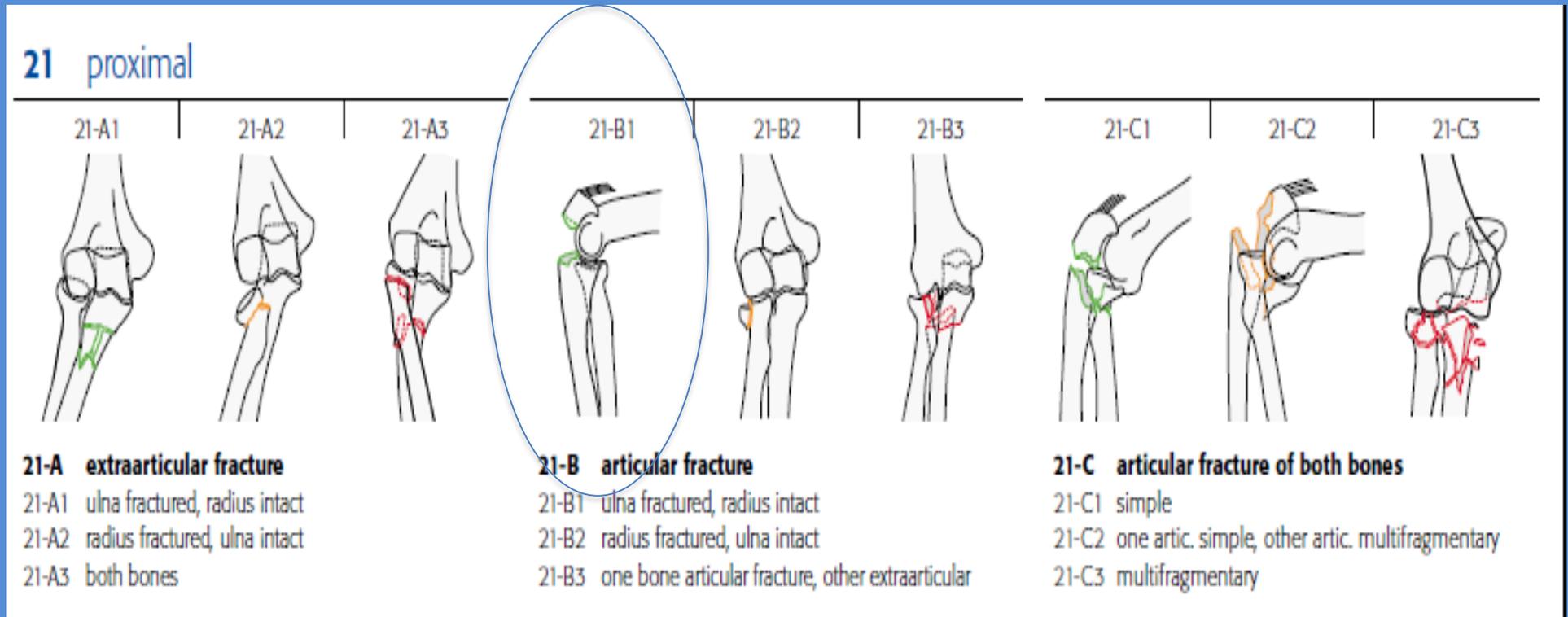


# Olecranon fracture



AO BASIC 2023  
Marie Fridberg  
Rigshospitalet

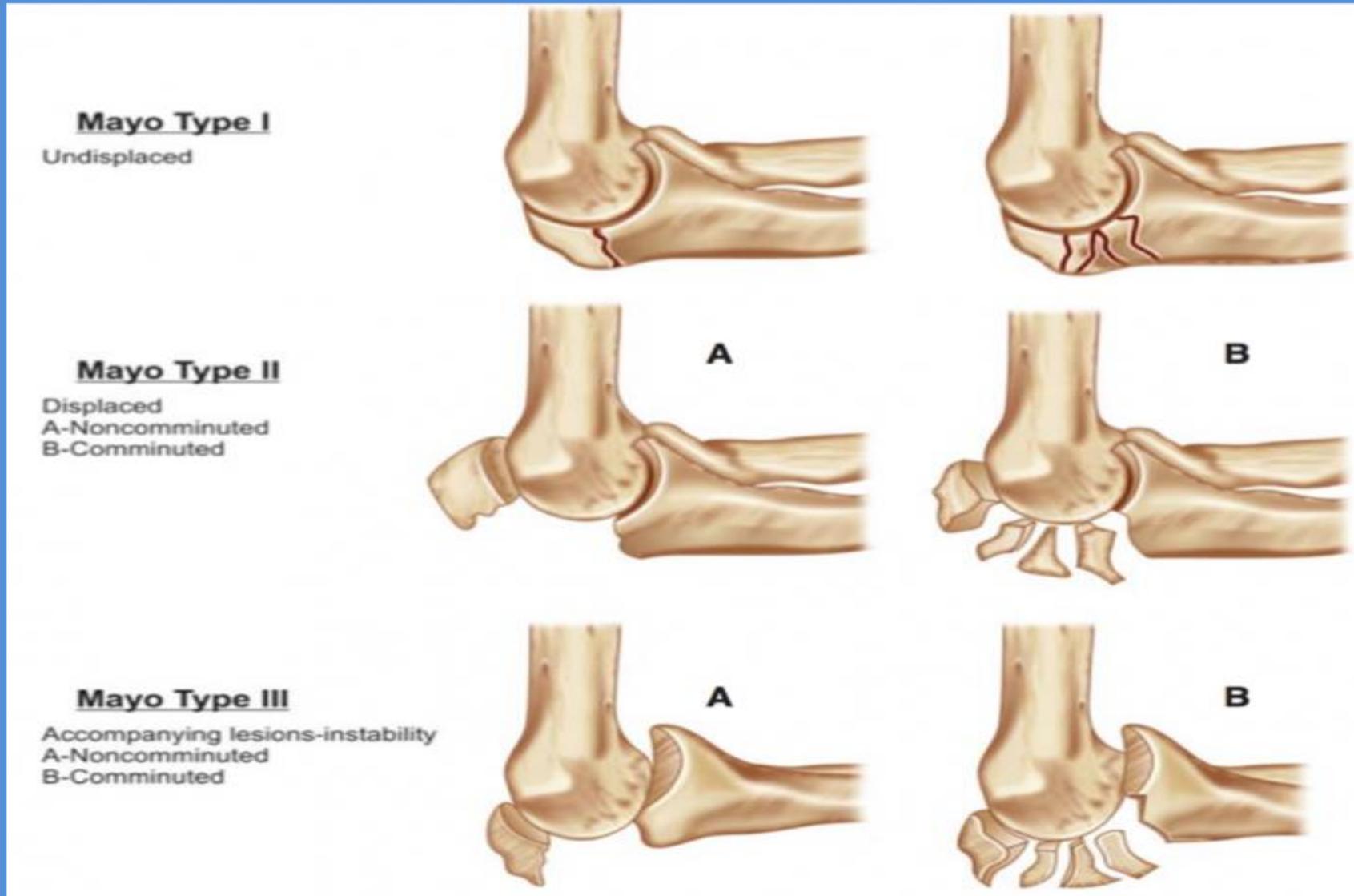
# Müller AO - classification



20% af alle frakturer i proksimale under-arm

*Duckworth et Al. The epidemiology of fractures of the proximal ulna. Injury. 2012 Mar;43(3):343-6. Epub 2011 Nov 09*

# Mayo classification



# Non operative treatment

## *Mayo type I – nondisplaced*

- *Konservativ behandling af olecranonfrakturer har for ældre patienter > 75 år, vist gode resultater i flere retrospektive serier.*
- *Duckworth et al. Prospective randomised trial of non-operative versus operative management of olecranon fractures in the elderly. Bone Joint J 2017;99-B:964-72*
- *DOS KKR 2018: Det kan anbefales at anvende konservativ behandling til forskudte, stabile, olecranonfrakturer, Mayo type II, hos ældre patienter med lavt funktionsniveau...*

Duckworth AD, Clement ND, McEachan JE, White TO, Court-Brown CM, McQueen MM. Prospective randomised trial of non-operative versus operative management of olecranon fractures in the elderly. Bone Joint J. 2017 Jul;99-B(7):964-972. doi: 10.1302/0301-620X.99B7.BJJ-2016-1112.R2. PMID: 28663405.

