

New protocol can help emergency departments evaluate patients with acute chest pain

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A recently developed risk-evaluation protocol can help hospital emergency department personnel more efficiently determine which patients with acute chest pain can be sent home safely, according to a randomized trial conducted at Wake Forest Baptist Medical Center.

The study, published in the current online issue of the American Heart Association journal *Circulation: Cardiovascular Quality and Outcomes*, found that chest-pain [patients](#) who were evaluated with the new protocol, called the HEART Pathway, had 12 percent fewer cardiac tests, 21 percent more early discharges, and shorter hospital stays than those who received standard care. No patient identified for early discharge in either group had a major heart problem within 30 days of their [emergency department](#) visit.

Up to 10 million patients complaining of [acute chest pain](#) show up at U.S. emergency departments each year, and more than half of them are hospitalized to undergo comprehensive cardiac tests. These evaluations cost between \$10 billion and \$13 billion annually, yet less than 10 percent of the patients are found to have [acute coronary syndrome](#) (ACS), an umbrella term for conditions brought on by sudden, reduced blood flow to the heart.

"The results of this trial demonstrate that, compared to usual care, the HEART Pathway can substantively decrease health care utilization

among patients with symptoms related to ACS without compromising patient safety," said Simon A. Mahler, M.D., associate professor of [emergency medicine](#) at Wake Forest Baptist and lead author of the study, the first to test the efficacy of the protocol in real time in a clinical setting.

The HEART Pathway is based on the widely used HEART score system, which weighs five components - the patient's history, electrocardiogram reading, age, risk factors and levels of troponin, a protein in blood released when the heart muscle is damaged - to determine an individual's risk of having a serious cardiac problem. But the HEART Pathway includes one more element: a second blood test to measure troponin levels, administered three hours after the first one.

"The HEART Pathway is a decision aid, not a substitute for clinical judgment," Mahler said, "but there is strong evidence to support that its use can both improve evaluation and reduce unnecessary testing, hospitalization and expense."

Mahler said that to further investigate the HEART Pathway protocol he and his research team are currently conducting an implementation trial at Wake Forest Baptist and planning a larger, multi-center effectiveness trial.

Provided by Wake Forest University Baptist Medical Center

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