

Pertrochantære femur frakturer

- Frakturtyper og behandling -

Tobias K. Aasvang

Hvidovre

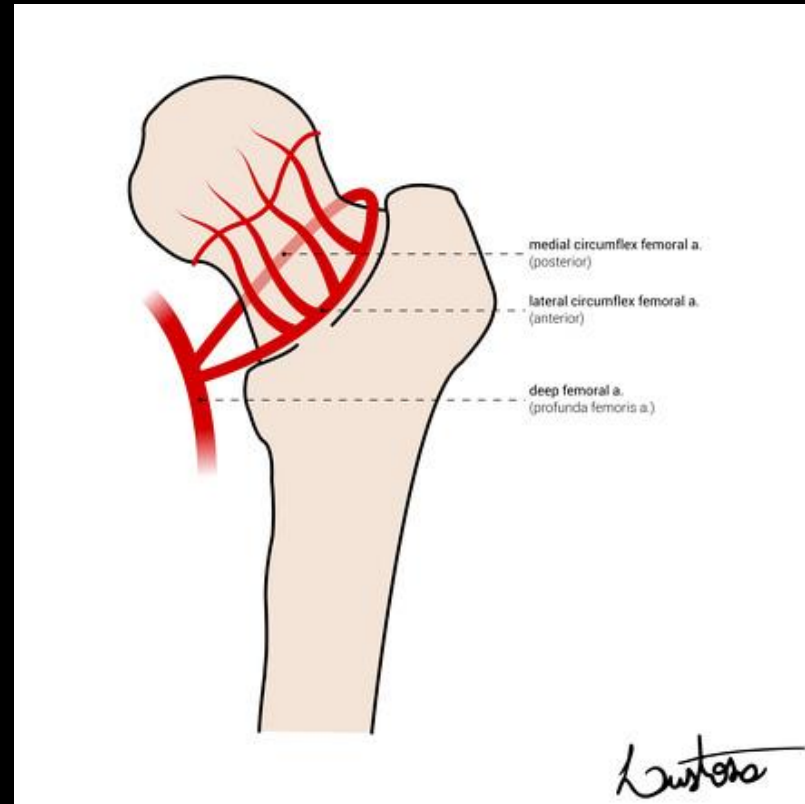
Læringsmål

- Klassifikation
- Valg af implantat
- Reposition
- Placering af collumskruen

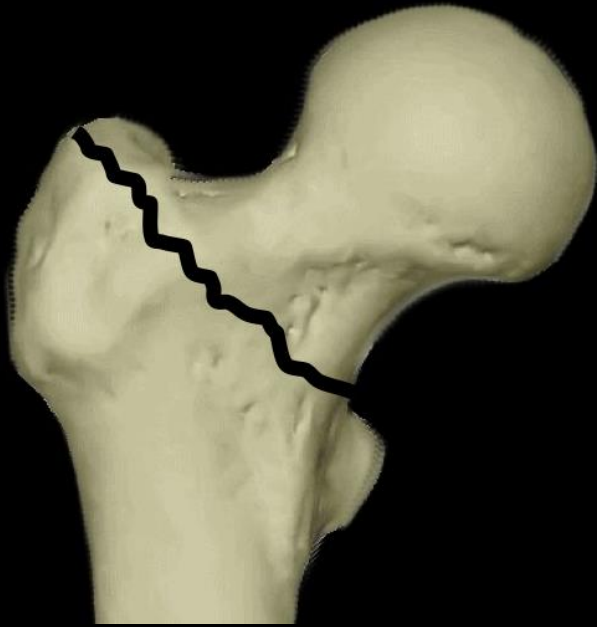
Hoftefrakturer generelt

- Ca. 7000-8000 om året i Danmark
- Bimodal fordeling med flest ældre (gns. alder 83 år)
- Unge i høj-energi ulykker og ældre med osteoporotiske knogler
- Hos ældre en høj dødelighed efter 30 dage (ca. 10%) og 1 år (ca. 28%)
- Mange genindlæggelser og reoperationer
- De pertrochantære udgør ca. 40% af alle hoftenære frakturer

