

In the Chest Pain E.R., a new testing routine means fewer missed heart disease cases

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(Medical Xpress) -- Doing things a little differently in the emergency room could mean fewer missed cases of heart disease, according to physicians at the University of Florida.

The researchers compared two ways of testing patients who came to the ER with chest pain who, though not suffering a [heart attack](#), might have other heart problems. They found that the “old way” of sending patients home with a prescription for outpatient stress testing is not effective at detecting heart disease, since only one-third of patients followed through.

But when CT imaging was used instead to evaluate patients while they were still in the emergency room, almost everyone got a heart test and more cases of heart disease were caught.

The findings appear online and in an upcoming print edition of the *International Journal of Cardiovascular Imaging*.

“This means that we are making more accurate diagnoses and there are fewer people falling through the cracks,” said lead author Dr. David E. Winchester, an assistant professor of cardiovascular medicine in the UF College of Medicine’s department and director of cardiovascular services for the affiliated Chest Pain E.R. at Shands at UF medical center.

“Those patients can then get appropriate medical therapy and referrals, and there is less concern that they leave the E.R. and we don’t know what happened to them.”

The new report comes as the Chest Pain E.R. at Shands opens today (Wednesday, Aug. 24), offering onsite stress testing that makes it easier and more convenient for patients to get needed tests.

Chest pain leads to more than 6 million patient visits to U.S. emergency rooms annually. Patients who show up at the ER with chest pain generally undergo several tests that can reveal whether they are having a heart attack. Patients not having a heart attack are often offered a prescription for an outpatient stress test depending on their age and whether they have risk factors such as smoking, high blood pressure or cholesterol, diabetes or family members with [heart problems](#).

But the UF [physicians](#) suspected that many people did not carry out the doctor's orders once they left the ER, and a study of the records of chest pain patients confirmed it. In cases where patients got a cardiac CT before leaving the emergency room, however, almost all had their hearts tested. The researchers studied 50 patients who got CT scans and 50 who were told to get outpatient stress tests.

Of the patients who got a stress test prescription, only 18 went for the test, and one was diagnosed with heart disease. By comparison, among those recommended for CT, 48 had the scan and 14 were diagnosed with [heart disease](#).

Using the CT scan did not increase the amount of time that patients spent in the emergency room. CT is rapid, noninvasive and widely available to emergency room physicians, and advances in the technology now allow high-quality imaging of the coronary arteries.

"This important study demonstrates the use of new CT technology to help E.R. patients and potentially save money and time," said Dr. Frank J. Rybicki, director of the Applied Imaging Science Laboratory at Brigham and Women's Hospital and an associate professor of radiology

at Harvard Medical School. “For those patients reluctant to comply with follow-up testing, this strategy in the ER provides a more comprehensive evaluation at a single point in time.” Rybicki is an editor of the journal in which the study was published, but was not involved in the research.

None of the patients in the study had a heart attack or died. Both strategies are safe, the physicians concluded, but the use of CT in the emergency room allowed better testing of patients. The stress test on a treadmill is generally a good tool for evaluating the heart, since doctors can see whether the patient develops chest pain while being physically stressed. CT scans can be more appropriate in some cases, such as when patients can’t walk fast enough to raise their [heart](#) rate to the level needed for the test, if they have arrhythmia, or if they have abnormal electrocardiograms.

The UF researchers are now conducting a study of a larger number of patients over a longer period to determine whether using cardiac CT in the [emergency room](#) can reduce the number of times people return with [chest pain](#).

Provided by University of Florida

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