

TRADITIONAL TRAUMA TECHNIQUES: WHICH ONES HAVE BEEN REPLACED?

Dynamic Hip Screw Fixation

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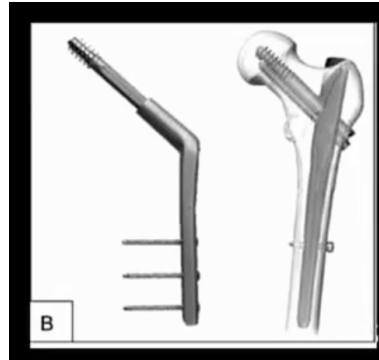


Disclosures

- None

Clarification:

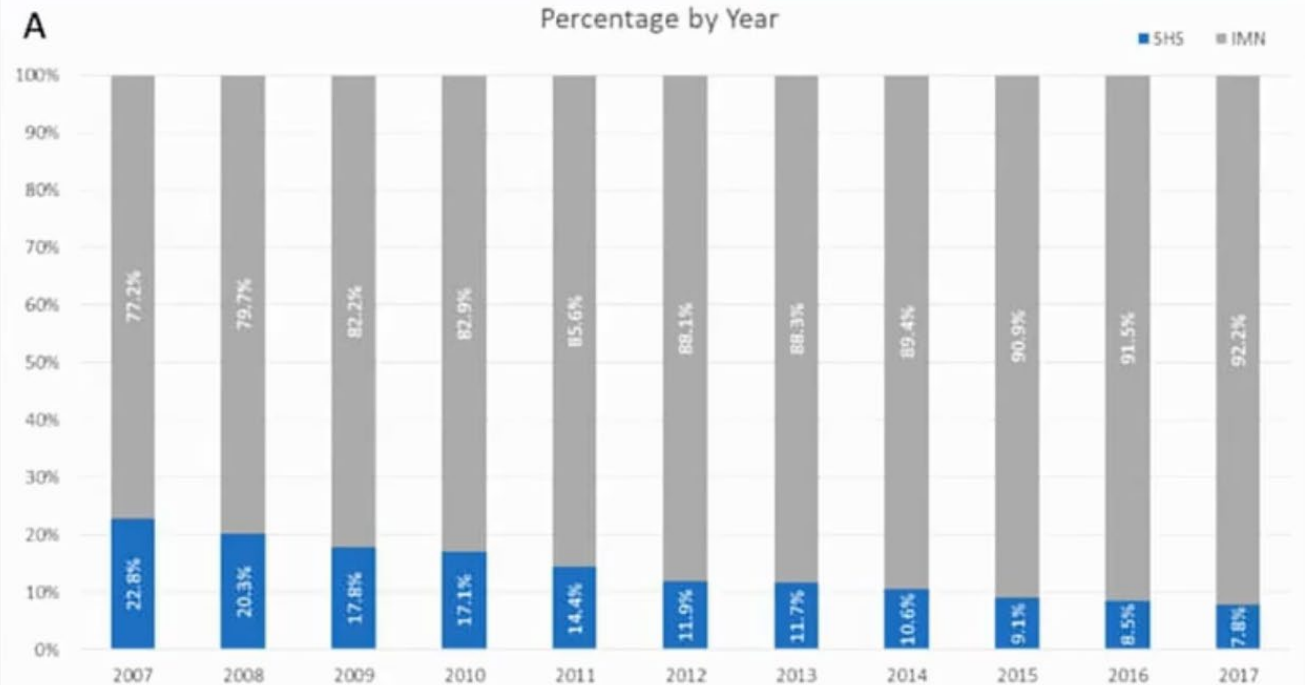
- DHS is product SHS is a concept
- Both nails and plates can be attached to SHS
- We are really asking should we continue attaching SHSs to plates?



We are nailers!

