

Racial and socioeconomic factors linked to increased revision risk after knee replacement

November 9 2015

Although complication and mortality rates following knee replacement surgery have decreased in recent years, 4% of patients receiving the procedure require a revision surgery on the same knee within five years. A new study by a group at Hospital for Special Surgery (HSS) reveals that blacks in the U.S. are at a significantly higher risk of requiring a revision than American whites, and that socioeconomic factors may play an important role in revision risk. The findings could allow clinicians to better predict which patients are more prone to surgical complications and to more effectively counsel their patients.

To conduct the work, the researchers reviewed over 4,000 titles, 106 abstracts, and 24 papers, ultimately identifying four studies from which they could analyze [knee replacement](#) revision rates based on race. They found that risk of revision was 38% higher in blacks than whites in the U.S., findings that will be presented on November 9 at the American College of Rheumatology Annual Meeting in San Francisco.

"We know that blacks are less likely to undergo knee replacement [surgery](#) than whites, which could be due to a perception that they're at increased risk of complications," explains senior study author Anne R. Bass, MD, Associate Attending Physician and Program Director of the HSS Rheumatology Fellowship Program.

It's been shown that if blacks are candidates for surgery, meaning they

have enough pain and x-ray evidence of severe disease, doctors recommend surgery to them at the same rates as whites. "Therefore it's not an issue of the physician not recommending the surgery, it's an issue of the [patients](#)' declining the surgery," says Bass. When U.S. blacks do undergo [knee replacement surgery](#) they tend to have more advanced disease and this may be part of the reason they are more prone to complications such as revision.

Bass and her colleagues also looked at three studies that analyzed the same sample of Medicare patients who had undergone a knee replacement. They found that one study hadn't controlled for whether patients qualified for Medicaid or not - a marker of low [socioeconomic status](#). This study made it look like the risk of revision associated with being black was higher than it really was and pointed out the importance of controlling for socioeconomic factors.

"In the end we did find that there was a higher rate of revision among blacks even when socioeconomic status was controlled for," says Dr. Bass, "but we also found that socioeconomic status is clearly an important confounder when analyzing revision risk."

"Black patients may be more likely to have known someone who's died or had an infection or revision following a knee replacement," she continues, "so it's important to discuss these issues with patients who are considering surgery. Physicians also have to be aware of the way in which socioeconomic inequality plays out in the health care system."

Provided by Hospital for Special Surgery

Citation: Racial and socioeconomic factors linked to increased revision risk after knee replacement (2015, November 9) retrieved 23 July 2023 from <https://medicalxpress.com/news/2015-11-racial-socioeconomic-factors-linked-knee.html>

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