



NSW Tissue Bank Newsletter



Welcome to the November 2021 edition of the NSW Tissue Bank Newsletter

MACHINE OFFERING DOUBLE THE HOPE TO TRANSPLANT RECIPIENTS

A Melbourne father of three is now the world record holder for the longest time a donated heart has been out of the body before being transplanted. This achievement is due to a ground-breaking trial taking place across Australia and New Zealand which involves a Swedish-designed hypothermic ex-vivo perfusion system which can keep donated hearts alive for double the amount of usual time.

The new eight hour ischemic timeframe allows for greater opportunity for every potentially donated heart to remain viable for transplantation longer and to travel further distances. With approximately 150 heart transplants performed annually, surgeons predict this revolutionary technology could potentially enable up to fifteen percent more transplants to occur each year.

The machine works through pumping a liquid called perfusate throughout the muscle, cooling it to 8°C, as well as supplying it with oxygen and nutrients. If the trial demonstrates that the donor heart is better protected through a longer ischemic time with ex-vivo perfusion as opposed to a shorter ischemic time in an ice cooler, Australia could see widespread integration of this technology in organ transplant protocols. The trial is led by The Alfred in Melbourne and five patients in Victoria and one in Sydney have had their transplants made possible through this new technology. The trial is scheduled to recruit 36 patients which will involve patients from St Vincent's Hospital Sydney, Royal Children's Hospital Melbourne, Fiona Stanley Hospital Perth and Auckland City Hospital Auckland NZ.

Pictured above: Ex-vivo perfusion system

MEET AUSTRALIA'S SECOND LONGEST SURVIVING TRANSPLANT RECIPIENT

On the 22nd of October, Twanny Farrugia marked the 50-year anniversary for his transplanted kidney. With his 'new' kidney now a remarkable 90 biological years old, Twanny reflects on his life as "one of the lucky ones".

From the age of six months old, Twanny battled with glomerulonephritis – the inflammation of glomeruli within the kidneys. By age 15, the condition had caused his kidneys to fail and at 17, he was one of the first to use haemodialysis in Victoria. However, in 1971, after 10 months on the waiting list, Mr Farrugia received his lifesaving transplant just a couple weeks after his 18th birthday.

Before his transplant, Twanny recounts that at 18 he "looked 12 years old in size and weight. I was about three foot eight (1.12 metres) and weighed under four stone (25 kilograms)". After his transplant, he grew an extra 40 centimetres and up to 83 kilograms and with a new lease on life, Twanny became an avid ballroom dancer and traveller.

Despite Twanny's ongoing positive attitude, this process has not been without its trials and tribulations. Like many transplant recipients of his era, the large doses of cortisone steroids required post-transplant took a toll on his body. His eyes started waning at 28 but nonetheless, he completed his study and practiced as a social worker and counsellor for just shy of 30 years. Now 68, his vision is lost beside some light sensitivity and Twanny is reliant on his carers, his Guide Dog Annabelle and voice to text technology to get by. However, this has not slowed his passion for life. He still volunteers at Monash Medical Centre as a source of comfort for patients facing complex health issues and was also a part of the successful campaign for transplant patients to be eligible for health insurance.

Twanny appreciates that his 'gift of life' has taught him to never give up. "There was something inside of me. So many people along the road have put so much work into keeping me alive. There's always hope that tomorrow is going to be better than today".

To read more about Twanny's incredible life, please [click here](#).

Pictured right: Twanny Farrugia and his Guide Dog, Annabelle



DELTA VS DONATIONS

As NSW experienced its second wave of coronavirus, Surgeon Paul Jansz, head of cardiothoracic and transplant surgery at St.Vincent's Hospital, looks back on the surreal experience of keeping the "precious gift" of organ donation and transplants alive despite the city locking down over winter.

"We were in jaws of the Delta wave, but our hospital is the only one in the state that can do heart transplants and mechanical hearts", said Dr Jansz reflecting on the difficult position his unit was faced with just a few months ago. Intensive care units, the main place where organ donation can be facilitated, became "under the pump" with coronavirus patients. The second wave further complicated operations as state border closures limited interstate donation opportunities and left health staff to grapple with how to continue undertaking these essential transplants.



