

the NeuRA

magazine

Issue 34 | Spring 2020

NeuRA gives renewed
hope to those living with
a spinal cord injury

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- New partnership to improve safety of road users
 - A landmark project to help people with paralysis
 - Colour Your Hair for Mental Health 2020

Message from our CEO during this pandemic

Professor Peter Schofield AO



Prof Peter Schofield AO

We have had a momentous few months of challenge and progress, both here at NeuRA and around Australia as we have all had to adapt to the challenges thrown up by the COVID-19 pandemic.

I am especially proud of the research team here

at NeuRA, who have continued to work tirelessly to adapt and progress their studies while ensuring they and their research participants remained safe.

As we have now passed June 30 and the end of financial year, I would like to thank all of you for helping us. Without your support, the health outcomes we strive to improve would not be possible. So, our sincere thanks for your generosity.

We recently announced the extension of our partnership with Transurban, supporting our research into injury prevention on Australia's roads. This funding will help NeuRA to provide detailed safety advice to road users, motorist bodies and governments, to best protect Australians around the country.

In July, the NSW Government allocated \$6.4 million in funding for three new spinal injury research projects at NeuRA. This was announced by the NSW Minister for Health, Brad Hazzard and the Treasurer, Dominic Perrottet at the opening of our new Spinal Cord Injury Research Centre. This new facility, partly funded by SpinalCure Australia, will become one of Australia's leading centres exploring a cure for paraplegia and quadriplegia.

It's that time of the year again where we are preparing for our Colour Your Hair for Mental Health campaign! I hope you have all chosen your hair colour of choice and I look forward to your support in fundraising for ground-breaking research that can help curb mental illness in Australia.

I wish you and your families a very safe next few months and thank you again for your generous support of NeuRA and our dedicated researchers.

A handwritten signature in black ink, appearing to read 'P. Schofield'.

Prof Peter R Schofield AO *FAHMS PhD DSc*
CEO

Cover photo: © Cameron Bloom



Bequester, Theona with her husband Pete

Message from a Bequester

Mum was diagnosed with dementia at the age of 65 and sadly passed away at age 81. My husband Pete and I still miss the energetic woman who loved being with family and friends, and constantly kept everyone's fridges and pantries filled with her wonderful cooking. For the last six years of her life she could not walk, talk, share her feelings and frustrations, or tell us what she needed.

Our understanding of this cruel disease was minimal at the time, so we embarked on a journey of discovery which led us to NeuRA.

We now understand that research does not just happen, it needs the commitment and talent of researchers and it needs money. So we took action and committed ourselves to support research and fundraise for a cure.

NeuRA is an incredibly inspiring organisation and we value their scientific work. Currently we are supporting PhD students whose work we hope will contribute to beating this dreadful disease.

It is also important we know that after we are gone this work will continue. So we have left a gift to NeuRA in our Will. We do this in honour of Mum and all those families who have lived through this very cruel disease.

We know that a cure may not be found in our lifetime but by leaving a gift to NeuRA in our Will we can have the memory of Mum live on.

This is our legacy.



If you would like to discuss in confidence leaving a gift in your Will to NeuRA please call Stephanie Grove, Gifts in Wills Manager on 02 9399 1270 or email s.grove@neura.edu.au

New partnership to improve safety of road users



Dr Tom Whyte about to perform a crash test

NeuRA and Transurban have announced a new three-year partnership that will help provide the most up-to-date safety advice for road users.

The partnership supports the operations of NeuRA's Transurban Road Safety Centre (TRSC) and the team of researchers who work there.

The TRSC was built in 2017 and is Australia's first research-dedicated crash test lab. It features a crash sled that enables researchers to test a variety of simulated road accidents, providing invaluable data that can be used to improve safety for road users.

"NeuRA has made some exciting discoveries that will help keep Australia's drivers, passengers and motorcyclists safer on our roads," said the TRSC Lead Scientist, Professor Lynne Bilston.

"Our research has included improving the use and effectiveness of child restraints, providing better advice to older drivers about how they can protect themselves while behind the wheel, and examining how motorcycles could be designed differently to reduce injury during a crash," she said.

The TRSC's findings is being provided to Australian regulatory bodies and motorist associations to inform the development of regulations and assist road users.

