

# brainWAVES



The Newsletter of the Brain Foundation. Winter 2009.



Thank you to The Collier Agency ([www.thecollieragency.com.au](http://www.thecollieragency.com.au)) for working with the Brain Foundation to update our image and create our new logo. You will see a gradual change in the usage of the new logo on our stationery and brochures, as in the interests of both financial and environmental responsibility we will be using all existing printed materials first.



## Brain Awareness Week 16-22 March 2009



Dr Joanne Britto, Australian Neuroscience Society and A/Professor Stephen Robinson, Brain Foundation

In Brain Awareness Week, Associate Professor Stephen Robinson, Chairman Brain Foundation Victoria in conjunction with the Australian Neuroscience Society gave two free public seminars to teach some practical tips for a healthier brain. The Brain Foundation also gave 22 radio interviews and

1 television interview to spread the healthy brain message, plus our website [www.brainaustralia.org.au](http://www.brainaustralia.org.au) received almost 100,000 additional hits. We also distributed over 1,700 information and promotional resources supporting community events by organisations ranging from the mining industry and medical institutions to bookshops and pharmacies, with locations ranging from Cocos (Keeling) Islands off the west Australian coast to the eastern seaboard from far north Queensland to Tasmania.

Our most precious organ is our brain, as it gives us our personality and our memories, controls our movements and helps us to interact with the world. One in every five Australians will experience a mental illness or acquire a brain injury in their lifetime, so the risk of 'losing our mind' is very real. Beyond the age of fifty we become increasingly likely to suffer from dementia, stroke and a host of other brain disorders. The good news is that by understanding a

little about how the brain works, you can take steps to lessen the risk of this happening to you.

Help us spread the word about healthy brains to your family and friends. For more *Tips for a Healthier Brain* visit the Healthy Brain section of our website [www.brainaustralia.org.au](http://www.brainaustralia.org.au).

### Tips for a healthier brain

1. Exercise & challenge your mind
2. Nourish with a healthy diet
3. Protect your head from injury
4. Relax & sleep well
5. Interact with others
6. Stay fit
7. Avoid smoking, alcohol & drugs
8. Manage stress & depression
9. Regular medical checkups
10. Respond to warning signs

Contact the Brain Foundation  
PO Box 579, Crows Nest NSW 1585  
Telephone: 02 9437 5967 or 1300 886 660  
Fax: 02 9437 5978  
Email: [info@brainaustralia.org.au](mailto:info@brainaustralia.org.au)

Visit our websites [www.brainaustralia.org.au](http://www.brainaustralia.org.au) and [www.headacheaustralia.org.au](http://www.headacheaustralia.org.au)

# Dystonia Australia

Following negotiations, the Brain Foundation is proud to be entrusted with continuing the research work of Dystonia Australia, an organisation which for more than three years also provided information and support to people with Dystonia, but was unable to sustain its operation. Dystonia is the third most common movement disorder after Parkinson's Disease and Essential Tremor and causes

muscles in the body to contract or spasm involuntarily, creating twisting, repetitive and patterned movements as well as abnormal postures. Some forms of Dystonia may affect a specific body area, such as the neck, face, jaw, eyes, limbs or vocal cords. Dystonia affects both men and women of all ages. It can develop in childhood and is often particularly disabling for children. Dystonia which

manifests itself in adult life tends to remain focal, rather than becoming generalised.

More information on Dystonia, reviewed by Dystonia specialist neurologists can be found in the A-Z of Brain Disorders on our website [www.brainaustralia.org.au](http://www.brainaustralia.org.au).

## Dystonia Research Grant

The Brain Foundation will continue to fund research into Dystonia. In 2009 we have added Dystonia as a separate research grant category and following a donation from Mr Paul Ainsworth, established a specific research grant for Dystonia. If you would like to help

fund Dystonia research, please donate online by selecting "Dystonia Research" as your category of research, or write "Dystonia" on the donation form and the Brain Foundation will direct your donation for research into Dystonia.

*Mr Paul Ainsworth*



## Boost for Muscular Dystrophy Research

For the past 15 years, Andrew Bell and his brother Gary, principals of Ray White on the Gold Coast, have organised an Annual Gala Ball and Charity Auction which has raised over \$2 million for Muscular Dystrophy. This year, the Brain Foundation is pleased to have been invited to join in this prestigious event.

