Having Arthroplasty-Trained On Call Surgeon Improves Care for Displaced Femoral Neck Fractures at a Large Academic Institution

Alexander S Dash, Demetrius W Bryson, Jason J Peres da Silva, Tiffany Ashley Smith, Alexander Laurent Neuwirth, Herbert John Cooper, Roshan P Shah, Nana O Sarpong, Jeffrey A Geller, Carl L Herndon

INTRODUCTION:
While treatment of displaced femoral neck fractures (dFNFx) are routine parts of general orthopedic training, fellowship-trained joint reconstruction surgeons achieve better outcomes for these cases. As dFNFx have immense morbidity and mortality, optimizing management is important in this population. Recently, our institution changed our call structure so that an arthroplasty-trained joint reconstruction surgeon is always on call for any surgical indicated FNFx. Our hypothesis is that after implementation of this policy, dFNFx treatment would improve without delaying surgery.
METHODS:
All dFNFx at our institution from January 2019-December 2024 were included in this study after IRB approval. All patients with a dFNFx after September 2022 were treated by an on-call arthroplasty surgeon. Demographic and baseline characteristics, treatment course, surgical details, and complications (intra-operative and postoperative, medical and implant-specific) were extracted through chart review.
RESULTS:
There were 636 FNFx treated at our institution since 2019 (348 prior-to and 288 after the call structure change). Age, BMI, and race were similar between the groups. Arthroplasty trained surgeons were 1.8 times more likely to perform an anterior over posterior approach (OR 0.55 95% CI 0.33-0.92; p=0.02) and were more likely to use cemented femoral fixation (p<0.001). Time to OR (34 vs. 49 hours; p=0.01) and operative time was faster (89 vs. 99 minutes; p<0.001) in the arthroplasty trained group. There were similar rates of AKI, DVT, and urinary retention post-operatively. There was a trend towards a difference in both implant-specific complications (5.2% vs. 9.4%; p=0.08) and reoperation between the groups (2.1% vs. 5.2%, p=0.08). For patients with 1-year follow-up, the overall mortality rate was 9% with no difference between the groups.
DISCUSSION AND CONCLUSION:
At a large academic center, the implementation of an on-call arthroplasty trained surgeon for dFNFx resulted in an increase in evidence-based practice, particularly in regard to cement usage, and expedited patient care, allowing for sooner definitive treatment. This may be a model that other large academic centers can follow to improve dFNFx treatment.