

CELEBRATING A LONG HISTORY OF NEUROSURGICAL SUPPORT TO THE UNIVERSITY OF ADELAIDE



NRF

NeuroSurgical Research Foundation

SUMMER ISSUE / 2016



Professor Robert Vink & Dr Brian North Photo: Jo-Anna Robinson

Since its inception, the foundation has broadened its areas of research to include various conditions such as brain tumours, stroke, concussion, spinal cord injury, Parkinson's disease, subarachnoid haemorrhage and sudden infant death syndrome (SIDS).

The NRF shares a long relationship with the University of Adelaide, gifting donations amounting to more than \$5.3 million to fund important neurosurgical research and equipment. It brings together clinicians, engineers and scientists to support a multidisciplinary approach to improve diagnosis and treatment.

This unique combination of expertise has led to significant advances in knowledge, such as the discovery by team pathologist Dr Peter Blumbergs that mild blows to the head can damage the brain. This breakthrough resulted in a world-wide groundswell of interest in brain damage in sporting injuries such as Australian Rules Football. The development of this multidisciplinary team and its ability to attract neurosurgical trainees to Adelaide is a proud achievement for Dr Brian North, who has been

president of the foundation since 2004. "We are combining practical and scientific skills for neurosurgeon-scientists. It is a big ask for someone trained in the practical skills of operating on the brain to also have highly developed scientific skills in the laboratory. Combining the two is quite an achievement," said Brian.

Brian has been the driving force behind securing many of the donations for the foundation, notably establishing the \$800,000 Abbie Simpson Clinical Fellowship to support clinical neurosurgical research, fundraising for equipment at

University of Adelaide, Flinders University and the Women's and Children's Hospital, and formalising the neurosurgical training program in 2009.

After 11 years, Brian stepped down as president. His successor is Professor Robert Vink, an Adjunct Professor at the University of Adelaide and Pro Vice-Chancellor of Health Sciences at the University of South Australia. Bob says the foundation has identified a gap in research into paediatrics and will fund research at the University in this area.

"One of the deficiencies in neurosurgical research in Adelaide concerns paediatrics and we would like to build that up so the foundation will be making a gift that focuses on paediatric neurosurgical research this year."

The NRF Paediatric Neurosurgical Research Trust Fund will gift \$1 million to the University to fund research in paediatrics and aims to promote collaborative paediatric neurosurgical research with other national and international research groups.

The NRF had the foresight to set up an administrative support fund which means that every cent of all donations given to the foundation goes straight to research.

"There are a lot of charities that take a high percentage for overheads and administration—but we don't. We are in the fortunate position of having sufficient investments that enable us to ensure every funding dollar goes into research," said Bob.

NEW NRF DIRECTOR OF NEUROSURGICAL RESEARCH DR RENÉE TURNER WITH NOVEL TREATMENT FOR STROKE SUFFERERS

NRF Director of Neurosurgical Research and South Australian 2015 Young Tall Poppy Science Award winner, Dr Renée Turner is passionate about science communication. She fell in love with research in her honours year and decided to pursue a PhD and a career in research.

Since setting out on that path Renée has won over \$1.6 million in research funding with regular support from the National Health and Medical Research Council since 2004. She also has a long-standing affiliation with the NeuroSurgical Research Foundation (NRF).

Her research involves developing new therapies to treat brain swelling and elevated intracranial pressure within the brain following stroke. New therapies are urgently required to treat complications of stroke which carry a mortality rate of

up to 80 per cent and are associated with extremely poor outcomes in survivors.

Frustrated with the poor clinical translation of therapeutic agents developed in the laboratory, Renée has developed a new approach to screen them prior to clinical assessment.

She says by using relevant pre-clinical models and rigorous pre-clinical research, the likelihood of therapies translating into effective treatments will be improved.

"It's been a long road; I have been working on unravelling the mechanisms of brain swelling and assessing this novel treatment since 2004," says Renée. "I'm currently undertaking the final pre-clinical studies, after which clinical assessment will be possible. This treatment will begin testing in early 2016."



