

Hip Fractures

Bimodal distribution

- High energy fractures in young pts
- Low energy fracture in elderly pts/poor bone quality(most common)

Patient Evaluation

- Typically nonambulatory, shortened externally rotated extremity
- Should be evaluated radiographically with AP and cross table lateral xrays, traction/internal rotation xray can be helpful in understanding fracture patterns.
- Limb left in position of comfort (no evidence for skin traction)

Patient optimization

- High energy fractures-ATLS protocols and resuscitation
- Low energy fractures- medical optimization/clearance

Geriatric pts with hip fractures benefit from medical co-management

Operative indications- essentially all hip fractures should be managed operatively except in the most grave medical illnesses and in those who refuse operative treatment

Timing of operative treatment

- in elderly hip fractures, delay of >48 hrs increases mortality rates
- in pediatric pts, there is evidence to suggest that early reduction and fixation reduces AVN rates in femoral neck fxs, Evidence that AVN risk is decreased by early intervention in adult patients intervention is less clear-but some urgency is still advised.

Postoperative Management-support for medical problems, Early mobilization, DVT prophylaxis, osteoporosis management for pathological low energy fractures.

Intertrochanteric Femur fractures

-Classification (Evans, AO/OTA)

- Nearly all such fractures should be treated with reduction and fixation
 - only exceptions might be those with significant pre-existing hip arthrosis

-Surgical Treatment

- A good reduction imparts stability
- Fracture characteristics of lateral wall fracture and loss of posteromedial calcar support decrease the amount of stability good fracture reduction can provide
- Implant choice depends on fracture characteristics
 - Sliding hip screws are the treatment of choice for stable fracture patterns

-Intramedullary hip screws should be used for unstable patterns.

-Complications

-Medical complications(anemia, VTE etc)

-Failure of fixation/cutout (Tip-apex distance matters)

Femoral neck fractures

-Classifications (Anatomic, Garden, Pauwels, AO/OTA)

-Young patients should be treated with timely reduction and fixation.

-Older patients with nondisplaced or valgus impacted fractures should be treated with percutaneous fixation

-Older patients with displaced fractures should be treated with arthroplasty

-Hemiarthroplasty for patients with multiple medical co-morbidities, low physical demand and short overall life expectancy

-Total Hip Arthroplasty for community ambulators

-There are different options for fixation in the young patient, none of which has demonstrated superiority. Reduction however is critical to the success/failure of ORIF

-Complications in ORIF

-AVN 5-30%

-Nonunion 5-25%

-Complications in arthroplasty

-Infection

-Hip instability

-Suboptimal implant placement, early eccentric wear, early loosening

Conclusions

-Medical optimization for young trauma patient and elderly low energy fractures

-Surgical intervention for all as soon as medically safe

-Understand fracture patterns and the stability a good reduction can provide

-DVT prophylaxis for all

-Osteoporosis management for pathological fractures.