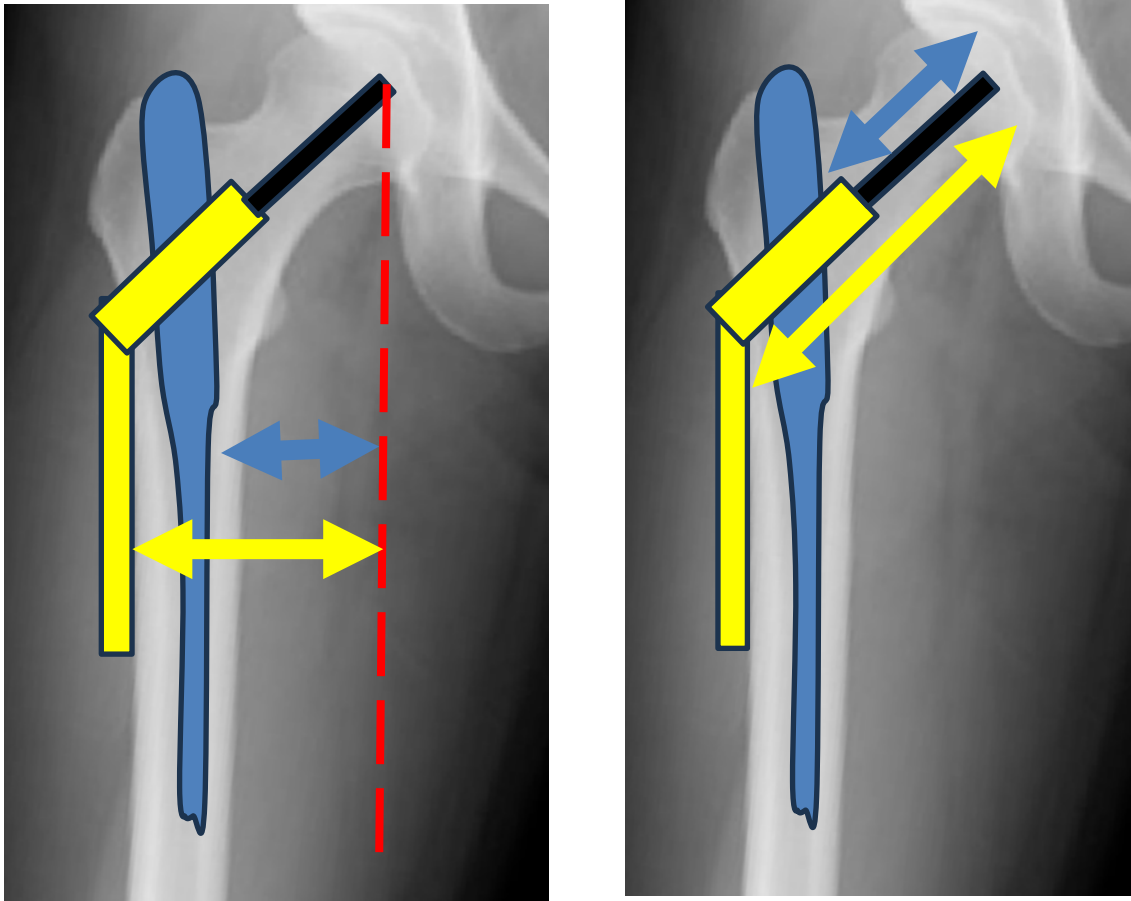
Trend and Economic Implications of Implant Selection in the Treatment of Intertrochanteric Hip Fractures: A Review of the American Board of Orthopaedic Surgery Database From 2007 to 2017

Lauren Smith, MD 
Melissa Albersheim, MD
Breanna L. Blaschke, BA
Harsh R. Parikh, MPH
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Brian P. Cunningham, MD 



Why we nail?

1. Biomechanical advantage



Why we nail?

1. Biomechanical advantage
2. Biological advantage



Why we nail?