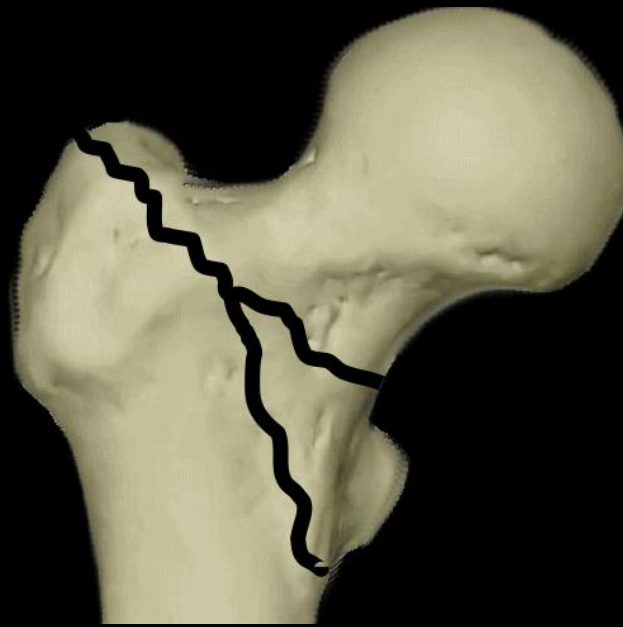
Pertrochantærer vs. mediale frakturer



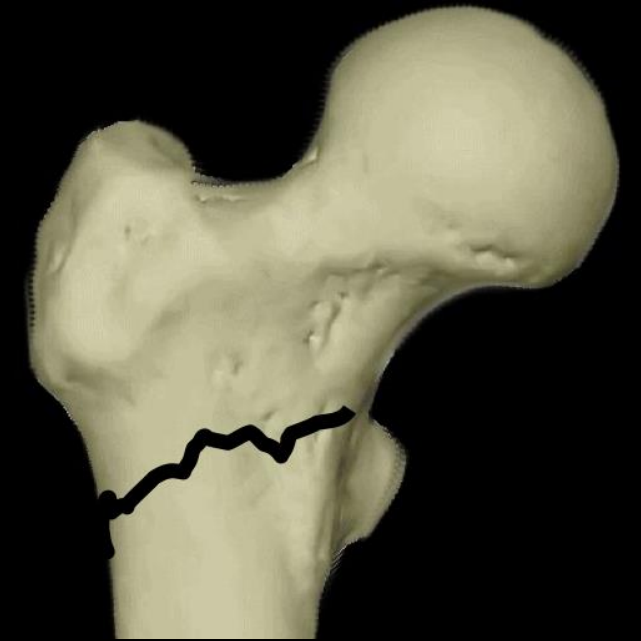
Klassifikation - AO



Simpel pertrochantær
31A1.2



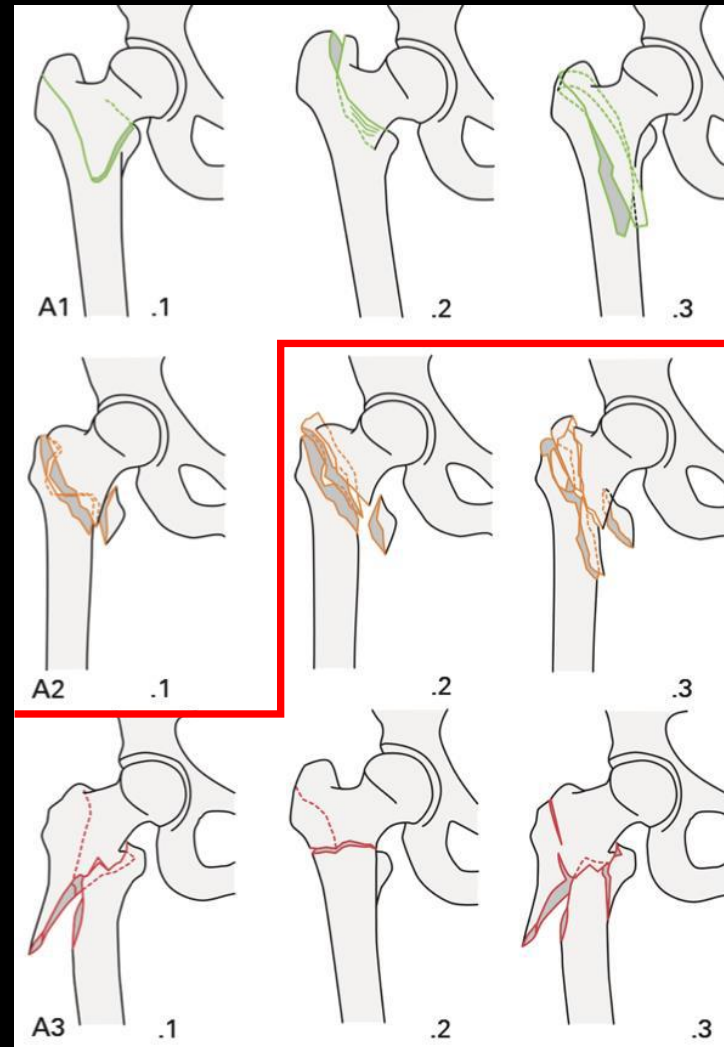
Multifragmentær
pertrochantær
31A1.3



Intertrochantær
31A3.1

Klassifikation - underinddeling

Stabil



Ustabil

Formål med operationen

- Tillade tidlig mobilisering
- Genoprette biomekaniske akser
- Relativ stabilitet
- Interfragmentær kompression
- Indirekte heling

Men vi vil også..

