

*Basil Hetzel Institute for  
Translational Health Research*

# *2011 Research Report*



the hospital  
research foundation  
finding cures improving care



The Institute

basil hetzel institute for translational health research

## *2011 Research Report*

*realisation, change, growth*



### **Credits**

The Hospital Research Foundation would like to acknowledge the contribution towards this report from the following:

Graphic Design: Slipperyfish

Photography: Simon Vaughan, Tom Roschi, Basil Popowycz,

Production: The Hospital Research Foundation

### **Contact**

The Queen Elizabeth Hospital Research Secretariat  
28 Woodville Road, Woodville South, South Australia 5011

T: +61 8 8222 7836 | F: +61 8 8222 7872 | W: [www.basilhetzelinstitute.com.au](http://www.basilhetzelinstitute.com.au)

E: [bronwyn.lenton@health.sa.gov.au](mailto:bronwyn.lenton@health.sa.gov.au)



7	2011 Foreword
9	2011 Research Publications in The Spotlight
13	Aged and Extended Care Services
17	Anaesthesia, Department of
19	Cardiology Unit
25	Clinical Pharmacology Unit
28	Dermatology Unit
29	Endocrinology Unit
31	Gastroenterology And Hepatology Unit
33	Gynaecology, Department of
35	Haematology and Medical Oncology, The Combined Departments of
41	Intensive Care Unit
47	Medicine, University of Adelaide Discipline of
53	Neurology Unit
61	Nuclear Medicine Unit
63	Nursing Research
65	Otolaryngology, Head and Neck Surgery, Department of
69	Psychiatry, University of Adelaide Discipline of
71	Renal Unit
77	Respiratory Medicine Unit
83	Rheumatology Unit
87	Surgery, University of Adelaide Discipline of
95	Therapeutics Research Centre, University of South Australia
99	Publications
115	Invited Presentations
133	Research Support Structures
137	Awards
139	Acknowledgements
141	The Hospital Research Foundation



Professor Guy Maddern

---

---



---

---

## ***Foreword***

2011 has been a year of considerable consolidation and expansion of the research activities within the Basil Hetzel Institute. The facility is now fully occupied, with pressure increasing for the available space. This has been in part due to the expansion of the existing groups, but also the arrival mid-year of two new research groups as a result of the appointment of Breast Cancer Fellowships. One of the groups, led by Professor Andreas Evdokiou, is looking at the mechanisms of metastatic breast disease and how this can be managed, while the research group headed by Associate Professor Wendy Ingman is looking at early breast cancer. Both groups will benefit greatly from close interaction with the clinical teams managing this important and prevalent condition within our community.

2011 also led to the decision to bring to an end two of the three-year Program Grants and maintain the other three to run their full five-years. In place of the concluding Program Grants, The Hospital Research Foundation intends to provide seed funding and fellowship support in 2012.

During 2011 greater clarity has appeared regarding SAHMRI and its possible role with the Basil Hetzel Institute. At this stage, it appears that a collaborative basis can be firmly established with SAHMRI as it begins to take shape and it is unlikely that there will be any diminution in the importance of the Basil Hetzel Institute for Translational Health Research within South Australia.

The pressure on space is certainly providing a challenge for the Policy Committee of the Basil Hetzel Institute and the possibility of expansion is being seriously discussed. At this stage, if the current growth continues, it will be essential to double the floor space currently occupied by the organisation.

During the year Kathryn Hudson continued her maternity leave and Gwenda Graves took on the role of maintaining the Institute's administrative and organisational lead.

The year also saw a strong but not outstanding performance within NHMRC grants, with the Institute also being supported by The Cancer Council. However, the challenge remains for us to look to have an increasing rate of PhD completions, which continues to be of considerable concern for the Institute, as well as greater efforts to enhance the success of NHMRC grants. To this end it is hoped that a number of new initiatives supporting senior researchers in order to enable them to mentor the more junior scientists will be a strategy that will lead to improved performance.

**Guy Maddern**

Director of Research  
The Basil Hetzel Institute for Translational Health Research  
The Queen Elizabeth Hospital

---

---

*2011 has been a year of considerable consolidation and expansion of the research activities within the Basil Hetzel Institute. The facility is now fully occupied, with pressure increasing for the available space.*

---



## Spotlight on Publications

### Cardiology

Ngo DTM, Stafford I, Sverdllov AL., Qi W, Wuttke RD, Zhang Y, Kelly DJ, Weedon H, Smith MD, Kennedy JA, Horowitz JD. Ramipril retards development of aortic valve stenosis in a rabbit model: mechanistic considerations. *Br J Pharmacol* 2011; 162(3):722-32.

*Br J Pharmacology*: Impact Factor 4.925

Aortic stenosis (AS) is a condition in which the aortic valve of the heart gradually calcifies and narrows until the patient develops symptoms of heart failure and needs replacement of the valve. Although this condition affects as many as 30% of elderly Australians, no medical treatments are currently available to slow down the valve narrowing. Dr Doan Ngo, working at the Basil Hetzel Institute, developed a rabbit model of AS, using high doses of Vitamin D, and showed that this model of aortic stenosis was also associated with loss of nitric oxide effect and accumulation of the pro-oxidant TXNIP in the valve. Together with collaborators at St Vincent's Hospital, Melbourne, the BHI research team then evaluated whether ramipril, a drug used to treat hypertension in particular, had any effect on this process. ramipril significantly slowed progression of AS, reduced TXNIP accumulation in valves and restored nitric oxide effects to normal. The results point to a possible new role for ramipril in patients at risk of AS.

Lopes RD, Horowitz JD, Garcia DA, Crowther MA, Hylek EM. Warfarin and Acetaminophen Interaction: A Summary of the evidence and biologic plausibility. *Blood* 2011 Dec 8;118(24):6269-73.

*Blood*: Impact Factor 10.558

Warfarin is an oral anticoagulant, used as part of the management of patients who are at risk of developing thrombosis within their heart and/or blood vessels. Unfortunately, warfarin also interacts with many other drugs, making it difficult for patients to change their background treatment while on warfarin. For example, it is not appropriate for patients on warfarin to take large doses of aspirin for headaches: this can cause them to bleed. An alternative, commonly utilized in the past, has been to use paracetamol (also called acetaminophen). However, occasionally, the combination of warfarin and paracetamol has also caused bleeding. As analysis of the warfarin-paracetamol interaction has been undertaken, in order to determine why such problems occur and what

should be recommended. This analysis, published by the prestigious journal *Blood*, represents the first in-depth evaluation of this problem. Warfarin is also an inhibitor of the vitamin K cycle, and the study also points to the potential role of high dose paracetamol as a source of damage to this protective mechanism, even in the absence of warfarin. *Blood* is ranked 8th out of 66th in the haematology research area.

### Haematology - Oncology

Hahn CN, Chong CE, Carmichael CL, Wilkins EJ, Brautigan PJ, Li XC, Babic M, Lin M, Carmagnac A, Lee YK, Kok CH, Gagliardi L, Friend KL, Ekert PG, Butcher CM, Brown AL, Lewis ID, To LB, Timms AE, Storek J, Moore S, Altree M, Escher R, Bardy PG, Suthers GK, D'Andrea RJ, Horowitz MS, Scott HS. Heritable GATA2 mutations associated with familial myelodysplastic syndrome and acute myeloid leukemia. *Nature Genetics* 2011 Sep 4;43(10):1012-7.

*Nature Genetics*: Impact Factor 36.37

This study represents a unique collaboration between researchers, clinicians and patients and their families, and has an important link to TQEH. At the centre of the study is a large SA family with inherited predisposition to development of blood cancers, which was referred by Associate Professor Peter Bardy to the Australian Familial Haematological Cancer Study (AFHCS), led by Prof Hamish Scott (SA Pathology) and Richard D'Andrea (TQEH). Molecular analysis of the DNA of affected members of this family and other similar US families, was performed at SA Pathology and this led to the discovery that an inherited, abnormal copy of the GATA2 gene was responsible for development of disease. This gene was known to be involved in normal blood development but it had not previously been shown that inheriting an abnormal copy could cause leukaemia. This study was reported recently in the journal *Nature Genetics*, together with a number of other studies that pinpoint a role for this gene in pre-leukaemic syndromes. These studies have important implications for high-risk families, with GATA2 genetic testing now being available. This means that individuals at high risk of developing the disease can be identified, counseled, monitored and potentially treated earlier or more aggressively than previously. This study is an important example of the Queen Elizabeth Hospital's links with its community and the importance of collaboration, and effective links between clinicians and researchers.

## Renal

Rogers NM, Stephenson M, Kitching A, Horowitz J, Coates PT. Amelioration of renal ischaemia-reperfusion injury by liposomal delivery curcumin to renal tubular epithelial and antigen presenting cells. *Br J Pharmacol* 2011, Jun 11. doi: 10.1111/j.1476-5381.2011.01590.x. [EPub ahead of print]

*British Journal Pharmacol*: Impact Factor 4.925

Ischemia reperfusion injury remains an important cause of kidney dysfunction with no currently effective treatment. Curcumin is an extract of turmeric that has beneficial pharmacologic properties potentially applicable to the clinical setting. However, curcumin is not readily absorbed when taken orally. We have used liposomes to provide an effective means of delivering this agent to the kidney. In this article we demonstrate delivery of liposomal curcumin to the renal tubular epithelial cells, and a substantial reduction in functional and histological tubular injury following induction of ischaemia-reperfusion injury in a mouse model. Markers of oxidative and nitrosative stress were also reduced in treated animals and we showed for the first time that liposomal curcumin inhibits renal thioredoxin – interacting protein (TxNIP) expression, an important mediator of cellular redox stress.

Jesudason S, Collins MG, Rogers NM, Kireta S, Coates PT. Non-human primate Dendritic cells. *J Leuk Biol*. 2011 [Epub ahead of print]. doi: 10.1189/jlb.0711355.

*Journal of Leukocyte Biology*: Impact Factor 4.59

Dendritic cells (DC) are a rare form of leucocyte that play a pivotal role in the immunobiology of health and disease. They have exciting therapeutic potential due to their potent ability to stimulate or suppress immune responses. Our group has long been interested in DC immunotherapy in organ transplantation, for the induction of transplant tolerance. DC have been extensively characterised in humans and mice, but until recently have not been well characterised in non-human primates. Studies in non-human primates are an essential step in the translation of experimental data from small animal transplant studies into human clinical trials. This review paper brings together for the first time available data on DC in a range of primate species, including DC propagated in-vitro and isolated in-vivo. Work done at The Queen Elizabeth Hospital on the novel small primate marmoset model forms the basis for the

understanding of New World Primate DC which were previously not characterised in the literature. This review paper represents the body of work over the last 7 years from the Dendritic Cell Laboratory / Transplantation Immunology Laboratory at TQEH, under the leadership of A/Professor Toby Coates, utilising the longstanding marmoset colony based at TQEH. Studies of immune biology in marmosets are currently ongoing by our team.

The Journal of Leukocyte Biology has been published since 1964, and publishes original articles and reviews devoted to the exploration of the cellular and molecular biology of granulocytes, mononuclear phagocytes, lymphocytes, NK cells, and other cells involved in host physiology and defense/resistance against disease. It is ranked 24th of 134 journals in immunology and 15th of 66 journals in haematology.

## Rheumatology

Wechalekar M, Lester S, Proudman S, Cleland LG, Whittle SL, Rischmueller M, Hill CL. Active Foot Synovitis: Criteria for remission and disease activity underestimate foot involvement in rheumatoid arthritis. *Arthritis and Rheumatism*. Accepted for publication November 2011. [Epub ahead of print] PMID: 22135142

This paper was published online on December 1st 2011, and has not yet appeared in print.

Arthritis and Rheumatism impact factor 8.435 highest ranked Rheumatology journal.

In the short time since this paper has appeared online it has generated significant “buzz”:

- It has featured as the lead article in the December 5 edition of the Rheumatology Update Newsletter <http://links.reedbusiness.mkt4198.com/servlet/MailView?ms=MjM5MDM4NwS2&r=NTQzNTMzMdQyMwS2&j=MzQ3MTMwMTkS1&mt=1&rt=0>.
- It was featured as an online article in the Cleveland Clinic Centre for Continuing Education Medical News December 15 2011 <http://www.clevelandclinicmeded.com/news/article.aspx?AID=659788&setSpecialty=true>.
- It was featured in the “Research Highlights” section of Nature Reviews Rheumatology (online publication, 20th December 2011)

### Stroke Research Program

Leung E, Hamilton-Bruce MA, Stocks N, Koblar SA. Funny Turn. *BMJ* 2011 Dec 5; 343 doi: 10.1136/bmj.d7465Epub ahead of print.