Dr Renée Turner Photo: Jo-Anna Robinson

MYNEUROSURGICALSTORY

CHRIS, ANEURYSM SURGERY

It was an incidental finding from an MRI scan taken after a cycling accident, "just to make sure." When Chris heard the word "aneurysm" from his GP's lips he wasn't quite sure what it meant. For Chris it was a 7-8mm bubble on the side of an artery in his

brain: A little time bomb with a 1% chance per year of rupturing. Rupture brought with it a 40% chance of death and a 60% chance of worse outcomes.

Although brain surgery is a terrifying proposition, balancing the 97-98% success rate of aneurysm surgery against a 40% chance of death made the decision to operate easier and, wherever he asked, Chris was told that Adelaide has some of the best medical equipment in the world, enough size to support specialists and not too much to create overcrowding.

Encouraged by this response, Chris underwent neurosurgery.

Within 24 hours of surgery Chris was walking the hospital corridors with the physiotherapist. Less than five days after the operation he was released from hospital and within a week of surgery the only things he was not allowed to do were driving and cardio fitness. Chris is now fully recovered and rode 140km in this year's Tour Down Under.

Full story available at www.nrf.com.au

MICHELLE, LIVING WITH MOYAMOYA DISEASE

An extremely fit tennis player who was studying Physiotherapy, Michelle suddenly had left-sided weakness, tingling and constant headaches. Her doctors referred her for an MRI and CT scan. The prompt referral may have saved her life - Michelle was diagnosed with moyamoya disease.

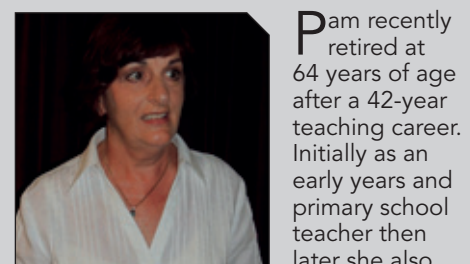
Extremely rare, moyamoya disease is a progressive thickening and blockage of the arteries supplying the brain. Left untreated,

moyamoya disease can cause strokes (infarct or hemorrhage) possibly leading to loss of brain function, and is usually fatal if not treated.

Michelle underwent a seven hour procedure to restore bloodflow to her brain. With ongoing medication, monitoring and treatment, her prognosis is good. Not everyone is lucky enough to be diagnosed and treated so early.



PAM, LIVING WITH HYDROCEPHALUS



special education and english as a second language teacher.

When Pam was six years old (1957) she was diagnosed with benign juvenile hydrocephalus (a build-up of cerebral spinal fluid in the brain). If Pam's hydrocephalus was left untreated it would lead to unsteadiness of walking and gradual loss of mobility, migraine headaches, nausea, vomiting and blackouts. It would also

impair her gross and fine motor skills, thinking abilities, academic performance and emotional wellbeing.

Pam underwent successful surgery undertaken by Mr Trevor Dinning in 1957 to implant a ventricle-spinal shunt. Through immense time, effort, and determination, and with supportive parents, Pam mostly succeeded in achieving her career and personal goals.

When Pam was 31 in 1982 she suffered balance issues, unsteady walking, migraine headaches and 2 blackouts. A visit to her neurosurgeon Trevor Dinning followed by a head ct scan revealed chronic changes of raised pressure.

Mr Trevor Dinning referred Pam to Mr Peter Reilly who implanted a V-P shunt. Six years after implanting the shunt Pam felt unwell again. A revision operation revealed that

her shunt was broken. A stronger shunt was implanted and yearly / 2 yearly check-ups continue to this day.

None of this would have been possible without neurosurgical research and the two highly skilled and brilliant neurosurgeons who diagnosed and treated Pam's hydrocephalus.

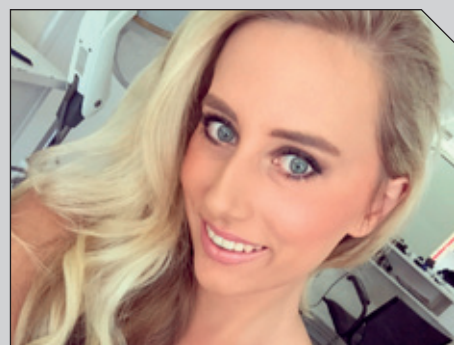
Pam says her quality of life would have been vastly limited if her Hydrocephalus was left untreated.

