WORLD CLASS RESEARCH PRESENTATIONS

NRF
NeuroSurgical Research Foundation

SPRING ISSUE / 2015

AGM RESEARCH PRESENTATIONS INTRODUCED BY DR RENÉE TURNER THE NEW NRF DIRECTOR OF NEUROSURGICAL RESEARCH.

At this year's AGM Team Neuro researchers gave presentations on their recent work. All the presentations were of innovative research, were of the highest quality and clinically-relevant. The team continues to conduct world-class research, driven by the common goal of finding pharmacological treatments for life-threatening conditions including traumatic brain injury, motor neurone disease, stroke, brain tumours, concussion and neurodegenerative disorders.

Photo: Vythia, Renee, Lyndsey and Lee-anne

MOTOR NEURONE DISEASE RESEARCH

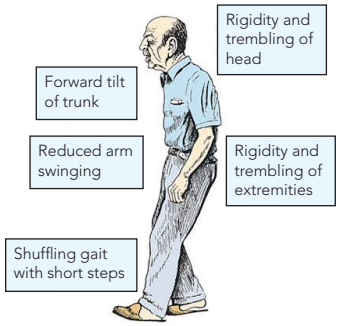
PhD Candidate Ms Viythia Katharesan is looking at a different perspective –the young and bold are not the same as the golden old.

Motor Neurone Disease (MND) is a debilitating condition which takes people completely by surprise. It kills at least 2 Australians every day, with 2 more diagnosed. The causes of MND are unknown, and despite decades of research the only treatment is a drug which prolongs life by three months. Vithyia emphasised the need to use clinically relevant models in experimental studies of MND in order to develop more effective and targeted therapies. Such therapies would have a more profound impact on patient survival and function. MND predominantly affects the ageing population, yet most research is limited to using young experimental models such as young motoneurones. Vithyia is using precious old motoneurones to study how old motoneurones die and to look at potential therapies to rescue them.

PARKINSON'S DISEASE RESEARCH

Dr Lyndsey Collins-Praino reported on the role of inflammation in dementia in Parkinson's disease (PD).

A potential way to understand the disease process and reveal new treatments may be via neuroinflammation (inflammation in the brain). Several neuroinflammatory markers have been found to be lower in the brains of PD patients with dementia than non-demented PD patients. Two of these markers, platelet-derived growth factor and granulocyte colony stimulating factor, have previously been shown to improve motor function in models of PD, but are yet to be tested for their ability to improve cognitive function. Taken together, this work may lead to the identification of a novel drug strategy for the treatment of dementia in PD, currently a major unmet clinical need.



TRAUMATIC BRAIN INJURY RESEARCH

Researchers Lee-anne Costello, Professor Marianne Chapman and Associate Professor Adam Deane are looking at nutrition during recovery following traumatic brain injury (TBI).

Patients with TBI have high nutritional needs and spend long periods of time in hospital, where weight loss and muscle breakdown occur. Their recent study at the Royal Adelaide Hospital measured the nutrition of 37 patients with TBI over their hospital stay. This is the first study to record nutritional intake over a long time period in patients with a head injury and paves the way for improved care, with the potential to influence the speed and extent of recovery.

(Left) Research assistant Amelia

CITY-BAY NRF TEAM NEURO RAISED $40,000 FOR NANOZOOMER APPEAL

Thank you to those who donated to support NRF Team Neuro. Surgeons, researchers, board members, survivors, friends and family worked together to raise funds for cutting-edge neurosurgical research equipment.

This year funds raised by Team Neuro go towards the NRF's NanoZoomer Appeal. A NanoZoomer is an ultrahigh resolution digital device capable of capturing 1.9 billion pixel images of brain sections, allowing for rapid and sensitive analysis of samples.

The researchers funded by the NRF are among only a handful around the world generating powerful, large-tissue data on stroke, trauma and neurodegeneration. The purchase of a large-tissue NanoZoomer will significantly reduce the time required to collect such data, helping to drive the development of effective and targeted treatments for such neurological conditions.

This year, as in years past, NRF Team Neuro consisted of numerous groups, each striving to make a difference for those with neurological conditions.

NRF Research Team: Stephanie, Frances, Emma, Corinna, and Kimberley, swapped their beakers for sneakers and lab coats for lycra.

NRF Board Members: Bob, James and Catherine.

Team Brain Power: Led by Stroke researcher Emily, joined by family members Emma, Amy, Michael, and Molly, to raise funds for research.

Team Patrick: From the Coonawarra region, raised over $5,000 in memory of Patrick Tocaciu.

Allison: Inspired to raise funds after her daughter required lifesaving neurosurgery at 17 weeks old. Over the last three years she has raised over $4,000!

