Royal Adelaide Hospital Research Fund

RAH Researcher

Raising funds for life-saving medical research at the Royal Adelaide Hospital

Autumn 2023

Research to bridge the gap between childhood and teenage health services

Amelia, an IBD patient at the RAH.

Transitioning from childhood to adulthood is full of uncertainty for any young person.

However, it is even more so for those with a chronic illness such as inflammatory bowel disease (IBD) – as they move from childhood medical services to unfamiliar adult services.

As a 17-year-old, Amelia found the sudden change to be daunting and overwhelming, and needed more support in her transition from the Women's and Children's Hospital (WCH) to the Royal Adelaide Hospital (RAH).

When adolescent patients with IBD, like Amelia, are not supported at this critical time, they can become disengaged in their care and treatment. This leads to progression of their disease, poor mental health, and complications such as hospitalisation and surgery.

Dr Kate Lynch, Head of IBD Services at the RAH, aims to form a new integrated transition pathway for young people with IBD to provide uninterrupted care and set them up for a lifetime of healthy disease control.

Dr Lynch and her colleagues have successfully conducted insightful research on integrating psychological care with in-hospital care for people with IBD and are now uncovering the challenges of the current transition experience. They aim to understand the relationship between satisfactory/unsatisfactory transition processes and clinical outcomes such as abdominal pain and mental health.

Your support will allow the team to solve this problem with a dedicated transition service for young people, keeping them out of hospital and free to get on with life.

Please visit: **www.rahresearchfund.com.au/support-us/ibd** or scan the QR code to donate today.

Thank you your generosity will change lives.

Research Pulse
A CALHN Podcast

Scan the QR code to listen.

"Our work has shown that integrating psychological care in hospital is well accepted, needed, and effective for people with inflammatory bowel disease."

Health psychologist and researcher, Taryn Lores

A message from the Chief Executive Officer

Professor Lesley Dwyer
Chief Executive Officer
Central Adelaide LHN

I am pleased to provide you with an update on some of the future focussed life-changing research projects happening at the Royal Adelaide Hospital (RAH), made possible by generous donor support.

As South Australia's largest research and teaching hospital, the work undertaken at the RAH goes beyond caring for those that need medical treatment right now – it's also about new ideas, discoveries and proposing solutions to help people live healthier, longer lives.

Through the generosity of our donors, the RAH Research Fund is supporting our world-leading clinicians and researchers to find faster diagnoses, better treatments and ultimately cures.

Since 1981 the Fund has been supporting our talented researchers undertake their life-saving medical research to help current and future generations of South Australians receive the finest healthcare possible.

Donor support is leading to innovations and more effective treatments, enabling the purchase of state-of-the-art medical equipment and technology and enhancing the quality and breadth of patient services across the hospital.

With donor assistance, our researchers are making significant progress against cancer, bowel disease, kidney disease, lung disease and much more. Together we can ensure that current patients and future generations receive the finest healthcare possible through the application of pioneering medical and allied research created here in South Australia.

A message from a RAHRF supported researcher

Associate Professor Tarik Sammour
Colorectal surgeon and researcher
Royal Adelaide Hospital

Colorectal cancer is the second most diagnosed cancer in Australia and the second leading cause of death.

Our RAH Colorectal Research Group is researching ways to improve patient outcomes from colorectal cancer and surgery. Our goal is to reduce the need for surgery, and, for patients who still need it, to improve the quality of the surgery and their recovery.

We can cure up to 80% of patients with bowel cancer. That's a high rate, but the surgery can be quite major, needing a long time in hospital for recovery.

What drives us to improve recovery is this mantra:

"The treatment doesn't end when the abdomen is closed, it ends when the patient is home with their family and has a decent quality of life."

The sooner we can get patients to have normal bowel function after surgery, the sooner they can go home. With the help of RAHRF funding, we've completed and published the biggest ever study on the use of laxatives after bowel cancer surgery (the STIMULAX trial).

We've shown that in patients who take laxatives after bowel cancer surgery, who aren't going to start vomiting, about 70% of patients have their bowels work more quickly and as a result they go home more quickly.

As a result of this study, laxatives are now a routine part of post-operative care at the Royal Adelaide Hospital - with good outcomes for patients.

We have followed this up with another world-first study testing a novel drug to tackle the 30% of patients who are not responding to the laxative treatment, possibly due to lack of absorption from vomiting.

