

# Combined strategies better assess heart disease risks

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A new strategy combining five separate medical tests provided a significantly better risk assessment of cardiovascular disease among adults, compared to traditional measures, according to a study published in *Circulation*.

The approach could help clinicians better pinpoint patients who don't have traditional heart disease risk factors but who nonetheless might benefit from prevention efforts and therapies.

Philip Greenland, MD, the Harry W. Dingman Professor of Cardiology and director of the Center for Population Health Sciences, was a co-author of the paper.

Current [heart disease risk](#) factors, including blood pressure, cholesterol and smoking history, are limited in their accuracy of predicting risk. Furthermore, they typically only consider risk of cardiovascular disease events related to atherosclerosis—[heart attack](#) and stroke—and don't address the risk for other heart problems, such as atrial fibrillation and heart failure.

"We know that the traditional risk factors are helpful, but there is still a lot of overlap between the risk factors for people who turn out to have a heart attack and people who don't. So we've been looking for a way to further separate the groups," Greenland said.

In the current study, the investigators determined that a combination of

five blood and imaging-based biomarkers was more accurate at identifying people at risk for heart attack and stroke, and allowed for expanding the [risk assessment](#) to include [heart failure](#) and [atrial fibrillation](#).

The investigators looked at data from participants in two large population studies, the Multi-Ethnic Study of Atherosclerosis (MESA) and the Dallas Heart Study (DHS), who did not have [cardiovascular disease](#).

The five tests included a 12-lead electrocardiogram, a coronary calcium scan and blood measures for C-reactive protein, troponin T and NT-proBNP, which had all been individually shown to modestly improve risk assessment.

"These five tests all seem to be individually useful," said Greenland, also a professor of Epidemiology in the Department of Preventive Medicine. "And now this study shows that when you combine them, they seem to be even more useful."

**More information:** James A. de Lemos et al. Multimodality Strategy for Cardiovascular Risk Assessment Clinical Perspective, *Circulation* (2017). [DOI: 10.1161/CIRCULATIONAHA.117.027272](https://doi.org/10.1161/CIRCULATIONAHA.117.027272)

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