- Forebygge reoperation

Det egentlige valg



Gamma and other cephalocondylic intramedullary nails
versus extramedullary implants for extracapsular hip
fractures in adults (Review)

Cochrane 2010

Intramedullary nails for extracapsular hip fractures in adults
(Review)

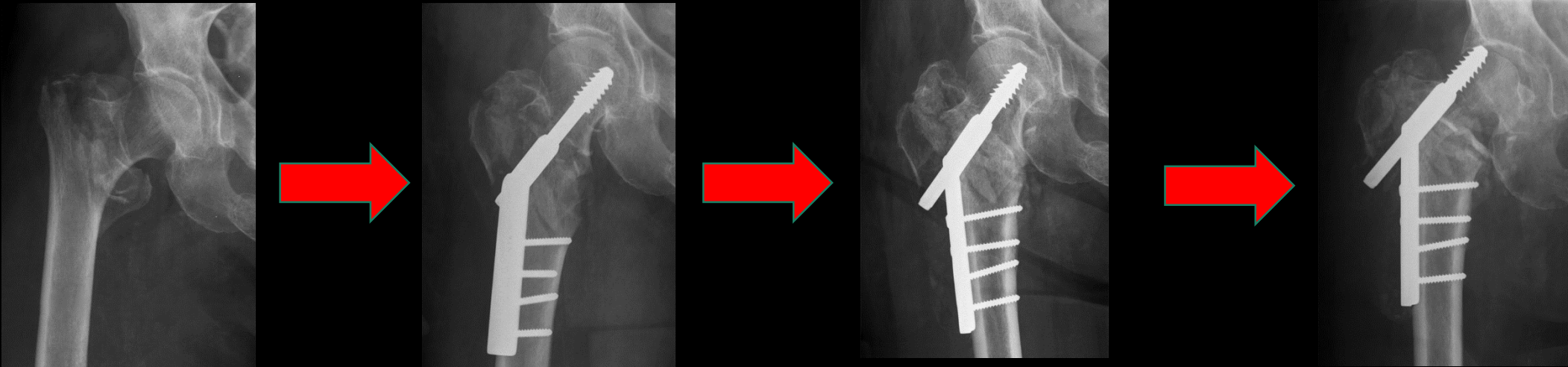
Cochrane 2014

SHS ER 'GOLDEN STANDARD'

UTILSTRÆKKELIG EVIDENS!

DHS fordrer

- En lateral væg der kan 'bære' skinnen
- Et stabilt frakturmønster der kan forhindre medialisering



Integrity of the Lateral Femoral Wall in Intertrochanteric Hip Fractures: An Important Predictor of a Reoperation

By Henrik Palm, MD, Steffen Jacobsen, MD, Stig Sonne-Holm, MD, DMSc, and Peter Gebuhr, MD, on behalf of the Hip Fracture Study Group



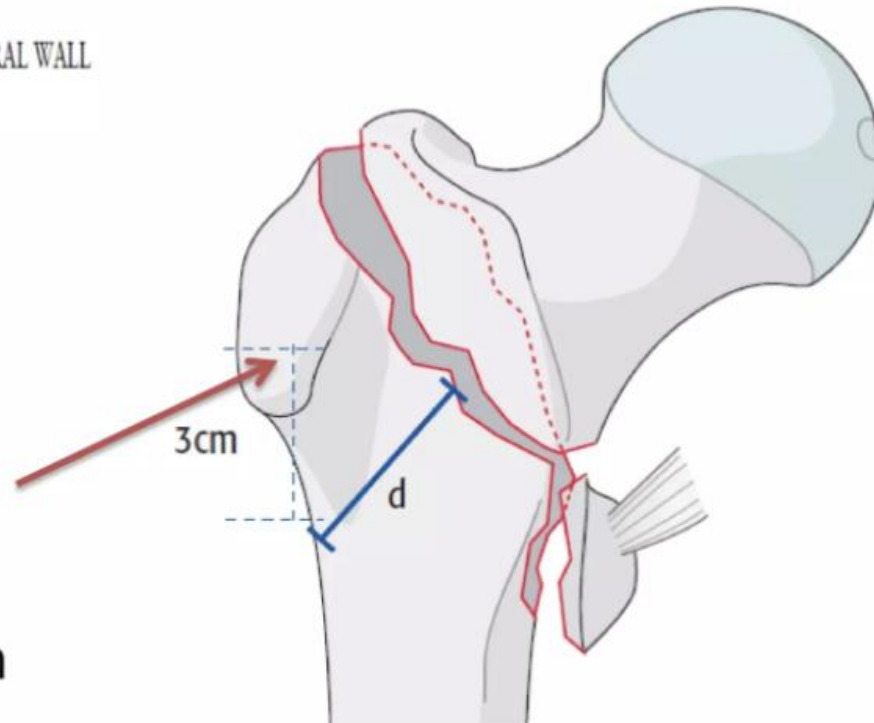
lateral femoral wall were operated on again ($p < 0.001$). Multivariate logistic regression analyses combining demographic and biomechanical parameters showed a compromised lateral femoral wall to be a significant predictor of a reoperation ($p = 0.010$). Seventy-four percent (thirty-four) of the forty-six fractures of the lateral femoral wall occurred during the operative procedure itself. A fracture of the lateral femoral wall occurred in only 3% (three) of the 103 patients with an AO/OTA type-31-A1.1, A1.2, A1.3, or A2.1 intertrochanteric fracture compared with 31% (thirty-one) of the



