OVERCOMING SEVERE BOWING OF FEMUR IN ATYPICAL FEMUR FRACTURE. SURGICAL TECHNIQUE; TIPS AND PEARLS.

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Introduction: Atypical femur fracture (AFF) can be defined as subtrochanteric or diaphysis fracture, with no or minimal trauma, transverse fracture with no comminution or minimal comminution and a medial spike and general increase of the cortical thickness of the cortex. Intramedullary nailing has been proven to have a better outcome compared to plate fixation in patients who are on bisphosphonates. Due to the excessive bowing our current Intramedullary Nail systems are a poor fit to treat this fracture. We would like to highlight the surgical techniques; tips and pearls to overcome excessive bowing of the femur.

Discussion: An 80-year-old woman had a fall at home from a chair. Plain radiograph AFF of left femur. She has a history of taking bisphosphonates for the past 5 years as part of her osteoporosis treatment. She was put up for surgery and we have decided for fixation using femur reconstruction nail (FRN; Synthes AG, Bettlach, Switzerland). Intra-operatively we performed a few modifications to overcome the bowing of the femur such as by using a far lateral entry point, overreaming of the medullary canal of up to 2.5mm bigger than the intended nail size and external rotation of the nail during insertion to follow the anterolateral curve as much as possible. At 3 months follow up, radiographs has shown fracture union. The limb length discrepancy was overcome using an insole of 2cm on the contralateral footwear.

Conclusion: In conclusion, AFF is becoming more frequent with the higher life expectancy in general. Specifically to our Asian population, severe bowing of the femur in AFF is to be expected. Until we have a newer implant that can address this problem, we have to be well acquainted with the methods to overcome this problem intra-operatively.