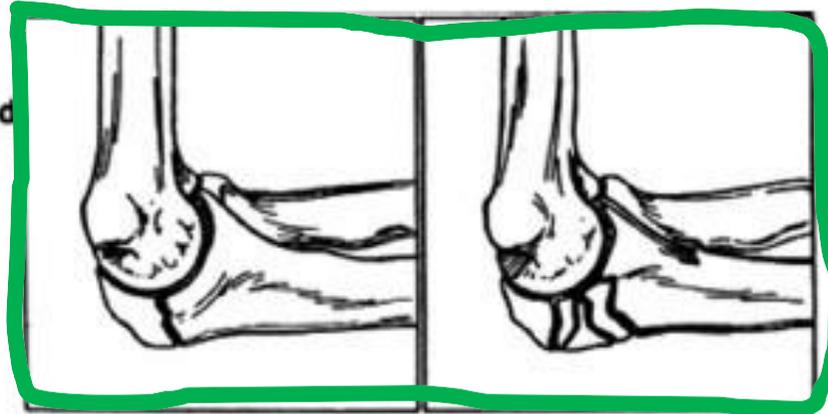
# Olecranon fracture

- Why operate?
- Methods of fixation
  - Tension band
  - Plating
- Summary



Konservativ

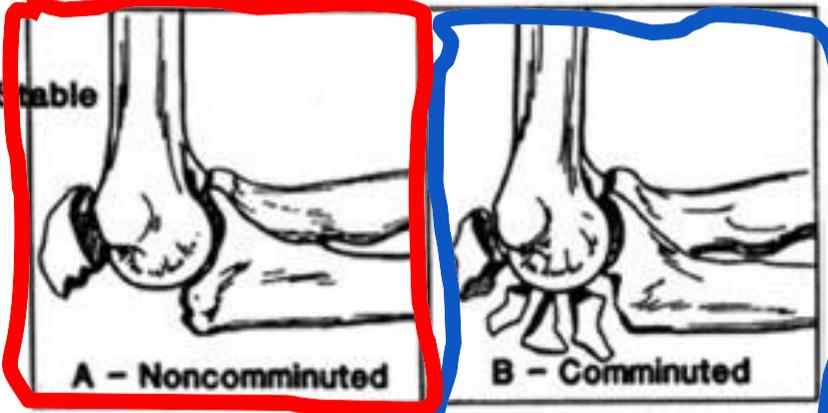
**TYPE I**  
Undisplaced



Tension band

Evt. konservativ

**TYPE II**  
Displaced - Stable



Skinne

**TYPE III**  
Unstable

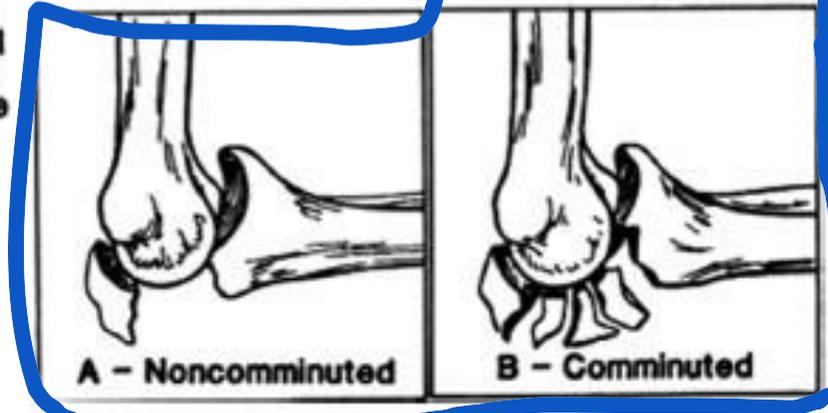


FIGURE 1: Mayo classification of olecranon fractures.

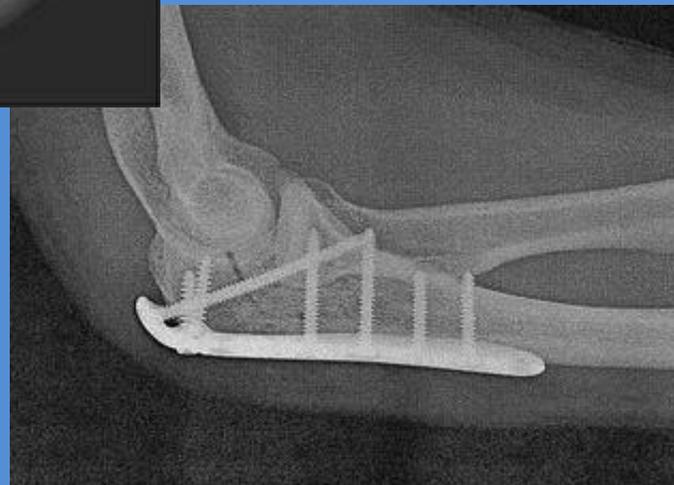
# Olecranon fracture

## Why operate?

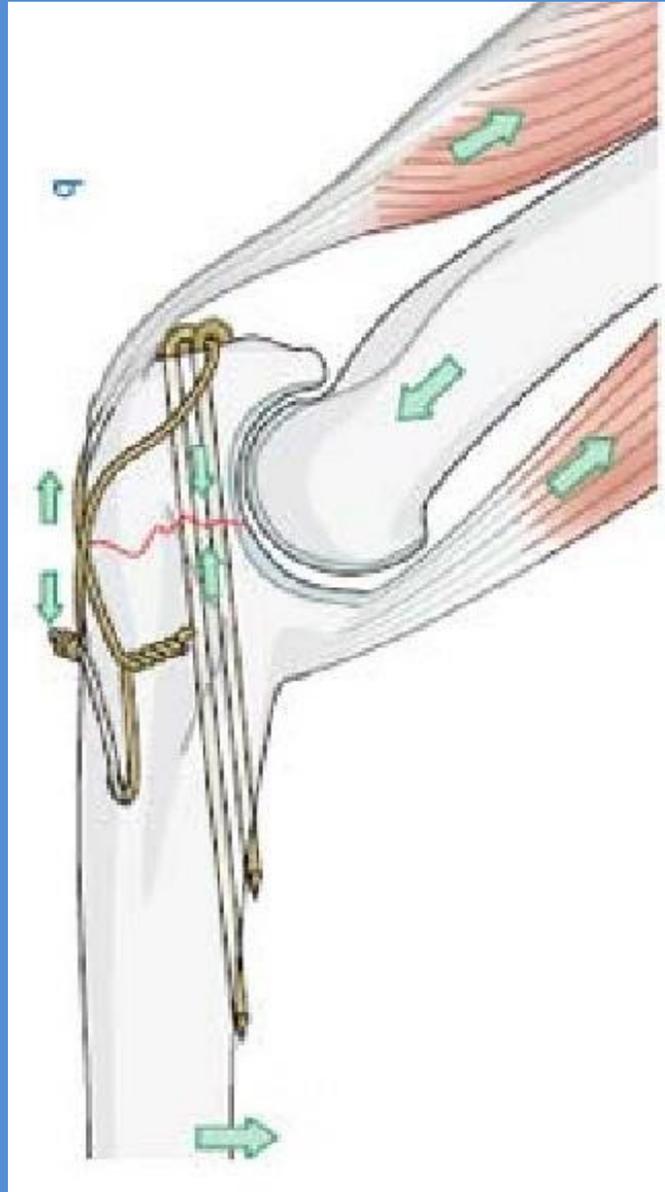
- Restore articular surface
- Achieve absolute stability
- Commence early active movement



