

**MEDIA RELEASE  
JANUARY 2022**

**HEART BEATING STRONG THANKS TO PIONEERING  
AUSTRALIAN RESEARCH**

Brisbane's **Critical Care Research Group (CCRG)** at The Prince Charles Hospital has been thanked by the American doctors behind the Pig-Human heart transplant for their game-changing research that was key to the success of the historic surgery.

The surgery performed at the University of Maryland School of Medicine earlier this month drew on CCRG's world leading understanding of the use of a novel hypothermic ex vivo perfusion (HEVP) device manufactured by XVIVO that keeps a heart 'alive' and healthy between donor and recipient. For six years CCRG has been undertaking extensive preclinical trials into the use of HEVP, leading to the same technology being used in the world first surgery in Maryland.

During the years of lab preparations before the cardiac pig surgery, and after many unsuccessful heart transplants between species, University of Maryland surgeon **Bartley Griffith, MD** was reminded of CCRG's successful use of HEVP which had laid the foundations for many human-to-human transplants.

Liaising with Australian researchers, Griffith implemented HEVP into his own trials with porcine hearts and quickly saw results. Inspired, his team then progressed with the successful pig heart to human transplant.

"For some time, I have been following CCRG's impressive research and the subsequent clinical trials with great interest. Their preclinical results encouraged our use of the same system here and gave us confidence to move ahead with a transplant into a human," said Dr Griffith.

**Muhammad M. Mohiuddin, MD**, who worked alongside Dr Griffith said: "Without XVIVO's new HEVP technology this transplant would never have happened."

CCRG Founder and Director, **Professor John Fraser**, who devised the heart transplant research six years ago, said the technology had already been used in 11 human to human cases in Australia, transporting hearts that may otherwise not have been viable for transplantation.

"HEVP allows a donated heart to be rejuvenated before transplantation, essentially kept 'alive' with a medical "Gatorade" solution rich in oxygen and nutrients," Professor Fraser said.

"The world is taking notice of Queensland's innovative spirit and our many passionate and dedicated researchers. It's something we should all take pride in that

the studies we have spent almost 100,000 hours doing to help transplant recipients in Australia has now been a key component to the world first pig transplant in America.”

“However, there’s still so much to learn – heart disease is the biggest killer and it just gets bigger and bigger. There are many more potential heart transplant recipients than donors. Donations through initiatives like The Common Good will ensure we stay at the forefront of these life-saving medical advancements.”

The University of Queensland’s **Dr Louise See Hoe**, who led the preclinical research at CCRG, said: “Organ shortage is the greatest challenge facing the transplant field today. Consequently, only a small number of patients with end-stage heart disease are given the opportunity of a transplant.”

“Our research recently secured a new world record with a heart kept ‘alive’ via HEVP for over 7 hours before transplantation. This work will ensure Australians with heart disease will have a greater chance of survival and that we can increase the number of hearts available for transplant each year.”

Australian-led research into the use of HEVP and the first successful xenotransplantation heralds a new era for organ transplantation, a practice that has remained relatively unchanged in more than five decades.

### **MORE INFO**

Established in 2004 by Professor John Fraser, The Critical Care Research Group is headquartered at The Prince Charles Hospital and funded in part by The Common Good, an initiative of The Prince Charles Hospital Foundation.

Dr Louise See Hoe is one of three recipients of The Common Good’s first ever Medical Research Fellowships and leads CCRG’s preclinical ‘Living Heart’ research into the use of hypothermic ex vivo perfusion (HEVP). Dr See Hoe was the recipient of a research grant from The Donald & Joan Wilson Foundation.

Donations to support medical research and projects like HEVP and The Living Heart can be made at [thecommongood.org.au](http://thecommongood.org.au).

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