*BMJ*: Impact Factor 13.471

The BMJ (British Medical Journal) is an international medical journal that publishes original research, education, news and comment articles. This paper was published in the Practice section of the journal in an occasional series entitled "10 Minute Consultations". These articles aim to advise general practitioners on the best way to approach a common clinical problem in the first consultation. A "funny turn" is a common and challenging problem in general practice, particularly given the time restraints in a consultation and the potentially serious diagnoses, including stroke and transient ischaemic attacks. Our paper offers a focused and systematic approach to the funny turn so that GPs might have greater confidence in making the appropriate decisions and improve the outcome for their patients.

### Surgery

Naef M, Mouton WG, Naef U, van de Weg B, Maddern GJ, Wagner HE. Esophageal dysmotility disorders after laparoscopic gastric banding – an underestimated complication. *Annals of Surgery*. 2011; 253:285–09.

*Annals of Surgery*: Impact factor 7.9

This study is the first to identify long-term problems in the oesophagus and lower oesophageal sphincter following insertion of laparoscopic gastric bands. The work has collected the data of patients over a 10 year period, demonstrating significant complications do occur in approximately 30% of such patients. With the vast number of these procedures being currently performed this information is of vital importance in managing these bands as well as providing the patient with informed consent regarding their long-term effects.

There have now been subsequent publications confirming these findings and there is some evidence this procedure may be becoming less popular amongst the surgical community. This paper may well turn out to be an important early warning of a serious long-term problem with this operation.

### Therapeutics Research Centre

Kruger PS, Harward ML, Jones MA, Joyce CJ, Kostner KM, Roberts MS and Venkatesh B. Continuation of statin therapy in patients with presumed infection a randomized controlled trial. *American Journal of Respiratory and Critical Care Medicine* 2011;183:774-781.

*American Journal of Respiratory and Critical Care Medicine*: Impact Factor 10.19

This NHMRC funded study was a multicentre randomized control trial in Intensive Care Units across Australia, with The Queen Elizabeth Hospital was one node. The study sought to confirm animal studies that statins could improve survival of patients with sepsis. The results did not support the continuation of statins for this purpose.

The *American Journal of Respiratory and Critical Care Medicine* is known as 'The Blue Journal'; it is the highest ranked journal in Pulmonary & Respiratory Medicine. It is also the top ranked journal in the Critical Care Medicine/ Intensive Care discipline.



# Aged & Extended Care Services

**(Specialist Geriatric Medicine)**

## **Research Focus**

- Nutritional Frailty
- Post-prandial Hypotension
- Falls Prevention
- Medical Education

The Aged & Extended Care Services (Geriatric Medicine) has the clinical aim of providing a service of excellence to older people across the healthcare continuum (acute, sub-acute and community) and therefore, has a strong focus on education and translational research. In 2011 in recognition of the Health Observatory's research strengths in 'Positive Ageing' as well as its strong links to this geriatrics service, the Health Observatory was selected to become part of the Global Ageing Research Network. This network is coordinated by the International Association of Geriatrics and Gerontology and funded by the World Health Organization.

This clinical service aims to not only contribute to knowledge in ageing research but also to translate this research knowledge to clinical practice, improving the health of older people - 'Positive Ageing'. In keeping with this, in 2011, the Aged & Extended Care Services was part of winning teams at the SA Health Awards in the areas of falls and fracture prevention and management for the following 3 categories: Improving Community Wellbeing, Strengthening Primary Health Care and Enhancing Hospital Care. They were also part of teams that were finalists in the Building and Strengthening Partnerships and the Research/Education in Patient/Consumer Safety categories.

*In 2011 in recognition of the Health Observatory's research strengths in 'Positive Ageing' as well as its strong links to this geriatrics service, the Health Observatory was selected to become part of the Global Ageing Research Network which is coordinated by the International Association of Geriatrics and Gerontology and funded by the World Health Organization.*

## **Frailty and Nutrition (FAN) Study (A/Prof R Visvanathan and Prof I Chapman)**

This NHMRC funded study is currently recruiting across 3 states (SA, Vic, NSW) and is evaluating the effects of testosterone and nutritional supplementation on hospitalization in under-nourished, community dwelling older people.

## **Cytokine, Adiposity, Sarcopenia and Ageing (CASA) Study (A/Prof R Visvanathan & Dr S Yu)**

A South Australian prediction equation for lean mass has been developed from the CASA cohort and its performance is being compared to other prediction equations from the literature in the North West Adelaide Health Study and Florey Adelaide Male Ageing Study cohorts.

## **Nutritional Frailty In Hospitalized Patients (A/Prof R Visvanathan)**

Ms Elsa Dent has a publication in press that confirms for the first time that the Mini Nutritional Assessment Short Form can be used to screen for both frailty and under-nutrition and this is clinically relevant to time poor clinicians. Elsa was awarded the clinical higher degree research oral at The Queen Elizabeth Hospital Research Day at the Basil Hetzel Institute for this work. Quality improvement activities have also been occurring in the GEM Unit under the leadership of Mr Stephen Hoskins (Clinical Service Consultant) who is completing a University of Adelaide Masters in Gerontology (Royal College of Nursing Australia Scholarship) degree. As a direct result of his mentorship, Ms Frieda Appleton was invited to present about service improvement initiatives at the 2011 second Annual Nutrition and Hydration Summit in Sydney.



**The 'Meals on Wheels' Nutritional Intervention Study  
(Dr N Luscombe, A/Prof R Visvanathan,  
Prof I Chapman)**

This is an exciting new collaboration between Meals on Wheels South Australia (MOW-SA) and researchers from the Positive Ageing Research Group and Centre for Clinical Research Excellence in Nutritional Physiology, Interventions and Outcomes.

**Post-prandial Hypotension and Mobility  
(A/Prof R Visvanathan & Dr D Gentilcore)**

Post-prandial hypotension is the fall in blood pressure that can occur following a meal and is said to put an older person at-risk of increased falls. Dr Nair is using a GaitRite Analysis Walkway purchased by The Hospital Research Foundation through a donation from the Kidman Park Rotary Club to evaluate if there are changes to gait parameters following a glucose drink compared to water in healthy older volunteers.

**Falls Prevention and Management In Hospital  
(A/Prof R Visvanathan, Dr P Shibu & Dr D Ranasinghe)**

A radio-frequency identification device that detects transitions in patient movements is being developed. This device may have practical application in terms of falls prevention in acute care. A pilot quality improvement project to improve osteoporosis management in patients presenting to hospital following a fall and the project is also due to commence in 2012.

**The Talking Book Projects (Dr F Ibrahim)**

A community based project evaluating the benefits of the talking book in improving dementia care in South Australian residential care facilities was undertaken in 2011. Ms Kathy Resili (Clinical Nurse) was awarded a SA Health Masters in Nurse Practitioner Scholarship and is currently undertaking a quality assurance project evaluating the ability of the 'talking books' to assist with communication with culturally and linguistically diverse populations in the emergency department.

**Geriatric Medicine Education Research  
(A/Prof R Visvanathan & Dr S Nair)**

As part of a continued improvement approach to improving the undergraduate geriatric medicine teaching program of the University of Adelaide, Dr Khai Tam and Dr Shailaja Nair have undertaken an evaluation of pre and post course student attitudes to ageing as well as student self-assessment of attainment of competency in geriatric medicine skills.

## Staff

### Clinical Director & Associate Professor (Deputy Chair - SA Health Older People's Network Steering Committee)

R Visvanathan PhD GradCertEd (Higher Ed.) FRACP MBBS ATCL

### Clinical Deputy Directors

K Parasivam FRACP MBBS

S Yu (Acting) FRACP MBBS LTCL

### Consultants

F Ibrahim FRACP CCT UK MRCP MBBCh LRCPSI

J Ng FRACP MBBS

P Shibu FRACP MD CCT UK MRCP MBBS

F Cai FRACP MBBS

### TQEH Senior Nursing

S Hoskins (CSC- GEM Unit)

L Wakefield (CPC- GEM Liaison)

K Resili (Clinical Nurse- SA Health Masters of Nurse Practitioner Scholarship Holder)

### TQEH Allied Health and Pharmacy

M Rugari (Physiotherapist-GEM Unit)

R Horsell (Occupational Therapist-GEM Unit)

C Hewton (Clinical Pharmacist-GEM Unit)

### Community Geriatric Multi-disciplinary Teams (allied health and nursing)

Transition Care Program

Regional Falls Program

Mobile Assessment and Support Team (MAST)

### Specialist Registrars in Geriatric Medicine

S Nair (Senior Registrar) MBBS MRCP Fellowship Geriatric Medicine (Malaysia)

K Tam MBBS

G Gopal Kango MBBS MD

S Adikari MBBS MD

### Multi-disciplinary Collaborators (Positive Ageing Research Group, Health Observatory)

Professor Ian Chapman PhD FRACP MBBS, Discipline of Medicine, University of Adelaide (RAH Campus)

Dr Damith Ranasinghe PhD BE (Hons), Associate Directors, Adelaide Auto-ID Lab and Faculty of Engineering and Computer Sciences, University of Adelaide

Dr Diana Gentilcore PhD, Grad Dip Med Rad, Dip App Sci (Nuclear Medicine), Senior Lecturer in Nuclear Medicine, University of South Australia

Dr Natalie Luscombe PhD, NHMRC New Investigator Research Fellow, Discipline of Medicine, University of Adelaide (RAH Campus)

### Grants

NHMRC. (Project grant # 627178) The effects of testosterone and a nutritional supplement on hospital admissions in under-nourished, older people. [TQEH Led multicentre RCT] (\$339,479 2011) 2010-2012, Chapman I, Visvanathan R, Naganathan V, Hunter P, Karnon J, Horowitz M, Lange K, Cameron I.

NHMRC. (Project grant #627189) Gastric, small intestinal and cardiovascular mechanisms of postprandial hypotension. (\$225,500 2011) 2010-2012, Jones KL, Gentilcore D, Visvanathan R, Chapman I, Rayner C, Horowitz M.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) The Health Observatory. (\$250,000 2011) 2009-2013, Adams RJ, Wilson D, Hill C, [Visvanathan R](#), Wittert G, Ruffin R.

### Acknowledgements

Aged and Extended Services wish to acknowledge The Hospital Research Foundation, Kidman Park Rotary Club and the NHMRC for their support in 2011.

## **Staff**

### **Head of Department**

R van Wijk MD PhD FANZCA FFPMANZCA

### **Consultants**

R Balasingam FANZCA

A Colby FANZCA

A Czuchwicki FANZCA

K France FANZCA

T George FANZCA

C Hildyard FRCA

J Jeyadoss FANZCA

M Kha FANZCA

G Koo FANZCA

E Krishnappa FANZCA

Z Lagana FANZCA

A Laver FANZCA

R Lea FANZCA

PC Lim FANZCA

R Limb FANZCA

A Michael FANZCA

G Miller FFARCS(I) FANZCA

R Mitchell FANZCA

A Moffat FFARCS

N Nanjappa FANZCA

D Nemeth FANZCA

G Newcombe FANZCA

K Osborn FANZCA

A Rainbird FANZCA

A Rajbhoj FANZCA

V Rao Kadam FANZCA

R Sethi FANZCA

R Steiner FANZCA

V Thiruvankatarajan FANZCA

T Visvanathan FANZCA

R Watts FRACGP

CK Wong FANZCA

### **Consultant Physician**

C Gibb FRACP

### **Visiting Medical Officers**

E Chye FANZCA

J Currie FFARCS

P Naderi FANZCA

A Sen FANZCA

V Niculescu FANZCA

# Department of Anaesthesia

## Research Focus

- The effect of sevoflurane on Qtc interval in patients with type 2 diabetes undergoing laparoscopic surgery
- A comparison of epidural vs TAP block for post operative pain relief in laparotomy
- Dexmedetomidine in Functional Endoscopic Sinus Surgery (in collaboration with ENT Department)
- The role of sugammadex in developing new anaesthetic strategies to facilitate surgery (in collaboration with the Department of Surgery)

*With the advancing age and complexity of our surgical patients, the Department of Anaesthesia will continue to explore new and innovative ideas to improve their safety and wellbeing.*

The research activities in the Department of Anaesthesia are focused on new techniques to provide safe and effective post-operative pain relief: a simple and safe abdominal nerve block (TAP) procedure is being compared to a standard epidural technique in a randomized controlled trial. This project is in its final stage.

In collaboration with the Department of Psychiatry we are also looking at predictors of pain after surgery, particularly the effect of catastrophizing (thinking the worst) and whether this can be modified with psycho-therapeutic support.