Lateral femoral wall thickness

A RELIABLE PREDICTOR OF POST-OPERATIVE LATERAL WALL FRACTURE IN INTERTROCHANTERIC FRACTURES

- Using the traction view with the leg in neutral rotation
- Innominate tubercle
- 135°
- Should be >20.5 mm



Hvornår er en fraktur ustabil?

- Manglende medial støtte (involvering af (et større stykke af) minor)
- Ingen eller minimal lateral væg
- Alle 31A3 frakturerne
- Involvering af det subtrochantære område



AAOS Guidelines for Decision making

- Moderate evidence supports the use of either a sliding hip screw or a cephalomedullary device in patients with stable intertrochanteric fractures.



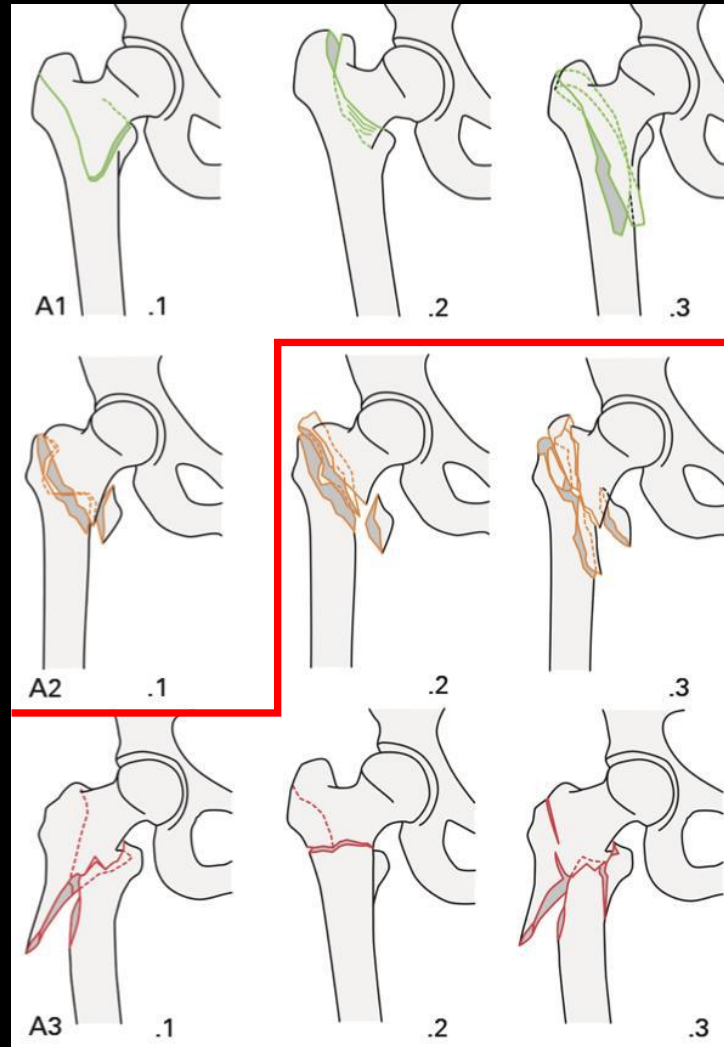
- Strong evidence supports using a cephalomedullary device for the treatment of patients with subtrochanteric or reverse obliquity fractures.



- Moderate evidence supports using a cephalomedullary device for the treatment of patients with unstable intertrochanteric fractures.



