

BRAINwaves

The Newsletter of the Brain Foundation Incorporating the Migraine Newsletter Summer 2006



FROM THE PRESIDENT – Professor Philip Thompson

Another year has gone by so quickly for all of us. It has been a good year for the Brain Foundation. On the financial side, there was a surplus at the end of the financial

year and early this year the Foundation will develop and implement a national business plan for the first time drawing upon and enhancing the synergies that exist with our State subsidiaries. We have burst into colour for the first time this edition with the help of Casey Paardekooper who has the Snap Printing Franchise at Dee Why in Sydney. We are grateful for his production of the newsletter in colour at a very good rate. This will be especially helpful for those research summaries that include diagrams and illustrations in colour.

There have been a number of promotions that have helped to raise the profile of both the Brain Foundation and Headache Australia. We are grateful to Boots Healthcare for sponsoring the national public awareness campaign for the National Headache Awareness Week and to Janssen – Cilag for another national awareness campaign focussing upon the possibilities of preventative treatments for migraine. Janssen – Cilag have also kindly directly funded the next phase of Professor Lyn Griffiths research into genetic aspects of migraine.

The Brain Foundation has been fortunate to gain funding for the first time from the Mercedes Car Group and it

is hoped that there will be mutual benefits in the future from a continuing relationship.

The highlight of the professional year was the 18th World Congress of Neurology held at Darling Harbour from the 7th to the 13th of November and hosted by the Australian Association of Neurologists (AAN). Well over 5,000 participants enjoyed a very successful and extremely well run meeting. All attendees commented on the high quality of the scientific and clinical sessions while visitors to Australia were enchanted by the social activities many of which had a distinctive Australian flavour. Two of the Foundation's directors, Dr Bill Carroll and Professor Geoff Donnan, both former presidents of the AAN, were instrumental in winning the bid (just like bidding for the Olympics) four years ago at the Congress in London. They and their organising committee particularly Professors Sam Berkovic, John Morris, Dr Richard MacDonnell and Dr Richard Stark deserve hearty congratulations for the resounding success of the meeting and for the mammoth task coordinating such an event. The meeting also featured a number of contributions of Australian Neuroscientists to the world of Neurology.

I do hope this further demonstrates that the Brain Foundation is very worthy of your continued support as the research projects recommended by our national scientific committee are of the highest possible standard. Please do your best to help us maintain and improve our programmes by giving generously to our appeal. I would like to wish all our supporters my very best wishes for 2006.



SPECIAL BOOK OFFER

Thank you to those who took advantage of our special offer for the last stocks of Professor Jim Lance's book. All we had were taken so I went to the publishers and now have the absolutely last two small boxes. Please send in your order on the enclosed sheet if you would like one for yourself or for a present. The full title is:

"Migraine and Other Headaches. A practical guide to understanding, preventing and treating headaches."

In his review, Oliver Sacks, Professor of Neurology, Albert Einstein College of New York, stated:

"What is delightful, and unexpected, is that Professor Lance is no remote specialist or scholar as one might suppose from his formidable reputation, but a down-to-earth physician. There is no other book on this subject that can compare with Migraine and Other Headaches."

If you would like one please use the Biannual Appeal form as an order form and fax it in with your card details or post the form in the reply paid envelope with your payment. The cost is just \$10 plus \$2 postage.

18TH WORLD CONGRESS OF NEUROLOGY

Associate Professor Carolyn Sue kindly provided this abstract on the World Congress. She is pictured below with Professor Michael Halmagyi and Gerald Edmunds, the National Executive Director at the Brain Foundation's Stand at the World Congress.

The XVIIIth World Congress of Neurology was held at the Darling Harbour Convention Centre, Sydney on 5-11 November 2005. The main highlight of the program was the "Frontiers in Neuroscience" lecture series. Guest lecturers included two Nobel Prize Laureates (Bert Sakmann and Peter Doherty) and three other leading neuroscientists: Professors Colin Masters, Yoshikui Mizuno and Salvatore DiMauro. Professor Sakmann gave the Victor & Clara Soriano Award Lecture (*Watching structure and function of the cerebral cortex in action*) and beautifully demonstrated the structure and function of ion channels and cell changes during synaptic transmission. Professor Doherty delivered the Australian Association of Neurology's most prestigious E Graeme Robertson Lecture entitled "*Immune memories are made of this*" which focused on his work about how the immune system recognises virus-infected cells. Professor Colin Masters spoke on the "Therapeutic and diagnostic strategies targeting A-beta amyloid in Alzheimer's disease" and The Melvin D Yahr Lecture was given by Professor Yoshikui Mizuno, who outlined the insights gained by studying the pathogenic mechanisms associated with genetic forms of Parkinson's disease. The inaugural Walton Lecture was given by Professor DiMauro who recounted the genetic discoveries that advanced our understanding of mitochondrial disease in his lecture entitled "*Mitochondrial Neurology*".