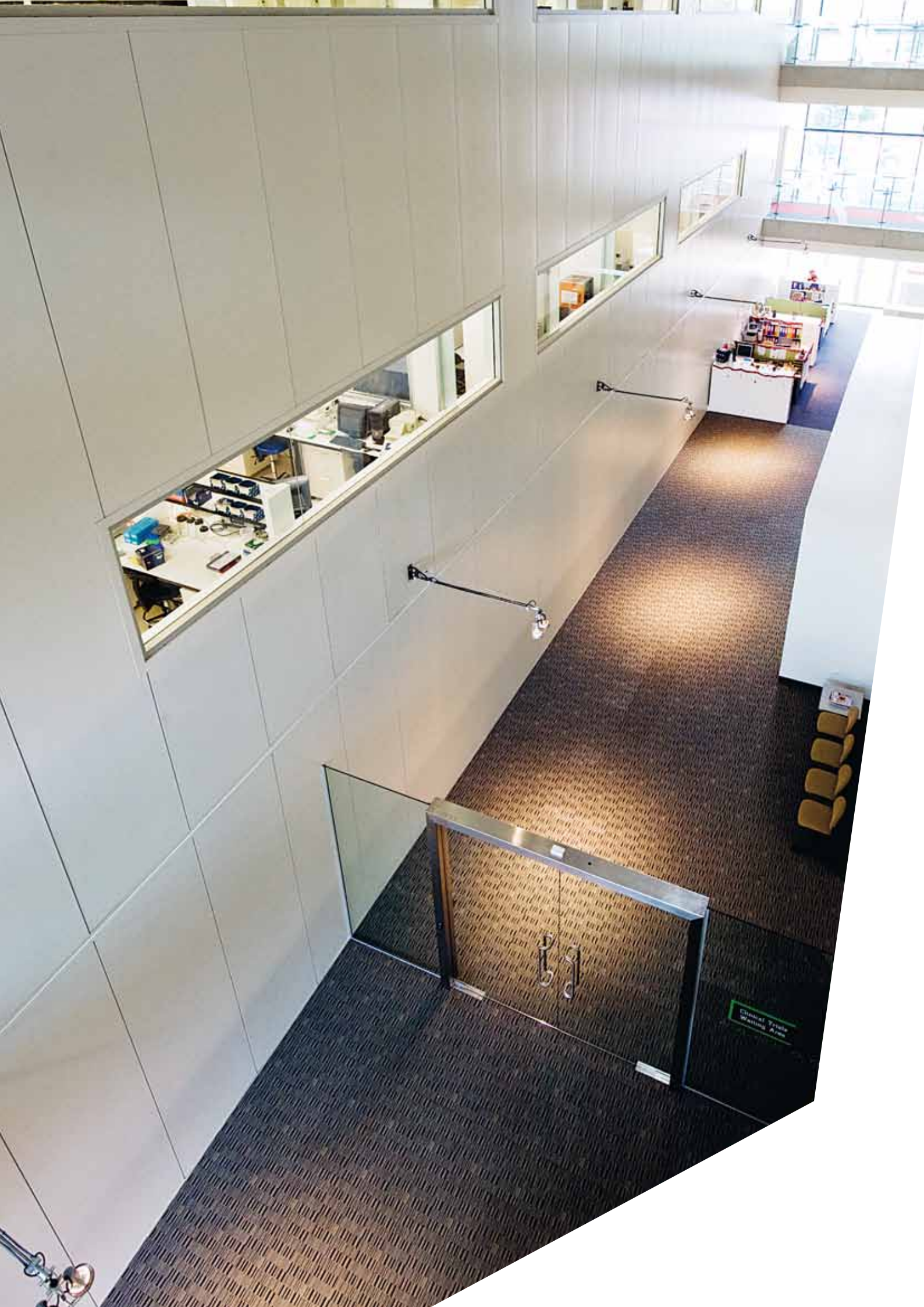
Patient safety is also the focus of our research. It was recently discovered in our department that volatile gaseous anaesthetics can change electrical conduction times within the heart - particularly in diabetic patients, so more detailed work has commenced in this area.

Dexmedetomidine may significantly reduce the amount of bleeding in the surgical field. We are investigating this in FESS surgery in a randomized controlled trial.

Sugammadex is a relatively new and revolutionary muscle relaxant reversal agent. We plan to explore the provision of continuous deep muscle relaxation in laparoscopic surgery in a randomized controlled trial.

In 2012 we will join the POISE 2 international trial which will assess the impact of clonidine and acetyl-salicylic acid in patients having non-cardiac surgery.

With the advancing age and complexity of our surgical patients, the Department of Anaesthesia will continue to explore new and innovative ideas to improve their safety and wellbeing.





# Cardiology Unit

## Research Focus

The Cardiology Unit undertakes its research largely in association with other researchers at The Queen Elizabeth Hospital (TQEH) in Clinical Pharmacology and Vascular Surgery, and researchers in the Physiology Department, University of Adelaide, within the TQEH Vascular Disease and Therapeutics Research Group.

The overall research focus of the enlarged group is on development of new therapeutic modalities for cardiovascular diseases, utilising a translational, “bench to bedside” approach.

## Overview

**Pathogenesis of aortic stenosis (Prof J Horowitz, Prof J Kennedy, Dr O Akbar Ali, Dr Y Chirkov, Dr D Ngo, Dr A Sverdlov)**

Aortic stenosis (AS) is the most common cause of valvular heart disease in the Australian population. It affects individuals particularly as they age. We are trying to develop therapies to retard the progression of aortic stenosis and thus decrease the need for valve replacement. Components of the research in this regard include creation of a tissue culture model of aortic valve disease, development of aortic stenosis in rabbits treated with vitamin D supplements, and preparation of a human data base for patients with early stages of aortic stenosis (“aortic sclerosis”). We have recently reported that the ACE inhibitor Ramipril retards the progression of AS in the rabbit model, the first report of successful pharmacotherapy for AS. Studies in a cohort of ageing normal subjects have identified dysfunction in the aortic valve endothelial layer and of circulating platelets as potential target areas in such patients. A follow up study is being undertaken to identify patients at risk for rapid progression of disease. We have also identified the congenital condition of bicuspid aortic valve as a potential model of valve disease, and are evaluating the impact of inflammatory activation on both valve dysfunction and aortic dilatation. We are also evaluating the possible effects of a number of agents in improving outcomes in aortic stenosis. This includes a clinical study of the effects of perhexiline (the IMPASS investigation).

### **Metabolic anti-ischaemic agents (Prof J Kennedy, Prof J Horowitz)**

Our recent research has shown that perhexiline, already known to be effective in relieving angina in patients who are unresponsive to other therapies, also improves left ventricular function in patients with heart failure. The relationship of this improvement to our recent demonstration that perhexiline markedly improves the efficiency of oxygen utilisation of the myocardium, as well as suppressing inflammatory changes in white blood cells, valvular cells and endothelial cells, is under investigation. The focus of current investigation is the finding that perhexiline improves cardiac function in patients with severe heart failure: We are examining potential links between the anti-inflammatory and metabolic modulating effects of the drug. We are also interested in evaluating the effects of perhexiline as an adjunct to reperfusion therapy in acute myocardial infarction. We have therefore developed a regimen for acute treatment of patients with evolving myocardial infarction with perhexiline.

### **The Role of p53 in Heart Failure (Dr A Holmes)**

The transcription factor p53 has important roles in regulating gene expression of key cellular processes such as oxidative stress, mitochondrial respiration, glycolysis, and fibrosis. Studies being conducted at TQEH will examine if myocardial p53 function contributes to changes in these cellular processes in ageing and heart failure.

### **Optimising the effects of Nitrates and Nitric Oxide (NO) in arteries and platelets (Prof J Horowitz, Dr Y Chirkov, Prof J Kennedy)**

The basis for this research is related to the following observations. Firstly, nitric oxide, which is released from the endothelial lining of blood vessels and prevents spasm and thrombosis of these vessels, becomes less effective in patients who are prone to the development of coronary events. This phenomenon, of nitric oxide resistance, has been shown by our group to be a major prognostic marker. The second related observation is that drugs used in the treatment of heart disease such as nitroglycerin, (a nitric oxide donor) become less effective with the passage of time, a phenomenon known as nitrate tolerance.

We are interested in developing strategies to circumvent both of these problems. We have demonstrated that a number of forms of therapy calculated at reducing redox stress improve tissue responsiveness to nitric oxide. Such therapeutics include ACE inhibitors, perhexiline, possibly cholesterol lowering, and certainly improved diabetic control in diabetics.

We have conducted a number of investigations in order to identify the mechanism of action of ramipril in ameliorating NO resistance, demonstrating that it increases soluble guanylate cyclase responses.

### **Platelet and Endothelial Dysfunction in the Polycystic Ovary Syndrome (Prof J Horowitz)**

The polycystic ovary syndrome is a common cause of menstrual disturbances and impaired fertility. Many people with polycystic ovary syndrome are obese and there is an increased risk of diabetes. It has been suggested for some time that polycystic ovary syndrome may be a risk factor for the development of heart disease in women, but it has been felt that this occurs via the associated obesity, insulin resistance and diabetes. We have shown that young women with polycystic ovary syndrome exhibit abnormalities of platelet and blood vessel function (but not of endothelial progenitor cell production) irrespective of body weight. These ongoing studies will seek to investigate the implications of therapy and the ageing process on cardiac risk profile in this group of individuals. In particular, we will evaluate associations between polycystic ovary syndrome, vascular and platelet function and endothelial progenitor cell counts in various subsets of patients.

Data reveals that polycystic ovarian syndrome is associated with abnormal vascular and platelet responses to NO throughout adult life.

### **Non-pharmacological interventions in Heart Failure and atrial fibrillation (Prof S Stewart, Prof J Horowitz)**

We have previously shown that outcomes in patients with chronic heart failure can be improved by screening them for short term deterioration during the early period of time after discharge from hospital. The success of such interventions has led to the wide spread clinical utilisation of nurse lead outreach programs for patients with chronic heart disease. The nature of these programs varies somewhat, and it is important to delineate the optimal program for patient outcomes. We have demonstrated that the protocol developed at TQEH is associated with reduced admissions as well as improved survival over a 10-year period. An ongoing research program will compare this protocol with related forms of clinic-based intervention in patients with chronic heart failure.

We have also extended this approach to the management of patients admitted to hospital with atrial fibrillation. In this latter circumstance, we are attempting to determine whether biochemical markers of vascular dysfunction are predictive of risk of adverse events in atrial fibrillation.

### **Pathogenesis of Tako-Tsubo Cardiomyopathy (TTC) – “Broken Heart Syndrome” (Prof J Horowitz, Prof J Beltrame, Dr S Unger, Prof J Kennedy, Dr Y Chirkov)**

Tako-tsubo cardiomyopathy is an uncommon but interesting condition that mimics acute myocardial infarction although there is no evidence of coronary artery disease. The condition often occurs in women and is typically precipitated by severe emotional stress. While the condition maybe life threatening in its acute presentation, the long term prognosis is generally good. Utilising basic laboratory studies and clinical cardiac magnetic resonance imaging techniques, important advances have been made at TQEH in understanding the mechanisms responsible for this disorder.

An NHMRC-funded research project has set out to improve diagnostic methodology for such patients, evaluate the risk of peroxynitrite formation in the pathogenesis of the condition, and determine whether there is actually complete recovery from attacks. We have also identified the release of N-terminal pro-BNP as a prominent feature of acute attacks of TTC. Further studies are underway to refine diagnostic methodology for this condition, and to evaluate determinants of recovery.

**Role of Thioredoxin/TXnip system in human disease (Prof J Horowitz, Prof J Kennedy, Dr D Ngo)**

We have recently demonstrated that development of aortic stenosis in a rabbit model is associated with increased concentrations of the intracellular pro-oxidant thioredoxin-interacting protein (TXnip). We are now evaluating the potential role of TXnip in other models of aortic stenosis and in other cardiovascular disease states.

**Effects of nitrite and nitroxyl in the cardiovascular system (Prof J Horowitz, Dr Y Chirkov, Dr D Ngo)**

In collaboration with Prof Frenneaux (University of Aberdeen, UK) and researchers in Melbourne, we are evaluating the therapeutic potential of nitrite and nitroxyl as agents to circumvent tissue hypo-responsiveness to NO. Studies in blood vessels and platelets have shown that nitrite and nitroxyl represents potentially more predictable sources of vasodilator and anti-aggregatory effects in the presence of acute heart disease.

