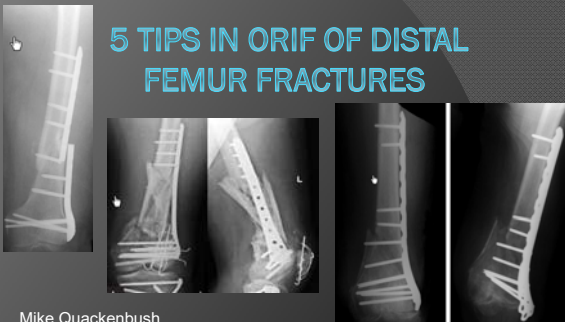



### 5 TIPS IN ORIF OF DISTAL FEMUR FRACTURES



Mike Quackenbush  
Resurgens Orthopedics  
North Fulton Hospital - Roswell, GA



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### Outline

- 1 – Reduce, Reduce, Reduce
- 2 – Plan ahead
  - Don't get into a situation you are not comfortable with
- 3 – Understand anatomy and preoperative radiographs
- 4 - Plate position
- 5 - Miscellaneous Pearls

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### Historical Data

- 29-38% delayed or nonunion
- 7-20% infection
- Resulted in use of 95° blade plates and condylar screw
  - Union 93-100%
  - Infection 0-2%
- Technically challenging



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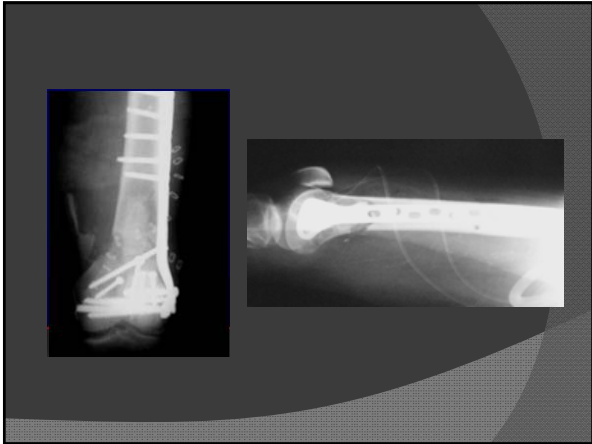
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### Newer Implants

- Anatomically designed
  - Sometimes ??
- Locking Screws – Fixed Angle
  - Do we know how to use them??
- Allows for MIPO
  - Is that "better?"



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### Reduce the Fracture

- ◉ Need to fix straight
- ◉ Articular ?
  - Fix first, then plate
  - Convert C type into A type pattern
- ◉ Multiple ways to assist reduction
- ◉ Plate should "aid" reduction not reduce fracture alone

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### Articular Injury

- ◉ Fix first – anterolateral, straight anterior with separate lateral incision
- ◉ Direct visualization and reduction
  - Primary bone healing



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### Helpful Reduction Tools

- ◉ Traction
- ◉ Clamps, pins
- ◉ External fixation
- ◉ Bumps
- ◉ Extra pair of hands (even a resident)

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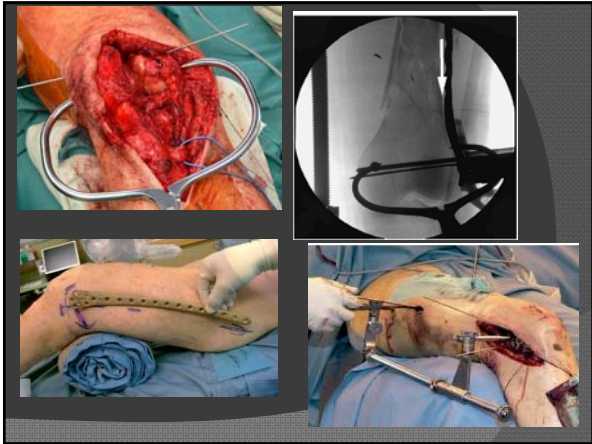
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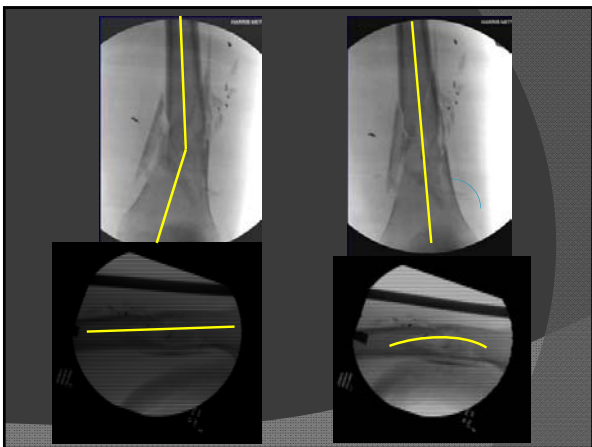
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## Plan Ahead

