

## Do Patients Sleep Better at Home or in the Hospital Following Primary Total Joint Arthroplasty?

Gerald Yu Liao<sup>1</sup>, Howard A Chansky<sup>2</sup>, Paul A Manner<sup>3</sup>, Elyse Brinkmann<sup>1</sup>, Navin Fernando, Nicholas Hernandez<sup>1</sup>  
<sup>1</sup>University of Washington, <sup>2</sup>UW Dept of Orthopaedics & Sports Medicine, <sup>3</sup>Univ of WA

**INTRODUCTION:** Despite increasing primary total joint arthroplasty (total knee and hip arthroplasty [TJA]) rates in the United States, research on its impact on sleep quality is limited. The potential benefits of same-day discharge post-TJA on sleep quality remain unexplored. This study examines whether patients discharged on the day of admission or after overnight hospitalization experienced better sleep.

**METHODS:** A prospective observational cohort study was conducted on patients undergoing elective primary TJA. Participants completed validated sleep surveys and wore devices to measure total sleep time (TST). Demographic and clinical data were collected for statistical analyses to assess differences in sleep quality. Covariance analysis was adjusted for baseline age, sex, BMI, Charleston Comorbidity Index (CCI), surgery-type, and anesthesia.

**RESULTS:** Patients discharged on the day of admission exhibited better sleep quality, with higher Richards-Campbell Sleep Questionnaire (RCSQ) scores in several domains (Total:  $d = 0.52$  [95% CI: 0.13, 0.90],  $p < 0.01$ ; Depth:  $d = 0.69$  [95% CI: 0.30, 1.07],  $p < 0.001$ ; Latency:  $d = 0.51$  [95% CI: 0.12, 0.88],  $p < 0.01$ ; Awakenings:  $d = 0.37$  [95% CI: 0.01, 0.75],  $p < 0.05$ ; Sleep Quality:  $d = 0.44$  [95% CI: 0.06, 0.82],  $p < 0.05$ ; Noise Disturbance:  $d = 1.12$  [95% CI: 0.71, 1.51],  $p < 0.0001$ ), but not Returning to Sleep ( $d = 0.14$  [95% CI: -0.24, 0.51],  $p > 0.05$ ). Additionally, these patients had lower post-operative Insomnia Severity Index (ISI) scores ( $d = 0.41$  [95% CI: -0.78, -0.03],  $p < 0.05$ ) and longer TST ( $d = 0.73$  [95% CI: 0.19, 1.25],  $p < 0.01$ ).

### DISCUSSION AND CONCLUSION:

We found patients discharged after primary TJA slept better and longer compared to those who stayed in the hospital. This information can be used by clinicians in shared decision making with patients considering discharge home on the day of surgery.

