Donor hearts preserved for longer by WA team

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Donor hearts would be preserved for longer allowing more lives to be saved and potentially increasing the supply of organs for transplant under a landmark research project by a WA medical research team. Dr Warren Pavey, a specialist cardiac anaesthetist at Fiona Stanley Hospital who is heading the research study is investigating how gas, instead of blood, can be used to resuscitate and support donated hearts before transplantation.

Dr Pavey said being able to store hearts for longer using a simpler process called gas persufflation would allow greater organ sharing, better matching and fewer wasted organs.

“Our aim is to translate this work into a simple, cheap and effective method of preserving human hearts that have been donated for transplant,” he explained.

“Better methods of resuscitating hearts after removal from donors and preserving them while transported to a recipient would allow more hearts to be used and more lives saved. Gas may provide a more effective, simpler and cheaper method of resuscitation and storage than machines circulating fluid or blood through the heart while outside the body.”

“A shortage of donors coupled with the fact that not all donated hearts are suitable for transplant means that many patients must wait for many months or years for a suitable organ and some may die waiting. This is of particular relevance here in Western Australia where we’re limited in receiving and transporting organs for transplant to and from the east coast.”

The research is being funded through an $82,000 grant from the Australian and New Zealand College of Anaesthetists’ (ANZCA) Research Foundation.

The WA research team also includes Associate Professor Livia Hool, a cardiac electrophysiologist from the University of Western Australia, Royal Perth Hospital intensive care specialist Associate Professor Kwok Ho and Professor Luke Haseler a research physiologist from Curtin University.

As part of the project, the group is also developing a new method of assessing the health of donated hearts using ultrasound technology.

The research will be conducted at the Heart and Lung Institute of WA’s laboratory at the Harry Perkins Institute of Medical Research. Results are expected to be published within two years.

Dr Pavey said the ANZCA funded research would help inform a grant application to extend the study through National Health and Medical Research Council funding.