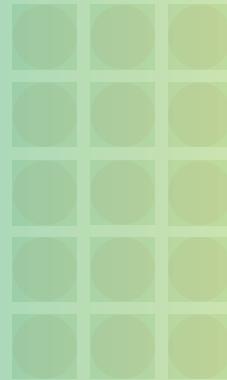


# Bulletin<sup>66</sup>



autumn 2011

## Boost for blood cancer research



Researchers, James Marthick and Dr Jo Dickinson working in the cancer genetics laboratory at Menzies

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Menzies' Senior Research Fellow, Dr Joanne Dickinson and her cancer genetics team received a major boost for their work into blood cancer, with a \$91,000 grant from the Leukaemia Foundation.

Blood cancer is the fifth most common cancer in Australian men and women, and only lung cancer claims more lives. Around 4,000 people are expected to lose their life to blood cancer this year.

In 2011, around 11,500 Australians are expected to develop leukaemia, lymphoma or myeloma. And while as many as 40,000 people live with one of these forms of blood cancer today, statistically just over half are expected to survive.

Dr Dickinson says that many blood cancers have a genetic basis to them that can be passed from one generation to the next.

"This can cause these cancers to be more common in some families than others," Dr Dickinson said.

"We are trying to identify some of these inherited risk genes using large families from Tasmania."

"Through the Tasmanian Familial Haematological Malignancies Study we have identified certain families where there is an increase in incidence of blood cancers. We propose this is due to a genetic predisposition that can subsequently give rise to malignancies in any blood cell type," she said.

A recent finding from this study has found that for some families, the age at diagnosis with a blood cancer appears to be occurring at a younger age for each successive generation. These findings were recently published in the prestigious international haematology journal *Blood*.

"This new funding from the Leukaemia Foundation will enable us to make significant progress with this work, taking advantage of newly available gene technologies. These new technologies can give us detailed information about gene function in these families."

# Director's message



Professor Simon Foote, Director

Welcome to the first edition of the *Bulletin* newsletter for 2011. In this edition, we bring you the latest news on a number of research areas we are currently making progress in, including cardiovascular, cancer genetics and musculoskeletal health.

The year has commenced on a high, with an inaugural visit from the Minister for Health, the Hon Nicola Roxon MP, to Medical Science 1. The Minister experienced a grand tour of the building, engaging with a number of researchers and students along the way, and discussing the plans for our new building, Medical Science 2 (MS2). The Federal Government has provided over \$44.7 million in funding from the Health and Hospital Fund towards the development of MS2.

We are pleased to announce that the Hobart City Council has approved the development application for the building of MS2. Construction of the building foundations and the initial level of the building are currently underway. On page 6, we are delighted to unveil the facade of the new MS2 building to you.

We look forward to sharing with you our research highlights for 2011. Thank you for your support and I hope you enjoy reading our latest edition of the *Bulletin*.

Foote

## Science on wheels

Tasmania is getting ready to unveil its first 'moving laboratory' with the arrival of the Tasmanian BioBus.

A BioBus is a novel concept involving a bus that has been equipped as a self-contained mobile science laboratory.

The Tasmanian Biobus, proudly supported by the Tasmanian Community Fund, will be used to connect medical research with the Tasmanian community. It will provide people across the State, with the opportunity to participate in clinical research trials undertaken by the Menzies Research Institute Tasmania.

Menzies' Research Officer, Ella Hoban will have the honour of driving the bus. "It is effectively taking the lab to the people. I will be collecting and processing blood samples on the bus just like I would in the lab," Ella Hoban says.

The Tasmanian BioBus is the third of its kind to be made in Australia. Its unique features include a liquid nitrogen freezer to store samples, double rear entry and side sliding doors, and a high roof to allow people to stand up comfortably inside.

Initially the Tasmanian BioBus will be used to carry out research for the Aspirin in Reducing Events in the Elderly (ASPREE) Healthy Ageing Biobank study.

The ASPREE Biobank study is an important international study that aims to assist in identifying biological factors for the onset of diseases affecting the elderly. The BioBus will assist researchers in collecting and processing blood



Above: Professor Mark Nelson and Ella Hoban with some of the medical equipment that will be installed on the BioBus



Left: A view of the back of the BioBus, highlighting the high roof that will allow people to stand up comfortably inside

samples from over 1,000 study participants across Tasmania.