1. Biomechanical advantage
2. Biological advantage
3. Cost advantage (?!)

\$1000 x Number of Cases = DHS Savings

\$ 50-100K x Number of Complications = DHS Cost

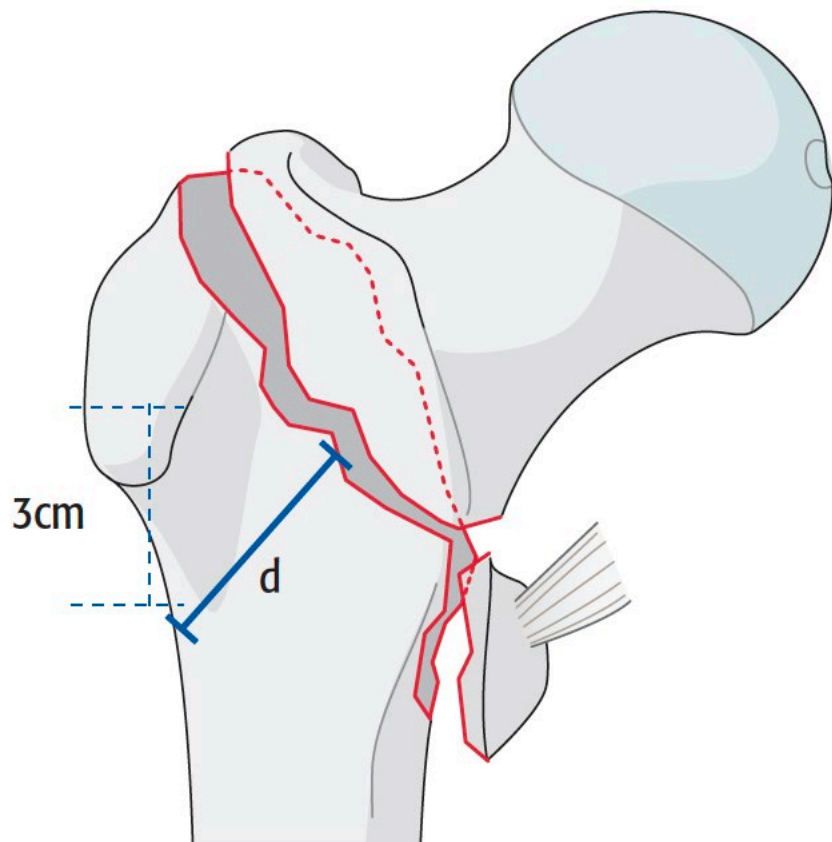
DHS Failures

- Cutout
- Varus collapse
- Shortening
- Catastrophic (screw pullout)

CASE CLOSED



Classification



Subgroups:
Isolated single trochanter fracture
 31A1.1*

Two-part fracture
 31A1.2

Lateral wall intact (>20.5 mm) fracture
 31A1.3

*Qualifications:
 n Greater trochanter
 o Lesser trochanter

Group: Femur, proximal end segment, trochanteric region, **multifragmentary pertrochanteric, lateral wall incompetent (≤ 20.5 mm) fracture** 31A2

Subgroups:

With 1 intermediate fragment
 31A2.2

With 2 or more intermediate fragments
 31A2.3

→ For more information about calculating the lateral wall thickness, please refer to the Appendix.

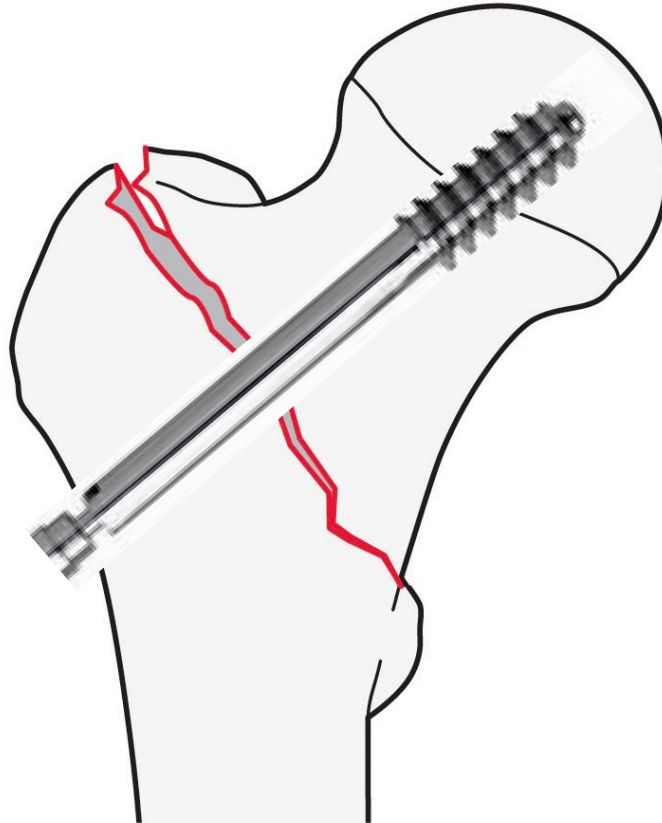
Group: Femur, proximal end segment, trochanteric region, **intertrochanteric (reverse obliquity) fracture** 31A3

