

# Black & Low-Income Teens Have More ED Visits, Major Complications After Scoliosis Surgery

*Socioeconomic, racial and insurance disparities affect teens before and after surgery*

**WILMINGTON, Del. (October 24, 2023)** –New research by Nemours Children’s Health has found that teens who are Black, publicly insured and of lower socioeconomic status (SES) tend to have more major complications after surgery for adolescent idiopathic scoliosis (AIS), the most common type of scoliosis. In addition, patients with public insurance are much more likely to return to the Emergency Department within 90 days of surgery. The study was published [online today](#) in the *Journal of Pediatric Orthopaedics*.

“The greatest disparities in care existed between patients who are Caucasian, privately insured and of higher socioeconomic status and those who are Black, publicly insured and of lower socioeconomic status,” said senior author Suken A. Shah, MD, Pediatric Orthopedic Surgeon and The Shands/MacEwen Endowed Chair of Orthopedics and Chair of the Department of Orthopedic Surgery at Nemours Children’s Health, Delaware Valley. “Our results suggest that these patient characteristics have a clear influence on pre- and post-operative care and, most concerning, on post-surgical outcomes.”

In scoliosis, the spine develops an abnormal side-to-side curve shaped like an S or a C. In most cases the cause is unknown, or idiopathic. It can occur in younger children but generally develops between ages 10 to 15. Severe cases can cause joint damage, arthritis, pain and lung problems. Treatments include a back brace to keep the curve from worsening and, for more severe cases, surgery to reduce the curve.

In this retrospective cohort study, researchers found that being Black, of lower SES and having public insurance correlated with lower rates of being prescribed a brace and of obtaining a second opinion before posterior spinal fusion (PSF) surgery for AIS:

- Black patients (36%) were less likely to have been initially treated with a brace (vs. 60% of Caucasians) or to have received a second opinion (8.7%) before surgery (vs. 26% of Caucasians).
- Patients with public insurance (45%) were less likely to have received initial treatment with a brace (vs. 57% of those with private insurance) or to have obtained a second opinion (9.4%) before surgery (vs. 26% with private insurance).
- Among low-SES patients, only 31% were prescribed a brace as initial treatment (vs. 55% of high-SES patients); just 13% received a preoperative second opinion (vs. 27% of high-SES patients); and 31% missed post-operative checkups (vs. 13% of high SES patients).

The study reviewed the cases of 421 patients aged 10 to 21 years with AIS: 74% were Caucasian, 16% Black and 9.4% of other racial/ethnic backgrounds; and 80% had private insurance and 20%, public insurance. Each underwent posterior spinal fusion (PSF) between 2015 and 2021 at a single, high-volume pediatric institution.

The authors note that patients who are more likely to miss pre- or post-operative appointments may benefit from a series of reminders or from telemedicine visits.

“Missed appointments are concerning because pre-operative assessments offer opportunities to optimize treatment and educate patients about procedures, including non-surgical options and research study enrollment,” said Shah. “Post-operative appointments allow for potential changes to the treatment plan and for early detection and treatment of any complications, to avoid potentially more significant complications when treatment is delayed.”

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## About Nemours Children's Health

Nemours Children’s Health is one of the nation’s largest multistate pediatric health systems, which includes two free-standing children’s hospitals and a network of more than 70 primary and specialty care practices. Nemours Children’s seeks to transform the health of children by adopting a holistic health model that utilizes innovative, safe, and high-quality care, while also caring for the health of the whole child beyond medicine. Nemours Children’s also powers the world’s most-visited website for information on the health of children and teens, [Nemours KidsHealth.org](#).

The Nemours Foundation, established through the legacy and philanthropy of Alfred I. duPont, provides pediatric clinical care, research, education, advocacy, and prevention programs to the children, families and communities it serves. For more information, visit [Nemours.org](#).

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