

Left to right: Assoc Professor Marcus Wagstaff, Dr Bronwyn Dearman and Amy Li.

Dr Bronwyn Dearman

Help change the future for burns victims

Growing skin in a laboratory might sound like science fiction, but it's now science fact. With generous support from donors like you, the RAH Burns Service can bring this treatment to all South Australians – and to the world.

Recovery from a major burn is a long, arduous journey. Patients can experience incredible pain, risk of infection and multi-organ shutdown. They may need to be intubated, have intravenous nutrition or be placed in an induced coma. After enduring the painful removal of burnt skin, weeks of dressing, redressing, and difficulty mobilising, patients prepare for skin grafting. Alongside this is the immense psychological impact on patients and their families including the potential loss of home, family, career or way of life.

“Patients recovering from major burns are already using all their reserves to recover, and enduring more pain from skin grafting adds greater burden to their recovery,” said Associate Professor Marcus Wagstaff, Head, SA Adult Burns Service.

“Now we have a new alternative to skin grafting; the ability to grow large sheets of composite, cultured skin from a skin biopsy, up to 20 cm square. The process has already been proven successful through the recovery of a patient who suffered a 95% burns injury,” he explains.

In this new process, pioneered in Adelaide, burns are initially covered by a foam-like material that acts as a foundation for

skin growth. Meanwhile, cells collected from a skin biopsy are multiplied into millions using a cell expander and bioreactor to create composite skin.

“To do this at scale, we urgently need community funding. We know we can grow new skin in a matter of three weeks, but only with more equipment and an expanded team. This is no longer science fiction – it’s science fact and will revolutionise burns recovery across the world.”

“With donor support, we can reduce major burns treatment time from over six months to just weeks. This is one of the most exciting developments for burns treatment in decades, and it’s happening right here in Adelaide. We would be so grateful for your help.”

A/Prof Marcus Wagstaff, Head, SA Adult Burns Service

You can change the future of burns treatment and recovery – donate today

Visit: www.rahresearchfund.com.au/support-us/burns or scan the QR code to donate today.

Thank you. Your generosity will change lives.





A message from Associate Professor Liz Sutton

Director, Research, Central Adelaide Local Health Network

Hello Supporters,

As always, I am pleased to be writing to our valued supporters about research benefiting all South Australians. There are so many interesting projects it is hard to cover them all in our newsletters.

The amazing work of the Burns Unit, where growing skin to speed up the process for burns victims is no longer science fiction, takes place at the RAH. This work is being done by Assoc Professor Marcus Wagstaff and Dr Bronwyn Dearman and their team. The work they do enhances recovery by reducing the time it takes for burns to heal and reduce the pain that burns victims have to endure. This is amazing research and has great patient outcomes!

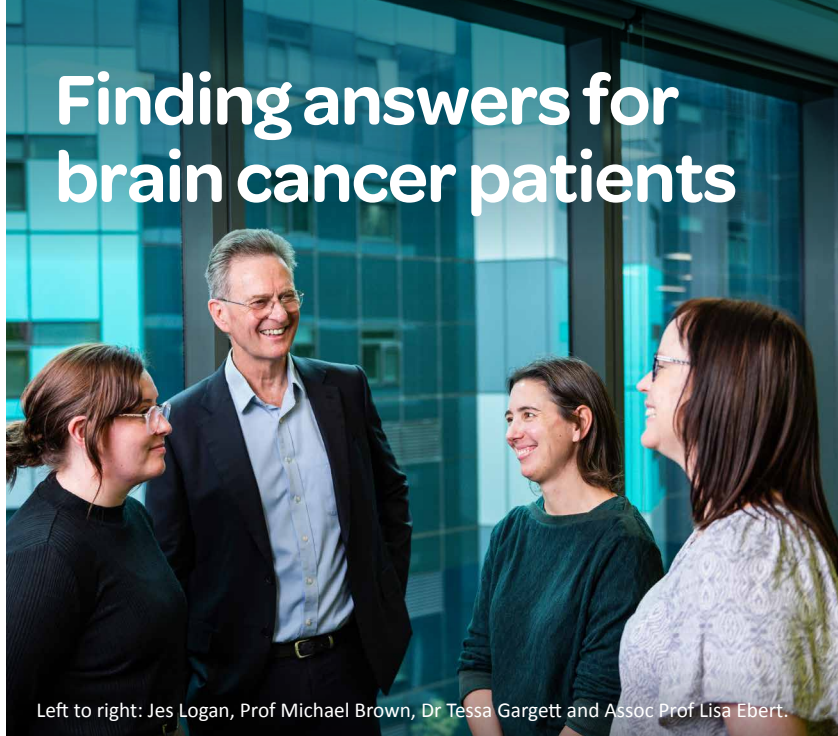
Also in this newsletter, we feature Dr Eugene Roscioli's work on developing medication to help people with chronic obstructive pulmonary disease (COPD). This research is very exciting and will have an impact on many lives.

I am always impressed when I hear about the life-saving work researchers are doing at the Royal Adelaide Hospital and The Queen Elizabeth Hospital (TQEH). In October, we will hold the CALHN Research Exchange, aimed at bringing our researchers together to share their work.

