

Young, healthy people still vulnerable to CVD if their LDL cholesterol is high

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Young, healthy people may still face a lifetime risk of premature death from cardiovascular disease if they cannot keep their cholesterol levels in check, according to new observational research in the American Heart Association's journal *Circulation*.

Researchers in this latest study looked at associations between low-density lipoprotein-[cholesterol](#) (LDL-C) and non-high-density lipoprotein-cholesterol (HDL-C) thresholds and cardiovascular disease (CVD) and [coronary heart disease](#) (CHD) mortality to evaluate whether people believed to be at low 10-year risk for [heart](#) health problems should begin pursuing efforts to lower elevated cholesterol earlier through lifestyle changes, and in some cases, cholesterol-lowering medication.

Coronary heart disease remains the leading cause of death in the United States, affecting half of all men and one-third of all women. An estimated 28.5 million Americans have total [cholesterol levels](#) of 240 mg/dL or higher. LDL is a type of cholesterol that contributes to clogged arteries which increases the risk of heart attack and stroke.

"High cholesterol at younger ages means there will be a greater burden of cardiovascular disease as these individuals age. This research highlights the need to educate Americans of any age on the risks of elevated cholesterol, and ways to keep cholesterol at a healthy level throughout life," said Robert Eckel, M.D., past president of the American Heart Association and Director of the Lipid Clinic at

University of Colorado Hospital in Aurora. Eckel has been active in developing the AHA's Check.Change.Control.Cholesterol initiative to help providers and patients work together to identify cardiovascular health risks.

Clinical trials typically have focused on individuals at moderate or high risk for cardiovascular disease. This observational study included 36,375 young, relatively healthy participants of the Cooper Center Longitudinal Study who were free of diabetes or cardiovascular disease and were followed for 27 years. For a low-risk person, researchers discovered that LDL levels were independently associated with increased chances of dying from cardiovascular disease. Without taking into account other risk factors, researchers' other findings included:

- Compared with participants who had LDL readings of under 100 mg/dL, those with LDL levels in the range of 100-159 mg/dL had a 30 to 40 percent higher risk of cardiovascular disease death.
- Those with LDL levels of 160 mg/dL or higher had a 70 to 90 percent increased risk of cardiovascular death, compared with participants who had LDL readings of under 100 mg/dL.
- Among the group (72 percent men, average age 42), there were 1,086 deaths from cardiovascular disease, such as stroke, and 598 coronary heart [disease](#) deaths.

"Our study demonstrates that having a low 10-year estimated [cardiovascular disease](#) risk does not eliminate the risk posed by elevated LDL over the course of a lifetime," said lead study author Shuaib Abdullah, M.D., at University of Texas Southwestern Medical Center and Veteran's Affairs North Texas Healthcare System in Dallas, Texas. The study was done in collaboration with investigators from the Cooper Institute. "Those with low risk should pursue lifestyle interventions, such as diet and exercise, to achieve LDLs levels as low as possible,

preferably under 100 mg/dL. Limiting saturated fat intake, maintaining a healthy weight, discontinuing tobacco use, and increasing aerobic exercise should apply to everyone."

More information: *Circulation* (2018). [DOI: 10.1161/CIRCULATIONAHA.118.034273](https://doi.org/10.1161/CIRCULATIONAHA.118.034273)

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