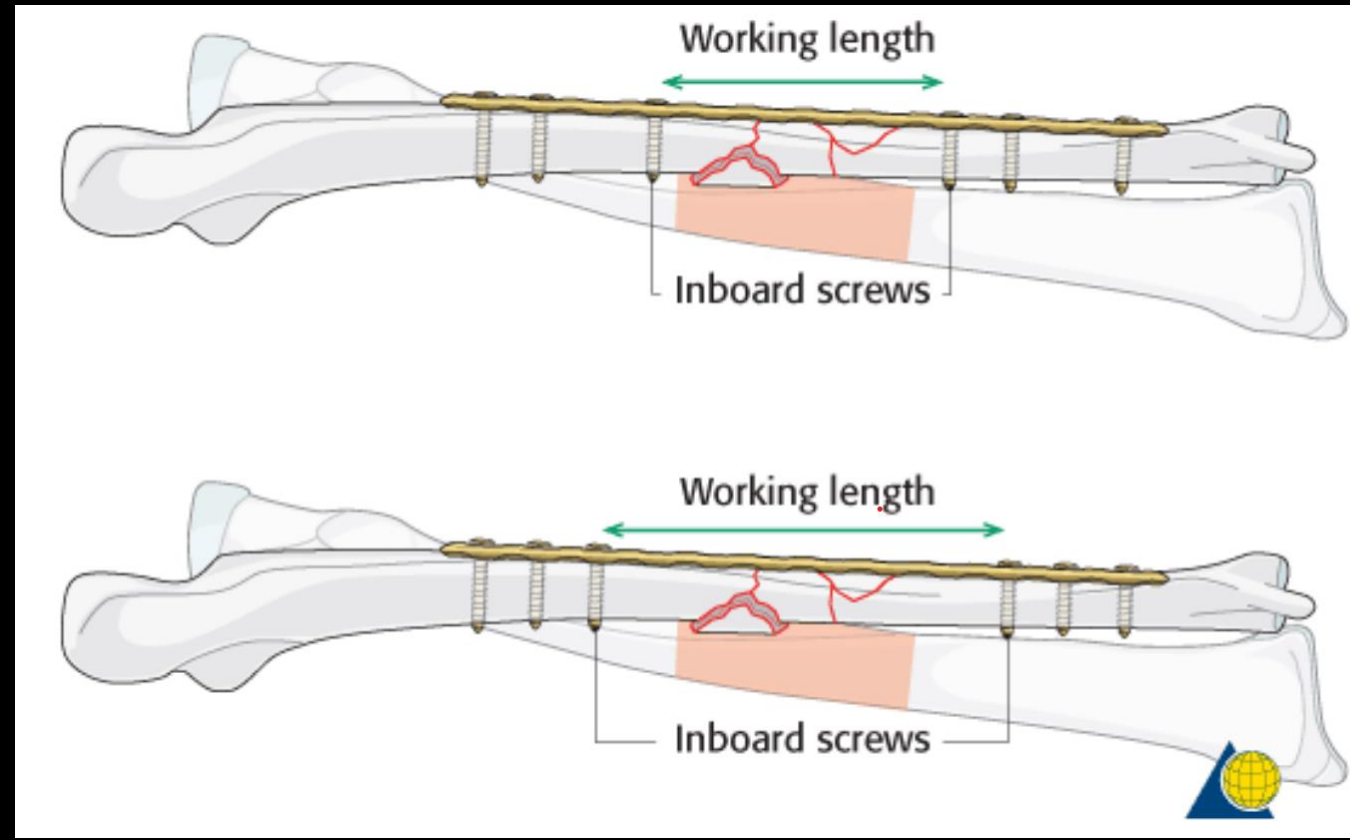
Strain theory of healing (Stephan Perren)

