

Automated Coronary Artery Disease Prediction

Ultromics is championing new standards for medical diagnosis through innovative AI diagnostic imaging solutions to empower physicians and drive better patient care.



Misdiagnosis of cardiovascular disease occurs in one in five patients, due to a complex web of symptoms, circumstances and comorbidities making it difficult to spot.

EchoGo Pro is an outcomes-based, clinical decision support tool that assists physician diagnosis by highlighting the presence of significant coronary artery disease. The cloud-based system applies artificial intelligence to echocardiograms, analysing thousands of features to get a more accurate representation of the disease. It automates analysis and returns a report within minutes during the point of care, so physicians can identify the risk of heart disease quickly and accurately, with no user variability.

The high level of precision and its speed of use means physicians, regardless of their level of experience or training, can make accurate recommendations to patients, which can help reduce misdiagnosis and enable earlier detection, so preventative steps can be taken before a heart attack strikes. EchoGo Pro can make a big difference to physicians and healthcare providers, streamlining workflow and optimizing patient care pathways.



EchoGo PRO



Empowers Physicians

Accurate and fast analysis to enable physicians at any skill level to feel confident in making diagnostic recommendations to patients. Full automation reduces variability.



Enables Earlier Prevention

Identifies the risk of heart disease, helping to detect early signs and enable preventative steps before a heart attack strikes, ultimately saving lives.



Reduces Misdiagnosis

Allows at-risk people to be treated quickly – and those not at risk spared acute events and unnecessary tests, surgery and treatment.

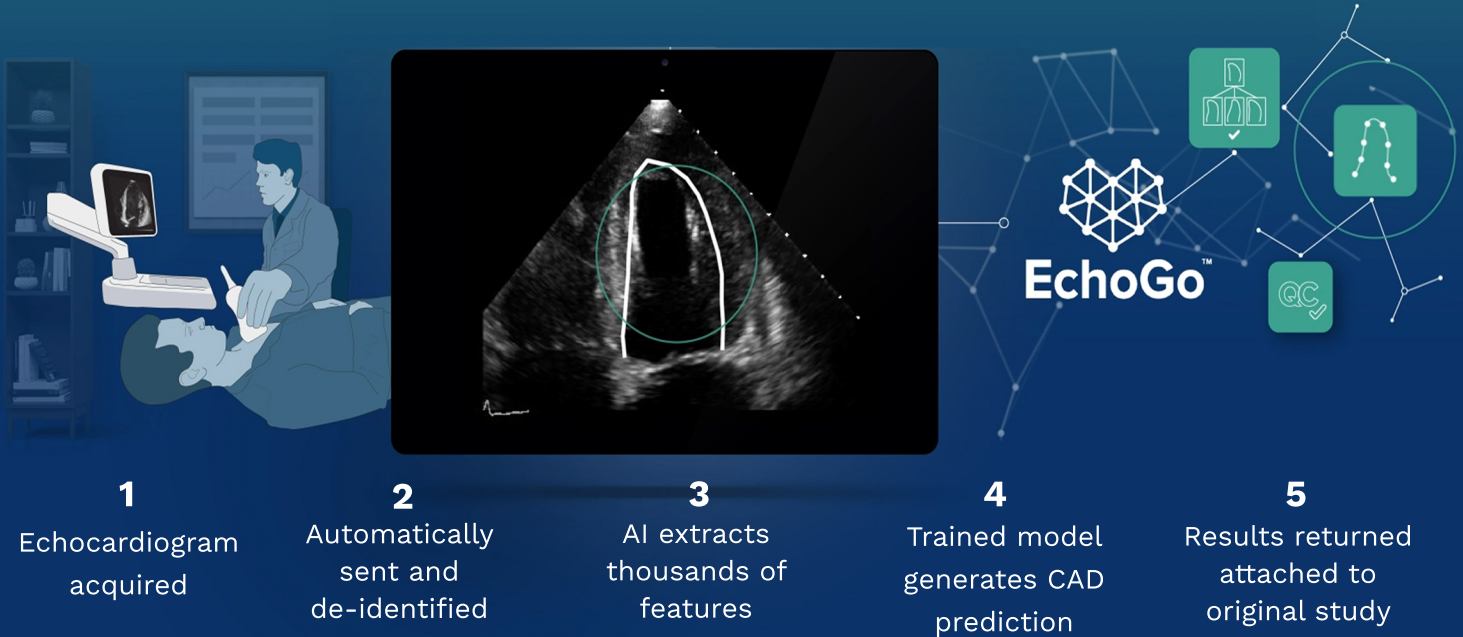


Seamless Workflow

Easily integrates into existing clinical infrastructure as part of a zero click workflow, to provide data at the point of care within minutes.

The EchoGo Pro Pathway

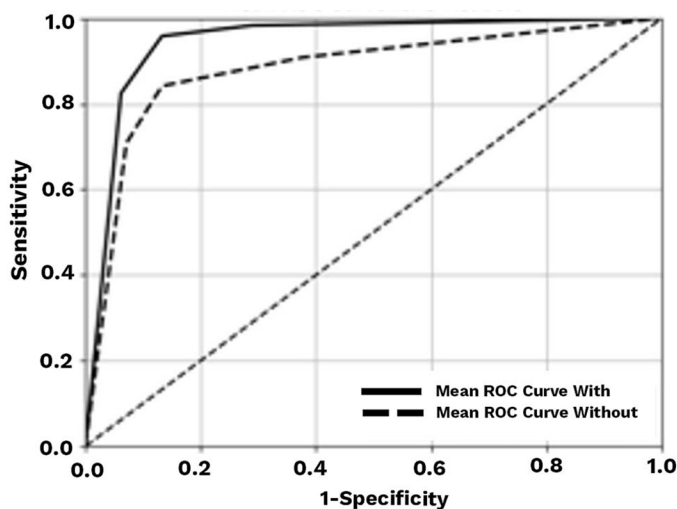
The service is delivered through the cloud to any existing infrastructure to create a streamlined pathway for clinical decision-making. Echocardiogram images are automatically sent to Ultromics for analysis and artificial intelligence assists in identifying the presence of significant coronary artery disease, automating a report and sending it back to the physician within minutes.



Testing and Validation

EchoGo Pro was trialled in the UK and US and achieved a diagnostic performance of over 90% (AUROC), significantly reducing the number of misdiagnoses compared to reports of routine clinical practice. The technology has been validated and developed through its partnership in the EVAREST trial with the NHS, one of the largest ultrasound programmes in the world. It's trained on past clinical examples, to spot thousands of features, compared to a handful of indicators in traditional visual inspection. The EVAREST validation trial continues to run in over 30 NHS hospitals and has recruited over 6000 patients to date.

Clinician performance with and without EchoGo Pro



Performance of the coronary artery disease classifier:

EchoGo Pro uses novel features derived from Stress Echo images and machine learning algorithms. The system was tested on an independent validation dataset demonstrating an area under the ROC curve of 0.927.

In a reader study to evaluate the benefit of EchoGo Pro in clinical settings, clinicians performed significantly better by diagnostic accuracy, with the aid of EchoGo Pro.

EchoGo Pro is CE Marked for sale in the European Union, limited by United States law to investigational use