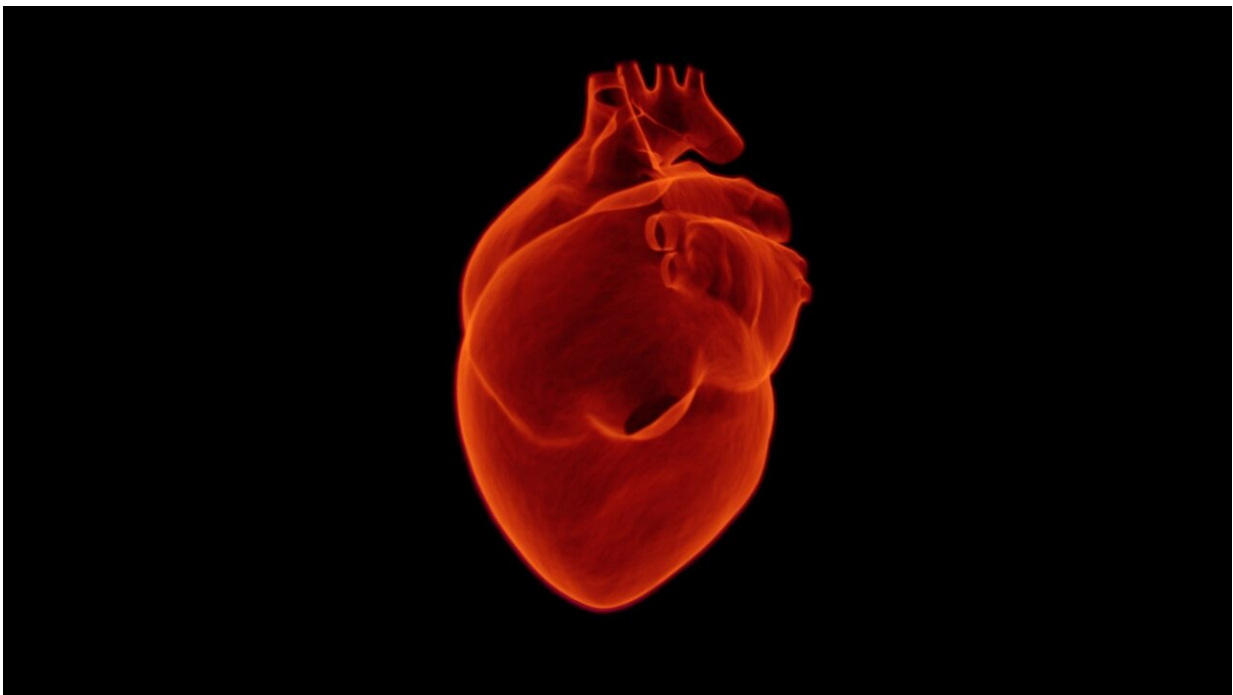


# Women with hardened arteries may need stronger treatment to prevent heart attacks than men

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Postmenopausal women with clogged arteries are at higher risk of heart attacks than men of similar age, according to research presented at EACVI 2023, a scientific congress of the European Society of Cardiology (ESC), and published in *European Heart*

*Journal—Cardiovascular Imaging.* The study in nearly 25,000 adults used imaging techniques to examine the arteries and followed patients for heart attacks and death.

"The study suggests that a given burden of atherosclerosis is riskier in [postmenopausal women](#) than it is in men of that age," said study author Dr. Sophie van Rosendael of Leiden University Medical Centre, the Netherlands. "Since atherosclerotic plaque burden is emerging as a target to decide the intensity of therapy to prevent [heart](#) attacks, the findings may impact treatment. Our results indicate that after menopause, [women](#) may need a higher dose of statins or the addition of another lipid-lowering drug. More studies are needed to confirm these findings."

Atherosclerosis is the narrowing of arteries due to deposits of fat and cholesterol in what is called plaque. While [young women](#) do have heart attacks, in general, women develop atherosclerosis later in life than men and have heart attacks at an [older age](#) than men, in part because of the protective effect of estrogen. This study examined whether the prognostic importance of atherosclerotic plaques are the same for women and men at different ages as this could be important for selecting treatments to prevent heart attacks.

The study included 24,950 [patients](#) referred for coronary computed tomography angiography (CCTA) and enrolled in the CONFIRM registry, which was conducted in six countries in North America, Europe, and Asia. CCTA is used to obtain 3D images of the arteries in the heart.

Total atherosclerotic burden was rated using the Leiden CCTA score, which incorporates the following items for each coronary segment: plaque presence (yes/no), composition (calcified, noncalcified or mixed), location, and severity of narrowing, for a final value of 0 to 42. Patients were divided into three categories previously found to predict

the risk myocardial infarction: low atherosclerotic burden (0 to 5), medium (6 to 20) and high (over 20). In addition, obstructive coronary artery disease was defined as 50% narrowing or more.

The primary outcome was the difference in Leiden CCTA score between women and men of similar age. The investigators also analyzed sex differences in the rates of major adverse cardiovascular events (MACE), which included all-cause death and myocardial infarction, after adjusting for age and cardiovascular risk factors (hypertension, high cholesterol, diabetes, current smoking and family history of coronary artery disease).

A total of 11,678 women (average age 58.5 years) and 13,272 men (average age 55.6 years) were followed for 3.7 years. Regarding the primary outcome, the study showed an approximately 12 year delay in the onset of coronary atherosclerosis in women: the median Leiden CCTA risk score was above zero at age 64 to 68 years in women versus 52 to 56 years in men (p

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