

# Reducing risk of cardiovascular disease

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Human heart. Credit: copyright American Heart Association

There is more to consider than just cholesterol levels when it comes to cardiovascular health. Experts at Baylor College of Medicine say even if you have lowered your cholesterol and have been prescribed statins, new data shows you may still be at risk. The latest research is helping to outline the best path to cardiovascular health.

"Even when cholesterol levels are lowered through statins or [lifestyle changes](#), there are still other risk factors at play. That is why it is important to also check your [triglyceride levels](#), among other things," said Dr. Christie Ballantyne, professor of medicine and chief of the sections of cardiology and cardiovascular research at Baylor.

## Predicting Heart Attack and Stroke

In past studies, Ballantyne and his colleagues found that in patients with high triglycerides, other

specialized lipid tests may be a better indicator for predicting risk of cardiovascular disease and stroke compared to just traditional risk factors.

Using data from the long-term, ongoing Atherosclerosis Risk in Communities (ARIC) study, designed to investigate the causes of atherosclerosis and its clinical outcomes, researchers added remnant lipoprotein cholesterol (RLP-C) and low-density lipoprotein triglycerides (LDL-TG), both associated with high levels of triglycerides, to the Pooled Cohort Equation, a 10-year risk prediction tool. The RLP-C levels didn't change prediction outcomes, but when LDL-TG levels were added, the researchers found that they predicted not only heart attack but also stroke.

This study, which appeared in the *Journal of the American College of Cardiology*, only focuses on prediction so more studies are needed to show whether lowering LDL-TG levels will help to prevent heart attack and stroke. Learn more about this study [here](#).

## Lowering ischemic events in statin-treated patients

Another study related to triglycerides looked specifically at people who suffer from high triglycerides while on statin treatments.

Ballantyne said that [genetic studies](#) have shown that triglycerides play an important role in heart disease, so he and other researchers at Baylor have been investigating the role of icosapent ethyl, a highly purified [eicosapentaenoic acid](#) (EPA) ethyl ester, which is an omega-3 fatty acid purified from fish oil, on lowering triglycerides as part of the large multisite Reduction of Cardiovascular Events with Icosapent Ethyl-Intervention Trial, known as REDUCE-IT.

They found a reduction in nonfatal myocardial infarction, nonfatal stroke, coronary revascularization or unstable angina, and cardiovascular death. However, the use of EPA is

known to have many biological activities in addition to the effects on lipids so more studies are needed to see exactly what mechanisms were effecting the outcomes.

### Personalized Medicine

Since more research is needed to find out how to most effectively use the resulting data of these and other studies, Ballantyne said the best way to move forward is to focus on personalized medicine.

"You don't get more personal than your family history. Did anyone die of heart attacks or stroke, who had diabetes, were they overweight, did they suffer from any other medical conditions?" he said. "The next step is to talk to your doctor and get the status of your own health."

Ballantyne explains that, while important, [cholesterol levels](#), blood pressure and BMI should not be the only factors on which to rely for heart health. There are a number of simple blood tests that any doctor can do.

If a person has a family history of heart attack or stroke, they should be tested for lipoprotein(a), or Lp(a). Studies have shown that high levels of Lp(a) play a role in cardiovascular issues. Lp(a) particles travel through the bloodstream and collect in the arteries, leading to gradual narrowing of the artery that can limit blood supply to parts of the body, including the [heart](#) and lungs. While there isn't a therapy just yet to lower these levels, knowing your risk can help you focus on other options that will lower other traditional [risk factors](#).

Knowing your coronary calcium score also is important, Ballantyne said. It is a test that uses a CT scan to measure the amount of calcified plaque in coronary arteries and helps to calculate your risk of developing coronary artery disease, which can lead to [heart attack](#) and stroke.

Another test looks at levels of high-sensitivity C-reactive protein, or hs-CRP, which is a protein that indicates inflammation in the body. This protein is present when there is inflammation anywhere in the body, including vascular inflammation, and has been shown to be predictive of cardiovascular risk.

"We are currently looking at how genetic testing can impact patient care when it comes to cardiovascular care and identifying additional risk enhancers specific to each person and potentially expanding that to the family," Ballantyne said. "Understanding your own risk helps each person and their doctor find the most effective way to improve cardiovascular health and quality of life."

**More information:** Anum Saeed et al. Remnant-Like Particle Cholesterol, Low-Density Lipoprotein Triglycerides, and Incident Cardiovascular Disease, *Journal of the American College of Cardiology* (2018). [DOI: 10.1016/j.jacc.2018.04.050](https://doi.org/10.1016/j.jacc.2018.04.050)

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