"Transurban is committed to strengthening communities through transport and safety is always our highest priority in delivering benefits to our customers and the community," said Liz Waller, Road Safety Manager at Transurban.

The next three years of research will focus on:

- Motorcycle fuel tank syndrome and how to prevent pelvic injury in crashes
- Improved dynamic testing of child restraint systems for child occupant protection
- Designing optimised features of child restraints ensuring injury prevention
- Protecting occupants in non-standard and future seating postures
- Enhanced safety in the rear seat for all occupants.





Dr Euan McCaughey using electrical stimulation to move Steve Ralph's hand

NeuRA's new Centre generates hope for those with a spinal cord injury

On an auspicious day in July, NeuRA's brand-new Spinal Cord Research Injury Centre was officially opened by the New South Wales Minister for Health, Brad Hazzard, and the Treasurer, Dominic Perrottet.

NeuRA has long-been recognised as a leading force in Australia's neurostimulation research, and having the new Spinal Cord Injury Research Centre will enable us to increase the scope and speed of our work.

The Centre features state-of-the-art exercise, rehabilitation and neurophysiology equipment. It will be home to major projects that are being funded by the NSW Government.

"Our Spinal Cord Injury Research Centre will hopefully accelerate the ability for people with spinal cord injury to walk and use their hands again," said the head of the Centre, Professor Simon Gandevia.

"These activities are of high priority for people with spinal cord injury, and though we often take them for granted, they contribute to our quality of life."

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Minister Hazzard learning about NeuRA's spinal cord injury research



SpinalCure's ambassador, Sam Bloom

The Centre was made possible by SpinalCure Australia, an advocacy organisation that aims to advance spinal cord injury research. Their goal is to one day find a cure for these injuries, and they hope that NeuRA's research will accelerate this process.

NeuRA is working with SpinalCure's ambassador Sam Bloom, who became paraplegic after falling from a two-storey balcony while holidaying in Thailand. She overcame her injury to become a world champion para-surfer and one of Australia's most influential advocates for people with a spinal cord injury.

"This injury is tough. But part of what keeps me going is knowing that there are people who have dedicated their lives to investigating how this damage can be undone," she said.

"I'm so excited to be connected to the researchers at NeuRA, and to be part of the inspiring projects they are undertaking at the new Centre. Their work is giving hope and inspiration to people with paralysis in Australia and across the world."

At the Centre's opening, the Ministers were shown a quick demonstration of the type of work being undertaken at NeuRA. One of NeuRA's research participants, Steve Ralph, was connected to a device that used electrical stimulation to move his hand.

There was a murmur of excitement in the room when the electrical stimulation device brought movement back to Steve's hand.

"It feels like pins and needles when my hand moves like this. It feels great to have my hand moving again and I'm so excited to see what NeuRA's researchers will be able to do with this new centre," he said.



NeuRA's research participant, Steve Ralph

"These researchers are so committed to improving the living conditions of people who have a spinal cord injury. Their passion and enthusiasm gives me confidence that some kind of cure might be found one day."

Landmark project begins to help people with paralysis

Currently, at least 12,000 people are living with spinal cord injury in Australia, which involves long-term disability, illness and increased risk of death.

Half of people who have a spinal cord injury experience a condition called tetraplegia, where all four limbs are paralysed. It often results in an inability to control the abdominal muscles, and therefore a decreased ability to breathe and cough, which can lead to respiratory complications.

Because of this, people with tetraplegia often require a mechanical ventilator to help them breathe. They struggle with simple bodily activities that are often taken for granted, such as bowel control.

However, NeuRA is embarking on a new project that could drastically improve the quality of life for people with a spinal cord injury.

Senior researcher, Dr Euan McCaughey, has obtained funding from the NSW Government for a landmark study that could reduce the number of respiratory problems people with a spinal cord injury have. This study could also reduce the length of time people with tetraplegia would require a mechanical ventilator, and improve their bowel function.

Ventilators are commonly used in hospitals to treat people who have developed pneumonia after contracting COVID-19, a disease which can have particularly tragic outcomes for people with spinal cord injury.



"This group is 150 times more likely to get pneumonia than the general public," said Dr McCaughey.