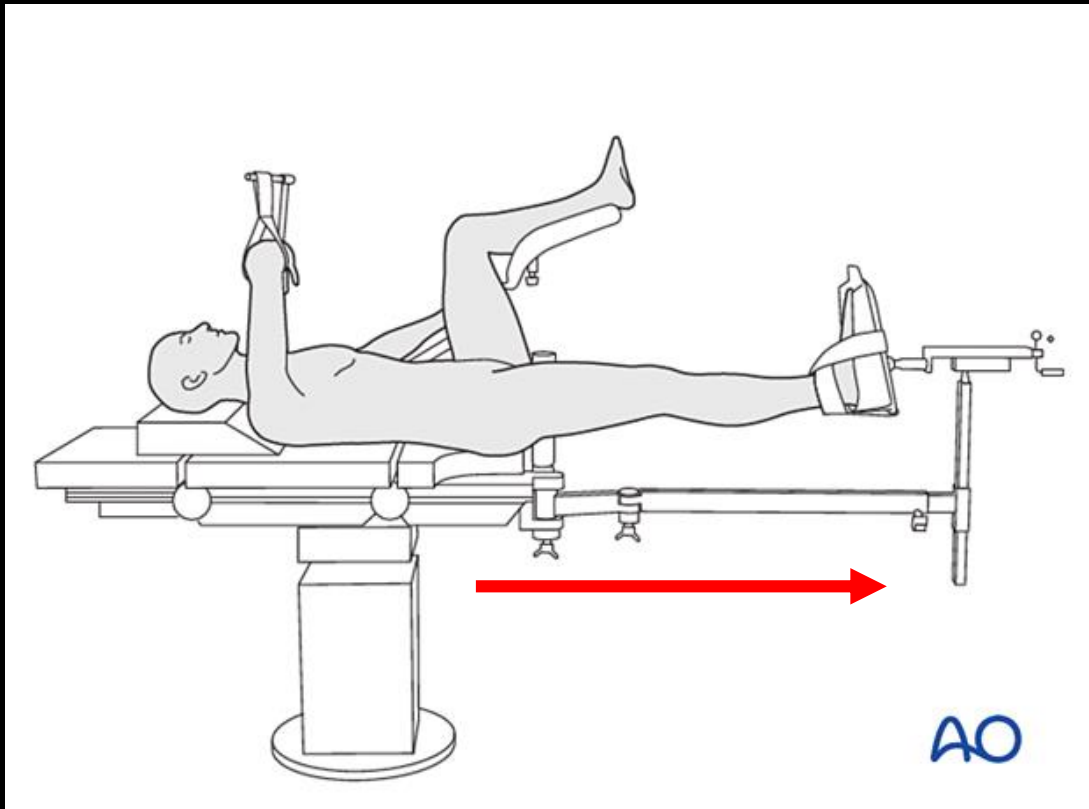
Den pragmatiske løsning



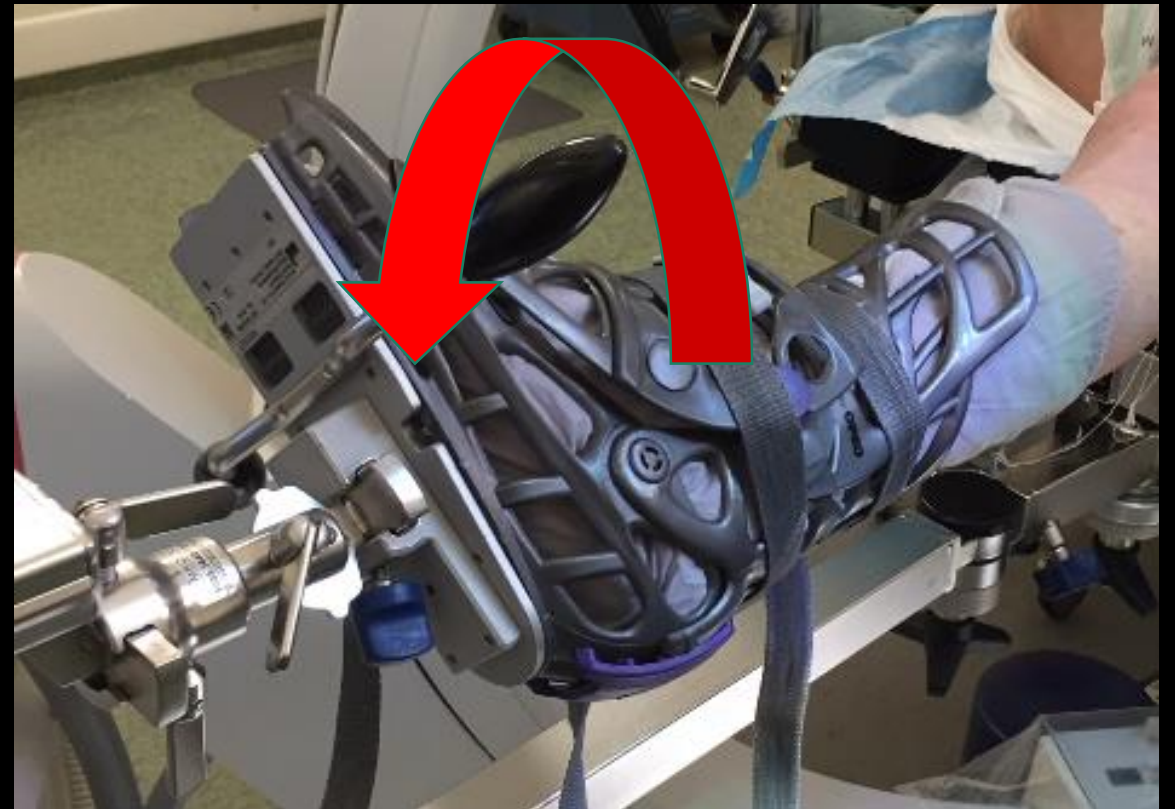
Opgaven og mulighederne

- Knoglekvalitet
- Frakturtype
- Stabilitet
- ~~Implantatvalg~~
- Reposition
- Placering af collumskruen