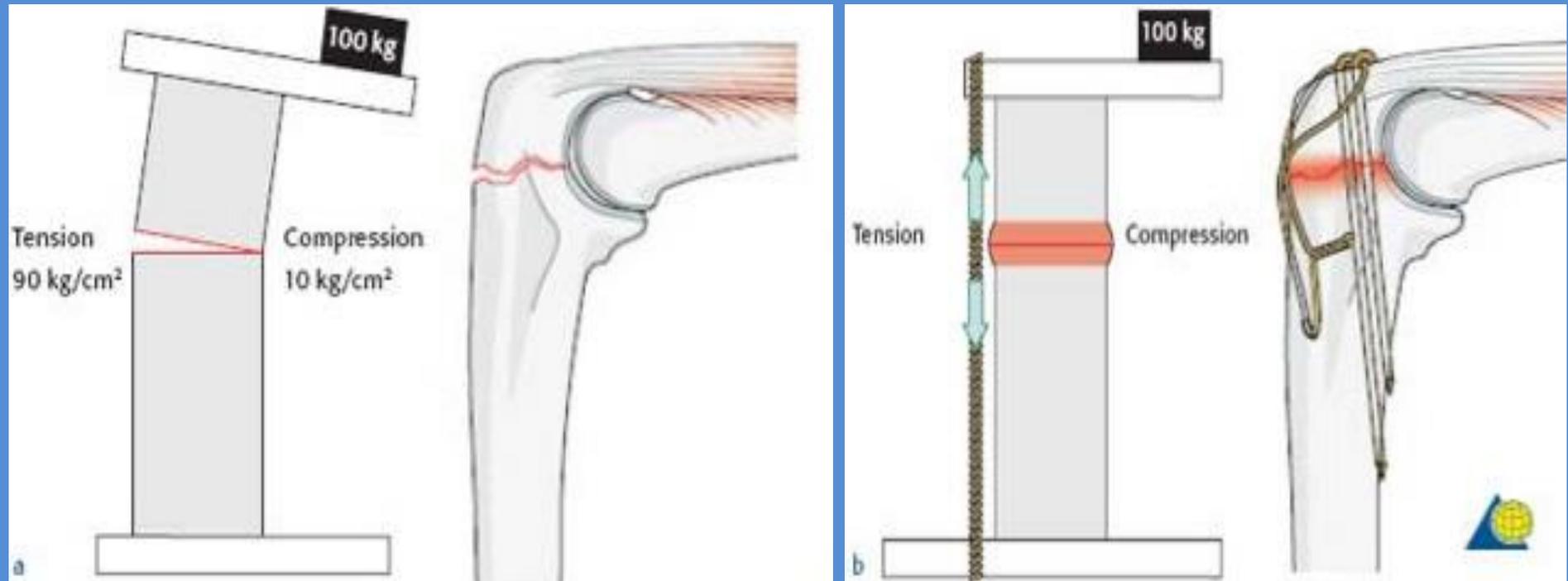
# Methods of fixation?

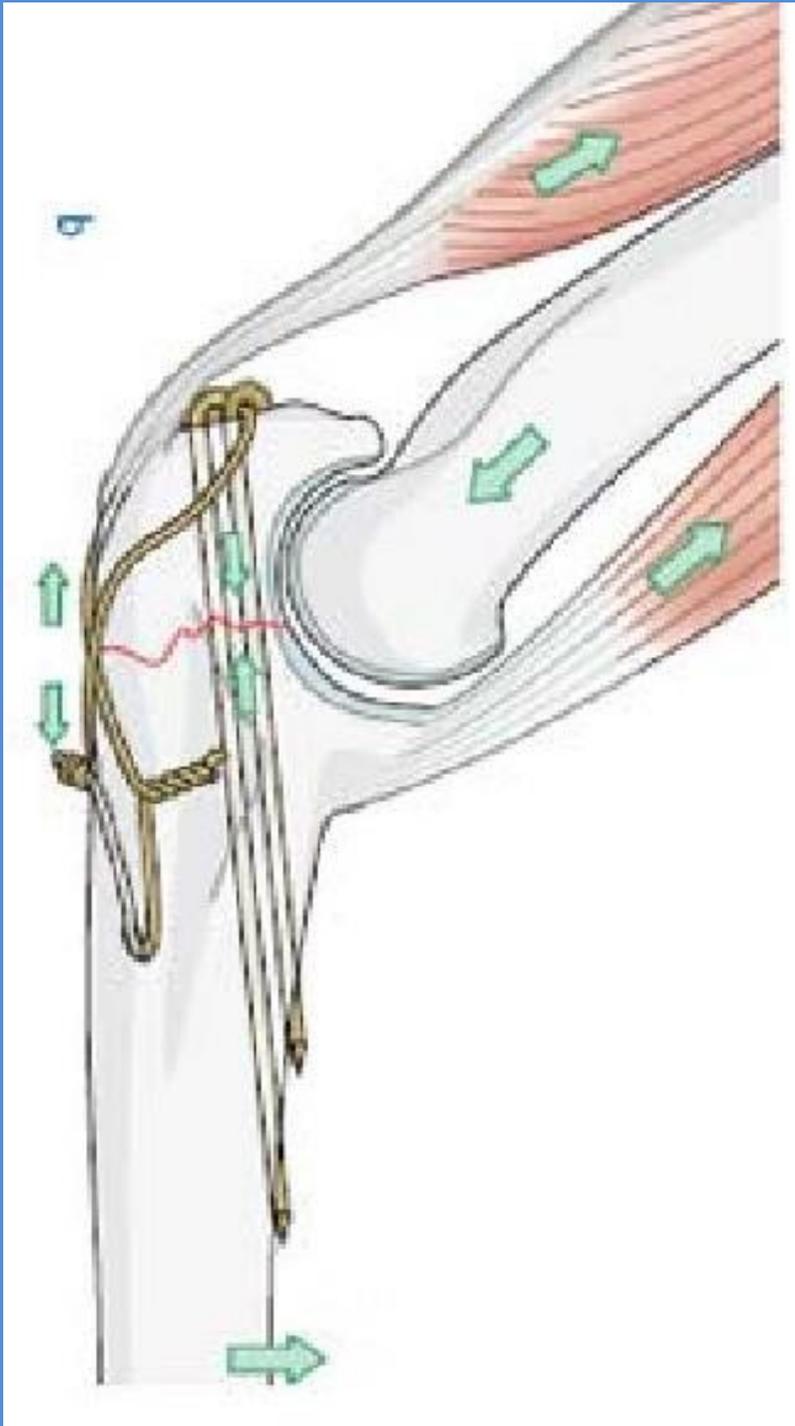


# Tension band



# Tension band princippet





Nøglen til at forstå....  
Tension band princippet

Tensile Force



Compression Force

# How to place K-wires?



*Tension Band Wiring for Olecranon Fractures: Relative Stability of Kirschner Wires in Various Configurations. Huang, Tsan-Wen et al. Journal of Trauma-Injury Infection & Critical Care. 68(1):173-176, January 2010*

# Tension band



# Tension band

Hvad er der galt?



