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Total Hip Arthroplasty Patients Under 65 Have Low Revision Rates at Eight Years

LAS VEGAS (March 7, 2023)—With an increase in total hip arthroplasty (THA) procedures being performed on younger patients, these patients have historically had poor long-term outcomes associated with implant failure. However, a recent study presented at the 2023 Annual Meeting of the [American Academy of Orthopaedic Surgeons](#) (AAOS), which utilized data from the [American Joint Replacement Registry](#) (AJRR), found that only 1% of sampled patients needed revision surgery for THA within an eight-year period. The study also highlighted higher THA revision rates among Black patients when compared to white patients.

“The demand for total hip replacements is expected to increase 174% from 2005 to 2030, and 28% of the 572,000 THA procedures performed annually are in patients under the age of 55,” said lead author David Cieremans, MS, a medical student at Philadelphia College of Osteopathic Medicine. “When a young and active patient is exploring THA, it’s important for their surgeon to understand the expected life span of the implant to help make informed decisions. The AJRR provided an incredible resource for our team to obtain robust data on hip replacements, along with a standardized metric to analyze surgical trends and patient outcomes from around the country.”

Younger THA patients are more active and have experienced an increase in implant failure, most commonly due to component loosening, polyethylene wear, instability and infection. However, as surgical techniques and implant designs have improved over the past 15 years, the researchers sought to determine if the same could be said for outcomes and implant longevity.

In the study, “Trends in Complications and Outcomes in Patients Aged 65 and Younger Undergoing Total Hip Arthroplasty: Data from the American Joint Replacement Registry,” the team used the Registry’s database to identify all THA procedures performed from 2012 through 2020 in patients aged 18 to 65. Exclusion criteria included patients with revision and oncologic THA cases, conversion from prior surgery and non-elective cases. The study measured primary outcomes including cumulative revision rate, 90-day readmission rate and reason for revision. In total, 5,153 patients were included in the analysis (51% female and 49% male) with an average age of 56.7 years \pm 7.8 years. Mean follow up was 39.57 months.

Results of the study included:

- Fifty-three patients (1%) underwent revision during the study period, and 74 patients (1.4%) were readmitted within 90 days.
- The most common causes for revision were infection (20.8%), instability (15.1%), periprosthetic fracture (13.2%) and aseptic loosening (9.4%).

- The most common reasons for 90-day readmission without revision were infection (22.9%), pain (9.5%) and periprosthetic fracture (5.4%).

The study did find racial disparities in revision rates, as readmission within 90 days requiring revision were 2.76 times more common in Black patients compared to white patients.

“This is an important finding, and more long-term outcome studies are needed to understand why Black patients are being disproportionately affected,” said senior author Ran Schwarzkopf, MD, MSc, FAAOS, professor of orthopaedics at NYU Langone Orthopedic Hospital. “Other research has concluded that Black patients are 30% less likely to undergo an elective total hip replacement than white patients, and patients from lower socioeconomic backgrounds experience higher baseline scores for pain and function. Given the advances in THA and favorable outcomes for patients under the age of 65, the orthopaedic community needs to work to improve patient outcomes for all patients.”

While the results of this study represent trends in data and cannot yet be used to make definitive conclusions on outcomes due to inherent limitations of the database, Dr. Schwarzkopf noted that the team looks forward to continuing to follow the patient cohort over a longer period of time.

“This study is extremely promising, and it demonstrates the power and the capabilities of the Registry,” said Cieremans. “As we conduct further research on these patients over the next few years, we’ll be able to continue to inform treatment decisions and outcomes including the average lifespan of the implants beyond eight years.”

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2023 AAOS Annual Meeting Disclosure Statement

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