Subgroups:
Simple oblique fracture
 31A3.1

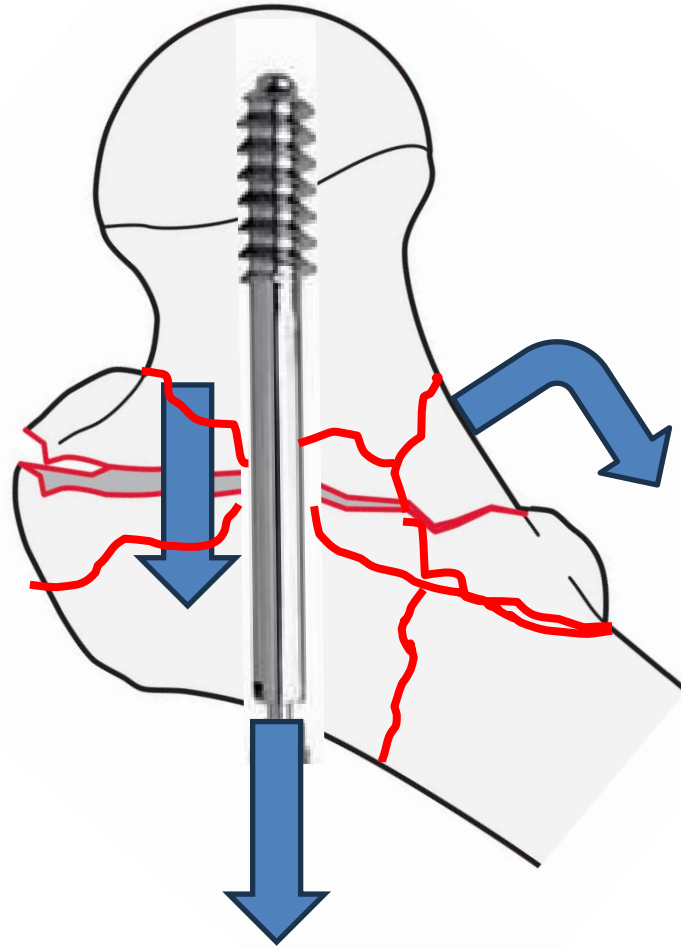
Simple transverse fracture
 31A3.2

Wedge or multifragmentary fracture
 31A3.3

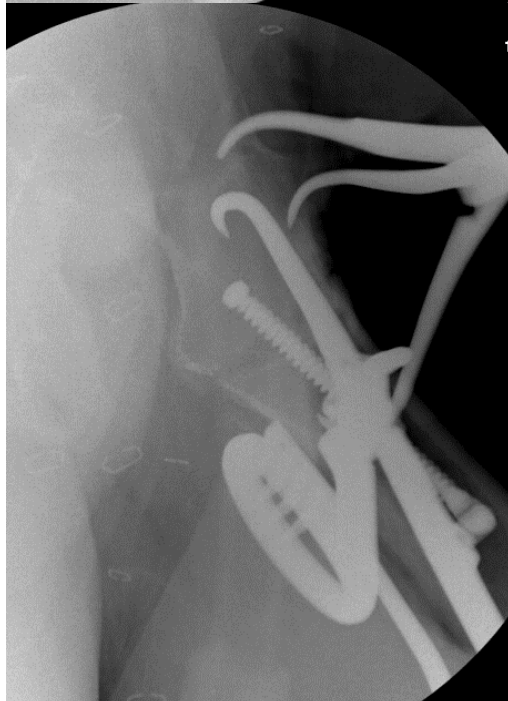
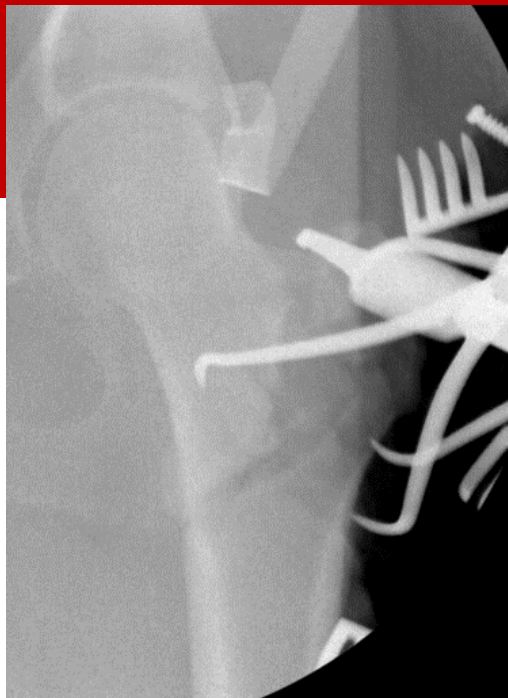
Classification



