

Framingham risk assessment doesn't accurately predict coronary artery disease, study suggests

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If patients with suspected coronary artery disease (CAD) are excluded from further screening because of a low Framingham score, many patients with substantial atherosclerosis (a build-up of plaque inside the arteries) will be missed, according to a study published in the May issue of the *American Journal of Roentgenology*.

The Framingham risk assessment tool is used to estimate a person's chances of having a heart attack based upon age, sex, total cholesterol, HDL cholesterol, smoking status, and blood pressure. "It is often recommended as the starting point for coronary disease screening; however, if a patient's Framingham score is low enough, some doctors may eliminate them from having any further screening," said Kevin M. Johnson, MD, lead author of the study.

The study, performed at the Yale University School of Medicine in New Haven, CT, compared the sensitivity (percentage of patients with atherosclerosis who were correctly identified) of the Framingham score to the simple observation of whether any coronary calcium was present using coronary computed tomography (CT). It included 1,416 men and 707 women with suspected CAD and the majority of patients were asymptomatic.

"Simple observation of the presence of coronary calcium was 98 percent sensitive in men and 97 percent sensitive in women for the detection of

atherosclerosis. In comparison, the Framingham risk score was only 74 percent sensitive in men and 36 percent sensitive in women for the detection of atherosclerosis — a substantial difference," said Johnson.

"As our study suggests, the presence of [coronary artery calcium](#) detects more patients with coronary atherosclerosis than does the Framingham risk assessment score," he said.

"If the Framingham risk score is used as the "gatekeeper" in a screening program for [coronary atherosclerosis](#) and the low-risk patients are dismissed from further study, about two thirds of women and a quarter of men with substantial atherosclerosis will be missed," said Johnson.

More information: www.ajronline.org

Provided by American College of Radiology

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