Reposition - og lejrning



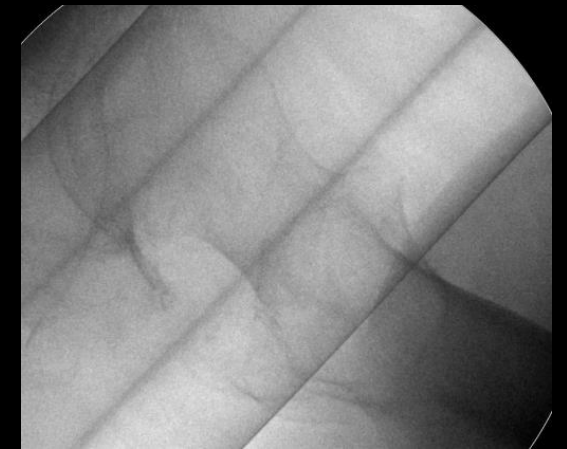
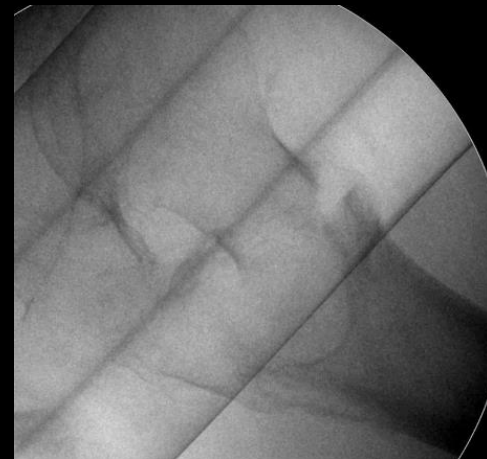
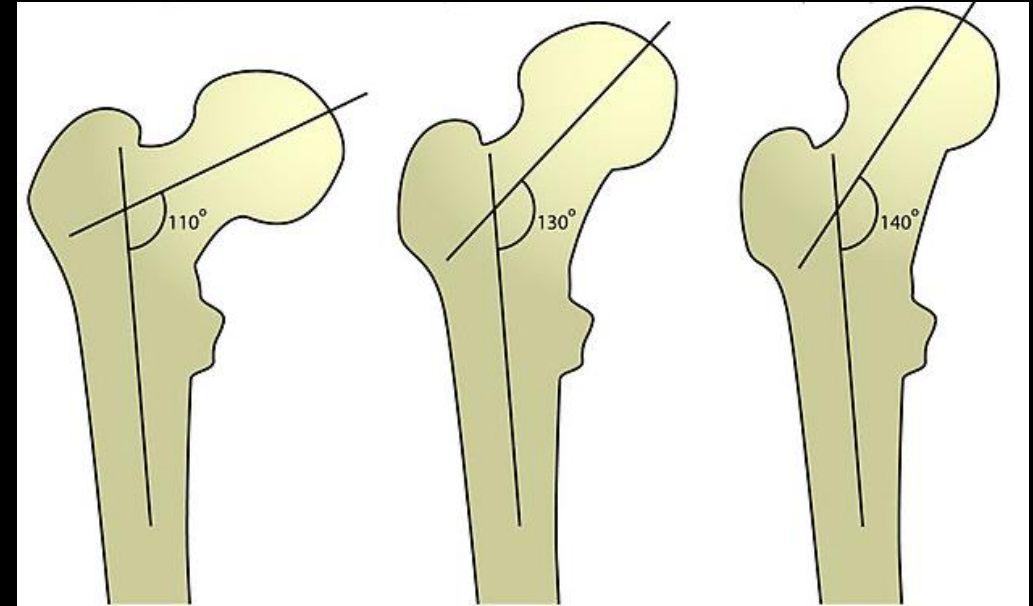
Længdetræk



