Total Hip Arthroplasty for Fracture is Not Adequately Compensated by Work Relative Value Units
Theodore Quan1, Matthew Joseph Best2, Suresh Kevin Nayar3, Randall Tim Kreulen4, Alex Gu5, Umasuthan Srikumaran, Savyasachi C Thakkar
1George Washington University, 2Johns Hopkins University, 3Johns Hopkins Dept of Orthopaedic Surgery, 4Johns Hopkins Hospital, 5George Washington University School of Medicine

INTRODUCTION: Total hip arthroplasty (THA) performed in the setting of fracture is associated with greater case complexity, worse outcomes, and increased costs when compared with THA performed for osteoarthritis. Despite the increased complexity, the work relative value units (wRVU) assigned to THA may not adequately compensate for this difference in surgical effort and time. The purpose of this study is to compare the work effort between osteoarthritis and fracture hip cohorts, and to determine if physicians are appropriately compensated.

METHODS:
Data were collected through the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database for the years 2006 to 2018 in this retrospective cohort study. Current Procedural Terminology (CPT) code 27130 and various International Classification of Diseases, Ninth Revision (ICD-9) and Tenth Revision (ICD-10) codes were used to identify all primary THA for osteoarthritis cases (N = 151,606) and all THA for fracture cases (N = 3,528) (Table 1). Work RVU, operation time, and RVU per minute were assessed between the osteoarthritis and fracture hip cohorts. The conversion factor for RVU to dollar was provided by the US Centers for Medicare and Medicaid Services, and dollars per minute calculations were subsequently performed for the two cohorts. Multiple regression analysis was performed to control for age, gender, race, BMI, and American Society of Anesthesiologists classification. Bivariate and multivariate analyses with a significance set at P < 0.05 were utilized for the study.

RESULTS: The mean operation times for primary THA for osteoarthritis and for fractures were 91.96 minutes and 99.43 minutes, respectively (P < 0.001) (Table 2). This resulted in an RVU per minute of 0.26 for the osteoarthritis hip cohort compared to 0.25 for the fracture cohort (P < 0.001). THA for osteoarthritis was also valued higher with a dollars per minute of 9.22, whereas the dollars per minute for fracture THA cases was 8.83 (P < 0.001). Regression analysis showed a negative correlation between fracture THA cases and dollars per minute.

DISCUSSION AND CONCLUSION: Although THA for fracture is more complex and requires longer mean operative time than THA for osteoarthritis, physicians are not appropriately reimbursed for this challenging procedure. Based on our findings, wRVU rates and reimbursement in dollars per minute for THA performed in the setting of fracture was lower than THA performed for osteoarthritis. This inadequate RVU-based reimbursement for fracture THA may deter physicians from performing these procedures, which could lead to decreased access to care for patients in need of THA for fracture. Although patient care remains the number one priority, these findings have important implications in establishing adequate compensation for more complex cases.