Indications: Fractures of the extracapsular proximal femur are common injuries in osteoporotic patients after mechanical falls from standing height. As with all other fractures of the femur, surgical fixation is recommended for all but the moribund and the nonambulatory in order to optimize pain control, pulmonary toilet, and in-bed mobility, as well as to minimize deconditioning by allowing early mobilization of fractures.

Technique: The patient is intubated on their hospital bed and then transferred to a fracture table with a well padded perineal post. Both legs are placed into traction boots and are never placed into lithotomy position. Patients with distal extremity trauma or who have amputations may alternatively have a traction pin placed in the distal femur or proximal tibia and a bow will then be used to provide intraoperative traction. The fracture is returned as closely as possible to anatomic alignment with longitudinal traction and external manipulation using the fracture table. After standard prepping and draping, the greater trochanter is opened proximally using a cannulated reamer. Additional incisions are made to allow for fine tuning of the reduction using percutaneous techniques. Very rarely, the fracture site may be opened formally to allow for maximal control of the reduction. Once anatomic reduction is achieved, an intramedullary device is inserted into the femur in the usual fashion and a sliding hip screw is inserted into the femoral neck and head with its tip within 10mm of the femoral head’s apex on both AP and lateral xray views. Distal locking bolts are then inserted through the nail, either with the proximal aiming guide or with a free hand technique using fluoroscopy. Wounds are irrigated, closed, and dressed steriley.

Postoperative Care:
PT/OT (Phase 1-- Protect Repair and Optimize Mobility):
- Weight bearing as tolerated.
- Up with assistance only. Bedside commode.
- Isometric quadricep strengthening, VMO emphasis.
- Knee AROM/ PROM when sitting at bedside.
- Fall prevention and gait training with assistive device.
- ADLs
Antibiotics: Standard perioperative antibiotic therapy x 24 hours.
Anticoagulation:
- 4 weeks of prophylactic anticoagulation with Coumadin per protocol, starting on DOS.
  Target INR = 1.8-2.2
- Start Lovenox 40mg sq daily 14 hours after close of surgery. D/C when INR>1.6.
Pain Control (Multimodal Approach)
- Scheduled Tylenol 1000mg po q8hours.
- Oxycodone 5-10mg po q 4 hours prn pain
- Morphine 2mg iv q 2 hours prn breakthrough pain.

Labs: Hct/Hgb in am x 3 days; BMP in AMx 2 days; PT/INR daily when on Coumadin protocol

Foley:
- Men: d/c on POD 1
- Women: d/c on POD 2

D/C Planning: Social work consult on DOS. SNF placement for most. The young and motivated may be discharged to home with home health (rare).

Discharge planning: uneventful, medically stable patient d/c’d on POD 2.

Follow-up at POD 10-14.

1st follow-up POD 10-14:
- XR of hip: Ap/ Lat hip. Confirm that fixation is stable, no evidence of loss of reduction or new injury.
- Wound check. Stitches out, steri-strips applied.
- Pain assessment. Refill pain medications as needed.
- Confirm that anti-coagulation regimen is effective and that appropriate communication has been maintained with nursing home/ home health.
- Osteoporosis counseling: confirm whether or not patient has a pre-existing regimen. Recommend that the patient’s family discuss the matter with their PCP if not.
- Nursing home orders: Continue gait training with assistive device. Wean from assistive devices as tolerated. Isometric quadricep strengthening, VMO emphasis. Emphasize ADLs. Discharge okay from orthopaedic standpoint when safety/ mobility/ ADL parameters are met per PT/OT. Fall prevention screening for home environment before discharge.
- Schedule surveillance venous duplex at 4 weeks after surgery.
- Schedule followup for 12 weeks after surgery.

2nd follow-up at 6 weeks after surgery.
- XR of hip: AP/ Lat views. Confirm that fixation is stable and fracture has healed radiographically.
- Wound check.
- Pain assessment. Harris Hip Score.
- Repeat osteoporosis counseling.
- Most patients will have returned to their premorbid environment at this time. Consider continuing outpatient therapy for patients with unusually high functional demands.
  - Therapy 1-2x/ week x 4 weeks.
    - Abductor stretching/ strengthening.
    - Quadriceps strengthening, VMO emphasis.
- Gait training. Wean from assistive device as tolerated.
- Modalities prn
- HEP

- Otherwise uncomplicated patients: follow-up prn