Indadrotation

Faldgruberne

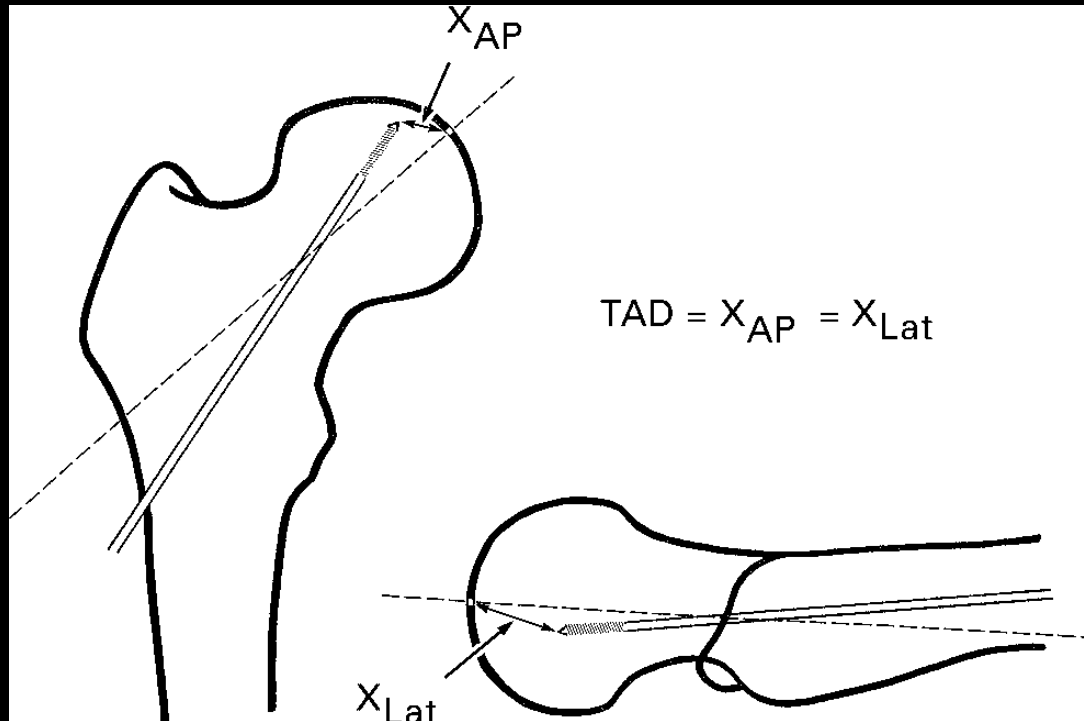
- Undgå varus
- Kend de deformerende kræfter
- Fokus på det anteromediale hjørne
- 'Bedst mulige stilling' er ikke godt nok
- Hvis ikke lukket så åbent



Opgaven og mulighederne

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- ~~Reposition~~
- Placering af collumskruen

Placering af collumskruen



- Lavt i AP
- Centralt i sideplan
- $TAP < 25\text{mm}$



The Value of the Tip-Apex Distance in Predicting Failure of Fixation of Peritrochanteric Fractures of the Hip*

BY MICHAEL R. BAUMGAERTNER, M.D.†, STEPHEN L. CURTIN, M.D.†, DIETER M. LINDSKOG, B.A.†,
AND JOHN M. KEGGI, M.D.‡, NEW HAVEN, CONNECTICUT

Opgaven og mulighederne

- Knoglekvalitet
- Frakturtype
- Stabilitet
- ~~Implantatvalg~~
- ~~Reposition~~
- ~~Placering af collumskruen~~
- Bonus! Supervision.

Take-home messages

- Tænk i stabile vs. ustabile
- Søm til de ustabile, DHS til de stabile
- Fokus på reposition
- Aldrig varus!
- TAP < 25mm
- Sørg for ordentlig supervision

**STRAIGHT
OUTTA
HIP SURGERY**

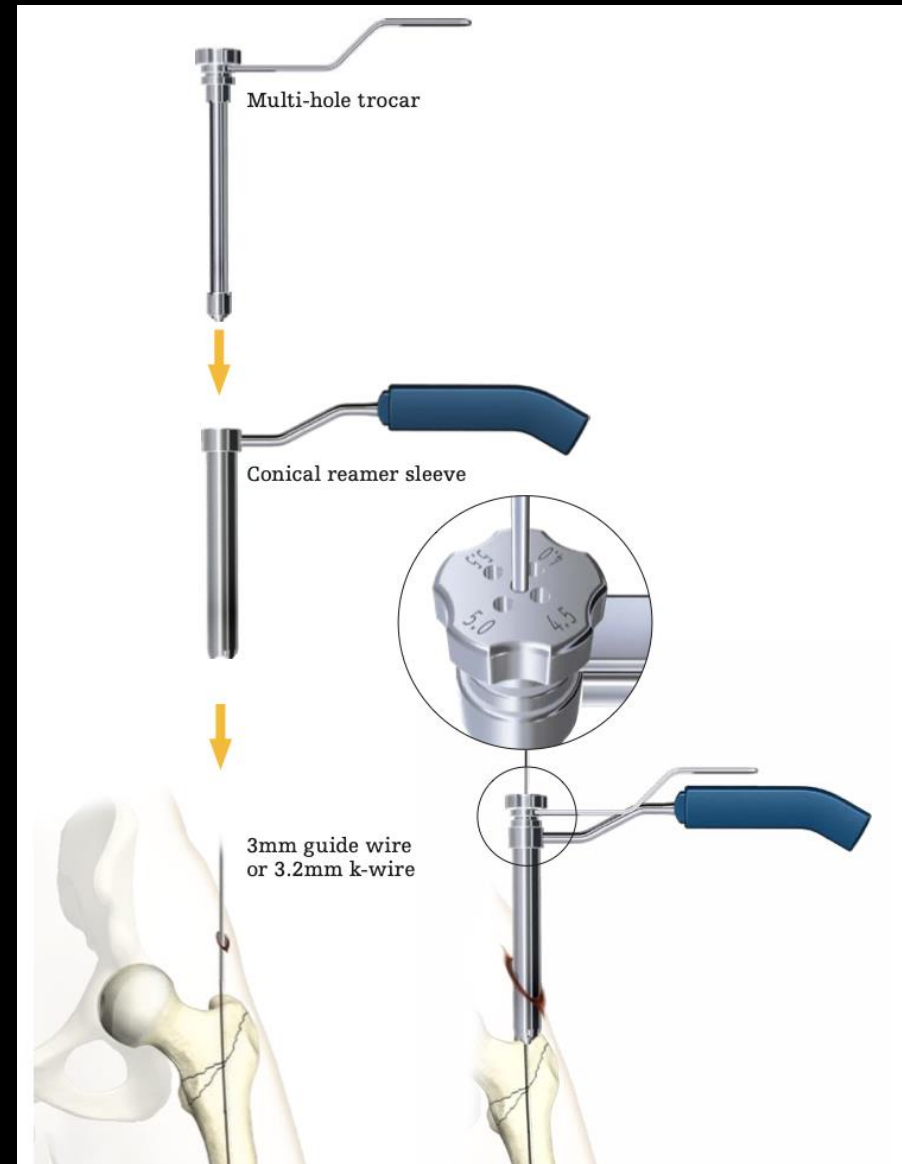
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Tegn & gæt



