

## The Use of Coronary Calcium Scanning for Cholesterol Assessment and Management

**Authors :** Eva Kirzner

**Abstract :** Based on outcome studies published over the past two decades, in 2018, the ACC/AHA published new guidelines for the management of hypercholesterolemia that incorporate the use of coronary artery calcium (CAC) scanning as a decision tool for ascertaining which patients may benefit from statin therapy. This use is based on the recognition that the absence of calcium on CAC scanning (i.e., a CAC score of zero) usually signifies the absence of significant atherosclerotic deposits in the coronary arteries. Specifically, in patients with a high risk for atherosclerotic cardiovascular disease (ASCVD), initiation of statin therapy is generally recommended to decrease ASCVD risk. However, among patients with intermediate ASCVD risk, the need for statin therapy is less certain. However, there is a need for new outcome studies that provide evidence that the management of hypercholesterolemia based on these new ACC/AHA recommendations is safe for patients. Based on a Pub-Med and Google Scholar literature search, four relevant population-based or patient-based cohort studies that studied the relationship between CAC scanning, risk assessment or mortality, and statin therapy that were published between 2017 and 2021 were identified (see references). In each of these studies, patients were assessed for their baseline risk for atherosclerotic cardiovascular disease (ASCVD) using the Pooled Cohorts Equation (PCE), an ACC/AHA calculator for determining patient risk based on assessment of patient age, gender, ethnicity, and coronary artery disease risk factors. The combined findings of these four studies provided concordant evidence that a zero CAC score defines patients who remain at low clinical risk despite the non-use of statin therapy. Thus, these new studies confirm the use of CAC scanning as a safe tool for reducing the potential overuse of statin therapy among patients with zero CAC scores. Incorporating these new data suggest the following best practice: (1) ascertain ASCVD risk according to the PCE in all patients; (2) following an initial attempt trial to lower ASCVD risk with optimal diet among patients with elevated ASCVD risk, initiate statin therapy for patients who have a high ASCVD risk score; (3) if the ASCVD score is intermediate, refer patients for CAC scanning; and (4) and if the CAC score is zero among the intermediate risk ASCVD patients, statin therapy can be safely withheld despite the presence of an elevated serum cholesterol level.

**Keywords :** cholesterol, cardiovascular disease, statin therapy, coronary calcium

**Conference Title :** ICHDA 2022 : International Conference on Heart Diseases and Abnormalities

**Conference Location :** New York, United States

**Conference Dates :** June 02-03, 2022