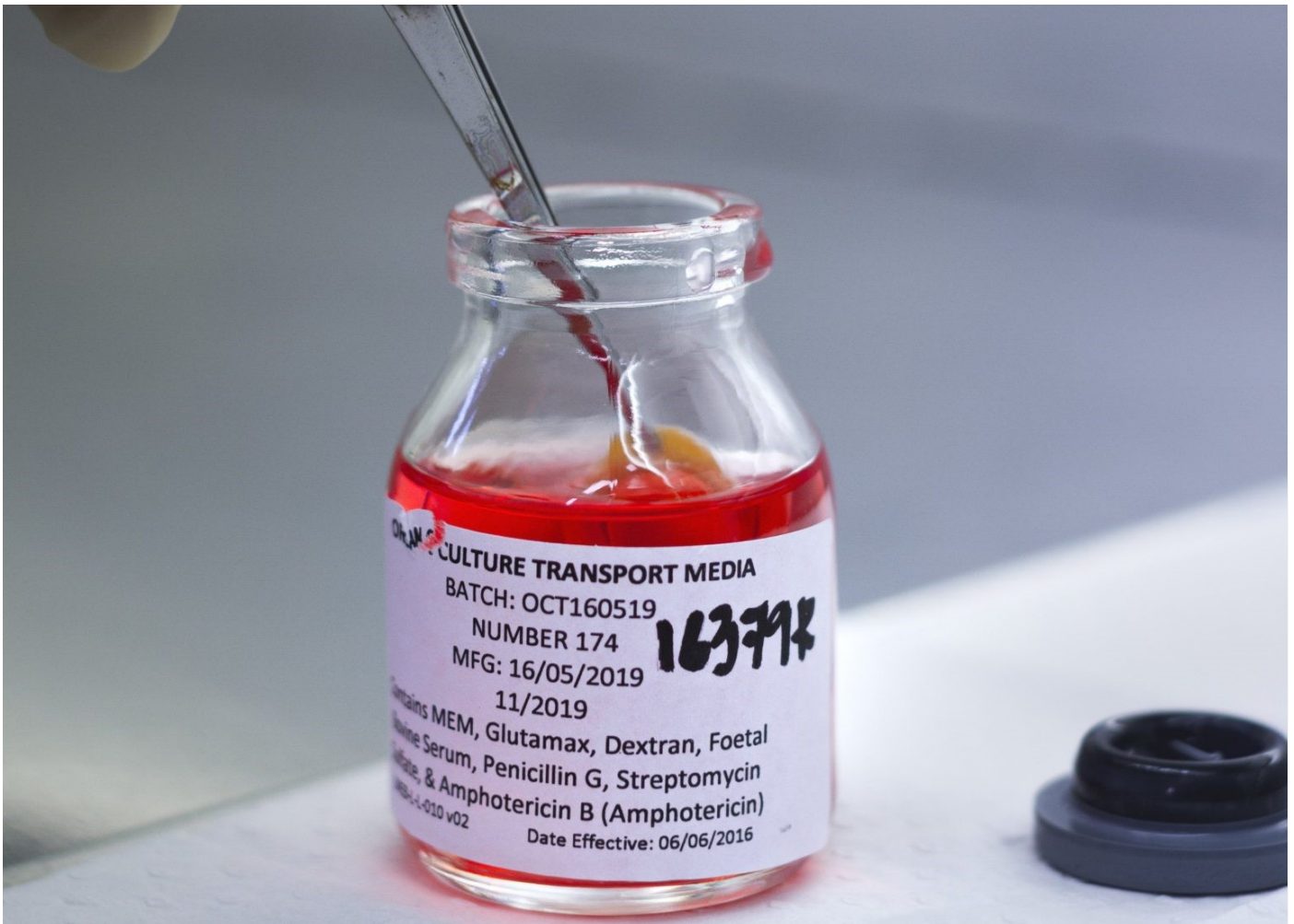
Pictured above: Dr Paul Jansz

Dr Jansz details the fine balancing act that allowed his team to keep performing these lifesaving surgeries throughout Sydney's darkest days. "We had to juggle patients and move ICU patients around the network to other hospitals" and they had to rethink how they transported organs interstate throughout these unprecedented times. "In the past, there could be a team of transplant medics that would go on a retrieval, but during Delta, we have frequently had organs from interstate with one pilot on chartered flights".