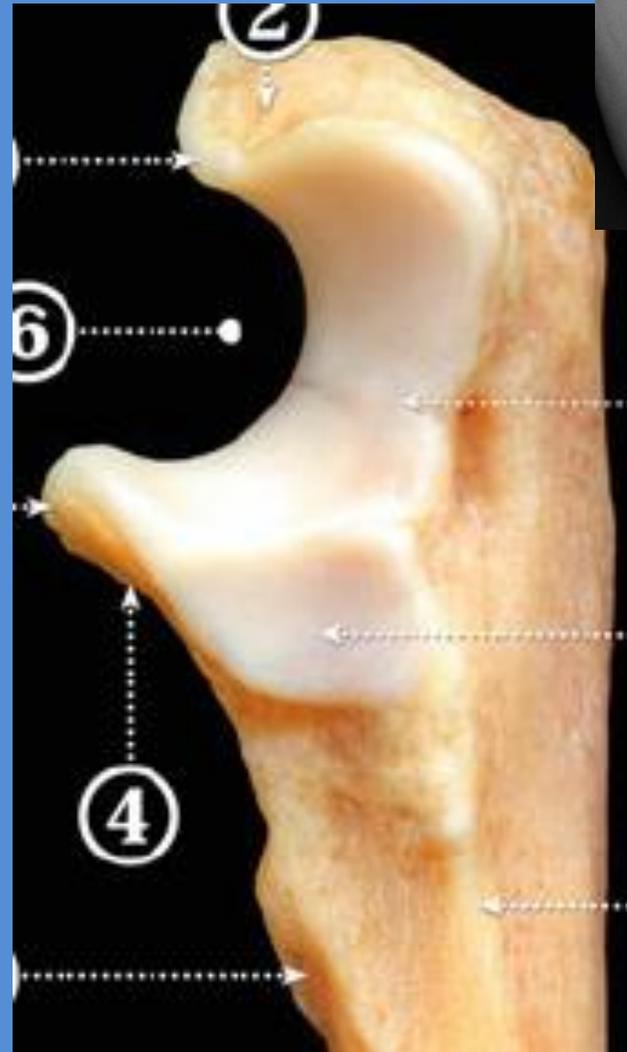
# Tension band

## Anatomisk overvejelse



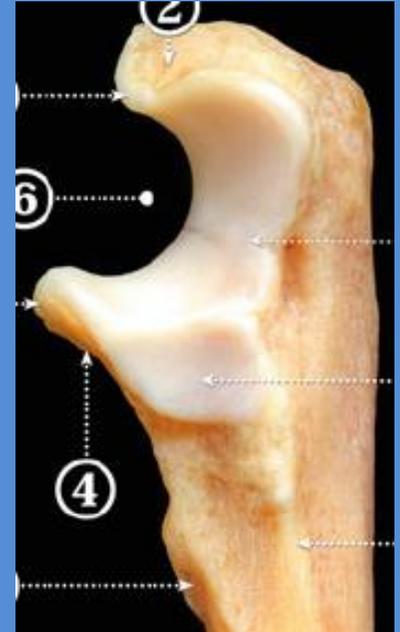
# Tension band

## Pitfalls



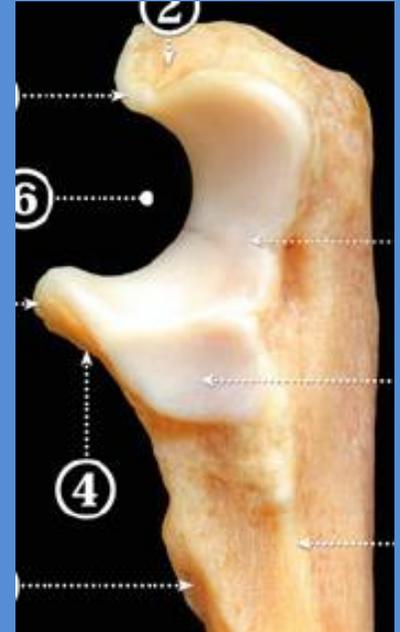
# Tension band

## Pitfalls



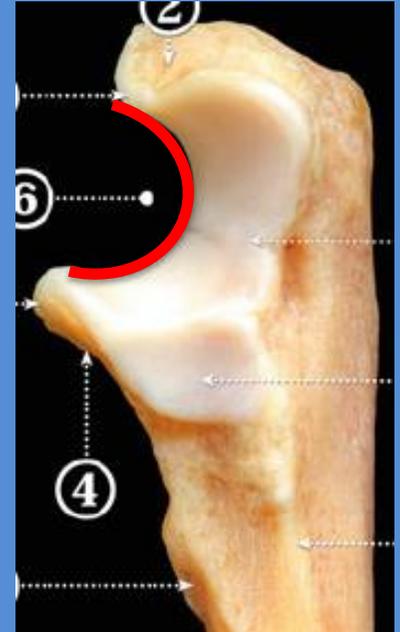
# Tension band

## Pitfalls



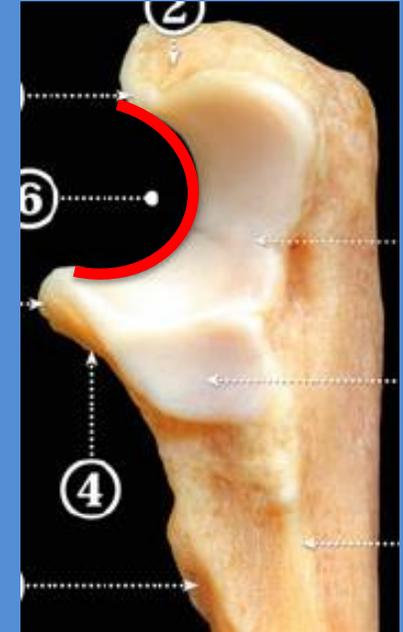
# Tension band

## Pitfalls



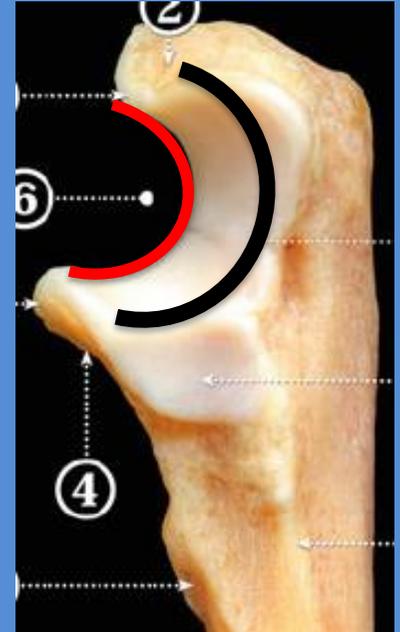
# Tension band

## Pitfalls



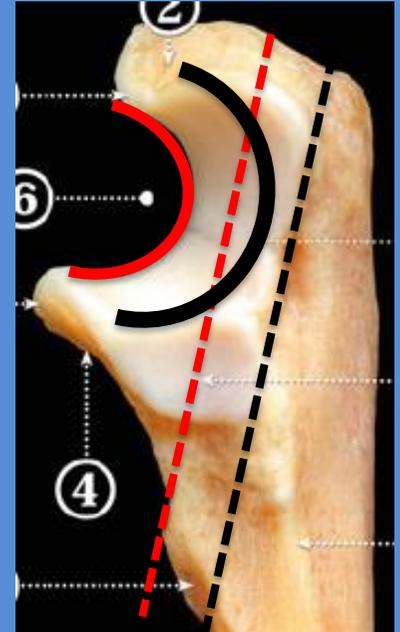
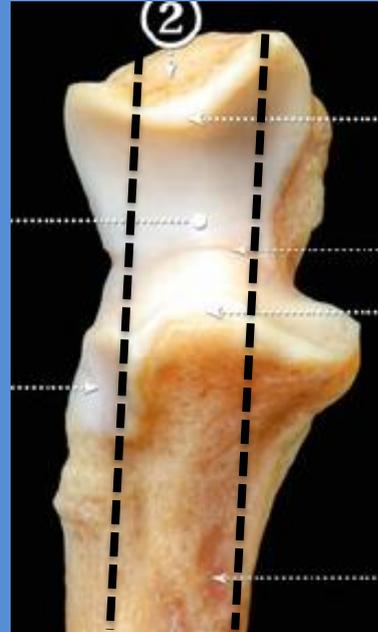
