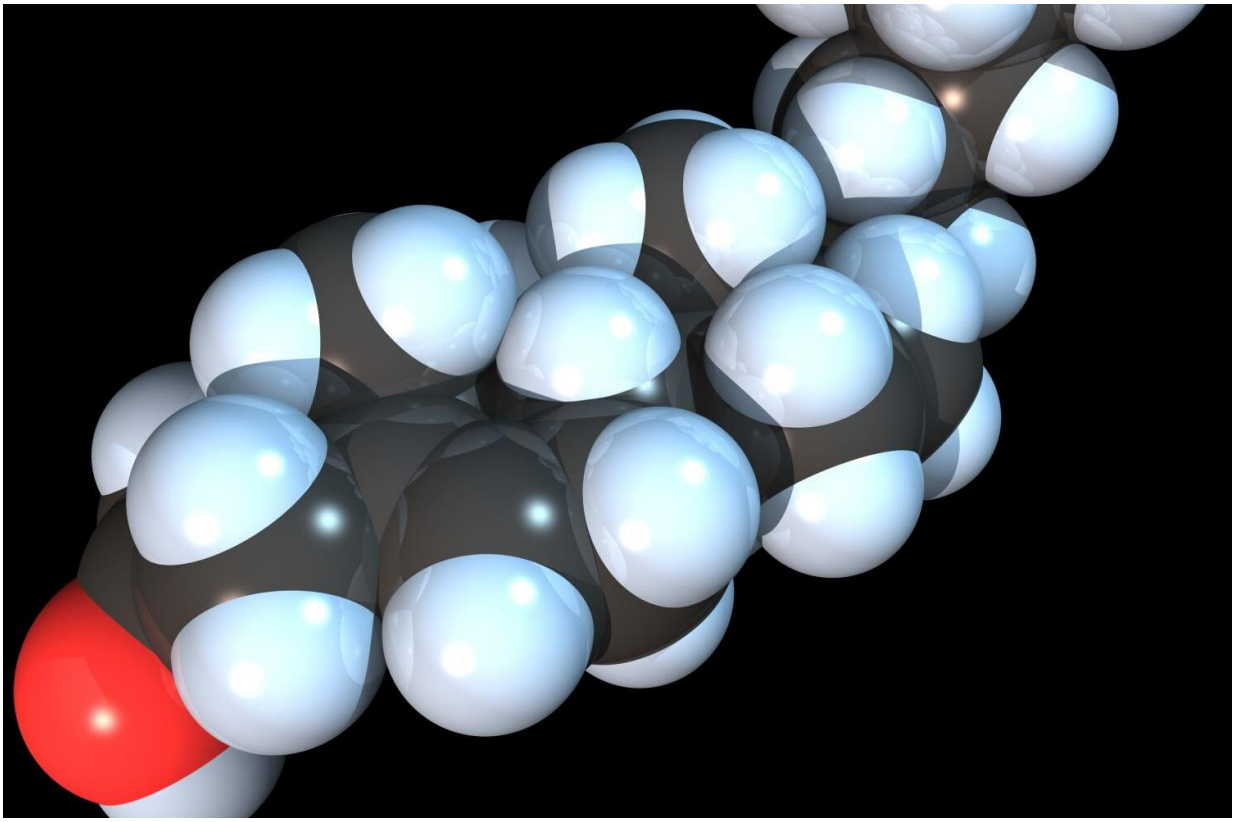
# New evidence: It's not necessary to fast before complete cholesterol test

May 28 2019



Space-filling model of the Cholesterol molecule. Credit: RedAndr/Wikipedia

A new study adds to the growing body of evidence that it is unnecessary for most patients to fast before having bloodwork done to measure lipid levels to determine risk of future cardiovascular events. Since the 1970s,

studies have suggested that fasting and nonfasting before a complete cholesterol test, otherwise known as lipid level testing, may make little difference in assessing who is at risk for a future heart attack, stroke or other cardiovascular event. But most of these studies were conducted by comparing groups of people at a population level rather than in the same individuals. This left a lingering question about how well nonfasting lipid levels can predict future events for patients. A large study led by investigators at Brigham and Women's Hospital, Harvard Medical School, and Imperial College provides robust evidence that nonfasting lipid levels were similar to fasting lipid levels in the same individuals, predicting cardiovascular risk just as well. The results are published in *JAMA Internal Medicine*.

"We hope this study will be the final nail in the coffin, providing strong evidence that, within the same person, fasting or not before a lipid level test doesn't matter for predicting cardiovascular risk," said corresponding author Samia Mora, MD, MHS, a cardiovascular medicine specialist and director of the Center for Lipid Metabolomics in the Divisions of Preventive and Cardiovascular Medicine at the Brigham and an associate professor at Harvard Medical School. "This should reassure health care providers and patients that it doesn't make a difference if you fast or don't fast if the goal is to predict your cardiovascular risk."

To conduct their study, Mora and colleagues conducted a post hoc prospective follow-up study of participants from the Anglo-Scandinavian Cardiac Outcomes Trial-Lipid Lowering Arm (ASCOT-LLA), a randomized clinical trial. Fasting and nonfasting lipid levels for more than 8,000 participants were measured four weeks apart with no intervention in between. Patients were followed for a median of 3.3 years for major coronary events (heart attacks, fatal coronary heart disease) and atherosclerotic cardiovascular disease (heart attacks, stroke, and related deaths).

The team found that risk associations of nonfasting lipid levels with coronary events were similar to those for fasting lipid levels measured four weeks later. When patients were not fasting, they had modestly higher triglyceride levels but similar cholesterol levels compared to when they were fasting.

"We spend most of our lives in a nonfasting state. And for some patients, especially those who are elderly or have diabetes, it can be risky to fast before lipid testing," said Mora. "Health care providers held back because of concerns of variability within individuals, but the data here is so convincing. It should allow people to feel more comfortable with nonfasting lipid testing for cardiovascular risk assessment, including when taking a statin."

Mora and colleagues note some important limitations to the study. ASCOT-LLA involved European participants, and while they represent multiple European countries, the majority were white and male. The researchers expect that the findings will be relevant to more diverse populations but note that future research should assess potential ethnic and/or racial differences.

**More information:** Mora, S et al. "Association of Nonfasting vs Fasting Lipid Levels With Risk of Major Coronary Events in the Anglo-Scandinavian Cardiac Outcomes Trial-Lipid Lowering Arm" *JAMA Internal Medicine* DOI: 0.1001/jamainternmed.2019.0392

Provided by Brigham and Women's Hospital