The scientific sessions were concluded at the end of the day by the Harbourside debates with hot topics such as

"Has genotype replaced phenotype in neurological disease", "Defensive medicine is good practice" and "The hammer and pin neurologist is a dinosaur in 2005". For and against arguments were presented sparking spirited discussion amongst the delegates in the audience. Despite the busy daily program, the debates ensured that the evening program ended in a lively fashion with good humour.

The scientific program concluded with the finals of the "Tournament of the Minds" Contest. Over 25 countries competed in the competition that was based on diagnostic neurological problems, often supported by video or audiovisual material. Semi-finals involved six teams from Canada, Hong Kong, India, New Zealand, Singapore, and United Kingdom. The finals involved a tight and tough contest between Canada and United Kingdom with the UK becoming the ultimate winners. The Tournament served as an educational experience for all delegates as well as competition team members and was a fitting conclusion to a Congress memorable for its scientific strength, warmth and enjoyment.



Carolyn is pictured at the Brain Foundation stand at the World Congress with Professor Michael Halmagyi and Gerald Edmunds.



PFIZER HEALTH REPORT

It only seems such a short time since the last newsletter. That is because we have enjoyed increased support from a number of sources. Pfizer kindly sponsored a national survey into headache and migraine. The questionnaire was designed by our medical committee in conjunction with a market research company and was then completed by a random sample of 1,245 Australians aged 18 years and over. Pfizer produces a complete series of these Health Reports and this one about headache and migraine revealed the alarming figure that almost nine-in-10 Australians are gambling with their health by not seeking medical attention for severe headaches. In an astounding result, 84% of the sample reported that they had experienced a severe headache in the last 12 months, yet almost 40% of these people are not receiving any treatment. This clearly demonstrates the magnitude of the task ahead of our Headache Australia division.

Pfizer launched the report with a national media campaign and there was a special segment on Channel Nine's Current Affairs programme with inputs from Professor Paul Spira and myself. With Pfizer's backing the story was also picked up by most radio stations around the country and some of the newspapers. The report is available free from: www.healthreport.com.au or by phoning this office and we will send you a copy.

BRAIN FOUNDATION GETS A LIFT FROM MERCEDES.

This year the Mercedes Car Group joined our list of sponsors and it hoped that arrangements can be made to continue the relationship for our mutual benefit. The photograph below shows John Vasilj, the General Manager presenting a cheque to National Executive Director, Gerald Edmunds for research into Parkinson's.



HYPER LINK WITH JANSSEN – CILAG

Negotiations were commenced with Janssen – Cilag about installing a “hyperlink” with our website. The aim is to directly provide information to those who want to know more about the possibilities of preventative treatments. Because it is possible to track the numbers who follow the path, then there can be a commercial basis to such an arrangement. This is one of many possibilities as our website regularly attracts over 300,000 hits per month.

In September, I was able to visit Western Australia and meet Jill Smith and Jacoba Hohnen of WA Headache and Migraine and they have found that some of our materials will help them with the delivery of their programmes. We are also looking at where we can work in unison in our common goal to improve the lot of headache and migraine sufferers.

October was another busy month with trips to Canberra. First for a meeting about new arrangements for carers led by Senator Kay Patterson and attended by The Prime Minister, John Howard and Senator Julie Bishop. The next was about the reorganisation of the National Health and Medical Research Council (NHMRC) into a separate department. This gave an opportunity to commence discussions that will continue next year about how the Brain Foundation can provide “pre peer-reviewed” projects that will avoid the complications and delays that the NHMRC reported come from “peer review fatigue.”

STATE OFFICES

NSW – Tamworth November Fair

The Tamworth Golden Bowl Committee ably led by Pip Warner organised a bigger and better Fair for the 19th of November after the inaugural one last year. The Show was very well attended and it was a great boost that Associate Professor Carolyn Sue was able to attend to support this very big event. Pip and Carolyn are shown with Gerald Edmunds next to the very desirable hamper and in action drawing the winners.