Menzies' Professor Mark Nelson says that in order to carry out high quality clinical research in the ageing population, "we need the capacity to take research activities to the people".

When the BioBus is not being used for medical research purposes, it will be used by local Divisions of General Practice to bring disease screening programs and other health activities to local communities.

The BioBus will begin motoring its way around the State in April.



South East Rally Director and Post Vintage Car Club member, Scott Carter presents Phoebe Sargent, Development and Communications Officer, Menzies with the 'steering wheel' trophy

## Post Vintage Car Club continue to show their support

At Menzies we continue to be amazed by the generosity of our supporters and the Post Vintage Car Club is no exception.

Earlier this year, at their annual South East Rally, The Post Vintage Car Club presented Menzies with a beautiful hand-made 'steering wheel' trophy that acknowledges Menzies as their chosen charity.

The club adopted Menzies as its official charity in 2009 and since then the members have been busy holding numerous fundraisers for Menzies, from the annual car show display of their unique and pristine vehicles to countless sausage sizzles held on the weekends at Cambridge.

In 2010, the club raised an incredible \$2,500 to sponsor a joint honours scholarship in medical research.

The first Post Vintage Car Club Honours Scholarship was awarded to Rachel Climie to support her honours year in cardiovascular research.

Rachel is proud to be the recipient of the scholarship and is extremely grateful for the support of the club.

"The members of the Post Vintage Car Club are very hard working, selling endless amounts of sausages to raise money to support research at the Menzies Research Institute Tasmania. I am very appreciative of the support they have shown me during my honours year," Rachel said.

"All the members have shown a lot of interest in my research and I always look forward to catching up with them and sharing the latest developments in my work."

This year the Post Vintage Car Club hopes to raise \$5,000 for a full honours scholarship.

# Our biggest family history underway

The secret lives of our convict ancestors are going to be revealed in a major national research project.

Founders and Survivors: Australian Life Courses in Historical Context is a national collaboration between demographers, historians, epidemiologists and genealogists.

Professor Alison Venn from the Menzies Research Institute Tasmania and Associate Professor Hamish Maxwell-Stewart, from the UTAS School of History and Classics, are both Chief Investigators on the project.

By examining birth, death and marriage records and other historical sources, the project will produce the means of analysing the health and welfare of Tasmanians over the past 200 years.

The project aims to reconstruct life courses in historical context, reconstituting people's fertility, household formation, health, survival time and social and geographical mobility.

It will create an historical sample of convict and assisted migrants and their descendants and build an account of how their lives helped to shape Australian civil society.

Professor Venn says this will be Tasmania's biggest 'family history'.

By linking information about transported convicts to birth, death and marriage



**Professor Alison Venn and Associate Professor Hamish Maxwell-Stewart, in Birdcage Walk, the tunnel beneath Hobart's Penitentiary Chapel Historic Site which convicts used to walk from the jail house to the court room.**

records for 19th century Tasmania, the project will create one of the richest pre-20th century sources of information for a population that can be followed from cradle to grave.

While convict experience was varied – it changed in severity over time and

impacted on individuals in different ways according to their age, gender and skills – the record groups allow these variations to be traced in detail.

"The study will examine the effect that punishment, nutrition and other environmental circumstances had on life expectancy," Professor Venn said.

Associate Professor Hamish Maxwell-Stewart says to date they have captured 1,000,000 lines of data relating to people who lived in 19th century Tasmania.

"We are also using over 70,000 digital images which have already been made available through the Tasmanian Archives and Heritage Office website," Associate Professor Maxwell-Stewart said.

"In other words, the recorded experience of convicts who underwent harsh punishment compared to those who laboured as assigned servants, or in other relatively benign regimes, is a natural experiment of the effects of severe stress on an historical population that has identifiable living descendants," he said.

This project is supported by an \$800,000 Australian Research Council Grant–Discovery Projects

## Vitamin D supplements do not increase bone density in healthy children

New research by Menzies' researchers has revealed that giving vitamin D supplements to healthy children with normal vitamin D levels does not increase bone density.

