



Keeping you active.

Fractures Around Knee and Hip Replacements

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Disclosures

- None to report

Important Information

- Significant injuries in often elderly and debilitated patients
- Can cause significant morbidity and loss of independence
- Complicated treatment options which necessitate early orthopedic involvement
- Treatment Principles
 - Revise loose implants
 - Fix fracture in stable implants
 - Prevent the next fracture
 - Allow full weight bearing when possible

Background

- Hip and knee arthroplasties are becoming increasingly more common
- Also seeing similar increasing incidence of periprosthetic fractures
- Patients are often elderly and have significant co-morbidities

Incidence

- Estimated 15,000 fractures per year in the US
- Below THA
 - THA - 0.9%
 - Revision THA - 4.2%
- Above TKA
 - TKA - 0.6%
 - Revision TKA - 1.7%

Risk Factors

- Patient Factors
 - Female gender
 - Age > 70
 - History of revision surgery
 - Osteoporosis
 - Neurological Disorders
- Mechanical Factors
 - Implant loosening
 - Wear related osteolysis

Outcomes

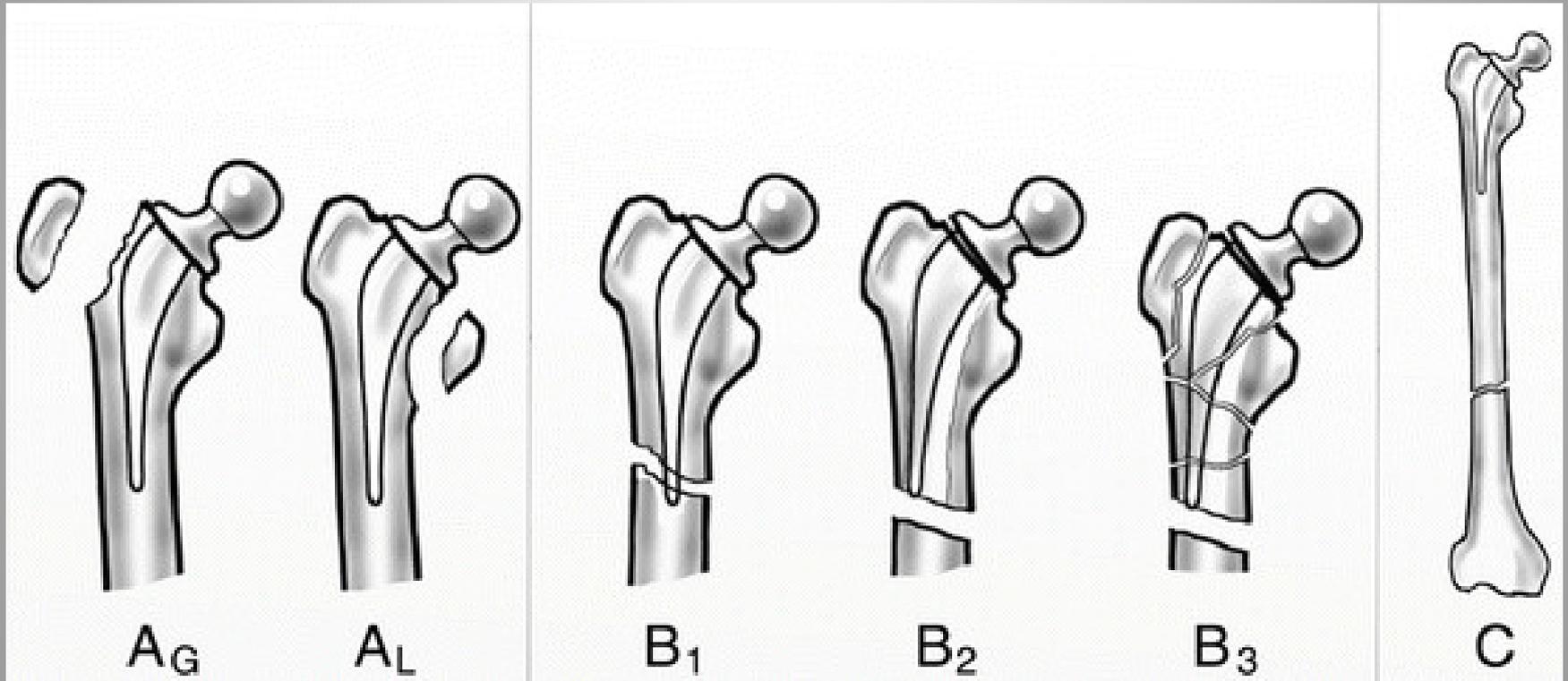
- 13-25% 1-year mortality
- 12-33% risk of reoperation
- 3-fold increase in risk of hospitalization in the year after injury