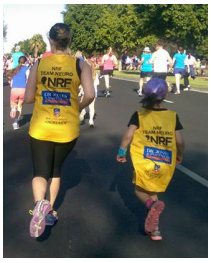
Dr Jones & Partners: Marg, Moira, Beck, Phil, Amy and their friends and family.

NRF Team Members: Mark and daughter Courtney , Marguerite and her family and friends Geraldine, Pauline and Shelly.

Volunteers: Researchers: Renee, Holly, Lyndsey, Stefan, Tahlia, and Annabell. NRF friends: Kahla, Alan and David. Aussie Farmers Direct: Rohit and Isha.

Sponsors: Dr Jones & Partners and The University of Adelaide

Supporters: Aussie Farmers Direct and Nippy's, both providing refreshments for the team.



DR JONES & PARTNERS MEDICAL IMAGING

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NEUROSURGICAL VASCULAR LIFESAVING EQUIPMENT FIRSTS IN AUSTRALIA

Maddie's Moyamoya Appeal, represented by Sandy and family with Danielle, Karli from Port Lincoln and Malcolm from the Yankalilla Bakery.

The NRF spearheaded raising $100,000 to purchase critical equipment and instruments to continue life-saving vascular neurosurgery at the RAH by neurosurgeon Dr Amal Abou-Hamden.

This equipment including the Lawton Neurovascular Bypass Instruments, Dual Channel Intraoperative Optima Flowmeter and Cerebrovascular Flow Probes are the first to be used exclusively for Cranial Vascular Surgery in Australia and will be used in lifesaving vascular bypass surgery for patients with moyamoya disease, complex aneurysms, carotid and verterbral arteries narrowing and brain tumours.

In September the Neurosurgical Research Foundation's Vascular Equipment Appeal reached its goal of raising $100,000, thus enabling the purchase of all the instruments, flowmeter and flow probe. The Wilkins Family Foundation funded the bypass instruments and the Muriel Gunn Medical Research Trust funded the optima flowmeter.

Maddie's Moyamoya Appeal was organised by family and friends. Maddie sadly passed away in 2014 due to complications related to moyamoya disease. This appeal was one of many generous donors who contributed to the NRF's Vascular Equipment Appeal. Thank you to friends, Maddie's mum Sandy and Danielle, Karli and all those who generously donated time and money to the Maddie's Appeal.

Michael and Sandy, representing The Wilkins Family Foundation, presenting Lawton Neurovascular Bypass Instruments.

David, representing the Muriel Gunn Medical Research Trust, presenting the flowmeter.

SKULL BASE SURGERY HAEMORRHAGE RESEARCH

Appointment of the First Abbie Simpson Fellow

Abbie Simpson Fellow, Researcher and Neurosurgical Registrar, Alistair Jukes, under the supervision of Professor Peter J Wormald and Dr Stephen Santoreneos, will be looking at haemostasis in endoscopic skull base surgery.

There is a high risk of bleeding when operating within the skull base, whether endoscopically or with open surgery. This research investigates mechanisms of controlling such bleeding with nanoheamostats.

Nanohaemostats are protein solutions which, when applied to bleeding vessels, form a scaffold around the point of bleeding and stop the haemorrhage. The aim of this research is to determine which of these is most effective, how best to apply them, and long-term effects on the brain itself.

This research will also look at platelet aggregation and activation when using muscle patches to stop arterial bleeding.

NRF CELEBRATION INVITATION
INNOVATION • RESULTS • SUCCESS

JOIN THE NEUROSURGICAL RESEARCH FOUNDATION...

Wednesday 25th November, 2015 at 6.30pm
At the National Wine Centre

Tickets $130 per person.
Dress Semi Formal
Includes a three course meal, beer donated by Coopers, wine provided by Irvine Wines

Coopers

IRVINE
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For more information and to book:
Phone: (08) 8371 0771 Email: info@nrf.com.au
Website: www.nrf.com.au

NRF
NeuroSurgical Research Foundation

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SUNDAY 17TH JANUARY 2016

Long Course	**107km**
Shortcut	**91km**
Short Course	**51km**

Part proceeds to the NeuroSurgical Research Foundation and Flinders Medical Centre Foundation

Register or donate at:
www.ridelikecrazy.com

MOVIE AFTERNOON

to commemorate International Brain Tumour Awareness Week

Ticket Price $26.00

Includes: Pre Movie Drinks & Nibbles Movie Admission and Door Prizes

Sunday 1st Nov 2015

Regal Theatre, 275 Kensington Road Kensington Park SA

Organised by:

ADULT BRAIN CANCER SUPPORT ASSOCIATION

Part Proceeds to NeuroSurgical Research Foundation