NEUROSURGICAL RESEARCH and NEUROSURGERY SAVES LIVES.

NEUROSURGICAL RESEARCH and NEUROSURGERY ENHANCES LIVES.

In gratitude Pam regularly donates to the Neurosurgical Research Foundation.

Full story available at www.nrf.com.au



TAYLAH, ANEURYSM SURVIVOR

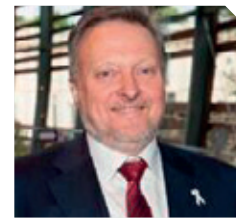
Cerebral aneurysms occur when the wall of an artery within the brain is weakened. Usually unruptured aneurysms have no symptoms at all - but they can be a ticking time bomb. When an aneurysm ruptures it usually bleeds into the brain. Symptoms include severe headaches and vomiting, seizure, blurred vision and dizziness. Ruptured aneurysms are often fatal.

Those who survive face long recovery times and may never fully recover.

Taylah had the worst headache of her life. She was projectile vomiting and sensitive to light. Unfortunately, doctors took days to diagnose her with an aneurysm - precious time she could not afford to lose.

Neurosurgery to treat her aneurysm saved Taylah's life. Taylah has been fortunate to have a full recovery.

INNOVATION, RESULTS, SUCCESS CELEBRATION DINNER 25TH NOVEMBER



"I would like to extend the University of Adelaide's thanks to the Foundation for their long-term philanthropic support to the University. This has delivered \$5.3 million for research since 2003 and saw the establishment of a permanent Chair of Neurosurgical Research at the University of Adelaide in January 2004."

"Over the past 10 years, this research group has attracted an additional \$6 million in externally funded grants and fellowships for every dollar the Foundation has donated—a result which clearly highlights the importance of seed funding."

Prof Warren Bebbington
Vice-Chancellor – The University of Adelaide



The relationship between the NeuroSurgical Foundation and the University of Adelaide is both long and strong. The Foundation has donated over \$5.3 million to neurosurgical research carried out in our institution. This has supported research covering a range of important neurosurgical topics including traumatic brain injury, spinal cord injury, stroke, brain tumours, sudden infant death syndrome, and neurodegenerative diseases such as Parkinson's disease. In total this has led to over 100 published papers. Many of the projects supported by this funding have generated scientific information which will be translated into clinical practice with a direct benefit to patients with neurosurgical conditions. The Foundation has also supported a pipeline of higher degree students. Team Neuro have successfully trained 15 PhDs, 5 Masters and 16 Honours students over the past 10 years.

"We are thrilled by the further donation of \$1 million to support staff in the University of Adelaide to undertake research into injury and disease of the brain in childhood."

Prof Alastair Burt
Executive Dean of Medical School – The University of Adelaide

The NRF Celebration Dinner recognised 52 years of the NRF funding neurosurgical research to the University of Adelaide.

Celebrating NRF donations of over \$5.3 million to innovative neurosurgical research, resulting in two additional donations.

Neurosurgical Paediatric Research Donation \$1m.



Prof Robert Vink NRF President with Prof Warren Bebbington.

The NRF Celebration Dinner raised \$59,000 to complete the NanoZoomer Appeal for Team Neuro.



Photo: Team neuro researchers: Kimberley Mander, Fiona Bright, Viythia Katharesan and Kelly McAteer

THE NRF WOULD LIKE TO THANK THE FOLLOWING SPONSORS AND DONORS WHO MADE THIS SUCCESSFUL EVENT POSSIBLE.

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Robert Searcey

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Haigh's Chocolates
Ken Clezy
Nadia Kingham
Orchard Family
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Sir James & Joan Hardy

Volunteers: Allys, Di, Ellen, Ints, Kahla, Kat, Jessica, Margota, Matiss, Robin, Selga.

HOW TO SUPPORT THE NRF IN 2016

2016 FUNDRAISERS

FOR MORE INFORMATION AND TO BOOK
RING 8371 0771 OR VISIT WWW.NRF.COM.AU

JOIN NRF TEAM NEURO IN THE BAY-CITY FUN RUN SUNDAY 20TH MARCH

Walk or run 3, 6 or 12km to raise funds for neurosurgical research. Join the team by purchasing a t-shirt or go the extra mile and recruit sponsors to raise additional funds.

