

New heart attack testing protocol expedites treatment in ER

April 23 2020



A women having heart attack. Credit: UTSW

A new protocol using highly sensitive blood tests to determine whether someone is having a heart attack can reduce wait times and overcrowding in emergency departments, according to a new study from UT Southwestern Medical Center.

The findings, published online today in *JAMA Open*, are particularly meaningful during the current coronavirus pandemic when many people with [chest pain](#) may be fearful of going to the [hospital](#).

"Patients are more reluctant to come to the ER with [heart](#)-related symptoms during the COVID-19 outbreak. We do not want those with [medical emergencies](#) to avoid the hospital due to concern for risk from the virus," says cardiologist Rebecca Vigen, M.D., assistant professor of internal medicine at UT Southwestern.

The research team led by Vigen found that a new protocol for using high sensitivity cardiac troponin testing can improve efficiency in the ER by more quickly determining which patients are *not* having a [heart attack](#). Troponins are proteins released when the heart muscle has been damaged. The protocol incorporates the HEART score—history, electrocardiogram, age, [risk factors](#), and troponin—an [emergency department](#) risk assessment tool that guides decisions on discharge and stress testing.

According to the Centers for Disease Control and Prevention, chest pain is the most common reason for trips to the ER, resulting in 7 million annual visits.

"Our innovative strategy allowed us to 'rule out' heart attacks within one hour in more than half of the patients who were tested. This process is safe and improves the efficiency of evaluating patients with possible heart attacks," says James de Lemos, M.D., professor of internal medicine at UT Southwestern and co-author of the study.

"Emergency room overcrowding has become an urgent health priority that is even more pressing in the current COVID-19 pandemic. Given the large size of the study and its performance during routine operations in our county hospital, we think the findings would apply to many busy U.S. emergency rooms," de Lemos adds.

The new protocol was first implemented in December 2017 at Parkland Memorial Hospital, a major safety net hospital in Dallas, and then in

October 2018 at UT Southwestern's William P. Clements Jr. University Hospital. The study included 31,543 emergency room patients at Parkland from Jan. 1, 2017, to Oct. 16, 2018. Their mean age was 54, the population was racially and ethnically diverse, and 48 percent were women.

More information: Rebecca Vigen et al, Association of a Novel Protocol for Rapid Exclusion of Myocardial Infarction With Resource Use in a US Safety Net Hospital, *JAMA Network Open* (2020). [DOI: 10.1001/jamanetworkopen.2020.3359](https://doi.org/10.1001/jamanetworkopen.2020.3359)

Provided by UT Southwestern Medical Center

Citation: New heart attack testing protocol expedites treatment in ER (2020, April 23) retrieved 6 May 2024 from <https://medicalxpress.com/news/2020-04-heart-protocol-treatment-er.html>

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