There were enough prizes for 12 lucky winners including two weekends in Sydney with airfares paid, accommodation and Harbour Cruises as well as a giant hamper and many other items and services that were all donated by local businesses.

The Brain Foundation is fortunate that Pip and her committee have declared that they are ready to run again next year.



The Good Health & Beauty Show

The Good Health and Beauty Show was noted as an upcoming event in the last newsletter. It was a great opportunity following on from the publicity gained from the launch of the Pfizer Health Report about Headache and Migraines, to interact with the public. Many thousands attended the Show and we were able to provide information, brochures and booklets to them. There was a big spike in traffic to the Headache Australia website in the days after the Show so I am sure there was a lot of follow up. We also had help from Marie Johnson of Glenhope Lavender and the products proved to be very popular.



VICTORIA

Brain Foundation Victoria Celebrates Women of Achievement

Brain Foundation Victoria's Women of Achievement Award was introduced to celebrate a woman/or women who achieved outstanding outcomes, usually in an area of endeavour not often acknowledged by business women's awards. We believe that ***"there are women who have the unique capacity to balance their many varied roles in life, in work and in support of our communities"***.

Brain Foundation Victoria and recruitment sponsor Pohlen Kean are delighted to announce **Margaret Heffernan** (pictured below) as the 2005 Woman of Achievement. Diagnosed with Gynaecological Cancer in 1992, Margaret



is certainly no stranger to the plight of women with cancer, having co-authored the book on the subject now used internationally, of which 100 percent of royalties contribute to gynaecological cancer research. A full time lecturer at RMIT, teaching in Melbourne, Hong Kong and Singapore, Margaret still managed to find the time to implement the 'Lend a name, Lend a hand' fundrais-

ing campaign which involved over 10,000 fundraising assistants and raised \$3 million towards the redevelopment of the Oncology Unit at the Royal Women's Hospital – a place Margaret stayed for many months whilst undergoing treatment. Margaret has also worked raising professional and community awareness for the Anti Cancer Council, as well as being actively involved in Guides Australia, mentoring and inspiring young women. Margaret contributes tirelessly to many community organisations, all while pursuing her career and caring for her young family. "I'm honoured and delighted to receive the 2005 Woman of Achievement Award from the Brain Foundation," Ms Heffernan, of Albert Park, said. Margaret is a truly remarkable woman.

Brain Foundation Victoria would like to thank our major sponsors, Pohlen Kean, Scientific Management Associates, Kozminsky Jewellers, Grand Hyatt, and The Age for their support of this year's Award Luncheon. Steven Heathcote



AM, principal dancer with the Australian Ballet Company, performed charmingly as MC; and as keynote speaker, Australian of the Year Fiona Wood, a woman who has herself achieved so much, was an inspiration to all in attendance.

The Women of Achievement Award ceremony luncheon is a key way that Brain Foundation raises its profile within the community, with all proceeds raised in the campaign aiding us in pursuit of our vision – **reducing the incidence and impact of brain disorders in our community.**

SOUTH AUSTRALIA

Elizabeth Penfold Simpson Prize

The abovementioned was established by the Simpson family in 1988. The prize was established to be awarded to medical professionals under the age of 40 years, who have carried out the best research work in any of the basic or clinical neurosciences that has been published or accepted for publication in a medical reference journal at the time of the advertising of the Prize. The research work must be carried out in South Australia.

In 2005 this prestigious prize was awarded to Dr Yoichiro Otsuka Ph.D. A précis of his work is as follows.

“I conduct research in experimental animals, investigating the manner in which the brain controls the blood vessels, particularly in relation to skin blood flow changes occurring when the individual is anxious or experiences a sudden fright. Changes in skin blood flow, (ie. skin colour) is one of the best indicators reflecting emotional change. For example, we usually become pale when we are anxious. The skin blood flow changes also occur with modern ‘mind alerting’ drugs, including the street drug, Ecstasy and therapeutic agents used in psychiatry. The skin blood flow is controlled by activity of sympathetic nerves supplying to skin blood vessels. Thus, recoding nerve impulse activity in the skin sympathetic nerves, is a very important task and enables us to elucidate the mechanisms of action of these psychiatry drugs and agents.