**Major Enabling Technologies:**

1. Assay of asymmetric dimethylarginine (ADMA). This assay, developed by Ms Tamila Heresztyn, provides a marker of the function of the vascular endothelium. We recently reviewed the importance of this assay for all cardiac studies examining both physiology and prognostic markers.
2. Magnetic Resonance Imaging (MRI) of the Heart. In collaboration with TQEH Radiology Department we have developed a considerable cardiovascular MRI program with over 1,000 studies performed. Increasingly this technology is being utilised for our clinical research studies to identify infarct size and perfusion abnormalities.

3. Echocardiographic Backscatter. This technique, initially utilised for the quantitation of early aortic stenosis in a study from TQEH, is a vital tool in enabling us to follow the progression of aortic valve disease in both animal models and in the general population.
4. Basic Vasomotor Studies. In collaboration with TQEH Vascular Surgery and the University of Adelaide Physiology Department, we have an extensive basic research program to evaluate human vascular structure and function. This includes identification of calcium channels, isolated vessel reactivity and vessel responses in a beating heart.
5. Clinical Vasomotor Studies. To complement these basic studies we have several clinical methodologies including endothelial function testing, evaluation of coronary vasospastic responses, coronary Doppler wire and pressure wire studies.
6. Endothelial Progenitor Cell Function. In collaboration with the Renal Unit of TQEH, we are developing methods for quantitating the release from the bone marrow of endothelial progenitor cells, which play a major role in the ongoing repair of the vasculature. Disorders of endothelial progenitor cell function postulated in association with most forms of cardiac disease and an additional therapeutic objective should be optimisation of EPC release.
7. Electron paramagnetic resonance (EPR) – we have recently acquired the first in SA benchtop e-scan EPR spectroscopy analyser. This enables us to directly detect paramagnetic species, such as radicals and nitric oxide in a variety of tissue in vitro and ex-vivo. This complements our work across most translational projects.

### Collaborators

- (1) Department of Physiology, University of Adelaide
- (2) Department of Medicine, St Vincent's Hospital, Melbourne
- (3) Department of Epidemiology & Preventative Medicine, Monash University, Melbourne
- (4) Cardiology Department, Aberdeen University, UK
- (5) Department of Obstetrics and Gynaecology, University of Adelaide
- (6) Baker Research Institute, Melbourne
- (7) Department of Biochemistry, University of Hannover, Germany
- (8) Department of Pharmacology, Monash University, Melbourne

### Staff

#### Director

Professor JD Horowitz AM, MBBS BMedSc(Hons) PhD FRACP

#### Senior Clinical Staff

O Akbar Ali MBBS FRACP FCSANZ  
 MA Arstall MBBS PhD FRACP  
 P Averbuj MD FRACP  
 JF Beltrame BSc BMBS FRACP PhD FESC RACC FCSANZ  
 WP Chan MBBS FRACP  
 ADB Hains MBBS FRACP  
 JTY Hii MBBS FRACP  
 SB Limaye MBBS MD MRCP FRACP  
 D Lypourlis MD FRACP  
 G Mahadavan MBBS FRACP  
 K Mishra MBBS MD MRCP FRACP  
 C Neil MBBS FRACP  
 D Ninio MBBS(Hons), PhD FRACP  
 A Philpott MBBS FRACP  
 S Rajendran MBBS PhD FRACP  
 PR Sage MBBS PhD FRACP  
 AL Sverdlov MBBS FRACP FCSANZ  
 S Unger MBBS PhD FRACP  
 AS Warner MBBS BMedSc(Hons) PhD FRACP  
 CJ Zeitz MBBS PhD FRACP OstJ

### Senior Research Scientists

YY Chirkov BSc PhD  
 A Holmes BSc(Hons) PhD  
 JA Kennedy BSc(Hons) PhD  
 D Ngo BPharm BHlth Sc(Hons) PhD FCSANZ  
 DP Wilson BSc(Hons) MSc PhD

### Laboratory Manager

I Stafford BSc

### Research Assistants

D Das MSc  
 T Heresztyn BSc

### Technical Officer

G Murphy BA

### Trial Coordinators

C Anderson-Stanford RN  
 M Black RN  
 J Rose RN  
 T Selkow RN  
 G Dymott RN  
 J Daly RN  
 N Hare RN  
 E Jansen

### Administrative Staff

P Pachen  
 B Phillipo  
 S Golding

### Postgraduate Students

#### PhD Candidates

A Chan MBBS FRACP  
 The polycystic ovary syndrome and coronary risk  
 N Hurst MBBS FRACP  
 The effect of the nitric oxide and prostacyclin pathways on platelet aggregation  
 G Mahadavan MBBS FRACP  
 The pathophysiology and potential therapeutics of diastolic heart failure

C Neil MBBS FRACP

Short and long-term impact of Tako-Tsubo cardiomyopathy on myocardial structure and function

A Sverdlov MBBS FRACP FCSANZ

Pathogenesis of aortic sclerosis

A Amarasekera BPharm

Does vitamin D deficiency effect endothelial dysfunction of diabetic obese patients

TH Nguyen MD

Interactions between catecholamines and the human heart: studies in chronic heart failure and Tako-Tsubo cardiomyopathy

S Liu MSc

Impaired tissue responsiveness to brain natriuretic peptide (BNP) in heart failure (HF): biochemical bases

R Dautov MD

Therapeutic potential of nitrites and nitroxyl donors in ischaemic heart disease

V Nooney BPharm

Determinants of clinical response to platelet ADP receptor antagonists

P Averbuj MD

Interactions between diabetes, renal insufficiency and oxidative potential therapeutic implications

### Masters Candidates

M Chapman BSc

Pathogenesis of valvular and aortic degenerative changes in association with bicuspid aortic valve

C Zhang BSc

Does metformin ameliorate tissue NO resistance in polycystic ovarian syndrome?

NS Kangasingam MBBS

The role of oxidant stress in a cellular model of aortic stenosis

### Grants

Medical Research Council. (Program grant ID G1001536) Effect of inorganic nitrite on cardiac and skeletal muscle: physiology and therapeutic potential. (\$450,000 2011-2012) 2011-2016, Frenneaux MP, Dawson D, Brittenden J, Feelisch M, Horowitz J, Madhani M, Redpath T, Selman C, Speakman J, Welch A, Zanda M.

NHMRC. (Project grant # 627245) Determinants of occurrence and progression of aortic stenosis in bicuspid and tricuspid valves. (\$178,962 2011) 2010- 2012, Horowitz JD.

NHMRC. (Health Services Research Program # 418967) Which Heart failure Intervention is most Cost-effective and consumer friendly in reducing Hospital care: The WHICH? Study. (\$146,090 2011) 2008-2012, Stewart S, Scuffham P, Marwick T, Horowitz JD, Krum H, Davidson P, Peter M, Reid C.

NHMRC. (Project Grant) Tako-Tsubo cardiomyopathy: pathogenesis and natural history. (\$79,000 2011) 2009 – 2011, Horowitz JD, Beltrame JF, Selvanayagam J, Frenneaux M, Tsikas D.

National Heart Foundation. Assessing of the value of the confirmatory studies required for the widespread uptake of personalised cardiovascular medicine. (\$64,602 2011) Sorich M, Horowitz JD, Kennedy JA, Frenneaux MP.

SA Heart Foundation. Utility of (+)- and (-) perhexiline as model compounds for the development of new myocardial metabolic agents. (\$130,000 2011) Sallustio B, Horowitz JD.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) TQEH Vascular Disease and Therapeutics Research Group: towards improved outcomes for vascular disease. (\$250,000 2011) 2009-2013, [Horowitz JD](#), Beltrame JF, Morris RG, Fitridge RA, Zeitz CJ, [Wilson DP](#), Sallustio BC, [Chirkov YY](#), [Kennedy JA](#), Cowled PA.

### New grants commencing in 2012

NHMRC CJ Martin Overseas Biomedical Postdoctoral Fellowship. Sverdlov AS.

### Acknowledgements

The Cardiology Unit wishes to thank the Anne-Marie Trimboli Trust, the NHF, NHMRC, The Hospital Research Foundation, Rebecca L Cooper Foundation, South Australian Department of Health and the University of Adelaide for their valuable project, research staff and student support.





# Clinical Pharmacology Unit

## Research Focus

- Translating laboratory skills in therapeutic drug monitoring to the delivery of optimal testing for clinical care
- Understanding perhexiline genetics and metabolism
- Studies involving the drugs used in organ transplantation to avert rejection
- Therapeutic drug monitoring opportunities for cancer drugs
- Local anaesthetic drugs in post-operative pain management and fast-track surge

*Clinical Pharmacology has both a routine diagnostic role and a medical research role. Whilst the two may seem unrelated, our aim is, where-ever possible, to blend the two so as to translate new things learned in the research arm into contributing our skills into part of the state-of-the-art clinical care to hospital patients, and those remote from The Queen Elizabeth Hospital.*

## Angina treatment

The department maintains an active research interest in the treatment of angina, particularly in patients receiving perhexiline, an older and very effective drug. It can, however, cause serious liver and nerve toxicity if dosages are not individualised based on the testing provided in our lab. Our current research aims to better understand the mechanisms of action and fate of perhexiline in the body in order to translate this understanding into safer clinical use, and to develop new therapies for the treatment of heart diseases such as angina. The project is currently supported by a PhD student, Mr John Licari, whose work is investigating the development of new drugs for the treatment of angina, based on our growing knowledge of how perhexiline works. This year John took up the Ivan de la Lande Travelling Award from 2010 Research Day, and a University of Adelaide Postgraduate Travelling Fellowship, to present some of his research work at the 10th Congress of the European Association for Clinical Pharmacology and Therapeutics, held in Budapest. He also visited a number of leading UK cardiovascular research laboratories to enhance his research skills. In addition, our international collaboration with Mr Nigel Drury, (Cardiothoracic Surgeon, The Queen Elizabeth Hospital, Birmingham) continues to investigate the potential clinical use of perhexiline during heart surgery.

## Transplantation therapy

Clinical Pharmacology received major funding for 2009-2011 from the National Health and Medical Research Council, which this year supported two research students, Mr Zaipul MD Dom and Ms Erin Keen, and a research scientist, Mr Ben Noll. These researchers are assisting in a wide-ranging project investigating overall genetic factors that may influence the efficacy of immunosuppressant drugs and, hence, the incidence of rejection or organ toxicity. We have recruited 200 kidney transplant recipients and their donors to assist in this project, and are one of the first laboratories to have measured the amount of immunosuppressant drugs within the transplanted kidneys using residual tissue from routine biopsy sampling. We are now collecting clinical, biochemical and genetic data, which will be used to establish whether it may be possible to further reduce the incidence of rejection and loss of transplanted kidneys. This may guide individualising each patient's immunosuppressant medication based on the kidney's exposure to these drugs and the (different) genetics of both the transplant recipient and the transplanted organ. Part of this work has also involved an international collaboration with Erasmus University Medical Centre, Rotterdam, The Netherlands.

## Cancer Drugs

A relatively new area of research for the department is the dose individualisation of chemotherapeutic agents, in particular the drug Docetaxel used in the treatment of breast and prostate cancer. Dr Ian Westley has joined a group of scientists and clinicians from the South Australian Universities and Hospitals to form a Therapeutic Drug Monitoring – Oncology Research Group. The studies are investigating how current the “one dose fits all” policy of chemotherapeutic agents compares to a targeted concentration approach with the ultimate aim to reduce the adverse side effects associated with this drug whilst optimising drug actions.

## Local anaesthesia – novel clinical usage

We currently have three projects involving local anaesthetic drugs: The first was for post-operative pain control that remains an under-treated clinical problem. This project was directed at novel ways of treating such pain after laparoscopic or open surgery. The aim being to pump a continuous trickle of local anaesthetic drug adjacent to the incision site following colorectal surgery. In this way treating the pain at the local site, rather than given patients alternative opioid drugs that can have significant adverse effects and inhibit recovery of the bowel after surgery. This project is now completed and PhD submitted for examination, and resulting manuscripts submitted for publication.

A second project involved collaboration with the burns unit at RAH who give local anaesthetic when harvesting skin tissue for grafting over major burns. Our role was to consider the amount of drug absorbed following such administration to consider the ‘safety versus efficacy’ balance, so aim at further optimising clinical management of maximising pain control but not too much that might cause adverse side effects. A pilot study has been presented at 2 congresses, one clinical and one pharmacological.

The third project has only recently commenced and involves measuring plasma concentrations of local anaesthetic after a spinal TAP-block in Intensive Care Unit patients. Again the aim is review the amount absorbed into the blood stream after the dose to enhance therapeutic benefit.