# Tension band

## Pitfalls

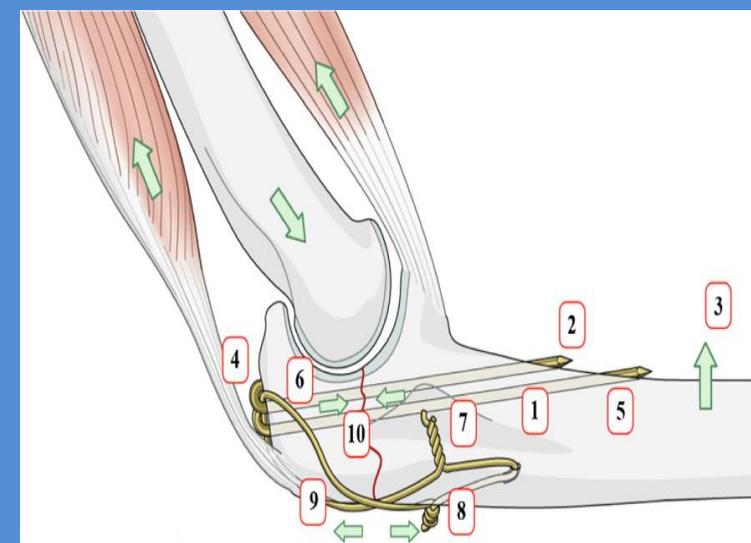


# Tension band

## Pitfalls



# Pittfalls



1. IKKE-parallele k tråde
2. For lange k tråde (prominerer anteriort)
3. K tråde der kolliderer med radius
4. K tråde der IKKE er ombøjet nok og/eller fixeret proksimalt
5. Korte intramedulære k tråde
6. Perforation af led fladen
7. Kun en vikle-knude på cerklagen
8. Løse vikleknuder på cerklagen
9. løs 8 tals konfiguration af cerklagen
10. reposition af led fladen

