Asymptomatic Patient at Risk for Coronary Artery Disease

Coronary atherosclerotic disease (CAD) is caused by the buildup of cholesterol plaques in the walls of coronary arteries, which supply blood to the heart. CAD can lead to myocardial infarction (heart attack) and other cardiac events. A person with CAD may be asymptomatic (ie, not have any symptoms). An early diagnosis and treatment of CAD before a person has symptoms can reduce heart attacks and deaths.

Doctors can use a variety of factors to determine a person's risk for CAD. These include family history, physical examination, blood tests, lifestyles, and risk calculators. These risk assessments are based on the average of a lot of people. Based on level of risk, imaging tests can look for coronary artery calcium. Coronary artery calcium is found in plaques in the walls of arteries. It is a strong indicator of CAD for an individual. It can be used to help develop a treatment plan to reduce the risk of a cardiac event.

For asymptomatic individuals with a low risk of CAD, imaging tests are usually not recommended.

For asymptomatic patients with intermediate risk for CAD, CT coronary calcium (https://www.radiologyinfo.org/en/info/ct_calscoring) (detects calcium deposits in the coronary arteries of the heart) is usually appropriate. CT angiography coronary arteries (https://www.radiologyinfo.org/en/info/angiocoroct) with intravenous (IV) contrast (CT scan of arteries using IV contrast) may be appropriate.

For asymptomatic individuals with high risk for CAD, CT coronary calcium and CT angiography of coronary arteries with IV contrast may be appropriate.

—By Emily Hahn and Khushboo Jhala, MD, MBA. This information originally appeared in the *Journal of the American College of Radiology*.

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