

# Seeing is believing with clogged arteries

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It seems a picture is worth more than a thousand words for people who see evidence of coronary artery disease, which is the most common type of heart disease in men and women. Simply seeing a build-up of calcium in the walls of the arteries appears to prompt patients to better adhere to both statin therapy and recommendations for weight loss, according to research presented today at the American College of Cardiology's 61st Annual Scientific Session. The Scientific Session, the premier cardiovascular medical meeting, brings cardiovascular professionals together to further advances in the field.

In two related studies, patients undergoing coronary artery calcium (CAC) scoring with cardiac computed tomography – a test that uses a CT scanner to take clear, detailed pictures of the heart – were shown images of their [arteries](#). The researchers found the most striking results among patients with increasingly severe disease.

Individuals with the most severe disease, those with a CAC score over 400, who saw images of their heart were 2.5 times more likely to take statins as directed and more than three times more likely to have lost weight compared to those who had a scan and saw little or no evidence of underlying disease. These findings are significant because patient compliance is often a major barrier to effectively preventing and treating heart disease. For instance, compliance to [statin therapy](#) has been reported to be as low as 20 to 50 percent.

"Beyond the diagnostic and predictive value of cardiac computed tomography, it is also quite beneficial in terms of motivating people to

pursue behaviors that we know result in a reduction in cardiovascular mortality and morbidity," said Nave Kalia, MD, one of the lead investigators for both studies. "Taking medication as directed, as well as adhering to behavioral modification, such as exercise for weight loss, can both have a huge impact on cardiovascular events going forward. What's most interesting is that the higher the person's calcium score, the more likely they were to be compliant."

Dr. Kalia said that while previous studies have investigated the impact that patient-viewed cardiac scans can have on behavior, these are the first large-scale studies to corroborate similar results seen in a previous study looking at a reduction in Framingham risk score; they also found statistically significant findings across all CAC scores. The researchers split groups into quartiles based on their score, which correlates in linear fashion with the severity of their disease. The statin study included 2,100 individuals who underwent baseline CAC testing and completed a follow-up questionnaire; it found compliance was lowest (36 percent) among those with a CAC score of 0, which is indicative of very little to no disease, and was then found to increase as CAC scores increased. (1 to 99, 51.8 percent; 100 to 399, 56.5 percent;  $\geq 400$ , 59.1 percent;  $p < .001$ , as compared to those with a score of 0, were 2.0- (95 percent CI 2.0-3.5 p

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