University of Strathclyde
Technology & Innovation Centre

Health Technologies

Business Opportunities

Innovative Life Support System

Background

The current technology employed in neonatal life support systems is derived from cardiopulmonary bypass (CPB) technology i.e. heart-lung machines. However, the challenges presented by non-standard CPB applications e.g. Extracorporeal Membrane Oxygenation (ECMO) for children, tissue, transplant organ perfusion and isolated limb perfusion are quite different to those of conventional CPB, rendering it a sub-optimal approach.

Technology

Scientists at the University of Strathclyde, working in conjunction with local clinicians, have developed a simple but novel life support system (controlling blood flow & oxygenation) for babies. It has all the functional and control aspects of conventional ECMO systems but is much more compact and mobile. It also has the potential to address other perfusion markets.

Key Benefits

Compared to conventional ECMO it provides:

- Reduced inflammatory response
- Reduced clotting factor consumption
- Compactness enabling easier access to the patient
- Enhanced mobility of patients, facilitating off-unit clinical investigations
- Better intervention opportunities for other applications, such as: Transplant Organ Perfusion, Isolated Limb Perfusion & Military Field/Traumatic Limb Injury, Cardioplegia and CPB.

Markets and Applications

Applicable to the paediatric ECMO market. Once the basic technology has been proven in the paediatric ECMO market other larger markets can be addressed ,e.g. Transplant Organ Perfusion, Isolated Limb Perfusion and Military Field/Traumatic Limb Injury, as well as adult ECMO/CPB.

Development and Exploitation

The University of Strathclyde is securing patent protection for this technology which was developed with assistance from Scottish Enterprise's Proof of Concept Programme. Contact is welcomed from organisations interested in developing and /or investing in this technology.