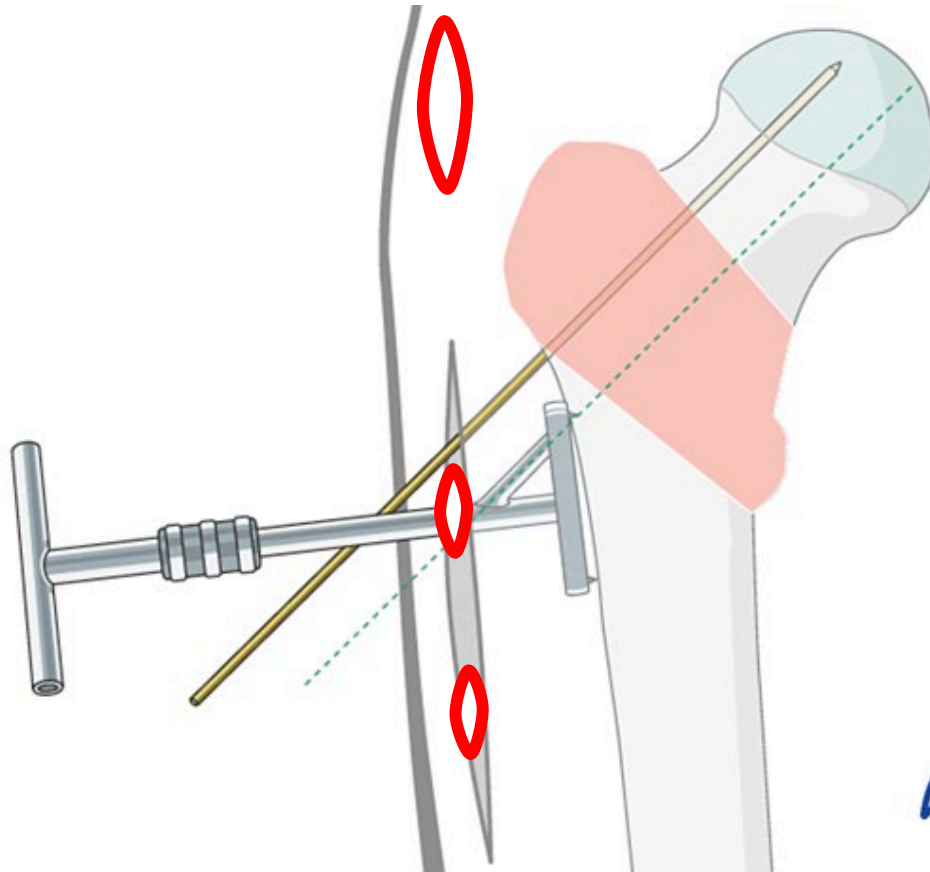
Classification



Case