From January to September 2021, NSW has experienced about a twenty percent drop of donated organs when compared to the same period in 2019, however, National Transplantation and Donation Taskforce co-chair Professor Steve Chadban said the state's transplantation network had "coped amazingly well" despite this drop-off. He believes the reason for the drop in donations is due to a combination of a fall in family consent rates, which he partially attributes to the challenging limitations on family visits to ICU wards during the outbreak, as well as restrictions on major surgeries being performed in lockdown.

Despite the pandemic impacting the world for almost two years, there is "guarded optimism about 2022" in regards to raising organ donation and transplants rates again. Professor Chadban credits the vaccine as being a "big game changer [that] reduce [the] risk of [COVID-19 related] ICU admissions and death by about tenfold". In terms of transplant numbers, Australia is "way ahead of where we were ten years ago" which gives hope to the nearly 1,800 people currently on a transplant waiting list.

To read more from Dr Jansz and Professor Chadban, please [click here](#).

MRFF CORNEAL BIOENGINEERING PROGRAM UPDATE

With the MRFF Research Program well underway, Professor Gerard Sutton, Project Lead, Corneal Specialist and Co-Medical Director of the NSW Tissue Bank has provided insight into the key achievements and activities of the program over the last three months.

The Steering Committee have released several important updates. Firstly, the committee welcomed three expert members, Dr Stephen Palmer, Professor Simon Eckermann and Professor Damien Harkin. All three members bring a wealth of applied and academic expertise in areas spanning from clinical ophthalmic research, biotechnology and development to health economic evaluation across a broad range of health system settings. Their addition to the committee will help align the research with strategic objectives and the underpinning science.

The committee also confirmed two key strategic appointments. The first was the appointment of an International Medical Advisory Committee involving world leaders in ophthalmology and biomedical engineering. The second was the announcement of the program's collaboration with WhiteRhino Creative Agency who will be progressing a formal name and branding for the Consortium.

August saw the creation of three specialised working groups (SWG) to help support the shared scientific and quality objectives across the program. The Integrations SWG, led by Gordon Wallace, is focused on considering the various components in parallel and developing the criteria for 'success' of a fully integrated bioengineered cornea. The Cell Culture SWG, led by Damien Harkin, is focused on considering the range of approaches to isolation, cultivation and banking and determining a standardised approach, as well as to inform the donor selection criteria. Lastly, the Quality and GMP SWG, led by Amy Deller, is focused on developing the quality management system and determining and complying with relevant GMP standards in support of commercialising products.

Throughout the quarter, great progress has been made in relation to the scientific and strategic ambitions of the research. Individual and collective ethics approvals saw the program progress significantly with cells and tissues now being moved freely between the Victorian institutes up to research fellows in Sydney NSW. Continuing efforts similar to these across the Consortium will enable ongoing sharing and functional collaboration in the future which is presently proving invaluable.

Currently, the Integrations SWG is poised to identify the preferences in approach to constructing the total bioengineered cornea and the suite of tests and characterisations to demonstrate a functional proof of concept to carry into Round 2 of the MRFF. The Cell Culture SWG has finalised a culturing method for endothelial cells and is moving to distil standard methods for the remaining primary cells.

In August, the development of a Commercialisation Work Plan was announced in order to capture the key elements for the Commercialisation Plan. This was consolidated and in October the committee released an agreed and prioritised product list leveraging our cumulative clinical and scientific expertise. Around this, the program will continue to incrementally build plans and aspirations to fight corneal blindness and disease on a local and international scale.

ORGAN DONATION FEATURES IN NEW SHOW

Nurses are the heart of the medical frontline and Channel 7's new series, *'Nurses'*, seeks to highlight the incredible work performed by men and women that have to deal with a range of life and death circumstances every day.

Following nurses at Sydney's St Vincent's public and private hospital and the Mater Hospital in North Sydney, the series includes a focus on organ transplantation and sheds a light on the co-ordination process. Supervising producer of *'Nurses'*, Lexi Landsman, was "amazed to learn that there are seven dedicated nurses in NSW who work as transplant co-ordinators, organising every detail of a heart or lung transplant". Viewers get a behind the scenes look at the process of organ retrievals and transplants in episode three and six of the show.

You can [click here](#) to watch the show now or search 'Nurses' in the 7plus app.