My research with Professor Blessing revealed;

1) that ‘ecstasy’ raises body temperature partially by activating the sympathetic nerves that constricts the blood vessels, impairing heat loss from the skin surface to cool down.

2) That certain drugs already used to treat major psychiatric illnesses (the atypical antipsychotic agents including clozapine) are very effective at reversing the nerve activity that constricts the skin blood vessels, and

3) That certain subtypes of serotonergic receptors (5-

HT1A, 5-HT2A receptors) in the central nervous system could be involved in clozapine action.

My research also discovered that these serotonergic receptor subtypes in spinal cord are important in controlling skin flow. I believe that my studies will provide insight into the mechanisms whereby drugs help patients with psychotic illnesses including schizophrenia.”



Left – Mr Garry Meggison, Chairman South Australia
Centre – Dr Yoichiro Otsuka, Prize recipient from School of Medicine, Flinders University
Right – Mr Nicholas Simpson, representing the Simpson family as donors of the prize.

TASMANIA

The Tasmanian subsidiary continues to be active in conducting meetings for stroke groups that have been established and reaching out in metropolitan and rural areas to set up new groups. The groups meet for informal discussions and are then provided with a light lunch followed by a guest speaker. Some home visits are also carried out and the community is helped by having the Brain Foundation's Stroke kit available in most hospitals, aged care facilities, Commonwealth Carer Respite Centres and Community Centres.

In 2006, the programs will be widened to include Parkinson's, Migraines and Headaches.

HEADACHE & MIGRAINE

The following is included to illustrate the kinds of contributions that can be seen in the member's forum (chat room) of our Headache Australia web site. If you do suffer headaches or migraine please consider becoming a member.

You could find other success stories that might work for you and you will be helping to build the profile of Headache Australia so we can raise more money for research. Or like Juanita, you might be able to pass on things that have helped you. Juanita wrote:



"40yo female, 2 children. Long term problem with headaches starting early 20's. Photophobic premenstrual with menstrual headaches consistently. Last 5 yrs, headaches with dull and foggy feeling constantly. 4 to 8 nurofen per menstruation, 2 nurofen 2 or 3 times per week. Waking in night with headache. Headaches post golf, swimming, anything different. Dentist diagnosed night grinding. Occlusal plate at night stopped the night headaches. Recently undertook 7 week course of treatment with chiropractor (spine scan, w.a.). Neck area diagnosed as very stiff with lack of normal range of movement expected. Past two months, one headache, swimming 2 to 3 times a week, golfing once a week, experience two menstrual cycles with NO HEADACHE!!!!!! Unheard of in living memory. Feeling light and I can only guess normal in the head area. Its been so long to be normal I feel exceptional right now but that is probably due to comparison with previous "fog" I was living in.

I cannot speak highly enough of the change in me. My husband wasn't too keen on the chiropractic expense, but he said it was worth every cent. His fishwife has left the building and the woman he married is back only better than ever. No more afternoon rests in a darkened room needed. I guess this ties in with the tension in the shoulders, neck, jaw, head as a precipitating factor, but until my chiropractic experience I hadn't found a way of controlling or alleviating the problem. Yoga, relaxation exercises, deep breathing, plentiful water intake, regular meals with fruit snacks between meals, hat and sunglasses outside etc. I think I tried them all. Stretching before and after exercise. Anyway, this is just for your interest. I appreciate that headaches and their cause is a complex issue, but at least I have finally found my salvation and have my life back."

It is very kind of Juanita (not her real name) to share her experiences. You can see that she was very active in trying alternatives and continuously looking for triggers, something all chronic headache sufferers should do. One that she mentioned in passing is supported by research from Britain. That is, the importance of drinking enough water – not other things, but water! This is especially important in the hot, dry summer time in Australia and is something that is easily overlooked. Drinks of water should be taken before you feel that you need a drink.

