

Do Racial Differences Impact Complication Rates after Total Joint Arthroplasty?

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INTRODUCTION: Racial disparities currently exist in the realm of health care that can have a significant impact on patient outcomes and access to quality care. Previous studies have indicated that Black patients are more likely to experience delays in treatment and increased surgical complications. Hispanic patients have more comorbidities and increased complications when undergoing orthopaedic surgeries. The purpose of this study was to evaluate the impact of disparities, specifically race, on patient outcomes following total joint arthroplasty (TJA).

METHODS: The largest single healthcare network database was queried to identify 16,940 total joint arthroplasty patients treated in a single division between 2017-2021. Demographics, comorbidities, race and gender were collected. Logistic regression and odds ratio point estimate analyses were utilized to assess for associations between race (defined as Whites, Blacks, Hispanics, Asians, and Others) and postoperative medical complications and surgical complications, which were collected for all patients. Postoperative medical complications included sepsis, bacterial infections, pneumonia, kidney failure, disruption of the surgical wound, or a repeat fracture. Surgical related complications included infection, inflammatory reaction, fibrosis, hemorrhage, acute embolism and thrombosis, mechanical loosening, instability, dislocation, osteolysis, periprosthetic fracture, and wear of the articular bearing surface of internal prosthetic.

RESULTS: The cohort consisted of 62.0% female (n=10,497) and 38.0% (n=6,443) male, with an average age of 71 years and an average BMI of 29.5. Based on race, the cohort included 12.33% Black (n=2,089), 24.07% Hispanic (n=4,077), 0.77% Asian (n=131), 1.20% Other (n=203), and 61.63% White (n=10,440) patients. Out of 16,940 patients analyzed, the average length of stay was 3.43 days with 5.28% (n = 894) of the cohort experiencing postoperative medical complications and 4.37% (n = 740) of the cohort experiencing surgical related complications. Our analysis indicated that race was not significantly associated with any specific postoperative medical complication (p=0.5721) or surgical complication (p=0.6200).

DISCUSSION AND CONCLUSION: Our results indicate that racial differences were not significantly associated with increased postoperative medical or surgical complications in patients who underwent a TJR. Although previous studies have indicated that racial disparities in postoperative outcomes exist, results from this large cohort study suggest that perhaps hospital-specific efforts in health care over the past few decades to improve patient outcomes across all racial groups have been impactful. Further studies are warranted to define the specific link between race and determinants of health, socioeconomic status, access, and outcomes after total hip and knee arthroplasty.