This event will provide an opportunity to promote the Brain Foundation's contributions to all areas of brain research. In particular, an endowment to the Brain Foundation means funds will be available for qualifying research projects into Muscular Dystrophy. These grants will benefit from the Brain Foundation's listing on the 2009

Australian Competitive Grants Register which will attract further funding from the Federal Government.

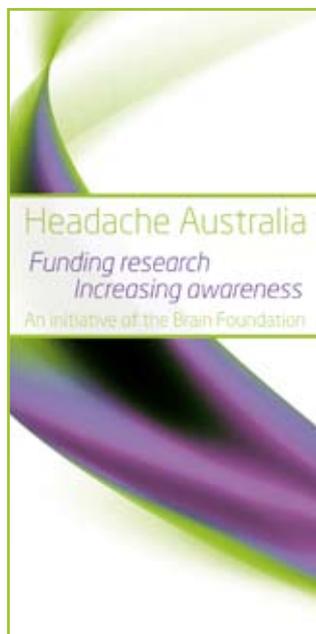
The Ball will be held on the Gold Coast on **Saturday 5 September 2009**. Further information will be available on our website.

## 2009 Brain Foundation Research Grants

We are now accepting applications for the 2009 Brain Foundation Research Grants. The primary objective of the Brain Foundation Research Grants is to support individual Australian researchers and research teams to conduct the highest quality research into neurological illnesses, disorders and injuries of the brain and spinal cord. The grants are funded through your donations and those from corporate sponsors and bequests. The Brain Foundation's policy is to allocate 100% of donations and bequests to the research fund.

Applications for Brain Foundation Research Grants close on **Friday 12 June 2009**. Information on the grant process can be found on the Brain Foundation's website [www.brainaustralia.org.au](http://www.brainaustralia.org.au).

## HEADACHE AWARENESS WEEK 2009 20-26 September



Headache Awareness Week is supported by Headache Australia, a division of the Brain Foundation. The week is designed to provide wider understanding about headaches and migraine including new treatments and preventative measures for the millions who suffer. Join the National Headache and Migraine Register to give force to Headache Australia's drive for much needed funds for research into these debilitating neurological conditions.

In 2009, Headache Awareness Week is **20-26 September 2009** and planning for the week has already commenced. Visit our website [www.headacheaustralia.org.au](http://www.headacheaustralia.org.au) for more details of how you can participate in Headache Awareness Week 2009.

# Research Grant Progress Reports

## Targeting Apoptotic Pathways in Medulloblastomas

### Chief Investigator:

**Dr David Ziegler**

Children's Cancer Institute and  
Sydney Children's Hospital

**Co-investigator: Professor  
Michelle Haber**



Our aim is to improve the therapy and outcome for children with the most common malignant brain tumour of childhood – medulloblastoma. Despite recent improvements in the overall survival rates for this tumour 1 in 4 children with medulloblastoma will ultimately die from this disease.

The outcomes for certain groups of patients such as infants and those with metastatic or high-risk tumours remains particularly poor. Furthermore, current treatment regimens utilize intensive doses of both chemotherapy and radiotherapy which are highly toxic and often lead to devastating long term side effects in those children who do survive.

Thanks to the grant from the Brain Foundation, we have begun testing a novel therapeutic agent in medulloblastoma cells and discovered it to be highly active. This new drug is known as a pro-apoptotic molecule and essentially works by triggering an inbuilt suicide mechanism within the tumour cells, resulting in their self destruction. We have also found that this drug works to dramatically enhance the efficacy of both standard chemotherapeutic drugs and radiation therapy, and allows them to more efficiently kill

the cancer cells. Ultimately this means that it may be possible to use lower doses of these therapies with significantly less side effects for the patients, while at the same time improving their cure rates.

We are currently working to confirm these exciting results and determine the exact mechanism of action. We are also seeking to determine whether this treatment will be effective in all medulloblastoma patients, or whether it works best in specific groups of patients. Our ultimate aim is to complete all of the laboratory tests to allow for the development of a clinical trial in children with medulloblastoma for whom conventional treatment has failed and who have no other treatment options available to them. Our hope is that we may be able to offer them a novel, effective and non-toxic therapy that will change the way we treat medulloblastoma in the future.