Lead investigator, Menzies' Senior Research Fellow for General Practice, Dr Tania Winzenberg says by measuring bone density, you can assess how well an intervention such as vitamin D supplementation, improves bone health.

The research team set out to discover whether boosting levels of vitamin D in healthy children encouraged their bones to lay down greater amounts of calcium.

Low bone density is a major risk factor for osteoporotic fractures. The risk of osteoporosis and fractures in later life depends on how much bone density is built up as a child, and how much bone density is lost when an adult.

Childhood factors are likely to have an impact on future risk of osteoporosis,

with at least 90 per cent of peak bone mass acquired by the age of 18 years.

Vitamin D helps the body absorb calcium from food, reduces losses of calcium from the body and encourages calcium deposition into bone.

Dr Winzenberg and her research team found that giving healthy children vitamin D supplements does not improve bone density in the hip, lumbar spine, forearm or in the body as a whole.

"Vitamin D supplementation had no statistically significant effects on bone density at any site in healthy children. There was, however, some indication that children who had low levels of vitamin D in their blood might benefit from supplementation," Dr Winzenberg said.

"Further investigations into randomised controlled studies focused on vitamin D



**Dr Tania Winzenberg**

deficient children, is now needed to confirm if vitamin D supplements would indeed help this particular group."

This research was recently published in the prestigious international journal, *British Medical Journal*.

# Do you suffer from persistent knee pain?



Pam McDonald undergoes a consultation with Kay Nguo

Whether it's from simply getting out of bed in the morning, gardening, walking the dog, driving the car, or sitting down for too long, knee pain is

a common and

debilitating problem for many people.

Osteoarthritis is the most common cause of knee pain in people over 50 years of age. It is the third leading cause of disability in Australia after depression and dementia.

People with osteoarthritis have more difficulty doing everyday things and they take longer doing them.

As part of self-management, many sufferers of osteoarthritis supplement their diet with micro or macro-nutrients, or take natural remedies. However, evidence for the effectiveness of these supplements and natural remedies is often lacking and further research is needed to validate their benefit.

Researchers at Menzies have begun a new participant-based study that investigates the benefits of vitamin D in managing the progression of osteoarthritis.

"With limited current treatments, Menzies has set up this study to determine if vitamin D is actually an effective therapy for osteoarthritis," says chief investigator, Menzies' Associate Professor Changhai Ding.

"We have reported that men and women with vitamin D deficiency had severe knee osteoarthritis and were more likely to experience knee pain than patients with normal vitamin D levels, and patients with vitamin D deficiency had greater cartilage loss over time. These suggest vitamin D may be beneficial for patients with osteoarthritis," says Associate Professor Ding.

"We are currently looking for people who suffer osteoarthritis-related knee pain and would be interested in taking part in this study."

This study will be conducted at the Menzies Research Institute Tasmania in Hobart.

Volunteers need to be aged between 50–79 years, suffer from knee pain on most days, and able to have an MRI scan on the knee.

Contact Kay Nguo or Jodi Barling on (03) 6226 7793 if you are interested or email [video.study@menzies.utas.edu.au](mailto:video.study@menzies.utas.edu.au)

## Thank you to our valued supporters

Thank you to all of our donors for your ongoing financial support and commitment to Menzies.

Listed below are new individual and community supporters of Menzies for November 2010 to January 2011:

### Individual donors

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### Community supporters

Queenborough Rise Nursing Home  
Rosny Park Tennis Club

*Listed below are our Everyday Angels – our monthly supporters who make regular gifts to Menzies.*

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Mr Ian McConnell

Ms Philippa Micklem

Mr Sam Molland

*The Menzies Research Institute Tasmania is deeply indebted to ALL our generous supporters who have kindly donated in 2010 & 2011. Thank you.*

## How healthy are you?

Did you know that around 70 per cent of heart disease and 40 per cent of cancers can be attributed to lifestyle?

The good news is that this means these diseases are largely preventable.

At Menzies we have created an online checklist so you can calculate your healthy lifestyle score. All you need to do is answer 12 simple questions about your lifestyle.