Start your training and fundraising today!

Register: Go to www.citybay.org.au and join NRF Team Neuro.

Fundraise online: Register at www.everdayhero.com for NeuroSurgical Research Foundation and follow the prompts.



CHRIS "CRITTER" ADAMS INDEPENDENCE DAY: RESURGENCE PREMIERE FUNDRAISER

THURSDAY 23RD JUNE

Join Critter's family and friends at the premiere of this most anticipated movie release: *Independence Day: Resurgence*.

The premiere will be held at Palace Nova Eastend Cinemas on the 23rd of June from 7:00pm to 10:00 pm. Tickets are \$30 and include red carpet entrance and a short reception, with drink on arrival. All proceeds to the NeuroSurgical Research Foundation.



IN MEMORIAM DONATIONS

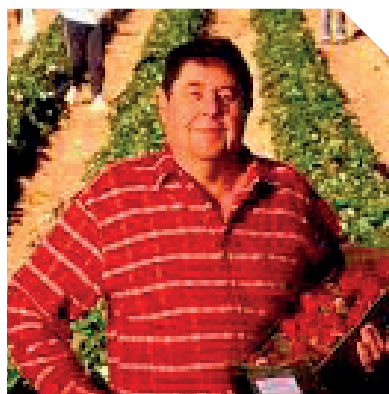
The NRF wishes to acknowledge the following In Memoriam donations received from families and friends in memory of their loved ones this year.

In memoriam gifts are donations made in lieu of sending flowers, or in memory of a loved friend, relative, or colleague.

They are a positive and thoughtful way to honour the memory of a loved one. Family members are notified of all donors and gifts are receipted and acknowledged promptly.

Your funeral director may assist you in ordering our envelopes, or contact the NRF on (08) 8371 0771 and we will deliver in memoriam envelopes and information about the NRF.

Christopher Adams
Madalyn Beckett
Richard Buttery
Henryk Dutkowski
John Edward Gilbert
Keith Ernest Johnson
Alan Raymond Mead
Eve Nowakowski
Grant Paech
Margaret Tate



IN MEMORIAM DONATIONS GRANT PAECH

The man who made South Australia famous for its jam, Grant Lester Paech of Beerenberg, passed away following a lengthy struggle with neurological illness. His family business, based at the 100ha Beerenberg fields, kitchen and farmgate shop in Hahndorf and now internationally famous not only for jams, condiments and sauces, is overseen by his children, Robert, Anthony, and Sally Paech. The Paech family welcomed donations to the Neurosurgical Research Foundation in lieu of flowers.

CRITTER'S STORY STRONG ENOUGH TO LIVE

Chris Adams "Critter" was in the prime of his life. He played footy; he visited the gym four times a week; he had a full time job and had many plans for after he completed his degree in a few months' time. He was an enormously gregarious young man with a kind heart and a huge sense of loyalty.

In December of 2014 Critter saw his GP after about a month of headaches and occasional nausea. He was sent for scans. What they found indicated a grade three anaplastic astrocytoma; a brain tumour. From the day of his diagnosis Critter was positive and remained confident that he would beat the odds for survivors of malignant brain tumours. His slogan was "Strong Enough to Live."

Following surgery in mid-January, Critter underwent radiotherapy and chemotherapy. He went back to work part-time. Sadly Critter's health deteriorated and he was hospitalised several times with seizures. In October he began to experience severe headaches. Scans showed radiation necrosis and potentially another tumour. On Thursday 19 November, following a biopsy, Critter died in hospital of a heart attack. It was less than eleven months since initial diagnosis.

He was passionate and driven, and wanted his story to inspire and help others. He left far too early; his work had just begun. Now it's our task to ensure that his legacy is followed through by continuing to be positive and support research into this dreadful disease. Critter and his family encourage everyone to donate to brain cancer research and are organising a special *Independence Day: Resurgence* movie premiere fundraiser. He is missed greatly, daily. He was and remains a magnificent young man.