I am thrilled to let our donors know that we will be holding a public session later in the year, especially for you. It has been a while since we have showcased our work with those who help make it happen. You, our donors.

My role is to promote and encourage research, and much of this cannot be achieved without the vital donations from supporters like you. I thank you for your ongoing generosity.

If you would like to know more about the RAH Research Fund or make a donation to CALHN please contact Tracey Finlay on 7074 1445 or tracey.finlay@sa.gov.au.



Left to right: Jes Logan, Prof Michael Brown, Dr Tessa Gargett and Assoc Prof Lisa Ebert.

Finding answers for brain cancer patients

“Statistically, survival after a brain cancer diagnosis has changed very little in more than twenty years. Now for the first time, our work in immune-targeted cancer therapy is providing hope.”

Professor Michael P. Brown, Director, RAH Cancer Clinical Trials Unit

Brain cancer is historically difficult to treat. Standard treatment is lengthy and provides some modest improvement, but nothing has been shown to significantly extend survival.

Prof Michael Brown and his team have two clinical trials running in brain cancer, operating thanks to philanthropic funding – one at the RAH for adults with recurrent glioblastoma and the second, in collaboration with Sydney Children's Hospital, involving four children with diffuse midline glioma (DMG), a pediatric brain tumour with a less than 1% survival rate beyond 5 years.

Professor Brown's team are experts in CAR-T cell immunotherapy, a targeted cancer approach that harnesses a patient's own immune system to fight their cancer. The patient's immune cells (T cells) are genetically modified outside of their body to create CAR-T cells (chimeric antigen receptor T cells), which are then re-infused back into the patient. The CAR-T cells are programmed to “see” cancer cells and more readily attack them.

Dr Tessa Gargett currently synthesises the CAR-T cells for each patient and processes samples to understand any potential side effects and how well the cells work. But with a small team, there is only so much they can do in a day.

“By supporting the RAH Research Fund, you can help advance our CAR-T cell therapy work more quickly – from trial to approval and beyond.”

Professor Michael P. Brown, Director, Cancer Clinical Trials Unit

Your generosity could save so many lives – will you please support us?

Improving quality of life for people with COPD



Dr Eugene Roscioli

Dr Eugene Roscioli and his team are tackling the life-limiting impact of chronic obstructive pulmonary disease. Your support will accelerate the progress of their pioneering work.

Chronic obstructive pulmonary disease (COPD) is the world's third most lethal condition, projected to be the leading cause of death globally in 15 years. COPD incorporates bronchitis, asthma and emphysema, and each illness causes irreparable damage to weakened lungs.

Most treatments for COPD focus on easing the aggravating symptoms caused by issues like cigarette or bushfire smoke and bacteria, and preventing resultant flare-ups.

"Exacerbations caused by harmful airborne substances and bacteria are deeply problematic for people with COPD. It's a snowball effect – the more exacerbations you have, the more you get, and the more permanent the damage is to your lungs. This can take years off lives," said Dr Roscioli, from the Lung Research Laboratory (RAH & University of Adelaide).

Until now, there has been no tailored medication to help, but Dr Roscioli and his team are working towards an answer by creating a new version of Azithromycin, a common antibiotic used to manage irritants that exacerbate COPD.

While the drug kills bacteria and reduces inflammation, it also disrupts an essential natural bacteria removal process in our cells called autophagy. When autophagy is blocked, bacteria don't die and, instead, they acclimatise to their surroundings and become stronger, making COPD worse.

Dr Roscioli's team is experimenting with different shapes and structures of Azithromycin to develop a version that has the desired effects without the negative side-effects.

"With this new drug, we hope to reduce the impact of the leading causes of COPD exacerbations, leading to less hospital admissions and illness. Your kind donation will reduce the time taken to develop the drug, and significantly increase quality of life for people."

Dr Eugene Roscioli, Principal Investigator, Royal Adelaide Hospital & University of Adelaide Lung Research Laboratory

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What is P.A.R.T.Y.

The Prevent Alcohol & Risk-related Trauma in Youth Program (P.A.R.T.Y.) is an innovative program that draws on the experiences of trauma professionals and trauma survivors to educate young people, by showing them what can happen when they make a risky decision.

This vital program educates young people about how a split-second decision can save a life. It focuses on preventing accidents before they happen by giving secondary school students real-life experiences in the emergency and trauma units of local hospitals.

The program features doctors, nurses, emergency workers and allied health professionals who volunteer their time to

tell their stories – in the hope they can help reduce the incidence of trauma.

In Australia, trauma is responsible for 40% of deaths in 15 to 25 year olds. Many more are disabled from injuries sustained from trauma situations, and endure life-long impacts.

This program relies on the support of sponsors and donors. To ensure the program reaches as many schools as possible we are asking for your support.

For more information visit www.partyprograms.org

If you would like to make a tax deductible donation please **scan the QR code** and select for your donation to go directly to the P.A.R.T.Y. Program.



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The RAH is an entity of the Central Adelaide Local Health Network (CALHN)

To find out more about the RAH Research Fund visit

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