Konservativ

Tension band

Evt. konservativ

Skinne

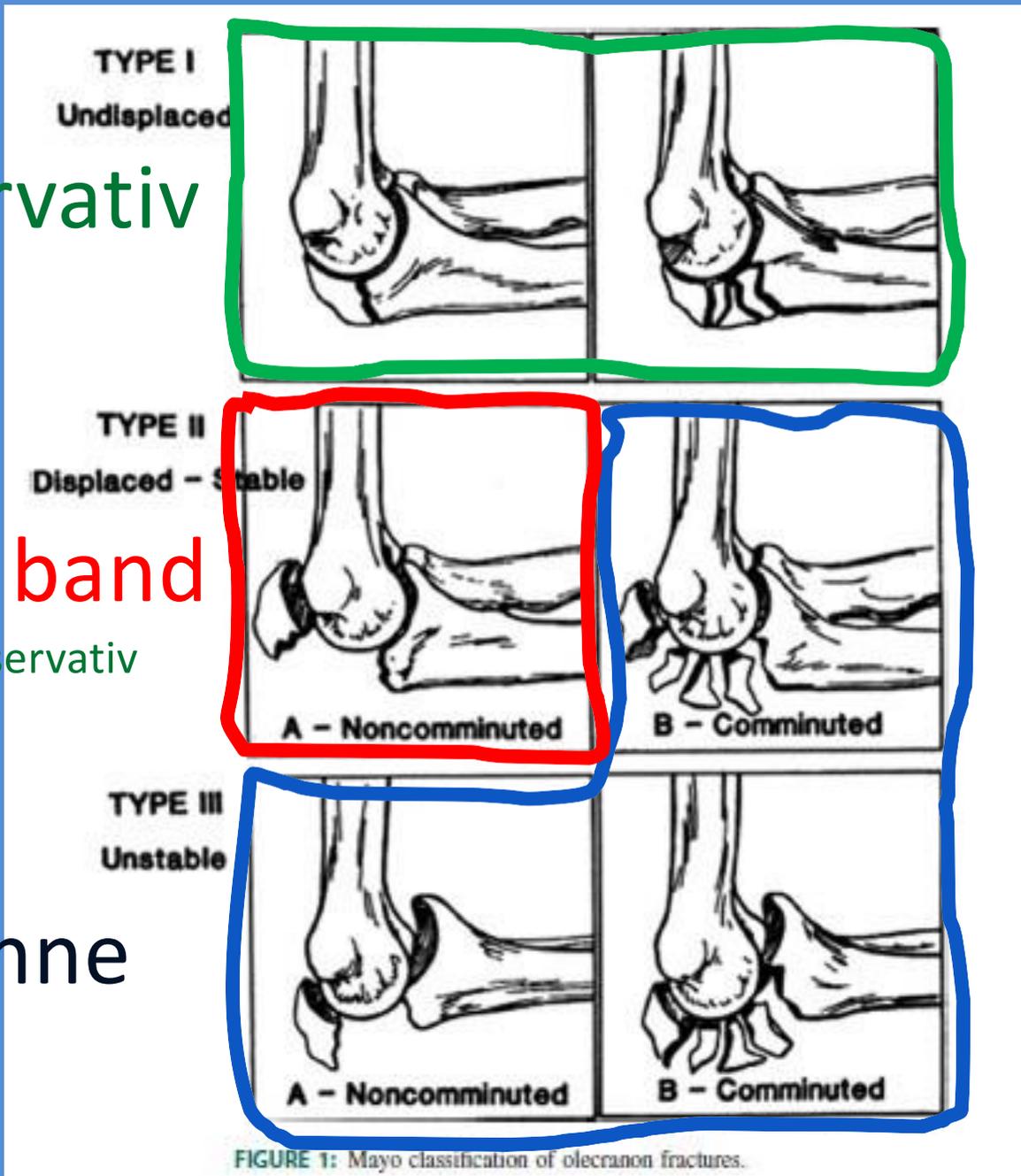
