

### Case Presentation

- 78 y/o female
- Interprosthetic fracture R distal femur
  - Revision total hip (25 yrs)
  - Primary total knee (15 yrs)
- Limited community ambulator
  - Walker-assisted
- No significant medical issues

---

---

---

---

---

---

---

---

### Injury Films



---

---

---

---

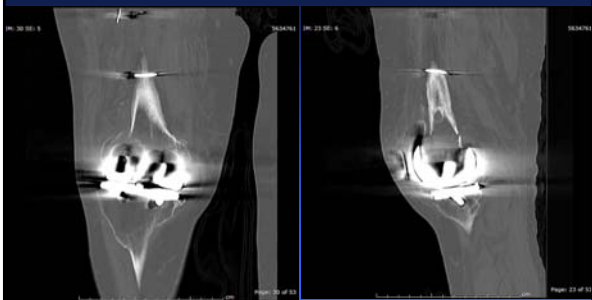
---

---

---

---

### CT



Not much help...

---

---

---

---

---

---

---

---

## Of Course... the Story Gets Worse

- No previous films, notes
- Terrible historian(s)
- Previous intraop femoral shaft fracture:
  - Allograft struts, cables
- Periprosthetic fracture below total knee
  - Treated with long leg cast 5 months
  - Knee has not flexed (at all) in 15 years
  - Healed in 20 degrees varus below the knee

---

---

---

---

---

---

---

---

## Injury Films (Knee)



---

---

---

---

---

---

---

---

## Issues

- Distal femoral fracture above TKR, below revision stem THA (Interprosthetic Fracture)
- Proximal access complicated by allografts, cables, IM device
  - Knee immobile x 15 yrs
  - Proximal tibial malunion: 20 degrees varus
    - May also have been flexed ?
  - Pt previously ambulatory w stiff varus knee

---

---

---

---

---

---

---

---

### Any Bright Ideas?

- Plate
- Megaprosthesis/hin  
d prosthesis
- Fusion
- Transfemoral  
amputation



Traditional Interprosthetic fx fixation

---

---

---

---

---

---

---

---

### Spanning Internal Ex Fix



---

---

---

---

---

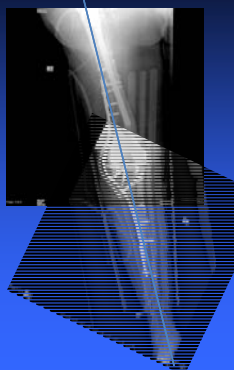
---

---

---

### Treatment

- Conceptual solution:
  - “diaphyseal” fracture rather than periarticular fracture
  - Bridge plate
  - Utilize proximal intramedullary implant
  - Overlap fixation
- Neutralized previous malpositioning



---

---

---

---

---

---

---

---

## Considerations

- Proximal fixation
  - Uncertain proximal bone quality
  - Effect of screw-to-rod interlock
  - Implant overlap
  - Long distal lever arm
- Biology
  - Role of osteobiologics
- Biomechanics of plate fixation
  - Screw design:
    - “wiggling” screws

---

---

---

---

---

---

---

---