Published results from a related Menzies' study<sup>1</sup> found that those who scored highly on the survey had lower blood pressure and cholesterol. The study also

found that over time, those with higher scores would be less likely to develop heart disease and stroke.

Our online checklist is a quick and simple way to see how you can improve your lifestyle.

To take the survey, simply visit our website, [www.menzies.utas.edu.au](http://www.menzies.utas.edu.au) and click on the related link under Latest News.

1. Gall et al. Healthy lifestyles and cardiovascular risk profiles in Young Australian Adults: the Childhood Determinants of Adult Health Study. European Journal of Cardiovascular Prevention and Rehabilitation 2009; 16: 684–689.

# Stage two building works underway



View of MS2 Bathurst Street Elevation



View of MS2 from corner of Campbell and Bathurst Street

With Hobart City Council planning permits for Stage two building works issued, early commencement of construction activities has begun on Medical Science 2 (MS2).

Current works involve the construction of the building foundations and the initial level of the MS2 building. The architect is also working with the project's interior designers to refine concepts for a variety of new office areas.

The Stage two works incorporate MS2, an extension to Medical Science 1 (MS1), a 205 seat lecture theatre and a basement car park and stores area. MS2 will be a six story tower with a basement level and will be an extension of MS1. The height of MS2 is proposed to be similar to MS1 to create further connectivity.

The project will transform the site into a comprehensive medical research precinct with a world-class biomedical and clinical research facility.

A focal connection point for the precinct will be the north facing landscape podium (see image below). This area is proposed as a spill out space for students and will provide a strong link between all key buildings on the precinct.

The design also provides additional teaching facilities and student amenities for the School of Medicine, to expand their 'case based' learning model and curriculum.

## MS2 Façade

The development of the façade has been based on the idea of creating a concrete lattice shading frame across the building. The lattice module will create an overall passive solar shading design for the building.

These lattice modules have been designed so that the panels can be arranged and/or orientated to suit the programmatic use internally.

A secondary sunshading element has been developed for the façade of the building, to optimise the passive sunshading effect. This secondary sunshading system has been developed using the concept of a 'contour' formed from metal blades.

The development of the contour form for the secondary sunshading elements has been based on the idea of Hobart's topography, which was also conceptually used in the MS1 façade.



View of the podium – towards MS2



View of MS2 from Brooker Avenue

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An Institute of  
the University of Tasmania

## Researcher profile: Professor Mark Nelson



Professor Mark Nelson

### What is the current focus of your research?

The prevention of cardiovascular disease in the primary care setting.

Large-scale clinical trials in general practice.

### What are some of the recent findings from your work?

Demonstrating the need in an ageing society to vaccinate the aged against shingles and develop new mathematical formula for them to prevent stroke and heart attack.

### What is the biggest challenge in your area of research?

Doing a large-scale clinical trial requires a considerable amount of time, money and lots of participants. ASPREE has taken ten years to get the \$60 million needed to run it and we still have only 1,500 of the 19,000 participants required.

### What is the most interesting aspect about your work?

Research is full of unexpected findings. For example, we did a cluster randomised controlled study of the new versus the old blood pressure machines. I expected that the new machines would do better because they would eliminate rounding off of blood pressure numbers. They did eliminate this but this was not what improved blood pressure management – it was simply that the machines recorded higher numbers and this drove the General Practitioners (GPs) to action.

### What do you enjoy doing in your spare time?

Doing a sedentary job means I enjoy physical activity be that running around the Domain or bush walking in the south-west wilderness.

# Risky business for jumps jockeys

Riding racehorses in jumps racing is well-recognised as a dangerous profession. On average, a licensed thoroughbred jumps racing jockey in Australia can expect to have a fall every 19 rides and their fall rate is 12.5 times greater than that of their flat racing counterparts. Until now, however, there have been no studies that have looked at the factors that contribute to falls by the jockeys.

In a world-first study, researchers at Menzies have identified the risk factors for falls by jumps racing jockeys.

The study investigated factors associated with falls by licensed thoroughbred racing jockeys, participating in either steeplechase or hurdle racing conducted from August 2002 until July 2009.

Results revealed that jockey fatigue and inexperience, less accomplished horses and even high prize money are among the biggest risk factors.