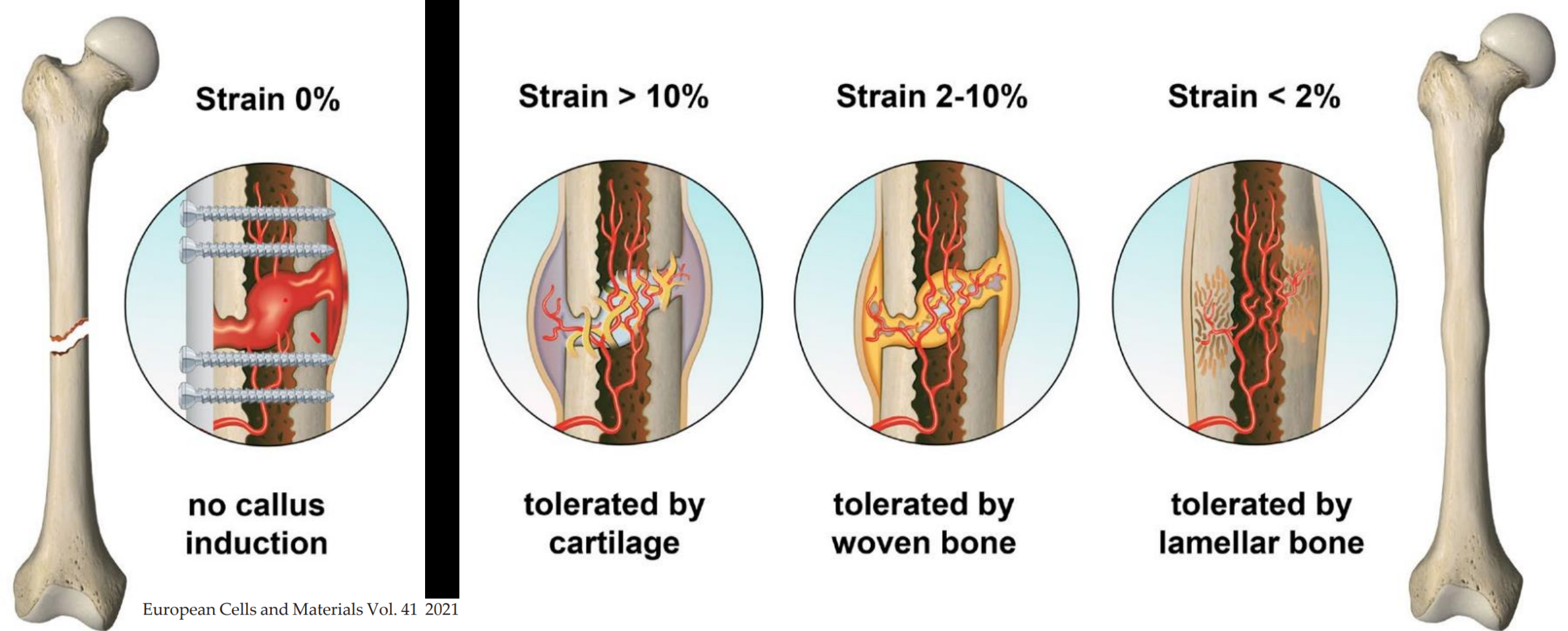


Absolute stability: $< 2(-5)\%$ strain

Factors influencing the choice of working length:

- Fracture gap
- Type of fracture – simple/comminute
- Plate material – ss/ti – thick/thin plate
- Load – upper/lower extremity
- Type of load: axial, shear, bending
- The stiffness of the tissue in the fracture gap – which changes during the healing process





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

V. Glatt^{1,4,*}, C.H. Evans² and K. Tetsworth^{3,4}

¹Department of Orthopaedics, University of Texas Health Science Centre, San Antonio, TX, USA



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

Juan Manuel Concha^{a,b,*}, Jose Luis Osma^c, Emilio Fantín^d, Carolina Concha^e,
Alvaro Jose Caicedo^f

^a Departamento de Ciencias Quirúrgicas, Universidad del Cauca, Popayán, Colombia