- CT ??
  - 40% "Hoffa" fragment with intracondylar fractures (missed on Xray)
- Patient Positioning, Reduction Methods, Implants
- Open vs MIPO
- Screws
  - Standard vs locked
  - Cannulated vs noncannulated
  - Bicortical vs Unicortical

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## Anatomy and Plate Position

Incorrect plate position commonly falls into patterns.

Rule of "Too's"

Pitfalls in the Application of Distal Femur Plates for Fractures

Cory A. Collinge, MD, Michael J. Gardner, MD,† and Brett D. Crist, MD‡

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## Too Valgus



● Conventional Locked Plate

● Polyaxial Locking

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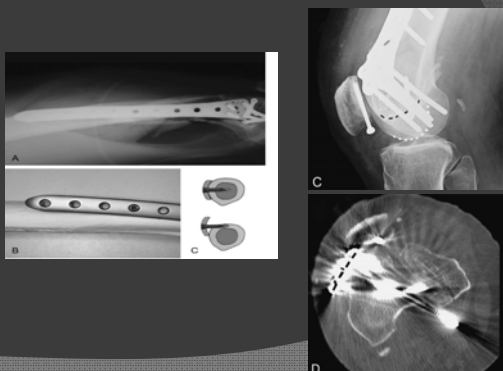
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### Too Anterior



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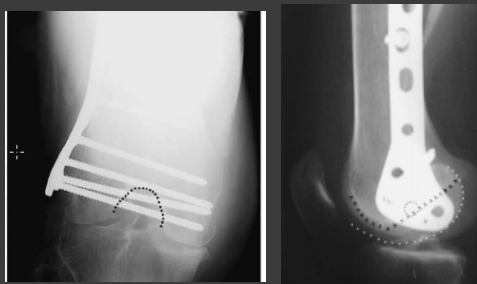
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### Too Distal



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### Miscellaneous Factoids

- Use MIPO sparingly
- Get perfect intraop Images
- Don't forget rotation
- Some plates fit better than others
  - Avoid golf club deformity
  - Avoid plate irritation of soft tissues



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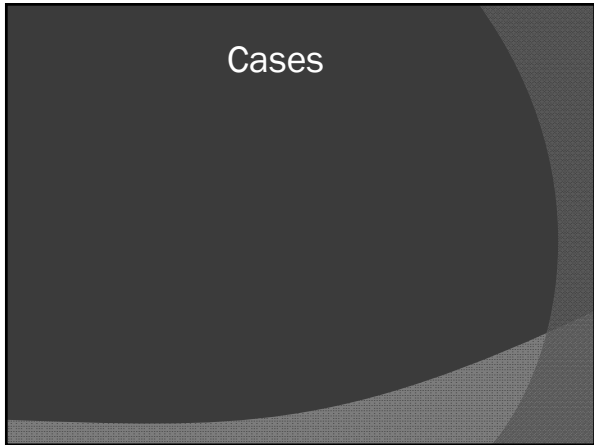
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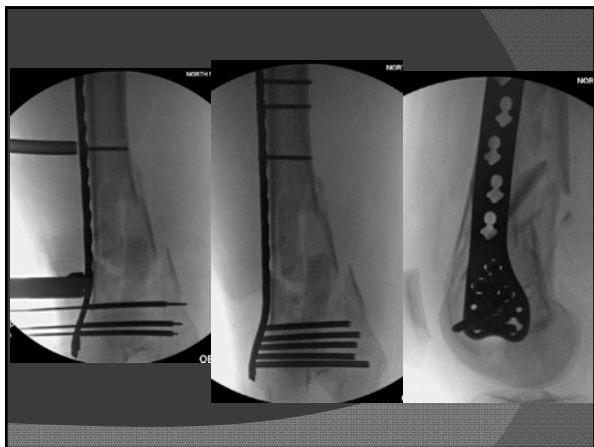
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