Another British study found the worrying result that 80% of those surveyed who suffered chronic headaches were overusing pain medications that they obtained from the pharmacy or supermarket. The study also found that they did not understand the properties of the various painkillers available over the counter and therefore did not take the most appropriate ones. In addition, one quarter were using these over the counter medications

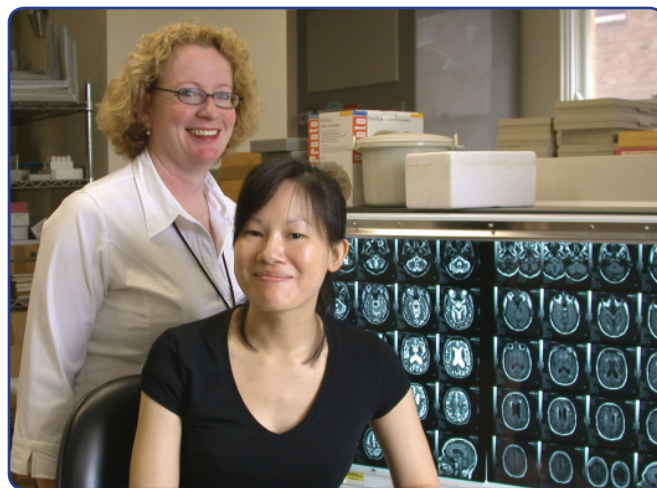
as well as their prescriptions. Maybe it is time to review your use of medications.

RESEARCH REPORTS

Links between Brain Lesions & Neurological Disorders

The greater availability of MRI scans in recent years has revealed that many people have areas of altered signal known as white matter hyperintensities (WMH) in their brain. While WMH have been linked to numerous conditions including gait disturbance, depression and dementia, and are believed to be of vascular origin, their cause is unclear. At present there are no treatments that reduce WMH.

In a study by University of Sydney PhD candidate Vanessa Young and supervisor Associate Professor Jillian Kril, the brain pathology underlying WMH was investigated. Professor Glenda Halliday was also a co-investigator. The researchers found that there is a loss of vascular integrity which results in leakiness of blood vessels in the brain. A better understanding of the processes involved in the development of WMH may lead to new ways to prevent or treat WMH.



PhD candidate Vanessa Young and Associate Professor Jillian Kril with the MRI scan of a subject from their study.

Australian Brain Foundation Final Report 2005 - Benign Rolandic Epilepsy Project

Learning and Language of Children with Benign Rolandic Epilepsy Over Time.

The research team: Ellen Northcott, Anne Connolly, Jenny McIntyre, Jane Christie, Anna Berroya, Alan Taylor, Jennifer Batchelor, Galia Aaron, Samantha Soe, John Lawson, and Ann Bye¹ (Chief Investigator).



¹Sydney Children's Hospital, Randwick, and the School of Women's and Children's Health, University of New South Wales.

Some of the team pictured below are from the left, Anne Connolly, Ellen Northcott and Professor Annie Bye.



Benign Rolandic Epilepsy (abbreviated as BRE) is the most common school age epilepsy. Children with this epilepsy usually have seizures (epileptic fits) during the night. A typical seizure starts with twitching of one side of the face and involves the throat - the child may appear to be choking. The twitching may then spread to involve the hand and arm. Sometimes a generalised seizure may occur with jerking of all arms and legs, and loss of consciousness.

