

Heart attack test could help patients across the globe, experts say

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A low-cost, rapid blood test that spots whether people are at risk of a heart attack could improve the treatment of people with chest pain at emergency departments around the world, a study suggests.

The test can accurately rule out the risk of [heart attack](#) in almost half of

all people arriving at hospital emergency departments with chest pains, a worldwide study has found.

Use of the test on arrival at hospital could save millions of [patients](#) from undergoing further tests and potentially reduce healthcare costs, the researchers say.

Experts are calling for international guidelines for the treatment of chest pain to be updated so that the test can be integrated into standard care.

The test measures levels of a protein called troponin - which is released by damaged [heart](#) cells - in patients' blood.

The higher the level of troponin in the blood, the more likely it is that a person has had - or is likely to have - a heart attack.

In early studies, the test accurately predicted the risk of heart attack in more than 6000 patients admitted to hospital in Scotland.

The latest research, led by the University of Edinburgh, involved almost 23,000 people at 19 hospitals across Europe, North America and Australasia, who received the test after arriving with chest pains.

The findings pinpointed a threshold level of troponin in the blood, below which patients are unlikely to have had a heart attack and are at very low risk of experiencing one in the next 30 days.

Results from the test - which costs around £5 per patient - can be obtained in as little as 20 minutes, helping to safely rule out a heart attack within an hour of arrival at hospital.

In the UK, people with [chest pain](#) are already given the troponin test when they arrive in emergency departments. Under current guidelines

for interpreting the results, however, most patients fall into a high risk category that requires them to be admitted to hospital for observation and repeated troponin tests.

Experts say their findings confirm that the guidelines can be safely revised, which could dramatically improve healthcare efficiency by enabling doctors to discharge patients not at risk after the results of the first [test](#).

Chest pain is a common reason for people to present at emergency departments but fewer than one in five of those patients are actually having a heart attack.

The research, published today in the *Journal of the American Medical Association*, is being presented at the American Heart Association Scientific Sessions.

Dr Andrew Chapman, a British Heart Foundation Research Fellow at the University of Edinburgh, said: "We believe the findings of this worldwide study will provide national and international guidelines committees with the evidence they need to recommend the use of [troponin](#) testing to rule out heart [attacks](#) much earlier in the [emergency department](#)."

"This has major potential to improve the safety and efficiency of healthcare delivery, at a time of increasing financial pressures on our National Health Service."

More information: Andrew R. Chapman et al, Association of High-Sensitivity Cardiac Troponin I Concentration With Cardiac Outcomes in Patients With Suspected Acute Coronary Syndrome, *JAMA* (2017). [DOI: 10.1001/jama.2017.17488](https://doi.org/10.1001/jama.2017.17488)

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