Dr McCaughey's study is backed by previous research that shows patients could reduce their chances of getting respiratory problems and their dependence on these ventilators.

"We've had demonstrated success that this treatment is effective in other conditions, where mechanical ventilation is required. We are now embarking on a full clinical trial to evaluate whether this technique works for people with tetraplegia," said Dr McCaughey.

Treatment via the electrical stimulation is simple. A small electrical current is applied to the abdominal muscles for 45 minutes per day via electrodes placed on the torso. The electrical stimulator is cost-effective and easy for hospitals to obtain.

"This program of work will greatly expand previous research and significantly improve the lives of those living with a spinal cord injury," Dr McCaughey said.

Keeping older drivers safe on the road



A new study by NeuRA's expert in ageing and neurodegeneration, Professor Kaarin Anstey, has made several findings on what can be done to prevent older Australians endangering themselves on the road.

Professor Anstey recommends:



Using validated off-road screening tests, which can show that licence holders are quick-thinkers and have suitable vision to drive.



Off-road screening tests that focus on skills that are specific to driving like motion perception, divided attention, and co-ordination of hands and feet.



Screening tests could be used in regional areas where on-road tests are not available.



On-road driving tests when there is a serious concern about a person's driving, which can confirm that drivers have the skills required to be behind the wheel.

DONATION FORM

☐ Yes, I would like to donate to research at NeuRA

All gifts over \$2 are tax deductible

Title:

First Name:

Surname:

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Email:

How I choose to give my gift:

☐ Please accept this one-off gift to support research at NeuRA

☐ I would like to invest in the future and become a *Discovery Partner* with a regular donation of

\$ _____ ☐ monthly / ☐ quarterly (*please select*)

☐ \$50 ☐ \$100 ☐ \$250 or

☐ A cheque payable to the NeuRA Foundation is enclosed OR

☐ I wish to make my gift by credit card:

☐ Visa ☐ Mastercard ☐ American Express ☐ Diners

Card No:

Expiry Date:

Cardholder's Name:

Cardholder's Signature:

☐ *If you do not require a receipt, please tick here*

Please send me:

☐ Details about how I can support NeuRA in my Will

- Mail this coupon in the reply paid envelope
- Call us on **1300 888 019** to make a donation over the phone
- Make a secure online donation at neura.edu.au/donate

A message from the NeuRA Foundation: The NeuRA Foundation may co-operate with other like-minded reputable Australian charities to promote our work to our respective donors. If you'd prefer that NeuRA does not share your information with other charities, please phone us on **1300 888 019**, email us at foundation@neura.edu.au or write to us using the enclosed envelope.

Thank you for generously supporting our research into diseases

Neuroscience Research Australia Foundation, PO Box 1165, Randwick NSW 2031 ABN 57 008 429 961



Support Colour Your Hair for Mental Health!

This year marks our second annual Colour Your Hair for Mental Health event and we are hoping to make this one even bigger and better.

The event is aimed at increasing mental health research to give hope to the millions of people in Australia and their families who are impacted by mental illnesses such as depression, anxiety, schizophrenia and bipolar disorder.

The COVID-19 pandemic has resulted in a sharp increase in the rate of mental illness. Our vision is to identify more effective treatments, or perhaps even a cure, for these disorders.

At least one in five Australians will face a mental health challenge in

their lifetime and, by fundraising and colouring your hair, you can help to make a difference.

How to join in the fun

To join Colour Your Hair for Mental Health, all you have to do is dye your hair or wear a colourful wig during Mental Health Week, 5th-11th of October.

A bright or colourful streak in your hair, rather than dyeing everything, is perfectly fine! And you can do it for just one day, or the whole week.

Why are we encouraging people to have such a bright hairstyle during October? We hope that this helps to generate conversations that lead to greater awareness about how and why mental health impacts so many people.

How to sign up

- 1 Register online at colouryourhair.com.au
- 2 Plan your colour
- 3 Fundraise and ask for people to sponsor you

[@colouryourhairformentalhealth](https://www.facebook.com/colouryourhairformentalhealth)

Thank you for your support

If you wish to update your preferred communications from NeuRA, please call 1300 888 019.

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