

# New test could significantly reduce burden on UK hospitals

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A new test that rules out heart attacks in patients could reduce hospital admissions by as much as 40%, for patients with chest pain, according to research published by Bournemouth University (BU).

The research found that a quick protocol, involving a [blood test](#) administered to patients who present at Accident and Emergency (A&E) departments with chest pain, could significantly reduce the admission rates of patients with [heart attack](#) symptoms.

Patients with [chest pain](#) make up 10% of A&E attendances, however heart attacks occur in a small segment of these patients. Until now, patients have had to wait in hospital for up to 12 hours in order to be certain no evidence of a heart attack could be detected in the blood – with these patients admitted for monitoring.

The study, PhD research by BU's Dr Edward Carlton, used information that patients tell doctors, such as what the pain feels like, whether they are short of breath and whether they have had a heart attack before, in combination with a heart tracing (ECG) and new blood test, called high-sensitivity troponin, to rule-out heart attacks after a single blood test on arrival in A&E.

While using blood tests to rule out heart attacks is not new, hospitals have often struggled to develop a clinically acceptable protocol that allows the discharge of a significant proportion of patients, without a prolonged hospital stay. The research outlines a novel framework that

would allow for up to 40% of patients to be discharged following a single high-sensitivity troponin blood test at presentation to A&E. This means patients are reassured earlier and don't need to wait in hospital for a second blood test.

The simple diagnostic strategy could now reduce the burden on UK hospitals and A&E departments, which have recently come under scrutiny for missing the government's waiting time target of 95% of patients being seen within four hours of presenting to an NHS hospital.

Edward Carlton said, "We were really pleased with the findings of the research as we have shown that our simple but novel diagnostic strategy can potentially reduce the increasing burden on hospitals.

"It is my hope that this diagnostic tool can be used widely within hospitals in the UK to rule out heart attacks, allay the fears of patients and improve productivity within hospitals. This is important research in improving patient care for [patients](#) in the NHS and another exciting discovery for Bournemouth University."

**More information:** "A novel diagnostic protocol to identify patients suitable for discharge after a single high-sensitivity troponin," Edward W Carlton, Louise Cullen, Martin Than, James Gamble, Ahmed Khattab, Kim Greaves, *Heart* 2015; 0:1-6. [DOI: 10.1136/heartjnl-2014-307288](https://doi.org/10.1136/heartjnl-2014-307288)

Provided by Bournemouth University

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