## Training Dual Tasking in Parkinson's Disease

### Chief Investigator: Associate Professor Sandra G Brauer

Division of Physiotherapy, School of  
Health and Rehabilitation Sciences,  
The University of Queensland.



Parkinson's Disease is a progressive neurological disease with clinical symptoms including slowed movement, tremor, stiffness and poor balance. One of the most

disabling symptoms for a person with Parkinson's Disease can be changes to their walking pattern. Frequently with Parkinson's Disease, the steps shorten and the person's walking slows, so they shuffle and are at a greater risk of falling. The walking pattern also often deteriorates when they are doing another task at the same time, such as having a conversation. This is called dual tasking. Our research team has been investigating the impact of dual tasking on walking in people with Parkinson's Disease. Prior to receiving a Brain Foundation Grant we had found that indeed steps shorten and speed slows in people with Parkinson's Disease when performing a variety of tasks at the same time as walking. The award of a Brain Foundation grant has allowed us to make progress with this problem and

investigate the impact of training dual tasking when walking. Whilst medication forms the cornerstone of treatment to overcome these movement problems in Parkinson's Disease, specific cognitive strategies have proved useful to improve walking speed and step length. The funding provided by the Brain Foundation has allowed us to perform preliminary investigations into optimal retraining methods. Our data indicates that training dual tasking can have an immediate positive effect on walking whilst performing a variety of added tasks. As a result of this Brain Foundation Grant, we have now secured NHMRC funding to further understand factors important in training, and to investigate the impact of a 3 week dual task training program on function in people with Parkinson's Disease.

# Headache and Migraine Report

## Genomics to Reduce Chronic Disease

**Chief Investigator:**  
**Professor Lyn Griffiths**

Griffith University Genomics  
Research Centre



Migraine is a common, debilitating neurological disorder that imposes a severe burden on the health and well-being of sufferers and their families. At least 12% of the Australian population suffers from migraine with current treatments exhibiting variable efficacy, and only ~30% of sufferers are satisfied with their treatment. There is a real need to develop new treatments for this disorder. Studies in the Genomics Research Centre at Griffith University have investigated a number of genes to determine their involvement in migraine. These studies have identified a role for the methylene tetrahydrofolate reductase (MTHFR) gene in migraine. Specifically, a mutation in this gene has been shown to play a role in migraine susceptibility, particularly in those suffering from migraine with aura. The mutation in this gene (C677T) has been shown to reduce the activity of the MTHFR enzyme and lead to increased levels of homocysteine. Numerous studies have shown that plasma homocysteine levels are significantly higher in patients with coronary artery disease, vascular disease and stroke. Migraine is also associated with an increased risk of stroke, particularly in

sufferers of migraine with aura. The MTHFR risk genotype results in increased levels of circulating homocysteine and it has previously been shown that additional dietary folate and increased vitamin B levels can have an important effect reducing these levels. Since the MTHFR mutation has been implicated in migraine susceptibility, it is possible that appropriate dietary additions directed towards this mutation could influence migraine onset and severity. To address this possibility we recently undertook a 6 month double-blind placebo controlled trial to determine the effects of folate-vitamin B supplementation on migraine frequency, severity and disability. This trial was supported by funds from the Brain Foundation.

The results of this trial were very promising. 52 individuals completed the trial with results showing a significant reduction in migraine symptoms in those on treatment. As expected vitamin supplementation reduced homocysteine levels, with a 39% decrease (~4  $\mu\text{mol/L}$ ) compared to baseline, a reduction not seen in those on placebo ( $P = 0.001$ ). More significantly though, vitamin supplementation reduced the prevalence of migraine disability from 60% at baseline to 30% after 6 months ( $P=0.01$ ), with no reduction in the placebo group ( $P>0.1$ ) and headache frequency and pain severity were reduced ( $P<0.05$ ), with no reduction in the placebo group ( $P>0.1$ ). Also in this patient group the treatment effect on both homocysteine levels and migraine disability was associated specifically with MTHFR C677T genotype ( $P<0.05$ ). Since this trial utilised a relatively inexpensive, non-toxic vitamin therapy, this research has enormous potential to contribute to the health and quality of life for many thousands of Australians.

"We are about to now undertake a more extensive trial and plan to undertake further studies to determine the best dosage of vitamin supplements for individuals as this may vary depending on a patient's genetic profile. The success of our pilot trial has shown that a safe, inexpensive nutraceutical can be of significant treatment benefit to many migraineurs." Professor Griffiths said.

