



THE UNIVERSITY *of* EDINBURGH

## *News Release*

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### **£1.8m bid to beat heart disease targets unseen risks**

Imaging tools to identify abnormalities that cause heart attacks are to be developed in a £1.8m research initiative.

The project could also provide insight into conditions such as stroke and findings have the potential to save thousands of lives each year, researchers say.

The funding will go towards advancing techniques to spot life-threatening changes in people living with heart disease, many of whom are undiagnosed.

Coronary heart disease is the most common cause of death worldwide, killing one person in the UK every seven minutes, usually through heart attack.

The University of Edinburgh study is focused on improving detection of coronary atherosclerosis, a condition in which fatty deposits blocking the arteries – known as plaques – suddenly rupture.

It is the main underlying cause of sudden heart-related death and cannot be detected by current non-invasive methods.

The researchers aim to create new chemicals – known as tracers – to illuminate these unstable plaques in patients. The tracers – which contain small amounts of radioactivity – are injected into the bloodstream and stick to the plaques. This allows their detection on an imaging technique known as positron emission tomography (PET) scanning.

The British Heart Foundation-funded project will make use of a new advanced scanner known as PET-MR – the first of its kind in Scotland – which combines PET with another type of specialised imaging to reveal details of the heart's structure and function.

The cutting-edge technique could have a major impact on clinical practice as it would enable doctors to pinpoint people at higher risk of heart attack.

It also has significant implications for drug discovery as it would allow researchers to monitor how coronary plaques react to medicines.

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Members of the research team – led by the University’s Edinburgh Imaging hub – recently received the Imaging Team of the Year Award from the *British Medical Journal*. The award recognised their work developing non-invasive heart scanning techniques.

Project lead David Newby, Professor of Cardiology at the University’s British Heart Foundation Centre of Research Excellence, said: “We are delighted to have received this grant and believe it will have a huge impact on our ability to better understand heart disease.

“Heart attacks are often missed, with a third of people misdiagnosed as having non-heart chest pain later dying from heart disease. Better tools are desperately needed to help identify those most at risk.”

James Cant, Director of the British Heart Foundation in Scotland, said: “Each year in the UK, over 100,000 people die from a heart attack or stroke that has been caused by rupture of a plaque on the inside of an artery. Discovering which plaques are likely to rupture is a major objective of current research.

“By funding this vital research at the University of Edinburgh, we’re one step closer to being able to treat a heart attack before it happens.”

Edinburgh Imaging is hosting a Science Symposium on 30 June, when international experts will meet to discuss the latest advances in biomedical imaging and analysis.

For further information, please contact:

Kate McAllister, Press & PR Office, tel 0131 650 6357, email [Kate.McAllister@ed.ac.uk](mailto:Kate.McAllister@ed.ac.uk)