

EKG can show false positive readings for diagnosing heart condition

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The electrical measurements on the electrocardiogram can often mislead physicians in diagnosing the heart condition left ventricular hypertrophy, causing other screening tests to be ordered before a definitive conclusion can be made, according to a Henry Ford Hospital study.

The study of 500 patients found a false positive reading between 77 and 82 percent in patients screened by electrocardiogram, and a false negative reading between 6 percent to 7 percent in the same patient population.

The electrocardiogram also showed a high negative predictive reading, which reflects the absence of left ventricular hypertrophy. Physicians rely on several electrocardiogram measurements for diagnosing the heart condition.

Researchers evaluated the electrocardiogram data against coronary CT scans taken of patients. CT scans are considered highly accurate for diagnosing left ventricular hypertrophy, or LVH.

An electrocardiogram, or EKG, measures electrical activity of a heartbeat; a CT scan uses X-rays to take clear, detailed images of the heart.

The study is being presented at the American Heart Association's annual scientific conference Nov. 14-18 in Orlando.

"The EKG criteria for diagnosing left ventricular hypertrophy have a very poor sensitivity," says Mohamad Sinno, M.D., cardiology fellow at Henry Ford Hospital and lead author of the study. "So when the EKG shows left ventricular hypertrophy, it doesn't allow the physician to make an accurate assessment, and further screening tools such as [cardiac CT](#), [MRI scan](#), or an [echocardiogram](#) are warranted."

LVH, a condition in which the lower-left chamber of the heart grows abnormally thick, affects more than 16 percent of the adult population in the United States. It is caused by an underlying medical condition, most commonly high [blood pressure](#), but often does not show symptoms until later in the disease process.

If left untreated, LVH has been shown to be an independent predictor for future adverse cardiovascular disease such as heart attacks, strokes, heart failure, arrhythmias and death.

Source: Henry Ford Health System ([news](#) : [web](#))

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