

People at lower socioeconomic levels have higher death rates within 5-10 years after heart surgery

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People at lower socioeconomic levels die more often within five to 10 years after heart surgery than those at higher socioeconomic levels, regardless of race and gender, according to research reported in *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal.

In the study, researchers tracked the survival of 23,330 people (15,156 white men, 6,932 white women, 678 black men and 564 black women) who underwent heart bypass or [valve surgery](#) between 1995 and 2005.

Researchers found that each drop in [socioeconomic position](#) had a corresponding "dose-dependent" decrease in the long-term survival rate. Specifically, after adjusting for existing risk factors such as [high blood pressure](#) and diabetes, patients in the lowest socioeconomic position had a 19 percent to 26 percent higher chance of dying within five years of surgery compared to their counterparts in the highest socioeconomic position.

"We were surprised that consistently and pervasively, through every way of looking at the data, it turns out this isn't about skin color or gender. It's about being poor," said Colleen G. Koch, study author, cardiac anesthesiologist and vice chair for research and education in the Department of Cardiothoracic Anesthesia at the Cleveland Clinic in Cleveland, Ohio.

Patients in lower socioeconomic positions had more atherosclerosis, serious cardiovascular disease, prior heart attacks, left ventricular dysfunction and [heart failure](#). They also had more hypertension, prior stroke, peripheral artery disease and treated diabetes, were more often smokers and had more [chronic obstructive pulmonary disease](#).

The study showed significantly higher numbers of blacks and women in lower socioeconomic positions than whites and men.

Researchers used six categories of U.S. Census data linked to patients' neighborhoods (including median household income, educational level and median home value) to determine socioeconomic position. They evaluated patients' socioeconomic factors and risk-adjusted health outcomes starting six months after heart surgery. Median follow-up was 5.8 years.

The study followed [heart bypass](#) and valve surgery patients because of the well-known risk factors and results of these fairly common types of heart operations.

Death rates among patients with a lower socioeconomic position were not significantly higher while patients were in the hospital immediately following surgery, Koch said. "There's something in particular about the follow-up period in the 10 years afterward that's making them more likely to die."

Lack of referrals to cardiac rehabilitation programs after surgery, educational barriers and financial obstacles could all contribute to poor health outcomes in follow-up years, she said.

Survival might be improved in patients in lower socioeconomic positions by improving access to primary prevention, identifying risk factors sooner, delivering secondary prevention and increasing access to long-

term interventions, Koch said.

Provided by American Heart Association

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