LISTEN, BUT DON’T SYMPATHISE!

THAT HEADLINE MAY SEEM A BIT HARS, BUT IT’S FOR YOUR OWN GOOD. DR MICHAEL FARRELL AND PROF MICHAEL MCKINLEY HAVE RECENTLY BEEN FEATURED IN THE AUSTRALIAN FINANCIAL REVIEW DISCUSSING NEUROLOGICAL AILMENTS AFFECTING OLDER PEOPLE.

LISTEN TO YOUR THIRST

If you are over 60 there is a fair chance your blood is a bit salty and that you drink less than when you were younger. Your body doesn’t need less hydration than it previously did; it is just that your brain does not provide you with the signals to drink as often or as much.

Last year Dr Farrell located the emotional part of the brain that triggers when you are sufficiently hydrated. Unfortunately, as you get older, this trigger responds to a smaller volume of water than what is actually necessary. In a study of two groups of men, one aged 21-30 and the other 65-74, the younger group drank more than double the amount of water than the older men, despite being dehydrated to a comparable level.

Prof McKinley has found the same phenomenon in rats, and he has also found that another stimulus to thirst originates in the cardiovascular system.

When the amount of fluid in the circulatory system of young rats is low, it sends a signal to the brain to drink. In older rats this signal is impaired, and markedly so when a rat reaches the equivalent of about 70 human years.

The Mayo Clinic advises people to look out for the following symptoms of mild to moderate dehydration:

- Dry, sticky mouth
- Thirst
- Sleepiness
- Decreased urine
- Fewer tears when crying
- Muscle weakness
- Dizziness or light-headedness
- Headache

DON’T BE TOO SYMPATHETIC TOWARDS SOMEONE’S PAIN

Having a partner who sympathises with your pain too much may give you less tolerance to the pain you feel. Dr Farrell says “Better to be cruel than be kind” may be the order of the day.

Interestingly, the older we get the less likely we are to feel chronic pain. When Dr Farrell tracked 1,000 people over the age of 70 he found that people experiencing a resolution of a previously persistent pain problem outnumbered the people reporting the onset of pain over the course of five years. Dr Farrell says that many chronic pain conditions, like lower back pain peak for people in their 60s. A plausible explanation for this could be that a general lack of flexibility or mobility among the study’s subjects meant that they were less likely to engage in activities that exacerbated their pain.

Pain is a complex notion and it is not easily quantifiable. What is clear, however, is that a person’s perceptions, environment, anxiety, stress levels and expectations play a role in pain. If someone is anxious or fearful about a painful experience then they are likely to say that their pain is more intense than someone who is less apprehensive.

Education has become an important tool to allay people’s anxiety about medical procedures, and shows substantial benefits for measures like post-operative pain levels. On the other hand, some extraordinary people will endure what most of us would consider agonising pain, and be capable of blocking or suppressing the sensations through meditation and training.

You may need to be cruel to be kind, but perhaps you should not start walking over hot coals just yet.
AUSTRALIANS ARE DRINKING AND SMOKING THEMSELVES TO DEATH

A recent report commissioned by VicHealth and undertaken by Deakin University and FNI found that Australians are among the heaviest drinkers in the world.

The investigators found that reducing the average annual intake of 773 standard drinks per adult to 505 drinks a year would achieve 98,000 fewer new cases each year of alcohol-related disease. Australians drink more than our peers in the United States, Canada, Sweden and other countries.

The investigators also found that if the rate of smoking was cut from the current national prevalence estimate of 23 per cent to 15 per cent, 5,000 deaths in Australia would be prevented and more than $900 million in health, production and leisure costs would be saved. Smoking is a major cause of stroke in the Australian community; and stroke is our second biggest killer.

The paper’s lead author, FNI’s Dr Dominique Cadilhac, said “158,000 fewer annual new cases of tobacco-caused illness and 71,000 fewer years lost to illness and death from smoking could be the result if we reduced the smoking rate to 15 per cent”.