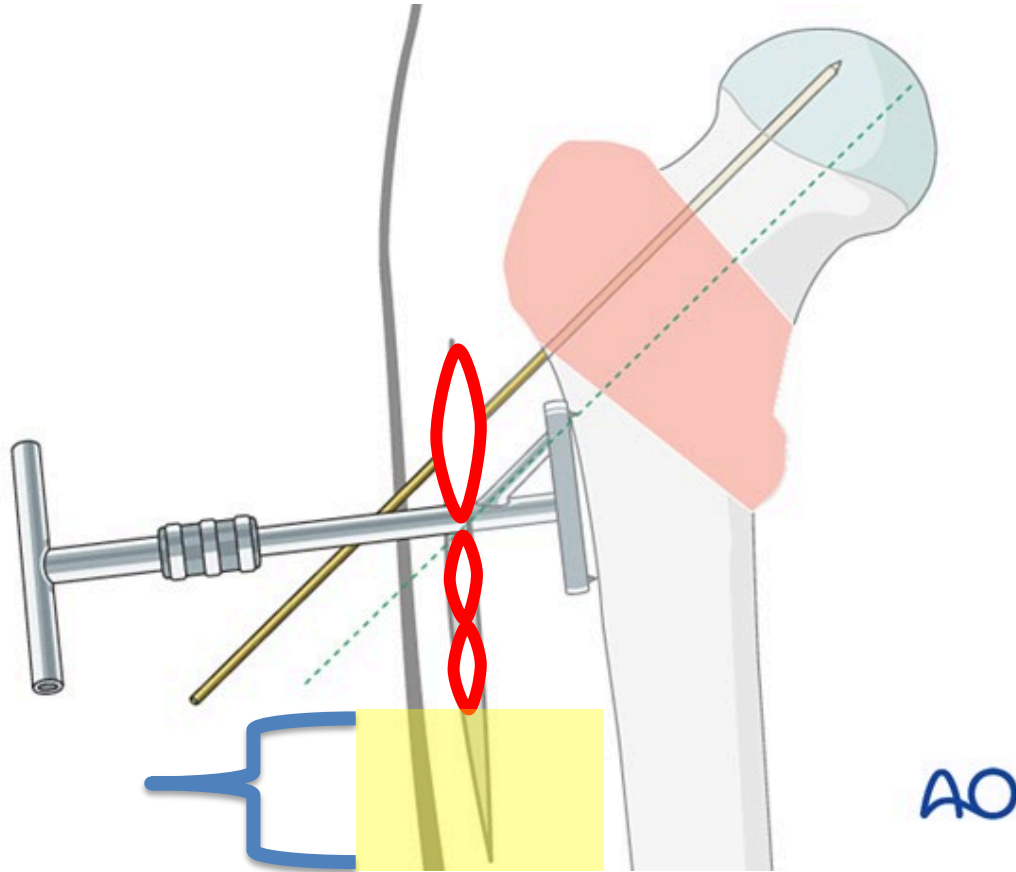
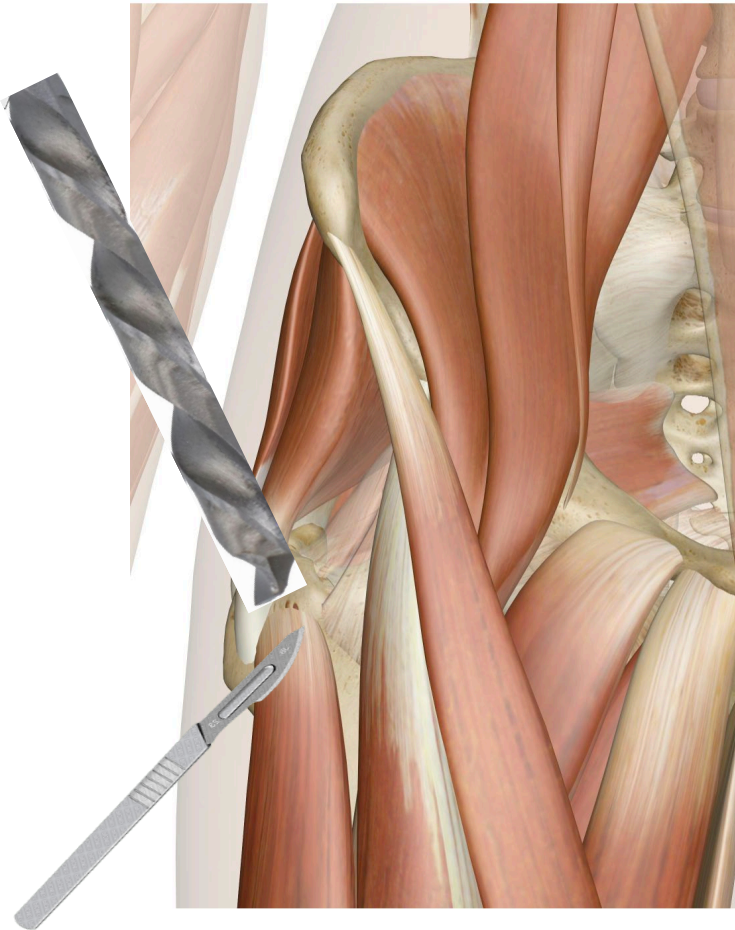


