

# Minorities less likely to have knee replacement surgery, more likely to have complications

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Minority populations have lower rates of total knee replacement (TKR) utilization but higher rates of adverse health outcomes associated with the procedure, according to a new study appearing in today's issue of the *Journal of Bone and Joint Surgery*.

More than 600,000 knee replacements are performed each year in the United States, according to the Agency for Healthcare Research and Quality (AHRQ). The number of TKRs more than doubled from 329,000 in 1997 to 719,000 in 2010. Knee replacements may be recommended for patients with severe knee pain, stiffness and reduced function, often resulting from arthritis or injury.

This AHRQ funded study examined four outcome variables: the rate of total knee arthroplasty, the use of high [total knee arthroplasty](#) volume hospitals, in-hospital mortality and in-hospital complications. Patient race was categorized by the State Inpatient Databases (SID) as white, black, Hispanic, Asian, Native American, and mixed race.

The study analyzed data from eight years (2001-2008) and eight racially diverse states (Arizona, Colorado, Iowa, North Carolina, New Jersey, Rhode Island, Wisconsin, and Florida) in the SID, identifying a total of 547,380 admissions that underwent TKR. The three largest ethnic groups were whites (87.24 percent), blacks (5.88 percent) and Hispanics (4.20 percent) and the smallest were Asians (0.46 percent), Native Americans

(0.51 percent) and mixed race (1.71 percent).

Patient characteristics included age, sex, admission source (routine and non-routine), insurance type (Medicare, Medicaid, private, and other), surgical reason, length of hospital stay, and year of surgery among others. The study excluded patients under 45 years of age and patients who underwent TKR for a congenital dislocation, infection or a neoplasm - new and abnormal growth of tissue that replaces healthy tissue.

Among the results:

- In comparison to the white population, minorities had lower rates of TKR utilization.
- Minorities were less likely to undergo TKR in high-volume hospitals.
- The risk for in-hospital mortality, and the complication rate following TKR, were significantly higher for blacks, Native Americans and mixed-race individuals.

"Even after adjusting for certain patient demographics, socioeconomic status, and health care system characteristics, significant racial disparities in TKR utilization and outcomes exist," said Yan Ma, PhD, corresponding author of this study and associate professor in the Milken Institute School of Public Health at George Washington University.

"These findings create an opportunity for [health care providers](#) to consider differences in utilization and outcomes that may result directly from their referral patterns."

A related editorial, "Persistence of Racial and Ethnic Differences in Utilization and Adverse Outcomes of Total Joint Replacement," also appears in today's issue of *JBJS*.

**More information:** W. Zhang et al. Racial and Ethnic Disparities in Utilization Rate, Hospital Volume, and Perioperative Outcomes After Total Knee Arthroplasty, *The Journal of Bone & Joint Surgery* (2016). DOI: [10.2106/JBJS.15.01009](https://doi.org/10.2106/JBJS.15.01009)

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