“The lower smoking rate is certainly achievable”, she said. “It has already been done in California through the implementation of effective government policies, and I am confident we could do it here”.

Dr Cadilhac and collaborator Ms Magnus (Deakin University) developed and utilised a new model that estimated the economic benefits of the home-based and leisure activities that are essential to our daily lives and maintenance of good health. The economic benefits of being able to undertake this unpaid work and leisure from the prevention of disease was included in the report.

Further FNI contributors to the report were Toby Cumming and Dora Pierce.
WHAT IS STROKE?

Stroke is the second most common cause of death and the major cause of acquired disability world-wide. The condition continues to be a pivotal part of FNI’s research output.

FNI researchers are approaching the problem of stroke from a variety of research angles. One team investigates the public health impact of stroke, having tracked the health of 1,600 patients for 10 years.

Other important areas are rehabilitation, recovery and early intervention in stroke cases. Our researchers are world recognised for their imaging and ultrasound techniques as well as their conduct of clinical trials.

Professor Geoffrey Donnan answers some questions about stroke and where we are heading in the future.

What exactly is stroke?

“Stroke is defined in a medical sense as the sudden onset of focal neurological deficit due to a vascular cause; this means a sudden blockage or leakage (bleed) of a blood vessel leading to an area of permanent damage.

Of the two types of stroke, the blockage of a blood vessel is the most common, accounting for 80 per cent of cases; it is also the less severe form of stroke. The mortality rate is substantially higher in people who suffer a bleed within the brain”.

How does stroke impair the lifestyle of a patient?

“Stroke can have a major long-term impact on a patient’s life. Of the two-thirds of people who survive a stroke about half suffer from significant disability and the remainder recover very well.

Stoke patients often have speech, vision and comprehension difficulties. Their ability to walk is also often impaired.

For some people, however, there is spontaneous improvement in their condition through new networks being developed in the brain. The brain function that is initially destroyed by stroke is repaired by the brain finding new pathways to deliver the necessary signals. The capacity of the brain to repair in this way is referred to as the brain’s plasticity and it is field of ongoing research.”

What are some examples of research FNI is currently undertaking into stroke?

“A current preferred stroke therapy is thrombolysis (clot dissolving), which can only be done within the first three to six hours of stroke. The therapy, however, carries with it the risk of bleeding. Our researchers are working on ways to image the brain to identify parts which are still salvageable.

Working with clinicians at the Royal Melbourne Hospital, our researchers have been conducting the EPITHET trial, using brain imaging to examine the safe use of thrombolysis. The trial has revealed that extending the time window in using clot dissolving drugs from three to six hours is safe, feasible and biologically plausible. A new trial to further extend this hypothesis is currently underway”.

AUSTIN NEUROSCIENCE FACILITY – CONSTRUCTION WILL TOWER OVER HEIDELBERG

Since the turning of the first sod by Premier Brumby in August, construction at the Austin Neuroscience Facility has been making swift progress. The ground has been prepared, the slab laid for the ground floor, and the lift shaft is taking shape with reinforced concrete walls now appearing above the hoarding.

While the concrete is being laid, services are being simultaneously incorporated into the structure, notably stormwater and sewer pipes under the ground floor slab.

November marked the erection of a tower crane to assist in the assembly of the concrete columns and precast panels to the upper floors. Work has also commenced on the suspended slab for Level 1.

Mr David Foxley, Project Commissioning and Building Development Director for FNI said, “The ground preparation takes quite some time; with that part of the project complete, the basic shape of the building will emerge quite quickly. Pre-fabrication of concrete panels and the erection of the tower crane will ensure there is very visible progress over the coming months”.

Mr Foxley commented that the building was on schedule for a completion date of late November 2010.

Above: Ground preparation prior to laying the slab
Below: Development of the lift shaft
A PhD student with a passion for delivering better outcomes for stroke patients

Brain Matter(s) recently spoke with Sarah Rewell, who is due to complete her PhD in 2010. Sarah has taken up a particularly difficult PhD topic, improving the animal models used to test treatments for stroke.

