

# High cholesterol in 30s, 40s, increases later risk of heart disease

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Statin pills. Credit: Shawn Rocco/ Duke Medicine

Most young adults might assume they have years before needing to worry about their cholesterol.

But new findings from researchers at the Duke Clinical Research

Institute suggest that even slightly [high cholesterol](#) levels in otherwise healthy adults between the ages of 35 and 55 can have long-term impacts on their heart health, with every decade of high cholesterol increasing their chances of heart disease by 39 percent.

The findings are published in the American Heart Association journal *Circulation*. Lead author Ann Marie Navar-Boggan, M.D., Ph.D., likens the cumulative effects of elevated cholesterol to the long-term impacts of smoking.

"The number of years with elevated cholesterol, or 'lipid years,' can affect you in a similar way to the number of 'pack years' you have had as a smoker," Navar-Boggan said. "It shows that what we're doing to our blood vessels in our 20s, 30s and 40s is laying the foundation for disease that will present itself later in our lives. If we wait until our 50s or 60s to think about cardiovascular disease prevention, the cat's already out of the bag."

For the study, Navar-Boggan and colleagues at Duke, Boston University and McGill University examined data on 1,478 adults who were free of heart disease at age 55 who were part of the Framingham Heart Study, which began in 1948.

"Few, if any, studies have gathered the quality of the cardiovascular data that the Framingham study has," said biostatistician Michael Pencina, Ph.D., a senior author of the paper. "That wealth of data collected over time made it possible to analyze the long-term effects of cholesterol in young people—a topic on which not enough is known because it requires decades of tracking."

Researchers calculated the length of time each participant had high cholesterol by age 55 and they were followed for up to 20 years to see how [cholesterol levels](#) affected their risk of heart disease.

Elevated cholesterol for this study was defined as non-HDL cholesterol of 160 mg/dL or higher. Researchers found similar results for patients with LDL cholesterol, or "[bad cholesterol](#)" of 130 mg/dL or higher.

At age 55, nearly 40 percent of participants had at least 10 years of exposure to high cholesterol. Over the next 15 years, their risk of heart disease was 16.5 percent, nearly four times the rate of 4.4 percent seen among those without high cholesterol. Each decade of high cholesterol raised the risk of [heart disease](#) by 39 percent, suggesting that the cumulative effects of even mild or moderate elevations in cholesterol pose a significant risk to heart health.

What was surprising, Navar-Boggan said, is that "the effect is perhaps even stronger among adults who are otherwise healthy. So even if you control everything else in your life—you don't smoke, your blood pressure and weight are normal, and you don't have diabetes—having elevated cholesterol over many years can still cause problems in the long run."

The researchers also noted that most study participants with elevated cholesterol early in adulthood wouldn't have met the criteria for treatment with statins, a class of medication that lowers [blood cholesterol](#), under current guidelines endorsed by the American Heart Association and American College of Cardiology.

The study results suggest that otherwise healthy adults from age 35 to 55 may be a group of people who should consider cholesterol control sooner, Navar-Boggan said.

She cites the need for more data on the long-term effectiveness and safety of statins in younger adults.

The first step for [young adults](#)—a demographic known for missing

regular check-ups—is to be tested.

"It's never too soon for young adults to talk with their doctors about a comprehensive strategy for [heart health](#), first and foremost focusing on diet and exercise," Navar-Boggan said. "Our study suggests, though, that young adults who cannot control [cholesterol](#) with diet and exercise alone may benefit from medication earlier in life."

Provided by Duke University Medical Center

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