Pictured above: Nurse, Desiree Robinson

STAFF UPDATE

FAREWELL JANE

Jane Treloggen: Jane joined the COVID-19 response SESLHD team in August 2021.

In 2011 Jane was successful in being selected as the inaugural manager of the NSW Tissue Bank and has been instrumental in the Bank's many achievements to date, including:

- Consolidating the Eye and Bone Bank
- Designing and moving the new Tissue Bank facility at Sydney Hospital
- Receiving notification of the first ever TGA inspection on day 4 of the new job
- Employing the first Quality Officer
- Leading the first dossier developments
- Establishing the Australian Ocular Biobank

We thank Jane and acknowledge her passion and commitment to the Tissue Bank over the last 10 years. Jane enjoyed and really valued her relationship with Lions, in particular our committee members. I am sure you will all join us in wishing Jane all the best for her new endeavours.

PRODUCTION AND PROCUREMENT

Amy Rigor, P&P Team Leader has recently resigned from her role after 6 years with the Tissue Bank. Amy has flourished in the management role, responsible for a significant overhaul of the team in a short time with positive results, including recruitment and training of new staff, establishing competency assessment processes and improving the availability of the retrieval team for tissue donation. We thank Amy for her great contribution and she will be sorely missed.

Stephanie Berlusconi and Caitlin Hopkins have recently joined the team. Stephanie has recently completed the eye retrieval course, and is progressing well in tissue retrieval training. Caitlin has been in the role for 3 weeks and is powering through the eye retrieval training and has attended one tissue retrieval.

Belinda Serafin is our inaugural Training Officer who is responsible for the development, implementation and delivery of a learning management system (LMS) to complement our Quality Management System (QMS) to achieve training and competency assessment needs. Belinda is currently deployed to assist SESLHD with COVID-19 vaccination rollout.

TISSUE DONOR COORDINATOR

Sally Byatt, Niamh Kiernan and Savannah Probert joined the coordination team this year. Sally and Savannah have joined the team in a full time capacity and have both completed all coordination training requirements. Niamh is working 3 days per week and is progressing well with her training.

QUALITY

It is with great sadness that our Clinical Governance and Quality Manager - Amy Deller will be leaving us at the end of the year, after five and a half years in the role. Amy solely and successfully managed all quality duties for the Tissue Bank for a number of years, and has been instrumental in expanding the quality team to Kimanh Fok, Quality Officer and recently securing the appointment of Sarah Nguyen as our new Quality Manager, transitioning and keeping her significant GMP expertise following a stint of consultancy following the TGA audit in 2020.

Meet Sharn Dowsett - Manager of the NSW Tissue Bank

Sharn has joined the NSW Tissue Bank as the new Manager and will be leading the NSW Tissue Bank through some significant growth and development over the next 12 months. Sharn has a background in science, law and management and comes to us from the Forensic & Analytical Science Service of NSW Health Pathology, with a significant operational history in Forensic Medicine. Sharn comes to us with a wealth of experience in complex project and change management and prides himself on his collaborative work with staff and stakeholders alike. Most recently Sharn has been leading the Tissue Bank's relocation planning, assisting the Bank's Quality Team and supporting governance of the MRFF Corneal Bioengineering Collaboration.

Pictured right: Sharn Dowsett

**GIFT OF LIFE FORMALLY ACKNOWLEDGED IN THE ACT**

In an Australian-first, the ACT now formally recognises organ donation on death certificates. The capital now offers an online, opt-in system for families to apply to have their loved one's death certificate and the death register amended to include the words: "The deceased gave a gift of life, generously donating organ/tissue". A letter from the Chief Minister can be also be requested.

The Birth, Deaths and Marriages Registration (Tissue Donor Acknowledgment) Amendment Bill 2020 was proposed by ACT Human Rights Minister Tara Cheyne in early 2020 and was enacted on the 6th of May this year. For Hannah Bartlett, who suddenly lost her mother to a brain bleed last year, organ donation "gave [her] a lot of comfort in a really difficult time". Hannah is confident her mother would have wanted to be a donor due to the conversations their family had around donation before her passing. Her family welcomed the introduction of this amendment as "it's about the families feeling that their person can be recognised after they've done something so amazing" and although "it's not huge... it feels huge to us".

To read more about the Act and what it means to donor families the Bartlett's and the Day's, please [click here](#).