Biologic Advantage?

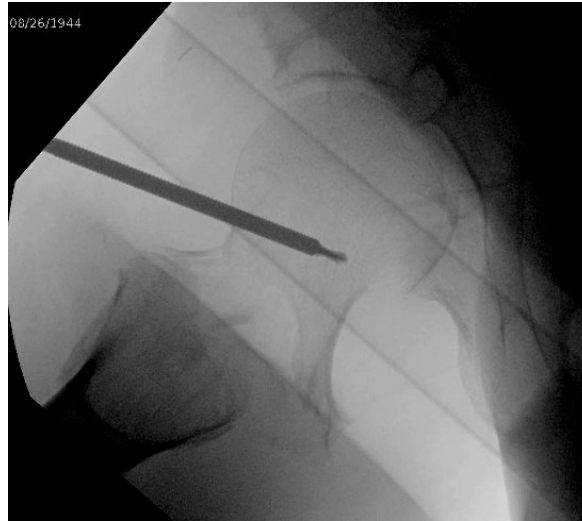


AO

Biologic Advantage?



Open reduction and nailing?



Cost-Benefit

Nail vs. DHS (for 31-A1&A2) - RCTs

Trial	Lead	Journal	YOP	# of patients	Follow up	Result
Metanalysis	Zeelenberg	AOTS	2024	2039 (14)	MA	IMN > SHS*
INSITE	Schemitsch	JAMA	2023	850	1y	IMN = SHS
Metanalysis	Lewis	Cochrane SR	2021	4959 (40)	-	IMN = SHS
-	Parker	Injury	2017	1000	1y	IMN = SHS
SR	Queally	Cochrane SR	2014	2130	-	IMN = SHS
Metanalysis	Parker	Injury	2005	3646	MA	IMN < SHS

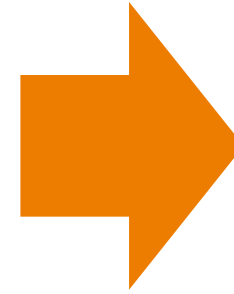
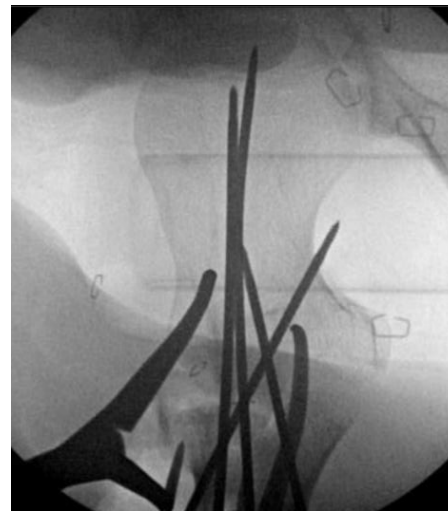
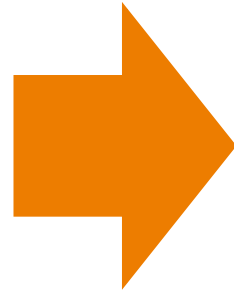
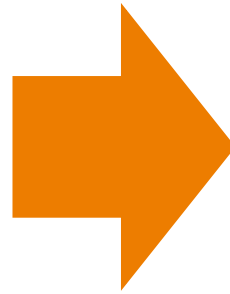
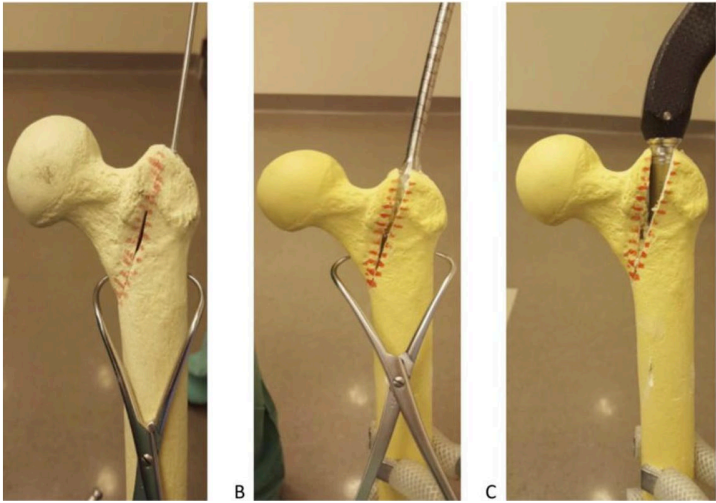
*** Not clinically significant, included observational studies**