First author and chief investigator of the paper, Menzies' PhD student, Ms Peta Hitchens believes that some of the factors found to be associated with falls are linked to the level of competition.

"We believe that jockeys riding horses under these conditions are racing in higher quality races in a more competitive environment, which may mean they are racing at faster speeds and in closer proximity to each other," Ms Hitchens said.

Ms Hitchens who previously published a research study on contributing risk factors to falls by thoroughbred racing jockeys riding in flat races, now hopes that the scientific evidence from both these studies will lead to the development of targeted strategies to improve occupational health and safety standards in racing.

"Our findings point to the need for better preparation of horses to compete in high pressure racing, and better training and conditioning of jockeys with specific focus on skills required when riding



PhD student, Ms Peta Hitchens

inexperienced or less accomplished horses," Ms Hitchens said.

Ms Hitchens submitted her PhD for examination in December 2010 and under her current employment as a Research Associate in Health Economics at Menzies, will continue her research into the health, safety and welfare of jockeys by conducting a study on the economic impact of injuries and fatalities to the thoroughbred racing industry in Australia.

# Healthy kids make for healthy adults

New research from the Menzies Research Institute Tasmania has shown that healthy kids make for healthy adults – and vice versa.

Dr Costan Magnussen, Honorary Associate with Menzies, was lead researcher on the study, which is the first to examine the long-term effects of changes in lifestyle factors on cholesterol levels, a major risk factor for heart disease.

Dr Magnussen who undertook this research at Menzies while studying for his PhD said the results of the study were significant.

"Although the complications of heart disease, such as heart attack and stroke do not usually present until later middle-age or older, we have known since the 1950s that heart disease begins much earlier in life, even childhood."

"Studies have shown the same risk factors we commonly associate with heart disease in adults, such as high cholesterol, high blood pressure, smoking and being physically inactive were also important in youth," Dr Magnussen said.

"We also know that children with these risk factors tended to maintain them into adulthood."

Dr Magnussen said this study adds weight to this previous research by demonstrating that positive lifestyle changes – such as

weight control, increasing physical activity and not smoking – may not only prevent children with normal cholesterol levels from developing high cholesterol levels as adults, but that it's possible, through lifestyle changes alone, to shift children with high cholesterol levels to having normal levels as adults.

In 1985, when the study participants were aged 9-15 years old, they attended clinics at their school and provided a fasting blood sample.

20 years later, 539 of these individuals attended a subsequent clinic where they provided another blood sample. They were also weighed, had their fitness measured and completed a questionnaire on diet and lifestyle.

The study found:

- 16 per cent of children had high cholesterol levels
- 10 to 40 per cent of children with high cholesterol levels also had high cholesterol levels as adults
- Most adults with high cholesterol levels had normal levels as children.

"Of the participants who had high cholesterol levels in youth, those that increased their body fatness or who commenced or continued smoking were more likely to maintain high cholesterol levels into adulthood."

"Participants that developed high cholesterol levels in adulthood had greater increases in body fatness, were less likely to improve

their living standard and tended to do less physical activity between surveys compared with those who maintained normal cholesterol levels," Dr Magnussen said.

"As adults 12 per cent of those that improved any one lifestyle factor had a low HDL-cholesterol level, a risk factor for heart disease, compared with 26 per cent who didn't improve on any lifestyle factor between youth and adulthood."

This number further reduced to less than 3 per cent if any two lifestyle factors had improved.

Dr Magnussen said it was important for people of all ages to keep healthy by keeping weight down, not smoking and participating in regular physical activity.

The research was conducted as part of the Menzies' Childhood Determinants of Adult Health (CDAH) study.



Healthy kids make for healthy adults – and vice versa

# More than Flowers



In Memoriam  
November 2010  
– January 2011

We gratefully acknowledge gifts made  
in honour of:

Anonymous (1)	Doris Irene Howe
Mr Neville Bantoft	Mr Kenneth Lee
Mrs Minnie Cox	Betty Margaret Nichols
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Mr Angus Alan Downie	Mrs Colleen Lily
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If you would like more information please  
contact Fiona Horwood on (03) 6226 7751  
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Thank you!



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Please send me information on remembering Menzies in my Will.

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