



## Letter to the Editor

## Letter to the Editor, “Who Restores Hip Biomechanics More Effectively After a Femoral Neck Fracture? Comparison of Total Hip Arthroplasties Performed by Either Hip Surgeons or Orthopedic Residents”

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First, thank you to the authors of the article, “Who Restores Hip Biomechanics More Effectively After A Femoral Neck Fracture? Comparison of Total Hip Arthroplasties Performed by Either Hip Surgeons or Orthopedic Residents” [1]. This is an interesting topic as currently there is literature demonstrating complications decrease with yearly volume in total joint arthroplasty such that it is difficult to define what is an adequate number of cases a trainee needs before obtaining competency [2]. In the United States, the number of hip arthroplasties required by the American Accreditation of Graduate Medical Education before completion of a residency is only 30 over a 5-year period [3], which would be considered low volume by surgeon standards such that these data are a helpful contribution to the literature in establishing competency of trainees.

Leg length has been shown to play a role in hip stability as well as patient satisfaction postoperatively [4,5] and is more difficult to accurately restore when total hip arthroplasty is performed for fractures vs osteoarthritis such that this research is meaningful and informative. Measuring leg length and femoral offset for hip arthroplasty is challenging on plain film imaging as hip rotation and flexion can influence the landmarks leading to platforms and algorithms designed to capture this intraoperatively [6-9].

There is one measurement used in this study to determine length discrepancy using the contralateral side on radiograph postoperatively that may have led to an underestimation of the differences. The teardrop and lesser trochanter were used in this study to determine the difference in length between hips with the use of a horizontal line; however, the vertical line used to detect the actual difference was drawn nearer to the center of the pelvis than the center of rotation of the femoral head such that you would underestimate any changes in length assuming the patient was in mechanical neutral for the overall limb. The green line in Figure 1a in the article would need to be shifted to the area at the center of the femoral head to get an accurate measurement of length differential between the 2 sides. As this was done bilaterally, the discrepancy error would be halved. In this case, the content of the article would not be affected in comparison of orthopedic residents vs hip surgeons in that the ratios would be accurate; however, the absolute numbers with regard to lengthening would be underestimated for both cohorts measured.

Thank you for your insightful work highlighting this necessary understanding of how trainees can perform these surgeries with accuracy when supervised as this information is critical to training the next generation of surgeons.

**Conflict of interests**

The authors declare there are no conflicts of interest.

**References**

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