



## 5 Tests for Better Heart-Disease Risk Prediction



Five simple medical tests – an EKG, a limited CT scan, and three blood tests – together provide a broader and more accurate assessment of heart-disease risk than currently used methods, according to cardiologists at UT Southwestern Medical Center. The findings are published in the journal *Circulation*.

**See Also:** [How Diabetes Increases Heart Attack Risk](#)

"This set of tests is really powerful in identifying unexpected risk among individuals with few traditional risk factors. These are people who would not be aware that they are at risk for heart disease and might not be targeted for preventive therapies," says Dr. James de Lemos, Professor of Internal Medicine.

The five tests, and the information they provide:

- A 12-lead EKG provides information about hypertrophy, or thickening of the heart muscle.
- A coronary calcium scan, a low-radiation imaging test, identifies calcified plaque buildup in the arteries of the heart.
- A blood test for C-reactive protein indicates inflammation.
- A blood test for the hormone NT-proBNP indicates stress on the heart.
- A blood test for high-sensitivity troponin T indicates damage to heart muscle. Troponin testing is regularly used by hospitals to diagnose heart attacks, but high-sensitivity troponin fine-tunes that measure, pointing to small amounts of damage that can be detected in individuals without any symptoms or warning signs.

Four of the five tests are currently readily available and the fifth – high-sensitivity troponin T – will be available soon.

The set of five tests not only expanded risk prediction to include the likelihood of heart failure and atrial fibrillation, but also proved to be a better predictor of heart attack and stroke than currently recommended approaches. Blood pressure, cholesterol, diabetes, and smoking history are what current assessment focuses on.

Researchers used data from the Multi-Ethnic Study of Atherosclerosis (MESA), which included a population of 6,621 individuals, and the Dallas Heart Study, which included 2,202 individuals. Both studies involve individuals

who were healthy at the onset of the study.

The added value of the test panel results from the careful selection of tests that were complementary but not redundant, according to Dr. Amit Khera, Professor of Internal Medicine and Director of UT Southwestern's Preventive Cardiology Programme.

The tests were combined in a simple scoring system with one point for each abnormal result. Compared with those with no abnormal tests, those with five abnormal results had more than a 20-fold increased risk of developing heart complications over the next 10 years.

The researchers note that these tests aren't for everyone and should only be done in collaboration with a physician with expertise in heart disease prevention, to help interpret the results.

Source: [UT Southwestern Medical Center](#)

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