Preoperative Evaluation

- Xrays
 - Include joint above and below fracture
- Advanced imaging
 - Often not indicated
- Basic preoperative labs
 - CBC, CMP, EKG, CXR, PT/INR
- ESR/CRP
 - Rule out infection
 - Not as helpful in the setting of fracture



Fractures around THA



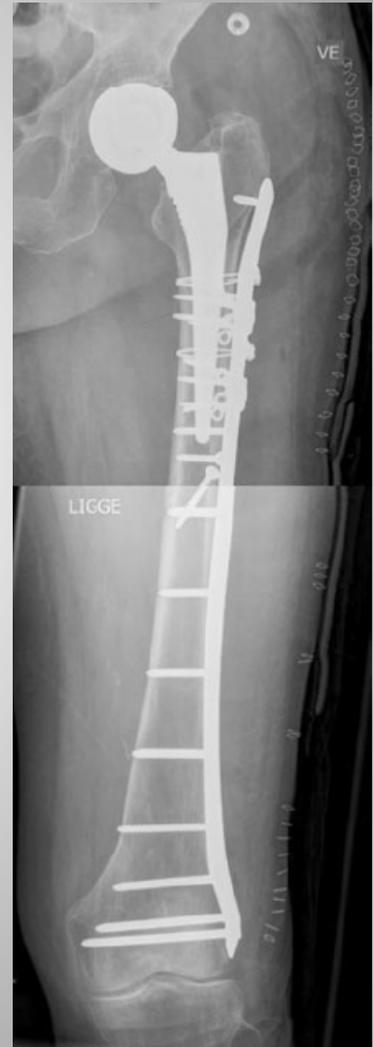
Type A fractures

- Fractures involving greater or lesser trochanter
- Implants usually stable
- Nonoperative treatment if minimal displacement
- Can be associated with wear and require revision



Type B Fractures

- Fractures around the tip of the stem
- Treatment depends on stability of implant and the quality of the remaining bone
- Treated with either ORIF or Revision THA

