

# New 20-minute test diagnoses hidden heart condition

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New tests can diagnose 'hidden' heart diseases caused by problems with the small blood vessels supplying the heart, according to research funded by the British Heart Foundation (BHF) and presented at the Transcatheter Cardiovascular Therapeutics (TCT) conference today in San Diego.

The new tests are not yet standard in the NHS because, before now, there has not been enough evidence gathered about whether they would benefit patients. Now, researchers say that they should be routinely available to pinpoint the cause of [chest pain](#).

Researchers from the University of Glasgow and the Golden Jubilee National Hospital performed the new 'small vessel' test which involves passing a thin, flexible wire into the heart and measuring how well a blood vessel relaxes.

The team performed the new test on 151 patients with chest pain who could not be diagnosed using currently available tests. The small vessel test results for half of the patients were made available to doctors to further guide the diagnosis and

treatment, whereas, in the other half of the patients, the results were not disclosed. These patients followed standard care. The team found that the new tests were able to correctly diagnose four times as many patients as standard tests.

Even more importantly, 6 months later, symptoms of [angina](#) were less and quality of life was better in the patients whose care was guided by the new tests.

Chest pain originating from the heart is often a symptom of a condition called angina. Angina is triggered when the heart does not receive enough oxygen rich blood, often due to narrowed coronary arteries, the arteries which supply the heart itself. It often happens during exercise, cold weather and emotional stress and points to an underlying problem in the heart.

Doctors commonly recommend an angiogram, an invasive procedure which looks for narrowing of the heart's main arteries. However, in around one half of patients with angina, this angiogram reveals no significant problems. Despite this, patients can experience severe chest pain and have a significantly higher risk of having a [heart attack](#) in the future.

In many people with angina, the pain may be caused by problems with the tiniest blood vessels in the heart—the micro vessels—which are too small to see with traditional tests. The conditions are called microvascular angina and vasospastic angina, which are commonly misdiagnosed. Because diagnosis is so difficult, patients are often left without firm answers about the cause of their chest pain.

Lead researcher Professor Colin Berry, Chair in Cardiology and Imaging at the University of Glasgow, said: "Microvascular angina and vasospastic angina are under-recognised problems. As the angiogram in these patients looks

'clear' they are commonly falsely reassured. Our study's results indicate this to be the case.

"However, leaving microvascular angina and vasospastic angina undiagnosed and untreated presents a risk to patient wellbeing- these problems can be a precursor to a hospitalisation for chest pain and a heart attack – and symptoms persist in the longer term.

"We now hope to see this test rolled out across the country."

Philippa Hobson, Senior Cardiac Nurse at the British Heart Foundation, which funded the research, said: "People living with microvascular angina suffer from crippling and frightening episodes of chest pain that dramatically affects their day to day life. They are unable to treat their symptoms effectively as their angiogram is essentially normal. Medication currently prescribed to people with diagnosed [coronary heart disease](#) does little to resolve their pain or reduce risk of heart attack, so they are left in limbo.

"This study is very reassuring news for sufferers who live in the fear of having a heart attack as for many, there is currently no conclusive proof they have [heart](#) disease."

**More information:** Thomas J. Ford et al. Stratified Medical Therapy Using Invasive Coronary Function Testing In Angina: CorMicA Trial, *Journal of the American College of Cardiology* (2018). [DOI: 10.1016/j.jacc.2018.09.006](#)

Provided by University of Glasgow

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