When did you first develop your passion for science?
During school I liked the idea of working toward a cure. My Year 10 work experience in research and pathology labs together with good teachers who had studied science lead me to a biology focused degree.

Completing my honours and working as a Research Assistant gave me a renewed energy for science that had begun to fade through the course of my undergraduate degree. Seeing the true focus of research, rather than just through lectures made a huge difference to my approach to study and also my career direction. Working within a team of positive and passionate scientists has made me realise this is the right path for me.

Why did you choose neuroscience specifically?
The mystery of the brain – especially how and why diseases/conditions develop and the challenge of finding ways to prevent and treat them.

Given the number of people who have a stroke each year, working in this field does make you feel like your research can make a difference.

What has your PhD work been on?
My PhD has focused on animal models of stroke. Specifically we have optimised the model to test potential treatments; examined how damage develops over time and how this relates to recovery; and examined the patterns of damage by looking at injury to axons and dendrites.

As a researcher, what would you like to achieve within the next five years?
I would like to be working within a team that is doing good experiments that are clinically relevant, and to see these results translate into a treatment for stroke patients.

Outside of work what do you do to relax?
I enjoy travel – planning where to go, exploring once you’re there and finally reflecting with some good photos. I also enjoy cooking, tennis and the search for hidden coffee gems in Melbourne! But above all, spending time with my family and friends is the most important and relaxing way to share all these things.

Do you feel there are any specific challenges that women face in science compared to their male counterparts?
I think achieving a balance between work and family is still a challenge for many women. Taking a career break may present challenges (for both men and women alike) in maintaining funding and career advancement. However there are many fine women working in science who show that it is possible to find this balance!

NHMRC AWARDS
FNI $7.88M IN RESEARCH GRANTS

The National Health and Medical Research Council (NHMRC) recently announced that FNI was successful in securing $7.88m in research grants over the next three years.

Of the 32 applications that FNI submitted, 14 grants were received. Over the past several years FNI has regularly outperformed other research institutes with 40 per cent of its applications funded. This year’s 44 per cent compares very favourably against the national average of approximately 20 per cent.

FNI’s Head of Business Development and Deputy Director Dr Henry De Aizpurua said, “NHMRC funding is a core component of the institute’s research budget. Three year funding agreements enable researchers in a number of our Divisions the capacity to plan ahead” he said.

“Our success in securing above average NHMRC investment comes partially from our ongoing commitment to teaming with other institutes and universities on larger scale projects where each organisation brings specific expertise to solve a broader scientific problem”, Dr De Aizpurua said.
FEET DO THE TALKING FOR PARKINSON’S

On Sunday, 30 August, Parkinson’s Victoria hosted the largest ever gathering for the local Parkinson’s community.

To kick-start Parkinson’s National Awareness Week 2009, the Parkinson’s Unity Walk brought together a crowd of more than 1,000 Walkers and supporters from as far away as Wodonga, Tooleybuc, Deniliquin and Cohuna. The event, which originated and ended at Federation Square, included a 4km walk along the city’s scenic Yarra River. Importantly, the event was an opportunity for family members, friends and carers come together in a very public show of support for loved ones with Parkinson’s.

The symptoms of Parkinson’s, such as tremor, rigidity and slowness of movement, can severely impact an individual’s ability to perform day-to-day activities such as walking, talking and even eating. This can have a debilitating and often embarrassing impact on the individual’s independence and mobility. As a result, many will choose (or are forced) to reduce their social life and alter their lifestyle choices, to their psychological detriment.

The Parkinson’s Unity Walk raised $63,000 to fund important research such as the Parkinson’s Victoria Research Register, a joint venture with FNI. Funds will also go towards supporting the important work of Parkinson’s Victoria in its mission to provide help for today and hope for tomorrow to all Victorians living with Parkinson’s.

This event gave people living with Parkinson’s a chance to stand together without feeling self-conscious or alone in their journey. Participating in the event was emotional for all involved. Improving community awareness and reducing the stigma associated with Parkinson’s disease is a priority of Parkinson’s Victoria and FNI.