^b Hospital Susana López de Valencia, Popayán, Colombia

^c Universidad Industrial de Santander, Bucaramanga, Colombia

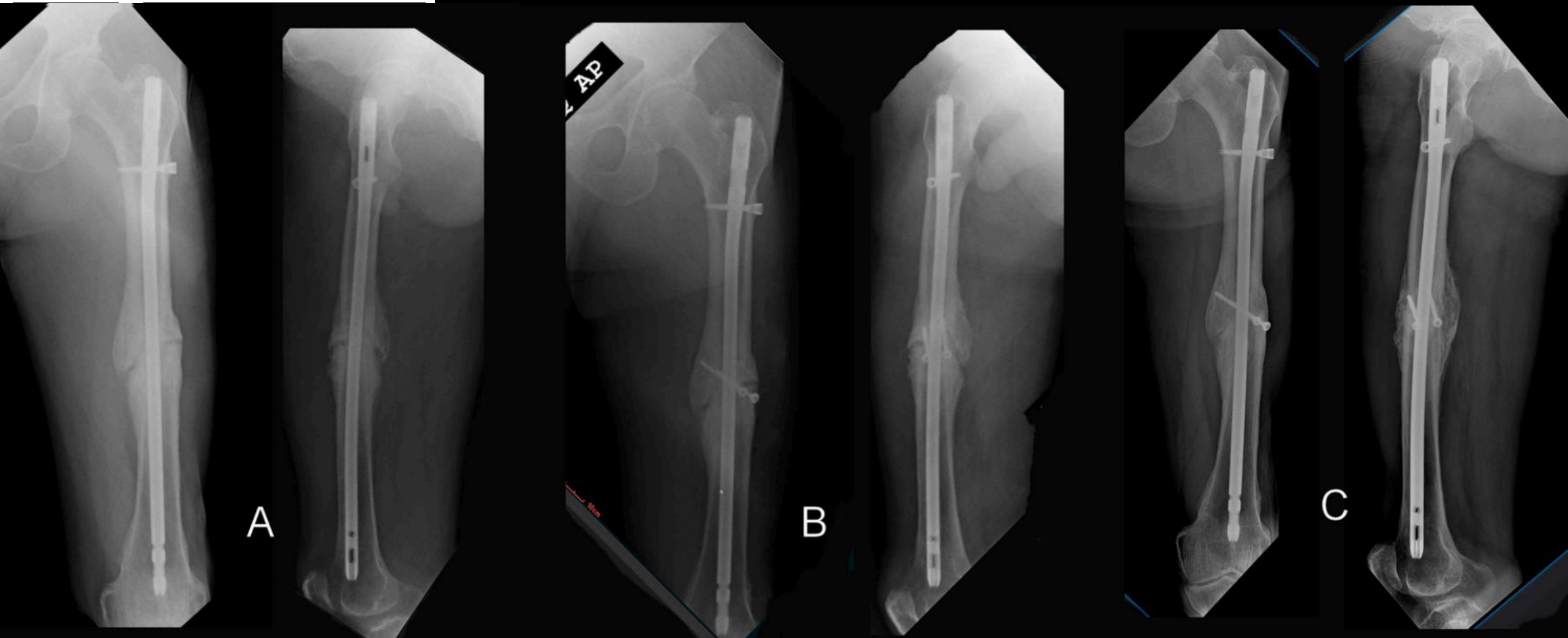
^d ECOR Instituto Universitario de Ciencias Biomédicas, Córdoba, Argentina

^e Department Facultad de Medicina, Institución Pontificia, Universidad Javeriana, Bogotá, Colombia

^f Department Facultad de Medicina, Institución Pontificia, Universidad Javeriana, Cali, Colombia

ARTICLE INFO

ABSTRACT



Take home message

- Reduction – LAR – not too large gaps
- Stability
 - 4 methods provide absolute stability
 - Relative stability – OBS working length
- Blood supply
 - Gentle soft tissue management
- Early mobilization