Professor Griffiths' work is at the forefront of personalised medicine, a far safer and more efficient method of prescribing treatment, which is becoming a reality with advances in genetics research.

Professor Griffiths said there was a real need to develop effective treatments for migraine.

"Current personalised treatments for migraine are not always effective and can be expensive and cause adverse effects," she said.

Professor Griffiths' team is a world leader in identifying genes associated with migraine disorders and was the first to show that variations in hormonal-pathway and blood-flow related genes are linked with the disorder.

The Genomics Research Centre has established a significant bank of population genomic resources, including the world's largest collection of DNA samples from migraine patients, multi-generational pedigrees and samples from the unique, isolated founder-population from South Pacific's Norfolk Island.

"These resources have been used to identify gene variants involved with the disorder and have enabled the successful translation of this research from the laboratory to the treatment of this common neurological disorder," she said.

## Headache and Migraine Clinical Trials - Call for Volunteers

Professor Lyn Griffiths is extending the clinical trial that involves the treatment/prevention of migraine with vitamin B and folate and is currently recruiting volunteers for this. The trial needs volunteers that are female, between 18 and 65 years of age and suffer from migraine. Anyone that is

interested in participating can contact the trial coordinator Shirley Wee on 07 5552 9773 or email: [s.wee@griffith.edu.au](mailto:s.wee@griffith.edu.au) or see the website: <http://www.griffith.edu.au/health/griffith-institute-health-medical-research/research/clinical-trials>

# Philanthropy in Action

## Northwest Committee, Tamworth

The Northwest Committee has been supporting research through the Brain Foundation for over 21 years. In 2008, the money they raised helped fund Dr Jonathan Sturm's (Department of Neurology, Gosford Hospital) research grant *Improving Psychosocial Outcomes After Stroke*.



Clockwise from top left: Pip Warner, Chair of Northwest Committee & Gerald Edmunds, Brain Foundation; Joe Tandy on stilts; "The Littles"; Volunteers at the raffle table

The 2008 Christmas Fair run by the Northwest Committee of the Brain Foundation was once again a great day out for all the family, with rides and entertainment for the children, lots of stalls for shopping, entertainment for everyone to enjoy and a great place to catch up with family and friends and get your Christmas shopping done.

Come and join the Brain Foundation's Northwest Committee in raising funds for brain research, at the 2009 Fair on **Saturday 21 November 2009** at the Tamworth Racecourse from 9:30am to 4:00pm.

The Northwest Committee would like to thank the following sponsors for their generous support of the Brain Foundation through the Christmas Fair: Tamworth Jockey Club  
Tamworth Toyota

J.T.Fossey  
Tourism Tamworth  
Qantaslink  
Landmark Barraba  
Marlon Dalton Fine Art  
Bakers Delight  
Wardle Osborne Chartered Accountants  
The Lions Club  
Prime Television  
Radio 2TM  
The Northern Daily Leader

## Angela Hack Afternoon Tea



Dr Pamela McCombe, Mr Philip Hack SC & Tracy Hallen, Brain Foundation

On Saturday 14 March 2009 Mrs Anne Back hosted a Memorial Afternoon Tea for Angela Hack, a much loved teacher from the local Ascot State School in Brisbane. Mrs Back was ably assisted by her stalwart team of helpers Verity Noble, Helen Keep, Brigitte Deeb and Nerida Van de Graaf in their commitment to both honour the memory of Angela Hack and to raise funds and awareness for the Brain Foundation.

The wonderful event was well attended by many families whose children had been taught and nurtured by Mrs Hack. Special guests included Mr Philip Hack SC and his daughter, Eleni, Mrs Jane Sedgman, Principal of Ascot State School and Dr Pamela McCombe, a volunteer member of the Brain Foundation Scientific Committee and a director of the Brain Foundation.



Jane Sedgman, Principal Ascot State School



Anne Back (left) with guests

All funds raised have been directed to the research fund. Mr Hack said "Angela died from CJD and the family is hoping that the Brain Foundation's work will enable more to be learned about this disease".

Thank you to Mr Philip Hack and family for choosing to support the Brain Foundation, it will truly make a difference.

