

Long-term study results validate efficacy of CT scans for chest pain diagnosis

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The first long-term study following a large number of chest pain patients who are screened with coronary computerized tomographic angiography (CTA) confirms that the test is a safe, effective way to rule out serious cardiovascular disease in patients who come to hospital emergency rooms with chest pain, according to new research from the University of Pennsylvania School of Medicine which will be presented Friday, May 15, 2009 at the Society for Academic Emergency Medicine's annual conference.

Chest pain is a common and costly health complaint in the United States, bringing 8 million Americans to hospital emergency departments each year. Although just five to 15 percent of those patients are found to be suffering from heart attacks or other cardiac diseases, more than half are admitted to the hospital for observation and further testing. CTA streamlines the process and provides a faster, and less expensive way to evaluate which patients have an [acute coronary syndrome](#) that require treatment.

"The ability to rapidly determine that there is nothing seriously wrong allows us to provide reassurance to the patient and to help reduce crowding in the emergency department," says lead author Judd Hollander, MD, professor and clinical research director in Penn's department of Emergency Medicine. "The use of this test is a win-win."

Among patients enrolled in the trial after getting a negative scan - a scan showing no evidence of dangerous blockages in the coronary arteries -

no patients in the study had heart attacks or required bypass surgery or placement of cardiac stents in the year following their test. The authors say the findings provide a roadmap for how to appropriately and cost-effectively use this advanced imaging technology, which generates lifelike, three-dimensional photos of the heart and the matrix of blood vessels that surround it.

Investigators followed 481 patients who received negative CTA scans for one year after their hospital visit. The patients studied had a mean age of 46. While 11 percent of patients were rehospitalized and 11 percent received additional cardiac testing - stress tests or cardiac catheterizations - over the following year, none had heart attacks or needed revascularization procedures to prop open blocked coronary arteries. One patient in the study died of an unrelated cause during the year.

Previous Penn research has shown that CTA is both a quicker and less expensive way to screen low-risk [chest pain](#) patients than conventional testing methods. Costs for patients who receive immediate CTA in the emergency department average about \$1,500, while costs for patients admitted to the hospital for stress testing and telemetry monitoring total more than \$4,000 for each patient. Those studies also showed that CTA helps get patients home faster, since patients who received immediate CTA were discharged after an average of eight hours, compared to stays that exceeded 24 hours for those who were admitted for scheduled testing and monitoring.

Despite the mounting evidence that CTA provides cost savings, it remains unclear whether Medicare or any individual insurer will cover the tests in an emergency department setting.

A ruling from the Centers for Medicare and Medicaid Services in the spring of 2008 laid out a specific, narrow set of circumstances under

which coronary CTA costs would be reimbursed, but some physicians are continuing to lobby for a re-examination of the issue given the increasing pressure to cut health care costs and increase emergency department efficiency.

"The evidence now clearly shows that when used in appropriate patients in the ED, we can safely and rapidly reduce hospital admission and save money," Hollander says. "It seems time to make a national coverage decision that will facilitate coronary CTA in the emergency department."

Source: University of Pennsylvania School of Medicine ([news](#) : [web](#))

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