

Intertrochanteric/Subtrochanteric Fracture: IM Nail

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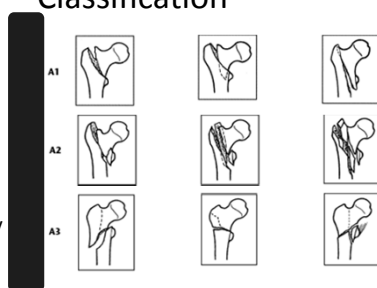
Workup

- Age
 - Activity level
 - Independent
 - Living situation
- Existing medical comorbidities
- Medical vs. Orthopaedic admission





Classification

- AO/OTA
- Stability
 - Lateral wall
 - Reverse obliquity





Stable vs. Unstable

- Stable
 - Extramedullary
- Unstable
 - Fixed angle or side plate
 - Intramedullary
 - Shorter moment arm





Fixation Options

- Cephalomedullary nail
 - Blade
 - Screw
 - Compression Screw
- Reconstruction Nail




Set Up

- Traction table
 - AP/Lateral views
 - Starting point
 - Adduction
 - Aids in insertion of opening reamer
 - Can increase varus deformity
 - Arm across chest



Reduction

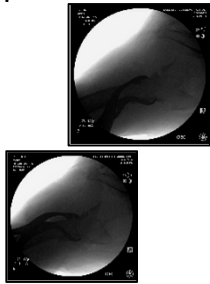
- Iliopsoas
 - inserts on the lesser trochanter
 - flexes and externally rotates the proximal fragment
- Adductor
 - distal femur toward the midline and into external rotation
- Traction and internal rotation of foot



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Reduction

- Avoid varus
 - Starting point at tip of trochanter for most nails¹
 - Lateral start=varus
 - Fracture pattern
 - Can lead to lateral start
 - Remove bone if necessary
 - Ream medially
 - Maintain reduction during reaming

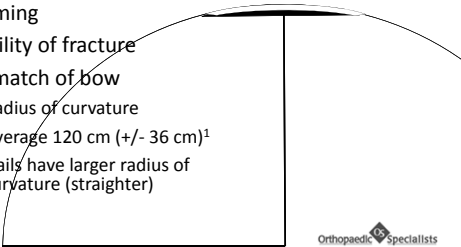


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1. Ostrum RF et al. A Critical Analysis of the Eccentric Starting Point for Trochanteric Intramedullary Femoral Nailing. J Orthop Trauma 2005;19:681-686)

Nail Placement

- Short vs Long
 - Reaming
 - Stability of fracture
 - Mismatch of bow
 - Radius of curvature
 - Average 120 cm (+/- 36 cm)¹
 - Nails have larger radius of curvature (straighter)



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1. Egol KA, et al. Mismatch of current intramedullary nails with the anterior bow of the femur. J Orthop Trauma. 2004 Aug;18(7):410-5.

Nail Placement

- Avoid mismatch
 - Assess position of guide-wire
 - Lateral of knee
 - Anterior=blocking screw
 - Larger diameter nails=stiffer
 - Breach of anterior cortex