## Thank you to ALL our heroes

Thank you to all of our wonderful supporters who raise funds for the Brain Foundation by entering fun runs, marathons, half marathons or just raise money for us, their favourite charity through:

- Everyday Hero
- My Cause
- GoFundraise

Your efforts are greatly appreciated. Keep up the great work! If you know of anyone fundraising for the Brain Foundation through one of these websites, please support them anyway you can as every bit makes a difference.

## Gifts for the Future - Bequests

Each year at our annual research grant award ceremony, the Brain Foundation acknowledges those people who have bequested money for the specific research areas that have been awarded that year. Those bequests were listed in our last edition of brainWAVES. It is the policy of the Brain Foundation to:

- hold bequests that have been specified for a particular type of research until we

receive an application for leading edge research in that area.

- allocate 100% of donations and bequests to the research fund.
- If you would like to discuss leaving a future gift to the Brain Foundation please call 1300 886 660. More information including specific wording for your will, can be found on our website [www.brainaustralia.org.au/bequest](http://www.brainaustralia.org.au/bequest)

# In Memoriam

November 2008 - April 2009

We gratefully acknowledge tribute gifts received in memory of:

Max Alvin  
Jim Benson  
Albert Davidson  
David Duell  
Leonard (Len) Edwards  
Ian Fergusson  
Yole Ferrai  
John Glazbrook  
Angela Hack  
B Hassen  
Janet Heath  
Darryl Humphries  
Dr Edward (Ted) Jackson  
George Katsambalos  
Elsie King  
William Lazaris  
Shirley Long  
Cecil Moore  
Harry Munn  
Ami Olian Memorial Fund  
Rod Paterson  
Allan J Percival  
Jonathon Rowe  
Elsie Squire  
Vanessa Stansborough  
Heather Watson  
Dr William (Bill) H Wolfenden

# Special Gifts

## Inspiring Young People



*Aaron Desmond and his dad Peter*

Aaron Desmond had his head shaved at the end of November 2008 to raise money for Dementia research and also Breast Cancer research.

Aaron's grandfather was diagnosed with a form of dementia early in 2008. Aaron loves his grandfather very much and said he wanted to do something to stop it happening so

decided to raise funds for research by having his head shaved. While going through this process - he then found out that his Grandad's wife had been diagnosed with breast cancer and his other grandmother had already had a mastectomy, therefore Aaron decided to support both research bodies.

Aaron's family thought this would mean a very short hair cut. But a lovely neighbour said to Aaron "I will give you \$50 but only if there is not a single hair left on your head". Therefore Aaron had his head shaved and razored bald by his Dad!

This was a very brave thing for Aaron to do as he had just started Year 7 and a new high school. His school friends supported him giving him small amounts of coins that added up. In fact, it has inspired other 13 year old friends of Aaron's to discuss which charities they can support by shaving their heads.

We are all very proud of Aaron's effort.

## Other gifts

We gratefully acknowledge other gifts received since our last edition from:

- Clarence Verner Ellis – Bequest for Progressive Supranuclear Palsy (PSP)
- 'Week of Difference' Students & SRC fundraising - Excelsior Public School
- Birthday Celebration for Mrs Diane Drexler

## I would like to support brain research

Please complete this form and return it to the Brain Foundation at  
PO Box 579 Crows Nest, NSW 1585, or fax to 02 9437 5978, or contact the Brain Foundation on 02 9437 5967.

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

State \_\_\_\_\_ Postcode \_\_\_\_\_

Telephone (     ) \_\_\_\_\_

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### I would like further information about:

- Making a bequest |  Workplace giving

### I would like to receive the bi-annual brainWAVES Newsletter by:

- Post |  Email

### Please accept my tax deductible donation to the Brain Foundation:

- \$200 |  \$100 |  \$50 |  Other \_\_\_\_\_

### Regular Donation:

I would like to make a regular donation to the Brain Foundation. Please debit my credit card for \$ \_\_\_\_\_ per month until I notify you.

### Please find my cheque payable to Brain Foundation enclosed **OR** Please debit my

- Mastercard |  Visa |  AMEX

Card No. \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Expiry Date \_\_\_\_\_ / \_\_\_\_\_

Name on Card \_\_\_\_\_

Cardholders signature \_\_\_\_\_

Thank you for supporting brain research through the Brain Foundation