

Black patients have worse outcomes of lower spinal fusion surgery

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Black patients undergoing lumbar (lower) spinal fusion surgery have worse outcomes - including higher complication rates, more hospital days, and higher costs—compared to white patients, suggests a study in *Spine*.

"Our study reaffirms the concern that black race remains a social determinant of health impacting equity in surgical outcomes," according to the new research by Robert S. White, MD, MS, of New York Presbyterian Hospital—Weill Cornell Medicine, New York City, and colleagues. The authors propose some steps that may help to promote equity in the outcomes of spinal fusion and other surgical procedures.

Large-Scale Study Looks at Impact of Race on Spinal Fusion Surgery

The researchers analyzed patient discharge records from five states (California, Florida, New York, Maryland, and Kentucky) from 2007 through 2014. The study included data on nearly 268,000 patients hospitalized for this common spinal surgical procedure.

Overall, 77.7 percent of patients were white and 6.5 percent were black. Patient characteristics, complication rates, and other outcomes of [spinal fusion surgery](#) were compared between these two racial/ethnic groups.

Black patients were younger and more likely to be women. They had more health problems, including obesity, diabetes, and high blood pressure. Black patients were also more likely to have [low-income](#), to be treated at hospitals that served more "safety net" patients and did a lower volume of spinal fusion surgeries, and to have [surgery](#) on an emergency or urgent basis.

Even after adjustment for these differences, [black patients](#) had significantly worse outcomes of lumbar spinal fusion, compared to [white](#)

[patients](#). Black patients were eight percent more likely to experience complications specific to spinal surgery, and 14 percent more likely to have general postoperative complications.

Black race/ethnicity was associated with increased odds of hospital readmission at both 30 and 90 days. Black patients were also more likely to have a longer hospital stay and higher total charges. The [racial differences](#) in outcomes remained significant after adjustment for patient demographic factors, co-existing medical conditions, hospital characteristics, and surgical techniques.

There are well-documented disparities in healthcare across a wide range of surgical procedures, including lumbar spinal fusion surgery. "Previous research has identified race as a social determinant of health that impacts outcomes after lumbar spinal fusion surgery," according to the authors. Their study examines these associations in a large multistate sample of patients, including a full range of spinal surgery outcomes.

"We showed that black patients, as compared to white patients, are more likely to have postoperative complications, be readmitted, have longer lengths of stay, and have higher total [hospital](#) charges," Dr. White and coauthors write. "Our results reaffirm the concern that black race remains a social determinant of health impacting equity in surgical outcomes."

The racial differences in outcomes might be related to differences in the characteristics of black patients (such as higher rates of diabetes and obesity) or where they are treated (for example, at hospitals that perform a lower volume of spinal [fusion](#) procedures). The authors discuss some approaches that may help to address these inequities.

Dr. White and colleagues conclude: "Hospital systems and providers should adopt methods to promote equity in care, including employee

educational programs focusing on healthcare disparities and the impact of unequal care, and through the utilization of standardized protocol based care, such as Enhanced Recovery After Surgery programs, that can reduce the impact of implicit bias on post-[surgical outcomes](#)."

More information: Dima El Halawani Aladdin et al. Black Race As A Social Determinant of Health and Outcomes After Lumbar Spinal Fusion Surgery, *SPINE* (2020). [DOI: 10.1097/BRS.0000000000003367](https://doi.org/10.1097/BRS.0000000000003367)

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