

# AB215. SOH21AS265. Hip length preservation with open reduction and fixation with a novel fixed angle device for displaced neck of femur fractures in young adults

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**Background:** Intra-capsular femoral neck fractures in young patients are emergencies. Anatomic reduction has been associated with better outcomes. Failed closed anatomical reduction is an indication for open reduction. There is still some debate on the optimal method of fixation for these fractures with femoral neck shortening (>5 mm) leading to poorer outcomes.

**Methods:** We recently introduced a novel fixed angle device; the Femoral Neck System (FNS) and combined this with open reduction and inferior neck plating of irreducible femoral neck fractures in young patients. Here we present two illustrative cases combining this approach. Both cases were followed at 6- and 12-weeks post-op and we sought to measure hip length shortening/preservation after return to weight bearing. We also assessed radiographs for signs of complications such as non-union and osteonecrosis.

**Results:** At 12 weeks, anatomical reduction was maintained and both cases had achieved union with no signs of osteonecrosis. Femoral neck shortening was 0 mm in case 1 and there was 2 mm of shortening in case 2 at the 12-week mark.

**Conclusions:** In our case series, combination of open

reduction, inferior neck plating and use of this novel fixed angle device achieved a stable fixation with union at 12 weeks while preserving the native hip joint and preventing excessive shortening of the femoral neck. Longer follow-up is required to assess for osteonecrosis of the femoral head and assess outcomes from this novel surgical combination.

**Keywords:** Fixed-angle; hip fracture; intracapsular; Pauwels; young patients

## Acknowledgments

*Funding:* None.

## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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doi: 10.21037/map-21-ab215

**Cite this abstract as:** O’Sullivan ST, Maatough A, Cleary M, Rowan F. Hip length preservation with open reduction and fixation with a novel fixed angle device for displaced neck of femur fractures in young adults. *Mesentery Peritoneum* 2021;5:AB215.