Septic Revision Total Hip Arthroplasty is Not Adequately Compensated by Work Relative Value Units
Theodore Quan, Matthew Joseph Best1, Alex Gu2, Seth Stake, Safa C Fassihi3, Gregory Golladay4, Savyasachi C Thakkar5
1Johns Hopkins University, 2George Washington University School of Medicine An, 3George Washington University, 4VCU Health, 5Johns Hopkins Department of Orthopaedic Surgery

INTRODUCTION: Performing revision total hip arthroplasty (rTHA) for periprosthetic joint infection is complex and may require greater time and resources than aseptic revision cases. Nevertheless, work relative value units (wRVUs) assigned may not proportionally reflect the difference in actual work required for septic revision hip cases compared to aseptic cases. The purpose of this study is to compare the work effort between aseptic and septic revision hip cohorts, and to determine if physicians are appropriately compensated.

METHODS: In this retrospective cohort study, data were collected through the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database for the years 2005 to 2018. Current Procedural Terminology (CPT) code 27134 and various International Classification of Diseases, Ninth Revision (ICD-9) and Tenth Revision (ICD-10) codes were used to identify all aseptic rTHA cases (N = 3,978) and all septic rTHA cases (N = 386) (Table 1). Work RVU, operation time, and RVU per minute were assessed between the aseptic and septic revision 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 (ASA) classification. Univariate and multivariate analyses with a significance set at P < 0.05 were utilized for the study.

RESULTS: The mean operation times for aseptic and septic rTHA was 146.12 minutes and 173.24 minutes, respectively (P < 0.001) (Table 2). This resulted in an RVU per minute of 0.257 for the aseptic revision hip cohort compared to 0.212 for the septic cohort (P < 0.001). Aseptic rTHA cases were valued higher with a dollars per minute of 9.28, whereas the dollars per minute for the septic rTHA cases was 7.65 (P < 0.001). Regression analysis showed a negative correlation between septic rTHA cases and dollars per minute.

DISCUSSION AND CONCLUSION: Although rTHA for infection is more complex and requires longer mean operative time than aseptic rTHA, physicians are not appropriately reimbursed for this challenging procedure. Based on our findings, septic rTHA had a longer mean operative time and had lower RVU and dollars per minute compared to aseptic rTHA. This inadequate RVU-based reimbursement for septic rTHA may deter physicians from performing these procedures, which could lead to decreased access to care for patients in need of rTHA for infection.