For more information about Parkinson’s or Parkinson’s Victoria events, phone 1800 644 189 or (03) 9551 1122 or email: info@parkinsons-vic.org.au. www.parkinsonsvic.org.au

BETTY SIMS – COMMITTED TO SUPPORTING BRAIN RESEARCH

Mrs Gwendolen (Betty) Sims recently received a visit from FNI’s Bequest Officer, Helen Whyte. Betty has been a long term supporter of the Florey and she has a keen interest in medical research into disorders of the brain.

Betty was recently touched with sadness as her husband of 67 years, Ralph, passed away earlier in the year. Ralph and Betty have two daughters, Ann and Heather, and Betty told Helen that in all the time they were married she and Ralph had rarely been apart.

Betty came from country Victoria and was sent to Melbourne to attend the Methodist Ladies College in 1927. She reminisced that “The College seemed big and noisy to me and I missed the quiet of the countryside”, but she finished her education there in 1930.

Betty is a lady of rare strength and humour, with a mind that is still very sharp and highly observant of life. Helen presented Mrs Sims with a bouquet of flowers to thank her for her ongoing commitment to the Florey.

If you would like information about how you, too, can leave a bequest to FNI, contact Helen Whyte on 9035 8624.

A MEANINGFUL GIFT...

Everyone affected by brain conditions benefits from the research undertaken at FNI. Therefore, before you “shop til’ you drop”, let us take the stress away and help you share your goodwill with the people you love this season.

You can make a gift in your own name if you wish, or you could choose to make a charitable donation on behalf of a loved one – we can provide you with a Gift Certificate in their name. This can be perceived as a profoundly meaningful gesture during a season of consumption.

Think about it… and whatever you decide, let your gift this festive season make a difference to the lives of others.
THANK YOU TO THOSE WHO HAVE GENEROUSLY DONATED TO FNI BETWEEN SEPTEMBER & NOVEMBER 2009. LISTED ARE THOSE WHO KINDLY DONATED $250 OR MORE.


BIRTHDAY GIFT FOR: BIRTHDAY OF DEBBIE GRACE (FROM 6 OF HER FRIENDS).

NEWS IN BRIEF: FNI RECOGNISES UPCOMING RESEARCH TALENT AND A LONG TERM ETHICAL COMMITMENT

Mr Peter Maley was recently presented with and AEC Member Outstanding Service Award at the Australian and New Zealand Council for the care of Animals in Research and Teaching (ANCCART) conference. Peter has provided very generously of his time to the Florey for more than 13 years. Peter is the Deputy Chair of the Animal Ethics Committee.

Alan & Elizabeth Finkel Awards for Neuroscience have been established for high-performing post-graduate students wishing to develop a career in neuroscience research. They are designed to top-up an existing scholarship, thus enabling the brightest research minds in Australia to complete their studies at FNI.

SUPPORT FOR ALZHEIMER’S RESEARCH

In September, FNI received funding from the Mason Foundation to advance the reconstruction of MR images. Developed by the Neuroimaging and Neuroinformatics team, this innovative reconstruction method will be used to analyse images of Alzheimer’s disease in a live mouse model, allowing researchers and doctors to see the changes in the brain associated with Alzheimer’s disease at or before the onset of symptoms. Not only does this have potential for early detection of Alzheimer’s disease in humans, it may also help test the effectiveness of new drugs to reduce the amount of amyloid plaques in the brain, thus delaying the onset of symptoms.

The Mason Foundation is funded by Ms Judith Jane Mason, and also honours her late father Harold Stannett Williams, described by his daughter as “a most intelligent, wonderful and charitable man”. Alzheimer’s disease is a special interest of the Foundation, and it has been instrumental in supporting FNI’s groundbreaking research into this devastating condition.

For more information contact the Editor, Robert Hilkes: robert.hilkes@florey.edu.au +61 3 8344 1658

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