

Diagnosing Heart Disease

EXPERT ADVICE

Calcium Scan

“The coronary calcium scan is a simple, non-invasive test that can quickly determine a person’s risk of heart attack. While it is not considered a routine screening, it can be very helpful for people who do not have symptoms, but who have multiple risk factors like high cholesterol, high blood pressure, smoking, family history, etc. Cardiologists look at a score from 0 to 400—the higher the score, the higher probability of significant coronary arteriosclerosis. The good news is, the radiation exposure of an individual coronary calcium scan is quite low.”



Ondrej Lisy,
M.D., Ph.D.,
FACC,
The Chattanooga Heart
Institute at
Memorial
Health Care
System



When it comes to diagnosing heart disease, there is no one-size-fits-all test. Thanks to recent advancements in diagnostic imaging and procedures, heart disease is becoming easier to spot—and easier to manage—than ever before. Here’s a look at a few different imaging modalities that are rapidly evolving.

Coronary Calcium Scan

A coronary calcium scan is widely available and perhaps the most discussed test for diagnosing heart disease. A simple electron beam computed tomography (EBCT) scan checks for build-up of calcium in the arteriosclerotic plaque of the coronary vessels.

A healthy heart has no calcium in its coronary arteries. However, if a patient has the beginnings of heart disease, the test can provide a visualization of the calcification within his or her heart vessel.

Coronary CT Angiogram

In the past, CT scans were great for “static” areas of the body (e.g., brain, abdominal cavity), but not so great for moving organs like the heart. Today’s scanners, however, can take hundreds of images in just 30 seconds and create colorful, 3D images of the heart, veins, and blood vessels.

A coronary CT angiogram isn’t considered a routine screening test for heart disease, partially because it requires higher radiation exposure. However, for

those at high risk, or those with unclear results from other tests, it can provide a non-invasive means of detecting the presence of everything from coronary heart disease and aortic problems to aneurysms, heart valve disease, and pericardial disease.

Nuclear Stress Testing

Nuclear cardiac stress testing is done to determine if there is any decrease of blood flow to areas of the heart, and if there is, how much heart muscle is involved. They are normally done in two parts. First, a patient walks on the treadmill to exert the heart (sometimes, medicine is given to assist with this). Next, he or she is injected with a radioactive substance and imaged with a special camera. Finally, a specialist reviews these images to determine which parts of the heart are not getting enough blood due to vessel blockages.

Echocardiography (Echo)

An echocardiography, or echo, uses sound waves to create moving pictures of the heart. A technician places a transducer on the chest to send sound waves to the heart. These waves then “bounce back”—and are processed by a computer, assembled into a two-dimensional or three-dimensional image of the beating heart, and displayed on a screen. Echos help cardiologists evaluate heart valves and assess the heart’s pumping abilities. Recently, exercise stress echo has been utilized to determine how well the heart tolerates activity and to elevate the heart function. ♥

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