A fool with a tool...



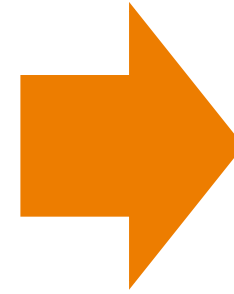
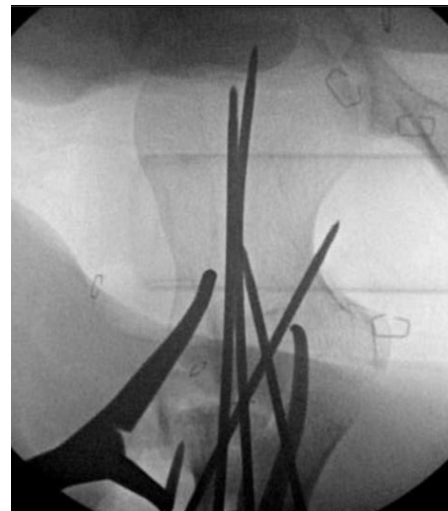
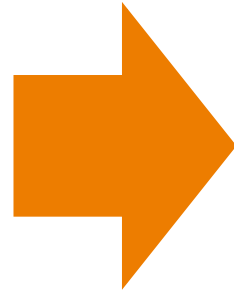
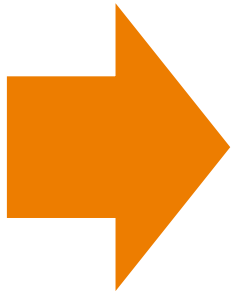
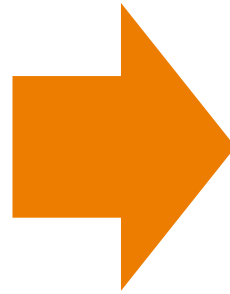
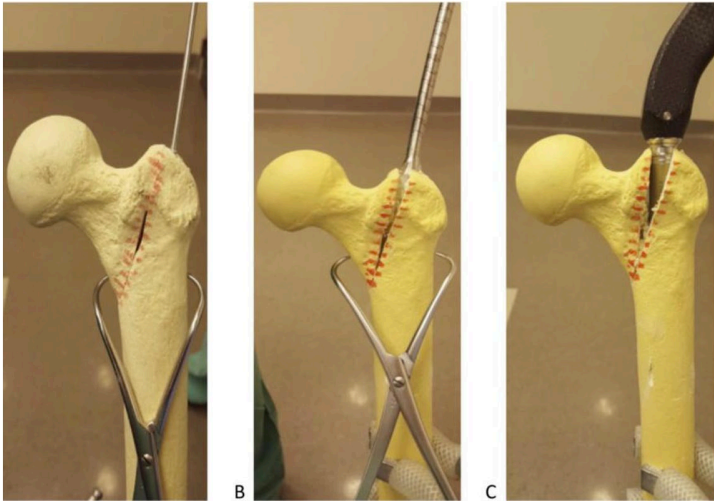
Take home message

Avoid the wedge effect



Take home message – SHS plate should stay!

Avoid the wedge effect



Thank You



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