This large study, called the PYRICO trial, was just completed with final results expected to be available in the middle of this year. If this study shows positive results, it will likely change practice around the world and hopefully help the hundreds of thousands of patients that undergo bowel cancer surgery every year.

E-cigarette users may be more susceptible to COVID-19 infection

Dr Miranda Ween

RAH researcher, Dr Miranda Ween, and her colleagues have found evidence that e-cigarette users may be more susceptible to COVID-19 infection than non-smokers.

Both the nicotine in the vapour as well as some flavourings appear to increase key proteins which help the virus attach to, and enter, lung cells.

Cigarette smokers may be more susceptible to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, the virus that leads to COVID-19.

However, what was unclear is if e-cigarette users may also have a higher susceptibility to SARS-CoV-2 than non-smokers, or how nicotine and/or flavourings might be involved.

"We're trying to help educate people. If they have an increased risk of infection, it's important that they know so they can mitigate it, if they want to," said Dr Ween.

"We may then be able to reduce the number of COVID-19 cases and thus the number of people with severe disease."

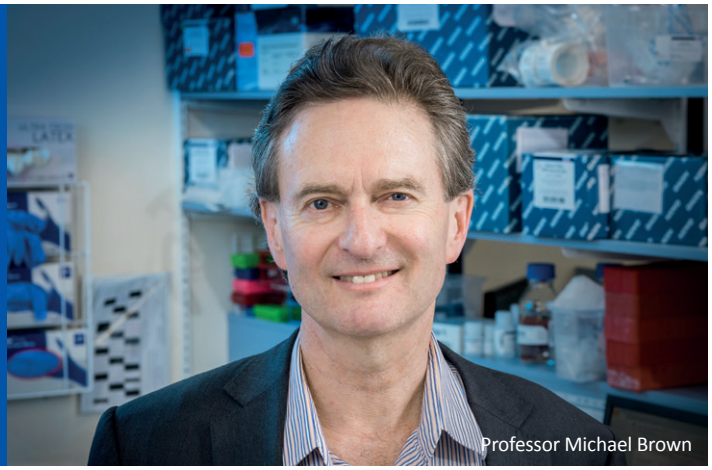
The researchers found that exposing healthy lung tissue to e-cigarette vapour increased activity of key enzymes that helps the virus enter the lung cells.

The research team also found that nicotine-free flavourings, as well as flavourless nicotine e-liquids, both appear to increase susceptibility to SARS-CoV-2 infection.

"What this means is, if you're an e-cigarette user, you may be at an increased risk of SARS-CoV-2 infection," said Dr Ween.

"So, it may be worthwhile for users to take extra precautions to protect themselves from exposure to the virus, particularly if they have risk-factors for more severe COVID-19 as well."

Royal Adelaide Hospital Research Renews Hope for Children's Cancer


Professor Michael Brown

Children suffering from fatal paediatric brain cancer are being given renewed hope as a new treatment becomes available for the first time in Australia after extensive research led at the RAH.

For the first time in Australia, treatment will use genetically modified white blood cells (known as CAR-T cells) to treat children with the rare brain cancer, Diffuse Intrinsic Pontine Glioma (DIPG).

DIPG is the most aggressive of all childhood cancers and one of the only cancers that lacks effective treatment. The fast-growing and incurable tumour forms in the part of a child's brain responsible for vital functions like breathing, sleeping, bladder control and balance.

During the past four years, researchers at the RAH and the Centre for Cancer Biology have been investigating this new cell therapy to treat aggressive brain cancers.

CAR-T cells are super-powered immune cells that act as a living drug. When given to the patient they can find and attack cancer cells without harming healthy cells.

In a new clinical trial, The Sydney Children's Hospital will send the children's immune cells to South Australia where they will be modified and taught to target and attack the tumour. The cells will then be sent back to Sydney where they will be infused into the patient to scan and destroy harmful cancer cells.

"We have been working on this treatment for the past four years so I am incredibly proud that these young patients will finally benefit from our innovative work here at the RAH."

Professor Michael Brown,
Royal Adelaide Hospital Cancer Clinical Trials Unit Director.

As a partnership with Sydney Children's Hospital, University of South Australia (UniSA), SA Pathology, and with funding support from The Hospital Research Foundation and the NeuroSurgical Research Foundation, the trial is open to all children across Australia.

Royal Adelaide Hospital Research Fund

Royal Adelaide Hospital, Port Road, Adelaide SA 5000
T (08) 7074 1445
E contactus@rahresearchfund.com.au

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

To find out more about the RAH Research Fund visit
RAHresearchfund.com.au