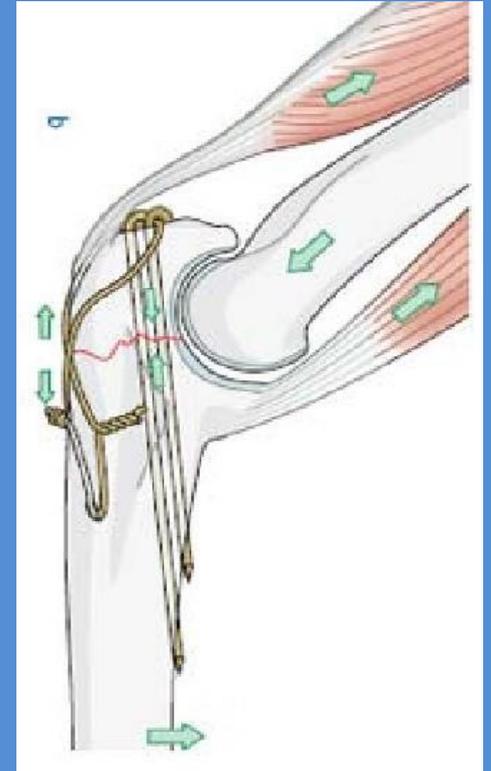
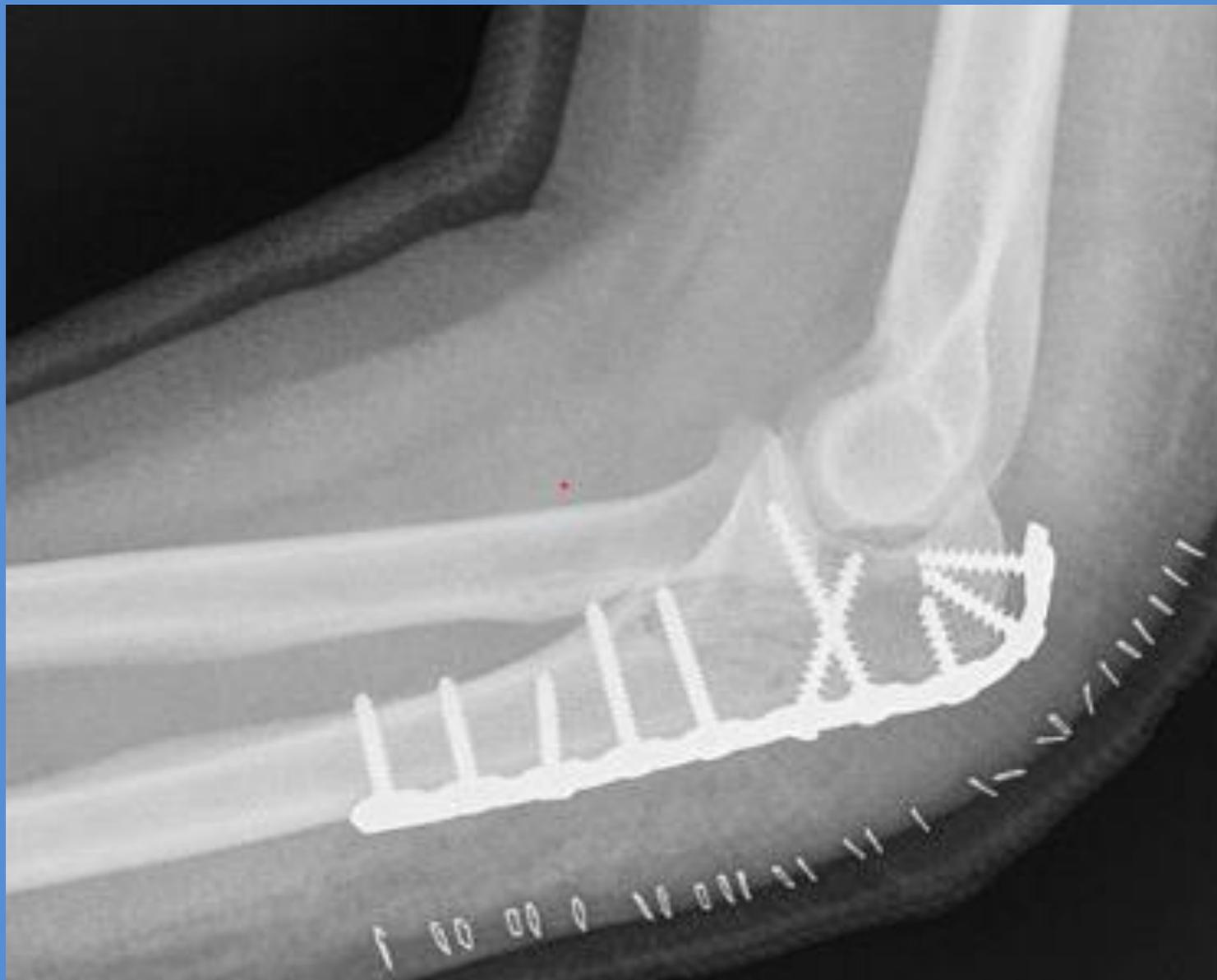