## Staff

### Chief Medical Scientist/ Professor

RG Morris BSc PhD FFSc(RCPA)

### Principal Medical Scientist/Assoc Professor

BC Sallustio BSc PhD

### Senior Medical Scientist

IS Westley BMedSc PhD

### Grant-Funded Scientist

BD Noll BSc(Hons)

### Senior Technical Officer

FA Wicks BSc

### Technical Officer

A Kalaitidis BSc

D Dinow BSc

C de Nichilo BSc

### Additional Research Workers

C Chong BPharm

A Taylor MBBS GCertClinTox

## Postgraduate Students

### PhD Candidates

J Licari BHSc(Hons)

Investigation of the pharmacological effect of (-)- and (+)-perhexiline on hepatic and myocardial metabolism

S Krishnan BHSc(Hons)

The clinical evaluation of fast-track surgery including extended local anaesthetic infusion for post-operative pain

Z MD Dom BHSc(Hons)

Pharmacogenetics of renal transplantation

### BSc Honours Candidate

E Keen BHSc

Tacrolimus concentrations in human kidney tissue and the incidence of rejection and delayed graft function after kidney transplantation

## Grants

Endeavour Post-Graduate Award. (Australian Federal Government PhD award) 2011-2014, MD Dom Z.

NHMRC. (Project grant) Pharmacogenomics of Renal Transplantation. (\$114,750 2011) 2009-2011, Sallustio BC, Collier JK, Morris RG, Somogyi AA.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) South Australian Translational Centre for Renal Research. (\$180,000 2011) 2009-2011, Russ GR, Coates PT, McDonald S, Sallustio BC, Morris RG.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) Vascular Diseases and Therapeutics Research Group: Towards improved outcomes for Vascular Disease. (\$250,000 2011) 2009-2013, Horowitz JD, Beltrame JF, Morris RG, Fitridge RA, Zeitz CJ, Wilson DD, Sallustio BC, Chirkov YY, Kennedy JA, Cowled PA.

The Hospital Research Foundation. (Small grant) Can Concentration Targeted Treatment Reduce Toxicity and Improve Efficacy of Docetaxel Treatment of Castration Resistant Prostate Cancer Compared to Conventional Dosing? (\$20,000 2011-2012) Westley IS, Morris RG, Doogue M, Polasek T, Wiese M, Kichenadasse G.

The Hospital Research Foundation. (Honours scholarship) (\$4,000 2011) Keen E.

## New grants for 2012

Heart Foundation. (Project grant GIA – G11A 5932) Utility of (+) (-) perhexiline as model compounds for the development of new myocardial metabolic agents. (\$130,000 2012 - 2013) Sallustio B, Horowitz, JD, Kennedy JA, Frenneux MP.

## Acknowledgements

The Clinical Pharmacology Unit wishes to thank the Ivan de Lande Trust, NHMRC, and The Hospital Research Foundation for their valuable support for our research.

## *Dermatology Unit*

### **Research Focus**

- Clinical trials of new treatments to reduce actinic keratoses and skin cancers in renal transplant patients

*The Dermatology Unit assesses and treats skin disorders at The Queen Elizabeth Hospital (TQEH) in both outpatients and inpatients and teaches medical students, dermatology registrars, general practitioners and other doctors employed at TQEH. The unit is also involved in clinical research with an emphasis on different methods of treatment and prevention of sun damage and skin cancer. Dr Warren Weightman is a board member of the Australian Society of Dermatological Research.*

### **Staff**

#### **Head of Department**

W Weightman MBBS FRACP FACD FAICD

#### **Visiting Dermatologists**

P Selva MBBS FACD

A Lewis MBBS FRACGP FACD

YC Lee MBBS FACD

J Wesley MBBS FACD

#### **Dermatology Registrar**

R Manifold MBBS FRCPA

We have been involved in one study during 2011. This study is in association with the Department of Neurology with the dermatology unit doing safety skin assessments. The trial is a 24 month, double-blind, randomized, multi-centre, placebo-controlled, parallel-group study comparing efficacy and safety of FTY720 1.25mg and 0.5mg administered orally once daily versus placebo in patients with relapsing-remitting multiple sclerosis.

The unit is looking at doing further clinical trials in the future.

# *Endocrinology Unit*

## **Research Focus**

- Health care delivery for diabetes patients
- Development of efficient strategies to diagnose and monitor diabetes and osteoporosis

*Translational research is our major research focus. Our work has concentrated on the health care delivery and the development of efficient management strategies for diabetes patients and patients with osteoporosis, with the emphasis on directly dealing with complicated patient issues.*

In the diabetes research area, with the involvement of Dr David Jesudason, Head of the Unit, and Professor John Beltrame, University of Adelaide Discipline of Medicine, we have begun to evaluate the quality of the dataset from the diabetes patients who attended the unit's Diabetes Assessment Clinic (DAC) from 1998 to 2010, with the view to continually conduct research in this area. This clinic provides patients a detailed assessment which includes checking for risk factors for complications, the complications themselves and current management status and therapy. The research is to identify the achievement of important diabetes management targets, the uptake of treatment guidelines by GPs, the development of diabetes complications and effective strategies for improving care and reducing complications.

We are involved in the North West Adelaide Health Study in collaboration with other departments in The Queen Elizabeth Hospital (TQEH), the Unit of Population Research & Outcome Studies of the University of Adelaide and the University of South Australia. The study population is a representative sample of residents recruited in North West Adelaide. They have undergone initial clinical assessment and completed a questionnaire evaluating the risk factors and early indicators of chronic health problems, including diabetes and cardiovascular diseases. The cohort was first established in 2000 and has been reassessed three times with an interval of about three years to collect longitudinal information on the change of health status. We have used this dataset to assess the diabetes incidence, the factors associating with the development of diabetes, self-care and health system based management and changes of diabetes incidence/management, and finally the risk factors associated with long term complications.

We have also conducted a survey of diabetes patients who attended the diabetes education session in the Diabetes Centre, TQEH. The survey is to assess the level of patient satisfaction with diabetes nurse education. We found that overall the patients are happy with the format and content of diabetes education and found it helped them in the self-management of their diabetes condition.

Osteoporosis and associated fractures are a major cause of preventable disability and dependence for South Australians and a major cost to the

community. Our good links with the community organisation Osteoporosis Australia, the Royal Australian College of General Practitioners and the Divisions of General Practice enable us to review the management of osteoporosis in the community. There are now osteoporosis education and awareness programmes in the western and northern metropolitan areas targeting those with osteoporosis, their health professionals and the general community.

We now have two dual X-ray absorptiometer (DXA) scanners (the Lyell McEwin Hospital and The Queen Elizabeth Hospital), meeting the needs of the northern and western suburbs of Adelaide and associated country areas. Our combined services now see about 5,500 patients per year and we have a database containing records for over 26,000 individuals. A large proportion of these are being monitored for changes in bone density over time. This important source of clinical data provides the opportunity of investigating many aspects of the overall bone health of the communities that we service, and of long term trends and changes.

We are working with Osteoporosis Australia to make osteoporosis a State health priority and to develop a strategic plan to reduce its impact in South Australia.

We have been working with the Florey Adelaide Male Aging Study in relation to measuring bone density and body composition in a cohort of men selected from the northern and western regions of Adelaide. This is a longitudinal study and is now in its seventh year. Participants are followed up every five years. This study offers the opportunity to assess and analyse changes in both bone density and regional body composition as men age and we are currently accumulating data for future analysis.



## **Staff**

### **Head**

D Jesudason MBBS FRACP

### **Endocrinologist**

N Laddipeerla MBBS, FRACP (Endo)

K Campbell MBBS FRACP

L Gagliadi MBBS FRACP PhD

### **Registrar**

A Teh MBBS

### **Scientists**

J Wang BSc PhD MPH

C Seaborn BSc

E Robinson BSc

### **Ophthalmology**

N Gehling BSc BMBS FRACO

M Goggin MB BCh BAO DO FRCSI (Ophth) FRCOPhth PhD

J Runciman MB BHB FRACS FRACO

A Drew CRA (US)

### **Diabetes Centre Nurses**

T Willson RN BN(Hons) Grad Cert Health  
(Diab Man and Ed) CDE

R Cox CN BN MN

M Hodgson RN RM BMid Grad Cert (Diab Ed)

D Barrow RN Grad Cert (Diab Ed)

C Nitschke RN RM Grad Cert (Diab Man & Ed)

M Kinasz RN BAppSc (Food Science and Nutrition)  
Cert (Diab Man & Ed)

R Wilson RN

## **Podiatry Service**

D Brown DipAppSc Nursing BAppSc Podiatry

D Filipak BAppSc Podiatry

### **Dietitians**

M Campbell MNutrDiet

C Stanton BSc DipEd MND

M Carapetis BHSc MND

### **Administration**

L Roberts

C Bouthémy (Dip Hlth Sc)

J Grimsey

A Gazzard

V Watson

J Cocks

B Cummins

# Gastroenterology and Hepatology Unit

## Research Focus

- Pathogenesis of bowel inflammation
- Stem cells and cancer
- Capsule endoscopy

*The most important event in 2011 has been the withdrawal of Associate Professor Adrian Cummins from clinical and research work because of poor health. Dr Cummins has had a distinguished career in medical research and has made important contributions not only to the research effort of our own Department, but to the broader research effort of the Basil Hetzel Institute.*

Dr Cummins graduated from the University of New South Wales in 1978. He completed advanced training in gastroenterology in 1983 and in 1984 was appointed as a Research Fellow at the Western General Hospital in Edinburgh. It was there that he developed a particular interest in coeliac disease and inflammatory bowel disease. He returned to Australia in 1987 as a Research Fellow at the Royal Adelaide Hospital and in 1989 was appointed as a Senior Specialist in the Department of Gastroenterology at The Queen Elizabeth Hospital. He became a Clinical Senior Lecturer in the Faculty of Medicine, University of Adelaide in 1993 and a Clinical Associate Professor in 2008. Dr Cummins' research interests have focussed on immune mechanisms in the gastrointestinal tract, cell proliferation in the gastrointestinal tract and the pathogenesis of gastrointestinal inflammation including coeliac disease, ulcerative colitis and Crohn's disease. His most important contributions relate to the control of cell proliferation in the small bowel in children and adults and immunological studies in inflammatory bowel disease. He is also recognised as an international expert on various aspects of coeliac disease. He has seventy seven listed publications on PubMed and has been a major supervisor for nine post-graduate students.

The absence of Dr Cummins has led to a review of the research directions of the Department. An additional issue was the scheduled termination of a research grant and the subsequent loss of two of our valued research staff, Dr Kumar Grover and Dr Rino Donato. Dr Grover has been employed by another department in the Basil Hetzel Institute and continues to take an interest in stem cell proliferation and cancer. On-going work on stem cells and gastrointestinal cancer in a collaborative project with Dr Jenny Hardingham (Haematology and Medical Oncology) will continue in 2012 with a grant from The Cancer Council of South Australia. The hypothesis that underlines this project is that gastrointestinal cancers contain a heterogeneous mix of cancer stem cells (probably a small minority) and non-stem cell cancer cells. One possibility is that the former cells are largely if not solely responsible for cancer spread to organs such as the liver.

We continue to have a research interest in inflammatory bowel disease. This interest is focussed on molecules called cytokines that are important for the development and maintenance of the inflammatory response. Currently, we are examining the expression and concentration of various cytokines in bowel biopsies taken from patients with ulcerative colitis and Crohn's disease. Although these two diseases are thought to be associated with different cytokine profiles, we have been unable to identify differences in cytokine expression between the two diseases. This work is being undertaken by Mrs Wendy Uylaki and our PhD student, Dr James Fon. We are also working with Dr Michael Conlon at the CSIRO to evaluate microbial populations and chemical characteristics in the faeces of patients with ulcerative colitis. Our preliminary data suggest that there is a deficiency of at least one common organism in the faeces of patients with quiescent colitis. Another milestone in this area was the publication of a major review on cells and cytokines in inflammatory bowel disease.

The final research theme is a continuing interest in the role of capsule endoscopy for the evaluation of small bowel disorders. This work is supervised by Dr Ilmars Lidums. In the most recent paper, capsule endoscopy was used to evaluate the length of small bowel inflammation in patients with coeliac disease, both before and after the introduction of a gluten-free diet. In coeliac disease, small bowel inflammation is most prominent in the duodenum and jejunum and seems likely to reflect the exposure of the upper small bowel to higher concentrations of gluten. After the introduction of a gluten-free diet, there is a substantial reduction in the extent of small bowel inflammation although some endoscopic changes often persist in the duodenum. These observations complement those of Associate Professor Adrian Cummins who showed that, in adults, small bowel inflammation often improves in duodenal biopsies but that it is rare for duodenal biopsies to return to normal.

