Geriatric sacral fractures
Does early ORIF improve outcome?

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• Very common in pelvic ring injuries
  o Occur in 30-40% cases
  o 25% with neurologic deficit
• Very common missed injury
  o 75% without neurologic injury
  o 25% with neurologic injury
• High vs low energy mechanisms
  o In younger patients – higher energy
  o Geriatric patients – insufficiency fractures usually from low energy falls
• Usually associated with pelvic ring injury
• Neurologic injury
  o L5 nerve root
  o S1-S4 sacral foramina
  o S2-S5
    ▪ Loss of sphincter tone
    ▪ Saddle anesthesia
Denis Classification

- Zone 1 - most common, L5 nerve root at risk
- Zone 2 - highest risk for nonunion, poor functional outcome
- Zone 3 - neurologic injury
Denis classification
Specific facture patterns

- H type
- U type
- Lambda fracture patterns
• Lower back or posterior pelvic/buttock pain
• Posterior tenderness palpation
• Tenderness with pelvic compression
• Examination of lower extremities is not sufficient
• Anteroposterior (AP) view
• Inlet view
• Outlet view
Pelvic inlet and outlet radiography
Non-operative

- Non-displaced fractures
- No posterior ring instability
- No neurologic injury
Treatment

- Operative
  - Displaced sacral fractures
  - SI joint disruption
  - Posterior pelvic ring instability
Operative treatment
Sacral fixation
• Which is better?
• Does early surgery help?
• 60 patients

• At discharge, 50% of patients had not recovered their former level of self-sufficiency and 25% had to be institutionalized. The 1-year mortality rate was 14.3%.
• 181 patients
• Similar morbidity and mortality rates for sacral insufficiency fractures compared to displaced pelvic ring injuries
Functional outcomes

• No change in functional outcomes non-op vs operative management
• Decrease in narcotic pain medication usage with fixation
• No current study comparing outcomes in this age group with different implant types
• Improvement in functional outcomes limited
• Patients “feel better”
• Immediate immobilization
• Starting to employ geriatric hip fracture model
  ▪ Early mobilization
  ▪ Decrease pain
  ▪ Percutaneous skeletal fixation often optimal
  ▪ Be wary of U- or H-type fractures