FIGURE 1: Mayo classification of olecranon fractures.



# Skinne



# Summary – Tension band fixation

Fraktur:

Simpel transvers (MAYO IIA)

K tråde:

Parallele

Anterior cortex / distal ulnar canal

Undgå intraartikulær

<10 mm beyond the anterior cortex

OBS ombøjning og forsænkning

Cerklage:

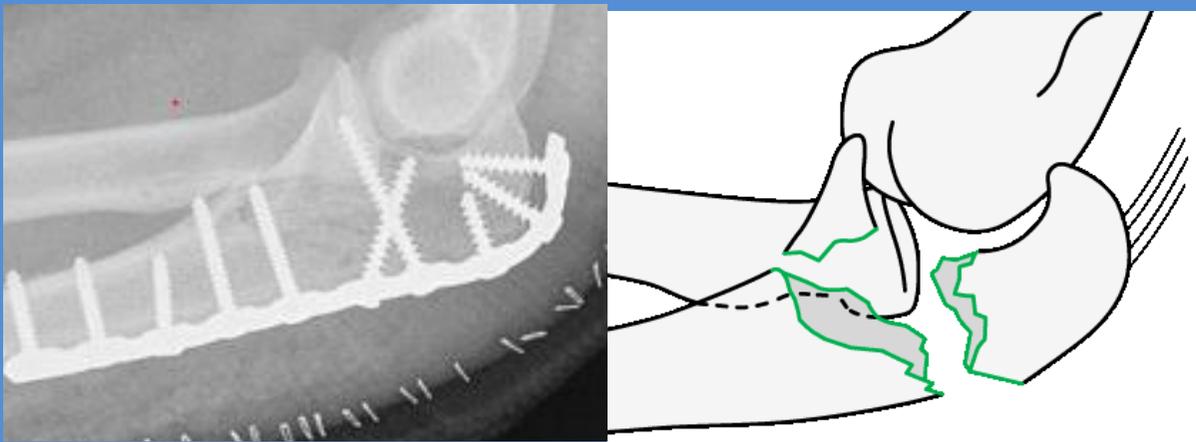
8-tals configuration

2 simultane- knuder (vikleteknik)



# Summary – Plating and non operative treatment

- Non displaced MAYO I and Displaced MAYO II in elderly  
NON OPERATIVE
- Comminute fracture  
PLATE



?