



Improving risk assessment of sudden cardiac death (SCD)

- **Innovative**
- **Life saving**
- **Cost effective**

Investment/collaborative opportunity for cardiovascular device companies

Challenge

- Implantable cardioverter defibrillators (ICDs) are highly effective at preventing sudden cardiac deaths
- There are limitations to our ability to identify patients most in need of an ICD usually these patients have already suffered a heart attack and it is a question of preventing it happening again
- Only 40% of patients with an ICD actually receive an electrical shock from the device in the first 4 years of implantation
- The ICD can also give out a shock when it is not required

Solution

A new approach is being developed at the University of Leicester. It is:

- **Innovative:** The technology is based on a novel method of creating an electrical map of the heart
- **Life saving:** Electrophysiological defects in the heart indicative of sudden death heart attack (SCD) can be detected
- **Cost effective:** Improved risk stratification leading to selection of the most appropriate patients for ICDs

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Being better able to identify individuals who are most at risk of SCD is a high priority of NICE.

Benefits

- This innovative approach creates an electrical map of the heart using ECG and uses complex digital signal processing and pattern recognition analysis to extract and interpret the data
- The technology is able to pick out electrophysiological defects in the heart, present for example from an undetected earlier myocardial infarction, which can act as a source of ventricular arrhythmias causing SCD
- The technology offers a particularly promising solution to meet a real unmet medical need

Market

SCD is estimated to be responsible for over 3 million deaths annually worldwide.

At present fewer than 50% of people getting ICDs ever benefit from them, while the majority of SCD occurs in low risk groups where currently available risk stratification tools are inadequate.

IP status

A patent application was filed in 2010

Are you company supplying medical devices into the forensics market looking for an investment opportunity?

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