

## Scan can spot the risk of heart attack nine years in advance

By Laura Donnelly

SCIENTISTS have found a way to identify people most likely to have a heart attack years before it strikes.

The breakthrough by Oxford University uses artificial intelligence to look “beneath the surface” of routine CT scans and spot changes to blood vessels supplying the heart. Researchers said 350,000 people a year could benefit from the checks – found to be up to 90 per cent accurate.

And they could be rolled out across the NHS in as little as two years – so ensuring high-risk patients get the right treatment to avert potential problems.

The scans will typically be offered to people aged 40 to 70 with chest pains or who are considered at particular risk of heart attacks because of obesity, smoking or diabetes. Currently, patients experiencing chest pains are sent for CT scans which show blockages in about 25 per cent of cases.

While some patients are offered surgery, most are sent home without treatment, despite the fact many will later go on to have a heart attack.

CT scans are currently used on about 40,000 high-risk patients each year.

The new technology can detect a dangerous build-up of fat and scarring around the organ up to nine years before they reach dangerous levels. Those deemed high risk can then be given medication and monitored more closely to prevent a deadly episode.

Prof Charalambos Antoniades, who led the study at Oxford’s Division of Cardiovascular Medicine, said until now physicians could only see the “tip of the iceberg” when it came to heart risks. The new technology allows doctors to see the full picture, he said.

Speaking at the European Society of Cardiology conference in Paris, he said: “It is massively important because it will direct treatment and it will save lives.

“A machine can read the scan and give you the accurate information. It can give you the specific risk of the patient, it can tell you that you need treatment or you don’t need treatment.” “It is up to 85 to 90 per cent accurate at predicting heart attacks over the next nine years.”

Every year, almost 170,000 adults die from heart attacks, strokes or other circulatory conditions.

The study, which was funded by the British Heart Foundation, was published in the European Heart Journal.