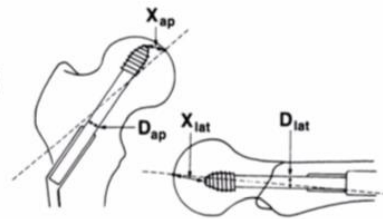
Honeycomb



Intertrochanteric Fractures: Ten Tips to Improve Results

By George J. Haidukewych, MD

1: Use the Tip-to-Apex
Distance



$$TAD = \left(X_{ap} \times \frac{D_{true}}{D_{ap}} \right) + \left(X_{lat} \times \frac{D_{true}}{D_{lat}} \right)$$

2: “No Lateral Wall, No Hip
Screw”



Haidukewych GJ. Intertrochanteric fractures: ten tips to improve results. Instr Course Lect. 2010;59:503-9. PMID: 20415401.

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3: Know the Unstable Intertrochanteric Fracture Patterns, and Nail Them



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4: Beware of the Anterior Bow
of the Femoral Shaft

5: When Using a Trochanteric
Entry Nail, Start Slightly Medial
to the Exact Tip of the Greater
Trochanter



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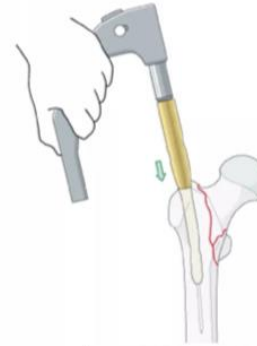
Intertrochanteric Fractures: Ten Tips to Improve Results

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6: Do Not Ream an Unreduced Fracture.

7: Be Cautious About the Nail Insertion Trajectory, and Do Not Use a Hammer to Seat the Nail

8: Avoid Varus Angulation of the Proximal Fragment—Use the Relationship Between the Tip of the Trochanter and the Center of the Femoral Head



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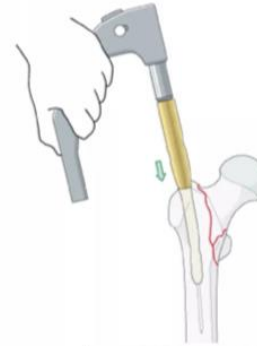
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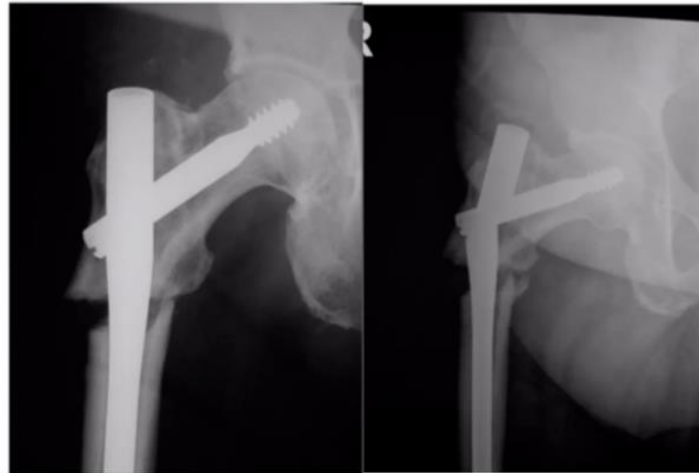


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- 9: When Nailing, Lock the Nail Distally if the Fracture Is Axially or Rotationally Unstable.
- Tip 10: Avoid Fracture Distraction When Nailing



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