## **Staff**

### **Director**

IC Roberts-Thomson MD FRACP

### **Senior Consultant**

AG Cummins BSc(Med) MD PhD FRACP

I Lidums PhD FRACP

### **Post-doctoral Fellow**

G Sander BSc(Hons) PhD

### **Medical Scientist**

WJ Uylaki BSc(Hons)

### **Post-Graduate Student**

J Fon MBBS

### **Honours candidates**

S Proctor MBBS 3rd year

S Randall-Demllo

### **Additional Collaborating Investigators**

Professor P Hewett,  
Department of Colorectal Surgery, TQEH

A/Prof G Howarth,  
School of Animal Sciences, University of Adelaide

A/Prof I Penttila,  
Women's and Children's Research Institute, WCH

A/Prof T Price,  
Department of Haematology and Oncology, TQEH

## Gynaecology, Department of

### Research Focus

- Aetiology of female pelvic organ prolapse and pelvic floor dysfunction

*The Gynaecology department provides a comprehensive range of general gynaecological and subspecialist investigations and procedures with an emphasis on minimally invasive surgery, colposcopy, pelvic organ prolapse and urinary incontinence (urogynaecology), gynaecological oncology and management of severe endometriosis including close collaboration with our colorectal colleagues for severe pelvic disease.*

All consultants in our department have an active role in clinical research activities and are supportive of our trainees undertaking suitable projects while working in our unit. In 2011 the department continued recruitment to the POMI study into pelvic organ prolapse and related minimally invasive surgical treatments, including mesh vaginal repair; Essure sterilisation and gynaecological oncology. Dr Chris Barry has recently acquired a 4D ultrasound scanner to help follow patients with this disorder.

Research interests include the use of graft materials in vaginal repair surgery; new approaches to imaging pelvic organ prolapse and the use of prune juice for bowel disorders following surgery. Recruitment continues for the study looking at the recurrence of pelvic floor prolapse surgery. This incorporates the use of rapid sequence MRI scanning and 4D ultrasonography before and after surgery.

Dr Barry is the co-author and co-principal of the steering committee to set up international guidelines for the use of vaginal pessary support devices for female pelvic organ prolapse. This was completed in 2011 with two workshops so far in Adelaide and Melbourne held at the Continence Foundation of Australia ASM.

Dr John Miller, Senior Visiting Gynaecological Oncologist, has involved our department in multicentre investigations with the University of Adelaide into the psychological aspects of recurrent cancer and the development of patient decision aids, as well as continuing to recruit patients for chemotherapy and surgical trials centred at the Royal Adelaide Hospital.

The POPPY study is an international collaborative multi centre randomised study to investigate the use of pelvic floor muscle strengthening for female pelvic organ prolapse. Dr Barry is TQEH's researcher in this study and the study has now finished recruiting and has completed long term follow up. Initial results from the UK arm showed a significant difference in outcome with the intervention arm. Dr Barry is also trialling the use of herbal preparation R1962 for the reduction in recurrence of urinary tract infections in women.

Dr Munday has completed a study comparing various imaging techniques following the Essure female sterilisation procedure.

## **Staff**

### **Director**

R Watson MBBS FRANZCOG FRCOG

Senior Visiting Gynaecologist with specialist interest in pre malignant disease, Tutor and Assessor for the RANZCOG Chair of RANZCOG Asia Pacific Committee and DRANZCOG Education and Assessment Committee.

### **Senior Consultants**

C Barry MB BS MRCOG FRANZCOG

Staff Specialist and Senior Gynaecologist with a special interest in Urogynaecology. President of the SA Continence Foundation of Australia.

D Munday MB BS FRANZCOG

Senior Visiting Gynaecologist with special interests in minimal access surgery/ endometriosis/pelvic floor repair/Essure sterilisation. Deputy Chair of the Australian Gynaecological Endoscopy Society Research Committee.

J Miller MB BS FRANZCOG CGO

Senior Visiting Gynaecologist and certified sub-specialist in Gynaecology Oncology.

A Singla MB BS FRANZCOG

Senior Staff Specialist, Senior Obstetrician and Gynaecologist with special interest in Pelvic Floor repair, menopause, Colposcopy and vulval disorders.

M Juneja MB BS FRANZCOG

Visiting Medical Specialist in Gynaecology.

### **Gynaecology Clinical Practice Consultant**

A Matthew

# *Haematology and Medical Oncology, The combined Departments of*

## **Research Focus**

- Identification, development and clinical trial of new therapeutic agents for the treatment of cancer
- Further understanding of the molecular mechanisms underlying solid cancers and haematological disease, particularly colorectal cancer, myeloproliferative disorders, leukaemia and inherited bone marrow failure syndromes.
- Development of new cancer biomarkers and diagnostic assays

## **Clinical research**

The clinical trial program involves Phase I, II and III trials of new therapeutics. Ongoing studies are investigating chemotherapeutic agents, new supportive therapies (cytokines, erythropoietic agents), novel molecular targeted agents (EGFR, VEGF, mTOR, BRAF and PARP inhibitors) and antithrombotic agents. Currently there are over thirty active clinical trials available to patients within the unit, including investigator driven, cooperative group and pharmaceutical driven studies. The unit consists of Medical Oncologists, Haematologists, Clinical Trials Co-ordinators and a dedicated Clinical Research Fellow. Trial results from our Unit have been presented by our team at this year's American Society of Clinical Oncology and ESMO meetings and include results of biomarker studies correlating mutations in the EGFR pathway with prognosis and response to anti-VEGF therapy as part of the large multicentre AGITG MAX study. We have also obtained industry sponsorship for an investigator led phase Ib/II study of the combination of panitumumab, irinotecan and everolimus in advanced bowel cancer, which will include laboratory biomarker studies which will be correlated with clinical outcomes to predict response to therapy.

Data from the cancer registry on small cell lung cancer has been reviewed and statistical analysis performed in-house comparing survival between two large cohorts of patients on differing therapeutic regimes. The results were published earlier this year. Similar studies are now underway for non-small lung cancer and rectal cancer.

The Unit also has a special interest in non-malignant haematology including thrombosis and haemostasis (Dr Simon McRae) with a focus on new anticoagulants. There is also a clinical focus on transfusion, anaemia, iron deficiency and blood conservation (Dr Kathryn Robinson, Dr Uwe Hahn & A/Prof Peter Bardy). The appointment of Dr Cindy Lee has seen an increase in clinical studies available for patients with Multiple Myeloma.



## Laboratory Based Research

### **Project 1: Determination of biomarkers to predict resistance or sensitivity to monoclonal antibody therapies in colorectal cancer (J Hardingham, J Wrin, A Shivasami, S Sree-Kumar, T Price, A Townsend)**

Metastatic colorectal cancer (CRC) is a leading cause of cancer death in Australia. Recent developments in the use of novel targeted therapies, such as monoclonal antibodies inhibiting the epidermal growth factor receptor (EGFR) or vascular endothelial growth factor (VEGF), offer promise in improving patient outcomes, however tumour resistance is a significant clinical problem. A major focus of the Molecular Oncology group is to discover and validate biomarkers to predict resistance to these therapies. The hypothesis is that tumour resistance develops due to compensatory up-regulation of alternative factors (biomarkers) and the identification of these biomarkers will predict which patients will benefit from these therapies. This knowledge will significantly aid in tailoring treatment for each patient to improve efficacy and reduce the toxicity and cost of treatment. We are using Biolex technology to measure 5 different pro-angiogenic biomarkers in protein isolated from FFPE tissue from the MAX study patients. The effect of these factors on response to anti-VEGF therapy is unknown but we hypothesise that they will circumvent the dependency on VEGF for tumour angiogenesis and progression thus resulting in tumour resistance. Loss of the PTEN tumour suppressor gene activates the AKT-mTOR pathway, enhancing expression of downstream growth factors including angiogenic factors, however the role of PTEN as a prognostic or predictive marker in CRC is controversial. We developed a copy number PCR assay to measure loss of the PTEN gene and found that PTEN loss did not correlate with tumour response to anti-VEGF therapy, nor did it contribute to effect of wild-type versus mutant KRAS or BRAF on tumour resistance or on prognosis. These findings will be presented at the American Society of Clinical Oncology meeting in Chicago June 2012.

To determine biomarkers for anti-EGFR resistance we have used expression profiling arrays (n=24) to determine genes differentially expressed between 3 sensitive and 3 resistant tumour cell lines in all combinations. RNA interference will be used in vitro to knockdown expression of several over-expressed genes in the resistance cells with the aim of reversing the resistant phenotype.

Our collaboration with the Australasian Gastrointestinal trials group (AGITG) resulted in a high impact factor journal publication of the results of KRAS and BRAF mutation detection in the MAX study cohort of 314 patients with advanced CRC (*J Clin Oncol* 2011;29(19):2675-82).

### **Project 2: Identification and validation of new markers for circulating tumour cells in early stage colorectal cancer (J Hardingham, K Grover, A Cummins, S Nelligan, PJ Hewett, T Price)**

Patients diagnosed with early stage colorectal cancer (CRC) (TNM stage I or II) undergo surgical tumour resection with curative intent, yet up to 30% of these patients suffer recurrent or metastatic disease within five years of surgery. We have reported previously that circulating tumour cells (CTC) detected by immunobead capture and RT-PCR at diagnosis correlate with later relapse. However, not all patients with CTC relapse which makes any decision to treat with cytotoxic chemotherapy and/or biological agent difficult. We hypothesise that it is only the cancer stem cells within the circulating tumour cells pool that are responsible for later relapse. To improve this approach we have studied several new biomarkers identified from laser micro-dissected colon tumours (stem cell compartment enriched) compared to matched normal mucosa and this was the focus of an Honours student this year. We will use the stem cell markers to capture and identify stem cells from patients' blood samples. Ultimately, detection of circulating stem cells will allow adjuvant chemotherapy to be targeted to those early stage patients at high risk of systemic relapse, while reassuring patients negative for circulating stem cells to be at minimal risk of relapse.

**Project 3: Molecular-genetic approaches to identify lesions in myeloproliferative neoplasms (R D'Andrea, P Bardy, C Butcher, Z Korten)**

The Philadelphia chromosome-negative Myeloproliferative Neoplasms (MPN) are a group of hematological diseases in which the bone marrow produces increased numbers of several haemopoietic cell types (red blood cells, white blood cells and platelets). This disease is of particular interest to us as the multilineage effects are associated with a dysregulation of haemopoietic stem cell growth and normal blood cell growth factor responses. An acquired mutation that affects the activity of the intracellular signaling molecule JAK2 which plays a critical role in normal growth factor responses is present in a high percentage of MPN patients. Whilst this mutation is clearly important, several studies indicate additional genetic events are involved in the initiation and progression of disease. To identify other genes important in MPN pathogenesis, we have conducted a NimbleGen exon sequence capture of a total of 657 candidate genes in 15 MPN patients followed by SOLID sequencing to identify gene coding changes. We have validated non-synonymous variants and have confirmed novel somatic variants in DNA binding proteins and receptor tyrosine kinases using Sanger sequencing of matched disease and germline samples. To determine the disease frequency and specificity of these variants we are screening our cohorts of MPN, AML and normal individuals and are utilizing retroviral gene expression in cell lines and primary cells to assess their functional significance using in vitro assays measuring genomic stability, cellular growth and differentiation. Finally as histone modifications are the target of JAK2 signaling pathways we are investigating the interaction of the DNA methyltransferase (DNMT3A) with specific histone residues as this interaction may be central to epigenetic modulation in MPN.

**Project 4: Molecular-genetic approaches to identify lesions in Acute Myeloid Leukaemia (R D'Andrea, J Gray, P Bardy, C Butcher, Z Korten)**

The use of higher resolution molecular methods in primary AML samples is proving to be a powerful approach to identification of genes and pathways involved in leukemogenesis and is also providing new biomarkers for molecular classification. It is now particularly important to identify additional recurrent mutations present at diagnosis, and also those present at relapse, after apparent remission, as these will likely affect tumour growth and/or sensitivity to chemotherapy agents. We have used higher resolution genome-wide analysis of an individual leukaemia patient sample series (Normal control tissue, diagnosis sample and relapse sample) to identify point mutations, insertions/deletions and small chromosomal rearrangements in this series of samples. From this we have identified and validated novel changes that have potential to be clinically important in AML as well as providing new insights into AML biology and relapse. Having completed the comparative whole-genome and exome sequencing of this series we now are evaluating the clinical and biological significance of the novel changes.