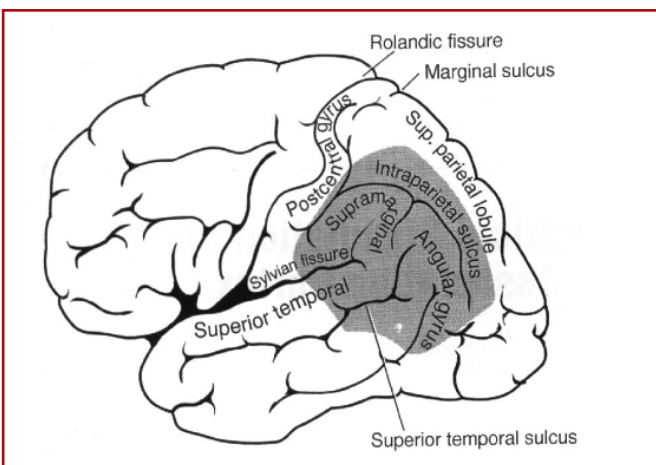
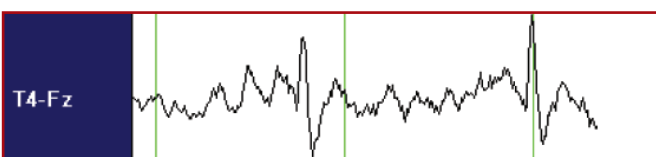
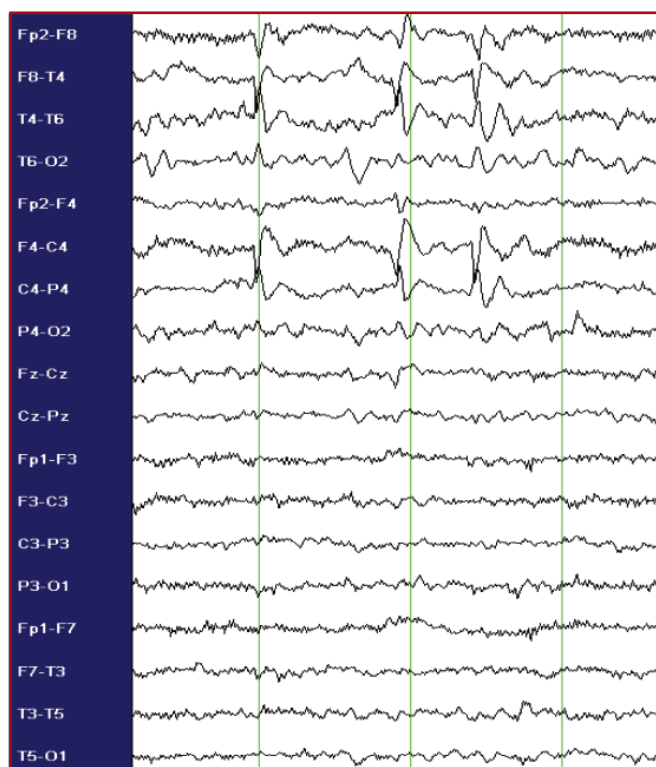
Unlike most other types of epilepsy, BRE is not usually seen as a major problem for the child. Most children have infrequent seizures, which cease at puberty. However, over the last 10 years several studies have reported difficulties in intellectual ability, executive functioning and memory, questioning the benign status of the epilepsy syndrome. The populations of these studies have generally been tertiary referred (i.e., not representative of the typical syndrome), with small sample sizes and limited cognitive assessment. Given the methodological limitations of previous research, it is therefore not clear how common these learning problems are in children with the typical syndrome, and whether these difficulties change or resolve over time.

Our first study, using a representative sample recruited from six EEG laboratories across Sydney, has shown that children with BRE have normal intelligence and language ability. However, some children with BRE do demonstrate difficulty in memory and phonological awareness (a component of language important for reading). The aim of the follow-up study was to investigate whether

these difficulties changed or resolved over time. This was achieved by reassessing the neuropsychological and language profile of the sample at a later point in the syndrome (at least 12 months following initial assessment).

Twenty-eight of the original 42 children/families agreed to participate in the follow-up study and completed comprehensive neuropsychological and language assessments, identical to the first study. Seventeen children were still in the active phase of the syndrome and 6 were in remission. Results indicated that the pattern

Morphology: Centrotemporal Spikes



of performance remained similar from time 1 to time 2, however, significant improvement was seen on tests of verbal memory and receptive language. There was little change on tests of visual memory and phonological awareness. Further assessment is needed to determine if difficulties in visual memory and phonological awareness completely resolve with remission. However, awareness of transient cognitive difficulties is important and problems should be addressed.

We recommend that paediatricians evaluate performance specifically in areas of pre-reading, reading, spelling and memory, and receive input from the teacher. If difficulties are suspected then assessment targeting phonological awareness and memory are

recommended, as difficulties may not be reflected in the child's overall intellectual and language ability. Children with BRE will benefit from recognition of the problem and intervention with specific learning strategies, such as memory aids and training in phonemic awareness. These strategies will improve the academic, particularly reading, potential of children with BRE.

We would like to thank the paediatricians and families involved in the study, and in particular, the Australian Brain Foundation for their financial support. This study has been submitted for publication to a peer-reviewed journal, and the Brain Foundation's support has been acknowledged with thanks.

IN MEMORIAM

The President and directors pass their condolences and gratefully acknowledge gifts in memory of the following:

Mrs Mary Egan
Mary Roslav Dancuk
Mrs Alojizia (Lisa) Hvalica

Mrs Dell Goodhew
Desmond Lucas
James Simpson
Penula Reed.

If you are kind enough to consider a bequest to the Brain Foundation, please contact us for our special bequest brochure that shows the formats necessary to ensure that your wishes are carried out.

Would you also kindly nominate a donation to the Brain Foundation as an additional or preferred tribute for loved ones. We have personalised forms to facilitate such arrangements.

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