ConsumerTx[SM]

CT Scans for Coronary Artery Calcium Scoring

What is a CT scan?

A CT (computed tomography) scan is a form of x-ray imaging that shows detailed images of internal structures such as bones, organs, and blood vessels. CT scans can be used to detect calcium in the coronary arteries.

What are the coronary arteries?

The coronary arteries are the blood vessels that supply blood to the heart.

What is coronary artery calcium scoring?

Coronary artery calcium scoring ("calcium scoring") measures calcium build-up in the coronary arteries. CT scans take images of the coronary arteries, then a computer determines the amount of calcium in the arteries and a calcium score is calculated. Higher amounts of calcium result in a higher score.

Why look at calcium build-up in the coronary arteries?

Calcium build-up is not normally present in the coronary arteries. If calcium is found in the plaque, it may be an indicator of coronary artery disease (CAD).

What is coronary artery disease?

CAD is a condition in which deposits called plaque buildup inside the coronary arteries. Plaque is made up of fat, cholesterol, other substances found in the blood, and may or may not include calcium. Plaque narrows the arteries and reduces blood flow to the heart muscle. Plaque also makes blood clots more likely to form in arteries, partially or completely blocking blood flow.

How accurate is calcium scoring?

If your CT scan shows that you have no calcium you could still have CAD. In this case, plaque may be present in the arteries but it is not hardened by calcium. This type of plaque can still build-up enough to cause problems and may not be detected by a CT scan. A CT scan may also show that a person has a high calcium score, even when they don't have CAD.

What does the science say about calcium scores?

The role of calcium scoring in screening for CAD remains uncertain. The evidence has not shown that using calcium scores in addition to other screening methods (risk assessment tools) lowers the risk of CAD. Experts such as the American Heart Association do not recommend calcium scoring as a routine screening tool for CAD.

What are other ways my doctor can screen for coronary artery disease?

Your doctor may use risk assessment tools that include talking to you about your medical history (including your family's medical history), doing a physical examination, and ordering simple blood tests. Other tests your doctor might consider include an electrocardiogram (EKG), stress test, echocardiogram or chest x-ray. You can read more about these tests at: http://www.nhlbi.nih.gov/health/dci/Diseases/Cad/CAD_Diagnosis.html.

What are the major risks for coronary artery disease?

- Age and gender: males over 45 years of age and females over 55 years of age
- Unhealthy blood cholesterol levels: high LDL ("bad") cholesterol or low HDL ("good") cholesterol
- Family history of heart disease
- Diabetes or insulin resistance
- High blood pressure
- Cigarette smoking, past or present
- Overweight or obesity
- Physical inactivity

What are the safety concerns with CT scans for calcium scoring?

- Repeated CT scans over time may cause excessive radiation exposure and an increased risk of cancer.
- Sometimes a person can have a high calcium score but they do not have CAD. This is considered a "false positive" test which can lead to costly invasive procedures that may not be necessary.
- Sometimes a person can have plaque but a very low calcium score. This is considered a "false negative" test and may lead to CAD going untreated.

How much does CT calcium scoring cost?

The cost of a CT scan for coronary artery calcium may be over $1000.

Are CT scans for coronary artery calcium scoring covered by Regence?

No. Coronary artery calcium scoring has not been proven to be an accurate or effective tool to measure risk for CAD. It is considered "investigational" and is not covered. If you're considering this service, we suggest you go to the Regence Medical Policy, located at: http://blue.regence.com/trgmedpol/radiology/rad06.html.

THE BOTTOM LINE

CT for coronary artery calcium scoring has not been proven to be accurate or effective for screening, prevention or treatment of CAD.

Note: Regence physicians, nurses and pharmacists developed this summary to provide you with information about potential advantages and lack of advantages of coronary artery calcium scoring. This summary was developed based upon an evaluation of information from scientific studies and input from practicing doctors and specialists.