For this we are screening a large panel of AML diagnostic samples derived from the TQEH and RAH sites to determine the frequency of candidate mutations in a sample set of AML cases, to establish the link with other recurrent mutations, including FLT3-ITD, NPM1, IDH1, IDH2, WT1 and CEBPA, and to establish the relationship of these changes to clinical outcomes of these AML cases. A separate collaborative project involved genetic analysis of families displaying inherited predisposition to MDS/AML. Through analysis of a TQEH family, and other families with a similar predisposition, GATA2 was identified as the gene responsible. This work was recently published in Nature Genetics.

**Project 5: Identification of Key Target Proteins Affected By Translational De-Regulation In the bone marrow failure disorder Diamond Blackfan Anaemia (DBA) (R D'Andrea, S Bray, A Wee, C Butcher)**

Studies of rare inherited diseases have provided important insights into fundamental biological processes and cancer pre-disposition. Diamond Blackfan Anaemia (DBA) is a rare inherited bone marrow failure disorder that usually presents in infancy and is characterised by erythroid failure, congenital malformations and cancer pre-disposition due to impaired proliferation and differentiation of red blood cell progenitors in the bone marrow. Haploinsufficiency for a number of ribosomal proteins are associated with the specific red cell and skeletal defects, however the mechanism of tissue specificity in this disease remains unclear. We aim to understand how reduction of these ribosomal proteins translates to defective erythropoiesis, causing a distinct erythroid phenotype. To achieve this we aim to identify key proteins that are produced at reduced levels in erythroid progenitors with an induced defect in ribosomal proteins. For this we will make use of engineered erythroid cell lines and proteomic technologies which allow us to compare the levels of key erythroid regulators, and the full complement of proteins and transcripts produced in cells with and without the ribosomal protein defect. These proteins will subsequently be tested in established experimental models to assess their contribution to the defective erythropoiesis.

## Staff

### Chair of the combined Departments of Haematology and Medical Oncology

T Price MBBS FRACP

### Head of Clinical Haematology

PG Bardy MBBS FRACP FRCPA

### Head of Clinical Oncology

KB Pittman MBBS MD FRACP

### Head of Clinical Research

TJ Price MBBS FRACP

### Staff Specialists/Clinical Trials

RM Green MBBS FRACP FRCPA

U Hahn MD FRCPA

S McRae MBBS FRACP FRCPA

J Gray MBBS PhD FRACP

WK Patterson MBBS FRACP

K Robinson MBBS FRCPA FRACP

C Lee MBBS FRCPA FRACP

A Townsend MBBS FRACP

R Roberts-Thomson MBBS FRACP

### Chief Medical Scientist and Laboratory Head

RJ D'Andrea PhD

### Principal Medical Scientist and Group Leader

JE Hardingham BSc (Hons) PhD

### Grant Funded Scientists

C Butcher MMedSc

J Wrin BSc (Hons)

A Shivasami MMedSc (Biotechnol)

S Bray PhD

Z Korten BSc (Hons)

A Wee BSc (Hons)

### Clinical Trial Manager

S Yeend EN

### Clinical Trial Study Coordinators

P Cooper BSc

A Jager BMed & Pharm Biotech (Hons)

S Papacharissiou BBiomedSc (Hons)

A Phay BMedSc

L Pirc B Biotech (Hons) MMedSc (until May 2011)

J Rowe BSc (Hons) PhD (LMHS Collaborators)

J Williams BSc Genetics (Hons) MMedSc

### Clinical Trial Administration

A Barr (until September 2011)

### Postgraduate Students

#### PhD candidates

N Rao BSc (Hons) PhD

Molecular characterisation of Polycythemia Vera

S Sree Kumar BSc MSc

Determination of biomarkers of resistance to monoclonal antibody therapies and additional therapeutic targets in colorectal cancer

#### Honours Awarded

S Nelligan BSc. Awarded 1st class Honours, School of Medical Sciences, University of Adelaide, Nov 2011.

Determining a stem cell marker profile to identify colon cancer stem cells

Supervisor J Hardingham.

J Ashby BSc. Awarded class 2A Honours, School of Medical Sciences, University of Adelaide, Nov 2011, Investigation of Caveolin 1 and protein kinase C theta expression as biomarkers of tumour resistance to anti-EGFR therapy

Supervisor J Hardingham.

### 3rd year laboratory placement

J Hardingham hosted four students from the School of Medical Sciences, University of Adelaide: R Rajenthiran, M Iasiello, G Morgan, and M Kourghi working on the project Validating biomarkers for colorectal cancer stem cells using laser microdissection and RT-PCR.

## Collaborators

### (1) Internal (TQEH):

A/Prof A Cummins, Department Gastroenterology and Hepatology, TQEH

Dr P Grover, Molecular Ageing Laboratory, Department of Surgery, TQEH

Mr P Hewett, Colorectal Surgical Unit, Department of Surgery, The Royal Adelaide and Queen Elizabeth Hospitals, Adelaide

Mr N Rieger, Colorectal Surgical Unit, Department of Surgery, The Royal Adelaide and Queen Elizabeth Hospitals, Adelaide

Mr D Walsh, Breast/Endocrine Unit, Department of Surgery, The Queen Elizabeth Hospital, Adelaide

### (2) Other local and National:

A/Prof S Barry, Department of Paediatrics, University of Adelaide, Adelaide

Prof P Klinken, Western Australian Institute for Medical research (WAIMR).

Dr G Suthers, Familial Cancer Unit, Adelaide Women's and Children's Hospital

Dr T Chataway, Flinders Proteomic Facility, Flinders University

Prof LB To, Department of Haematology, SA Pathology, Adelaide

A/Prof Niall Tebbutt, Austin Health, Melbourne

Prof AF Lopez, Division of Human Immunology, SA Pathology, Adelaide

Dr I Lewis, Department of Haematology, SA Pathology, Adelaide

Prof T Gonda, Diamantina Institute, for Cancer, Immunology and Metabolic Medicine, University of Queensland, Brisbane

Dr H Scott, Division of Molecular Medicine, SA Pathology, Adelaide

Dr P Hoffmann, Adelaide Proteomics, University of Adelaide

Dr D Ross, Department of Haematology, Flinders Medical Centre, Bedford Park

Dr P Neilsen, Sarcoma Research Group, Discipline of Medicine, University of Adelaide.

Dr H Tapp, Women's and Children's Hospital, Adelaide.

Prof Timothy Hughes and A/Prof Deborah White, SA Pathology

### (3) International:

Dr C Mullighan, St. Jude Children's Research Hospital, Memphis, Tennessee, USA

## Grants

Leukemia and Lymphoma Society of USA. The role of OCT-1 activity enhancers in improving the response to patients with low OCT-1 activity to imatinib. (\$200,000 2011) 2009-2011, White D, Hughes T, D'Andrea RJ, Somogyi A, Melo J

NHMRC. (Project # 626947) Dissecting the role of the IL-3 receptor alpha subunit and beta-catenin in Acute Myeloid Leukaemia (\$187,500 2011) 2010-2012, D'Andrea R; Ramshaw H, Eckert P, Lewis I, Barry S.

NHMRC. (Project grant) Defining the leukoemogenic mechanism for GATA2 T354M, a new predisposing mutation in familial MDS/AML (\$203,358 2011) 2010-2012, Scott H, Hahn C, Melo J, D'Andrea R.

Oncology research support Scheme A. Identification of biomarkers of resistance to bevacizumab therapy (\$20,000 2011) Price T.

The Hospital Research Foundation. (Small Grant) Identification of key target proteins affected by translational de-regulation in Diamond Blackfan Anaemia (\$20,000 2010-11), Bray S, D'Andrea R, Butcher C, Perugini M, To LB.

### **New grants awarded for 2012**

SAHMRI –The Cancer Council of South Australia.  
(Grant # 1028595). Impact of the activated EGFR-AKT-mTOR signalling pathway on prognosis and tumour resistance to anti-angiogenic targeted therapy for metastatic colorectal cancer. (\$92,678 2012) Townsend A, Hardingham JE, Price TJ, Tebbutt N.

Captain Courageous Foundation. Diamond Blackfan Anaemia and associated bone marrow failure syndromes. (\$185,000 2012) D'Andrea R, To LB.

Channel 7 Children's Research Foundation. Molecular characterisation of Diamond Blackfan Anaemia. (\$73,000 2012) R D'Andrea, To LB, Tapp H, Perugini M, Klinken P, Bray S.

Haematology Research Support. Scheme A funding. (\$65,000 2012) R. D'Andrea.

South Australian Blood Cancer Tumour Bank (SABCTB). (\$500,000 2012) To LB, Hughes T, Lopez AF, Zannettino A, Scott H, D'Andrea R, Kuss B, Lewis I, Cambareri T, White D.

### **Awards**

Professor Richard D'Andrea was awarded a Level E Academic promotion through the University of Adelaide.

### **Acknowledgements**

The Department of Haematology & Oncology would like to thank The Hospital Research Foundation, the National Health and Medical Research Council, The Cancer Council of South Australia, The Captain Courageous Research Fund, Dry July, AIB Labs, the Australian Red Cross Blood Service, The Familial Cancer Unit - Children, Youth & Women's Health Service, Flinders University and the University of Adelaide for their generous support of this research.

# *Intensive Care Unit*

## **Research Focus**

- Sepsis studies
- Observational surveys
- Patient safety
- Nutrition studies
- Outcome studies
- Statistical method reviews
- Pharmacokinetic studies

*The research activities of the Department of Intensive Care Medicine at The Queen Elizabeth Hospital are world recognized, published in leading journals and have received prizes at national and international meetings.*

Research includes a combination of company sponsored clinical trials, Investigator - initiated studies conducted under the auspices of the Australian and New Zealand Intensive Care Society-Clinical Trials Group and local investigator-initiated studies. This includes those by advanced trainees as part of the course requirements of the College of Intensive Care Medicine and by motivated nursing staff.

Our research focuses on:

- Improving patient safety and outcomes
- Answering pragmatic, relevant clinical questions that are of importance to the clinicians who provide patient care
- Advancements in the delivery of more efficient and effective treatments in the ICU that will not only benefit patients but also decrease costs, preserve resources and increase access to scarce critical care beds
- Statistical analysis of short and long-term outcomes relating to Intensive Care; survival analysis of chronically-ill patients and meta-analysis using the Bayesian paradigm

## **Sepsis Studies**

### **Australasian Resuscitation In Sepsis Evaluation (ARISE)**

ARISE is a phase III, multi-centre, ANZICS CTG-endorsed, randomised, controlled study evaluating early goal-directed therapy in 1600 patients presenting to the Emergency Department with severe sepsis in 35 Australian, New Zealand and Hong Kong hospitals. The study has been awarded \$2.4 million and a further \$349,790 by the NHMRC and is being conducted through the Australian and New Zealand Intensive Care Centre Research Centre, Department of Epidemiology and Preventive Medicine, Monash University. Associate Professor Sandra Peake is the Chair of the ARISE Management Committee and Patricia Williams is the Research Coordinator representative on the ARISE Management Committee. The study commenced at The Queen Elizabeth Hospital in October 2008 and is collaboration between the Emergency Department and the Intensive Care Unit. The study recruited its 800th patient in November 2011 and is preparing to conduct the interim analysis. The Queen Elizabeth Hospital is currently the highest recruiting site.

### **An economic evaluation of resuscitation in sepsis**

An economic evaluation of the multi-centre, ARISE randomised controlled trial of early goal-directed therapy in patients presenting to the Emergency Department with severe sepsis will be conducted in a cohort of patients randomised to the ARISE RCT. Cost per quality life year gained will be evaluated. The study was awarded a \$100,000 grant from the Intensive Care Foundation in November 2008 and commenced in 2009.



### **Tissue penetration of vancomycin in critically ill patients with sepsis**

An investigation of the tissue penetration of vancomycin in critically ill patients with sepsis using microdialysis, this study commenced recruitment in 2011. It aims to use a validated technique called *in vivo* microdialysis to compare subcutaneous tissue concentrations of vancomycin with plasma concentrations and determine the appropriateness of present dosing approaches for optimising use of this important antibiotic in critically ill patients. This study is being conducted in collaboration with The Queen Elizabeth Hospital Department of Intensive Care Medicine, The Basil Hetzel Institute Therapeutics Research Centre, University of South Australia Pharmacy and The University of Queensland.

### **CytoFab in Severe sepsis and/or septic shock**

A multicentre, randomised, double-blind, placebo-controlled phase iib study to compare the efficacy and safety of two dosing regimens of intravenous infusions of CytoFab™ (AZD9773) in adult patients with severe sepsis and/or septic shock will randomise approximately 300 patients (100 patients per treatment arm) from approximately 100 centres. The primary objective is to evaluate the effect of two different doses of AZD9773 (CytoFab™) versus placebo on ventilator-free days (VFDs) over 28 days in patients with severe sepsis and/or septic shock, who are receiving appropriate standard of care.