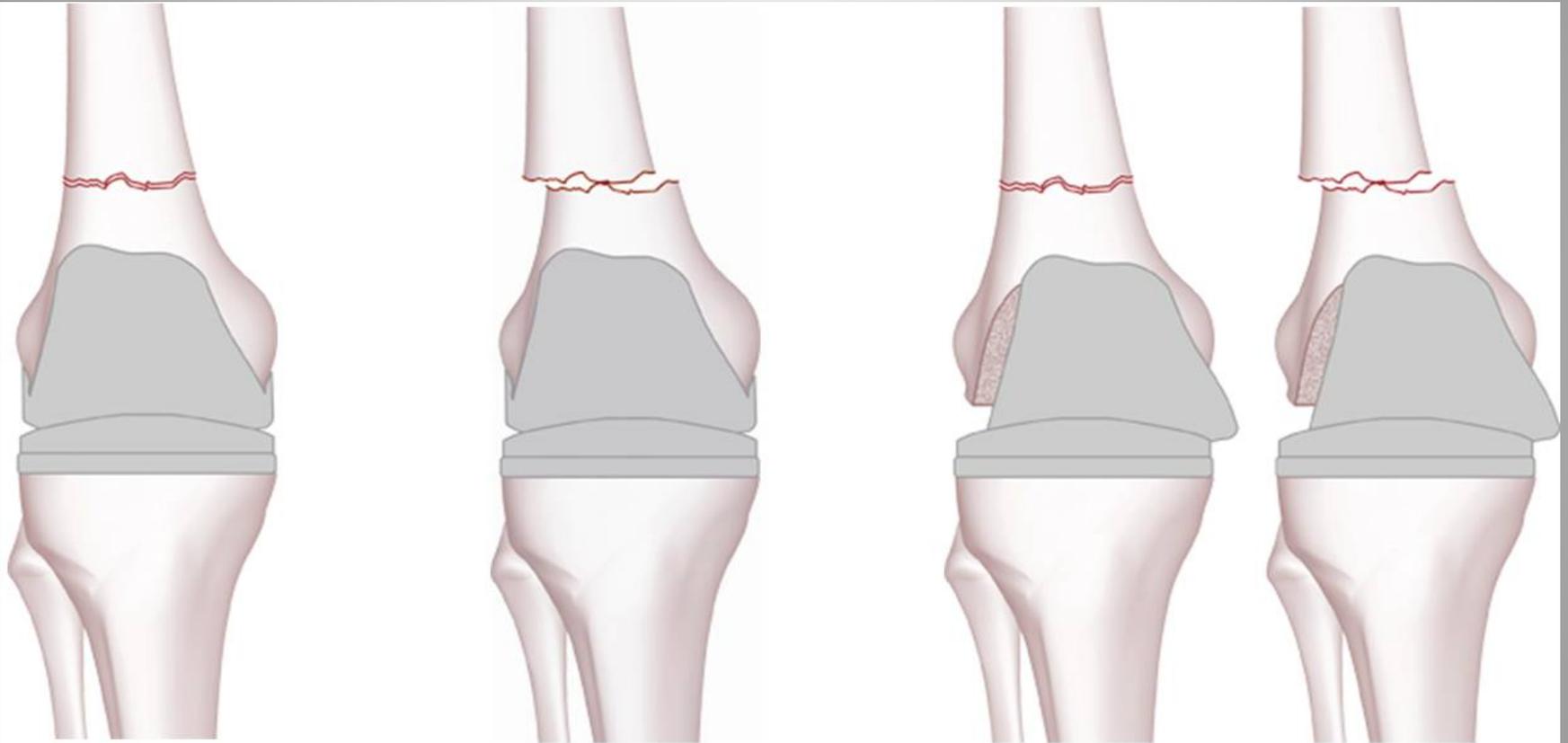


Type C Fractures

- Fractures well distal to the tip of the femoral stem
- Treated with open reduction and internal fixation



Femoral Fractures around TKA



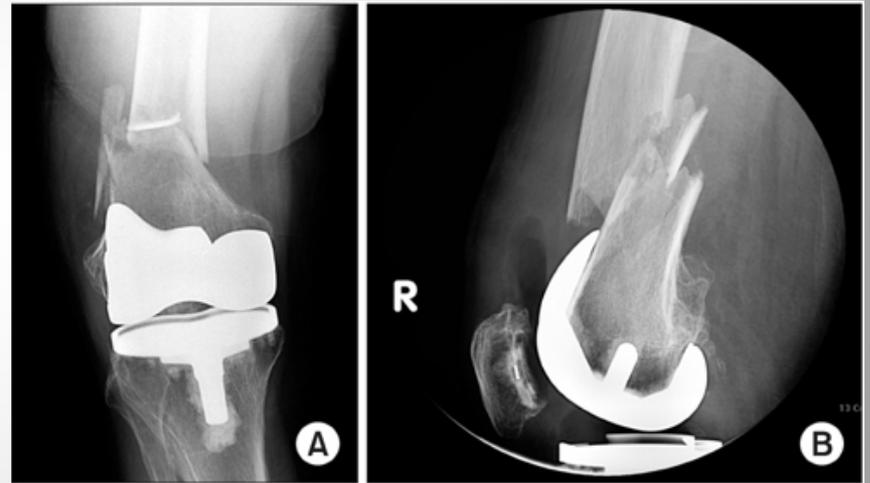
Type I

Type II

Type III

Treatment

- Most treated surgically
 - Nonoperative treatment reserved for low demand patients
- Fixation options
 - Intramedullary nail
 - Plate and screws
 - Revision TKA



Intramedullary Rod

- Allows immediate weight bearing
- Not an option with every design of TKA
- Requires more distal bone intact
- Allows a more minimally invasive approach
- Requires a stable implant



Plate and Screws

- Used with very distal fracture and intact implant
- Allows for prevention of future fractures when hip implant also present
- Newer, minimally invasive technique
- Requires modification of weight bearing



Revision TKA

- Used for very distal or comminuted fractures and with loose implants
- Distal femoral replacement with tumor style prosthesis
- Removes fracture healing from the equation
- Allows immediate weight bearing



Tibia Fractures

- Less common
 - 0.4 to 1.7% incidence
- Treatment depends on stability of implant and displacement
- Most require surgery to allow early knee ROM
- ORIF vs Revision

Postoperative Course

- Weight bearing status dependent on fixation used
- IMN
 - WBAT
- ORIF
 - TDWB for 6-12 wks
- Revision
 - WBAT for DFR
 - PWB for revision hip stems
- Limit narcotics as possible to reduce delirium
- DVT prophylaxis with Lovenox for 21 days
- Early mobilization
- Many require SNF placement

Conclusion

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Thank You!