### **Observational Studies**

#### **TAME: An audit of the time and financial costs involved in the review process of multi centre clinical trials in Australia and New Zealand**

The TAME (Time And Money Evaluation) project is an observational study of important aspects of the scientific and ethical review of multi-centre medical research in intensive care across Australia and New Zealand. This study aims to compare between existing systems of local committees versus centralized authorities the overall duration of the scientific and ethics approval process for one or more clinical trials seeking contemporaneous approval in Australia and New Zealand. Also to be compared between local and centralised approval systems are the fees charged for the approval process, and an estimate of the direct time required preparing and supporting the review process by local research staff at each participating site. It is planned that the TAME study will examine two projects seeking approval, these being firstly an investigator-initiated study and secondly a commercially-sponsored study. This study is endorsed by the ANZICS CTG and received funding from the Intensive Care Foundation. Mrs Patricia Williams, TQEH ICU Research Coordinator, is a member of the study Management Committee.

#### **Prolonged QT interval in the ICU-incidence, risk factors and outcome, a prospective multi-centre observational study**

This study is being undertaken to determine the incidence of prolonged QTc interval and QTc dispersion in critically ill patients admitted to the ICU. The study aims to identify associated risk factors, compare cardiac and non-cardiac complications, mortality, length of ICU and hospital stay in patients with prolonged QTc interval and QTc dispersion. This study was conducted in collaboration with the Royal Adelaide Hospital Intensive Care Department. Preparation is underway to submit the results of this study for publication.

#### **The epidemiology of radio contrast exposure in critically ill Australian adults: a prospective, multi-centre, observational study**

A study to determine the incidence of intravascular radio contrast (contrast) nephropathy following exposure to contrast among adults admitted to Intensive Care Unit's in Australia is completed. This study is in collaboration with the Royal Prince Alfred Hospital Intensive Care Unit. Preparation is underway to submit the results of this study for publication.

### **Point Prevalence Program**

The Point Prevalence Program, performed under the auspices of the ANZICS CTG, aims to provide the structure for individual researchers to conduct basic observational Point Prevalence Studies to inform future research, while minimising the workload on participating ICUs by combining studies using a common and standardised Case Report Form, on predictable dates. This program is funded by the Intensive Care Foundation. The 2011 audit day included an evaluation of sodium (salt) intake in ICU patients and fluid resuscitation practices, as part of a longitudinal research program.

### **A Comparison of Point of Care Capillary and Arterial Lactate Measurements in the Critically Ill Patient**

A single centre, prospective, observational study conducted in a 14 bed tertiary, university-affiliated, mixed medical-surgical ICU. The aim of this study is to compare the measurement of paired capillary and arterial blood samples and to ascertain whether there is significant agreement between the samples, using arterial blood sampling as the “gold standard”. The secondary aim of this study will be to compare the time and cost-effectiveness of measuring capillary blood lactate when compared to arterial blood lactate.

### **A prospective, multi-centre observational study in patients admitted to intensive care to estimate daily sodium balance**

This Prospective, multi-centre, observational study will recruit 100 patients in four adult intensive care units in Australia. It will provide knowledge about the amount of salt being administered to patients admitted to the intensive care unit, who require support from a breathing machine. This information, along with the patients' daily salt balance will provide the basis for further studies looking at interventions aimed at reducing the amount of salt administered during a patients stay in Intensive Care and any influence salt balance may play in clinically important patient outcomes. Associate Professor Sandra Peake and Patricia Williams are both on the study Management Committee.

### **Nutrition Studies**

#### **Early total parenteral nutrition**

A multi-centre, level 1 randomised, controlled trial comparing early total parenteral nutrition to standard nutritional support in the critically ill patient was commenced in December 2006. The study is NHMRC-funded and is being performed under the auspices of the ANZICS CTG. Associate Professor Peake is an associate investigator and member of the study Management Committee. Recruitment completed in 2011.

#### **The Augmented vs. Reduced Goals for Energy delivery Trial (TARGET): A feasibility trial**

A randomised, controlled, double-blind, feasibility study to be conducted in 6 adult intensive care units (ICU) nationally. This study is being undertaken to provide baseline data to allow for the planning and funding of a larger multicentre trial to determine if the delivery of additional energy to critically ill adults over the first 10 days of their ICU stay affects clinically important outcomes. Planning for this study has been undertaken in 2011 and recruitment is expected to commence in early 2012. Associate Professor Sandra Peake and Mrs Patricia Williams are both on the study Management Committee. Investigators have submitted a manuscript for publication following a point prevalence study of energy prescription practices in ANZ undertaken in 2010 as part of this larger research program.

### **Patient Safety**

#### **Assessing the safety of a continuous potassium chloride infusion in critical care: A randomised controlled trial**

This prospective non-blinded, randomised, controlled trial aims to ascertain whether administration of potassium chloride is safer by intermittent or continuous infusion. Recruitment completed in September 2009 and data analysis is underway. Funding was received from The Hospital Research Foundation to assist with this study. The study manuscript has been submitted for publication.

#### **Comparison of Haemodynamic Effects of Paracetamol in the Critically Ill**

A randomised, controlled trial assessing the safety and haemodynamic effects of intravenous paracetamol (versus enteral paracetamol) in intensive care patients was commenced in 2010 and completed in 2011. The study was funded by a \$15,000 grant from the Intensive Care Foundation. Preparation is underway to submit the results of this study for publication.

## **Outcome Studies**

### **Radio contrast-induced nephropathy in ICU patients**

A retrospective study examining the incidence of, and risk factors for, radio contrast-induced nephropathy in ICU patients has been completed. Preparation is underway to submit the results of this study for publication.

### **The application of advanced statistical techniques in the analysis of outcome data**

A number of studies are ongoing defining the role of advanced statistical analysis in outcomes research and meta-analysis.

### **The correlation between waist circumference and outcomes in critically ill patients**

This prospective, single centre, epidemiological study was conducted over a 12 month period involving patients who are admitted to the intensive care unit for more than 24 hours. The study aims to determine whether there is a correlation between waist circumference and morbidity, ICU mortality, 28 day mortality, hospital mortality and 6 monthly mortality in critically ill patients. Recruitment was completed in July 2010. A presentation of the results at the 36th Australian and New Zealand Annual Scientific Meeting on Intensive Care, Brisbane, Australia 2011, entitled "Waist Circumference correlates with obesity and morbidity better than BMI in Intensive Care patients", was awarded the Matt Spence Medal.

### **A study of volume outcome relationships in ICU patients**

The object of this study is to examine the volume outcome relationship in a cohort of patients admitted to ANZ ICU's, between 2006-2010, with a diagnosis of 'trauma' as defined by the APACHE III diagnosis codes, utilising the Australian and New Zealand Intensive Care Society adult patient database. This project is being undertaken as part of a Masters Degree by Dr C Nottage (ICU Registrar). A/Professor Sandra Peake is an associate supervisor on this project.

### **Impact and risk factors associated with iNFuenza H1N1 IN Australian HospiTal system, Epidemic (INFINITE)**

This inception-cohort study conducted in all Australian and New Zealand intensive care units (ICUs) during the winter of 2009. This project involved the establishment of a real-time registry and the collection of clinical health information in patients with influenza A infection (including patients with novel H1N1 2009) admitted to the Intensive Care Unit. This study will assist planning for the treatment of infection with the 2009 pandemic influenza A (H1N1) virus through health care systems in developed countries during winter in the Northern Hemisphere. A/Professor Sandra Peake is a member of the study Management Committee. The results of the study thus far were published in the New England Journal of Medicine in October 2009. The study continued into 2010 and recruitment ceased in 2011.

## **Pharmacokinetic Studies**

### **Plasma and interstitial fluid pharmacokinetic and pharmacodynamic evaluation of fluconazole in critically ill non-immunosuppressed patients**

Planning is underway to conduct this project in the TQEH ICU as part of the unit Pharmacist's PhD studies. The aim of the proposed thesis is to understand the plasma and interstitial fluid pharmacokinetics of fluconazole in critically ill patients with and without acute renal replacement therapy (RRT). A suitable pharmacokinetic (PK) and pharmacodynamic (PD) model will be built and dosing strategies required to attain the PD target for fluconazole will be evaluated. An attempt will be made to understand the effect of fluid shifts in critically ill on the fluconazole pharmacokinetics by measuring the total body water and extra cellular water. A/Professor Sandra Peake is an associate supervisor on this project.

**Staff**

Studies on the critically ill represent co-operative undertakings between all the Nursing and Medical staff in the Intensive Care Unit. Many thanks are extended to our Research Coordinator, Mrs Patricia Williams and Research Project Officer, Mrs Catherine Kurenda.

**Director**

MS O'Fathartaigh MB Bch BAO FFARCS (Ire.) FFICANZCA

**Consultant Specialists**

SL Peake BM BS BSc (Hons) FJFICM PhD

JL Moran MB BS FANZCA FRACP FJFICM MD

S Moodie MB CHB FJFICM

K Lee MBBS MBus FACEM FJICM

S Jacobs MBChB FRCA FANZCA

D Clayton BSc MBBS FRCA FANZCA FCICM

**Research Coordinator**

P Williams RN IntCCert, BN

**Research Project Officer**

C Kurenda

**Senior Registrars / Registrars / Resident Medical Officers**

R Chalwin MB CHB

A Benedict MBBS

TM Vinodh MBBS DA DNB FISCCM

H Tewari MBBS MD

K Arpudaswamy MBBS MD

V Biradar MBBS DMB

J Ng MBBS

J Raj MBBS MS

J Abraham MB BS MD

**Nursing staff**

B Grealy RN RM IntCCert BN MN (Res)

S Flynn RN IntCCert

L Esca, RN IntCCert

R Fraser, RN Int CCert

J Phillips-Hughes RN IntC Cert G Dip Nursing

L Sheffield RN IntCCert

R Kelly RN Int CCert

J Herman RN IntCCert

**Post Graduate Students****PhD**

M Sinnollareddy Grad DipClin Pharm BPharm (Hons)

**Masters**

C Nottage MBBS

Studies have been undertaken in collaboration with The Queen Elizabeth Hospital Pharmacy and Dr Tobias Otto, Emergency Department and the Royal Adelaide Hospital and Royal Prince Alfred Intensive Care Units.

**Grants**

NHMRC. The Australasian Resuscitation In Sepsis Evaluation - Randomised Controlled Trial - Continuation Funding Request. (\$349,790 2011-2012) Bellomo R, Peake S.



# *Medicine, University of Adelaide Discipline of*

## **Research Focus**

- Patient safety and quality improvement
- Nutritional problems affecting older people
- Health literacy population research
- Basic research studies of the physiology of zinc in the respiratory system
- Molecular genetics
- Cardiovascular research
- Undergraduate and postgraduate assessment

Members of the department are involved in basic science research, clinical research, and epidemiological research across the disciplines of Neurology, (see Neurology report), Ageing, (see Aged & Extended Care Services report) Cardiology (see Cardiology report), chronic diseases and risk factors and population health.

Professor John Beltrame, Head of the Discipline of Medicine at The Queen Elizabeth Hospital, is a world renowned cardiologist with interests in clinical, epidemiologic and basic laboratory research focussing on vascular dysfunction. His collaborative studies involve local hospitals as well as international institutions in the United States, Holland, Italy and Japan.

Professor Beltrame is the principal investigator for the Coronary Angiography Database of South Australia (CADOSA), which is made possible by the collaborative efforts of senior cardiologists at the four major South Australian teaching hospitals. It is funded by the South Australian Cardiovascular Research Development Program grant and its comprehensive nature is already attracting Australian and international interest. It will not only provide a key template to address important cardiovascular research questions but will also provide vital quality assurance measures.

Some other studies performed by Professor Beltrame include Early Reperfusion Therapies for Acute Myocardial Infarction, Mechanisms and Therapeutics of Coronary Microvascular Disorders, Impact of Coronary Heart Disease on Quality of Life, The Clinical Utility of Coronary CT Angiography, Depression in Patients with Coronary Heart Disease, Management of refractory angina pectoris.

Professor Bob Adams is Director of the Health Observatory, a member of the Discipline of Medicine at The University of Adelaide, and a chief investigator in the North West Adelaide Health Cohort Study (NWAHS). He is a respiratory physician and epidemiologist with a strong interest in quality in health care and health literacy. He has played a significant part in the NWAHS and published widely from this database on a number of chronic disease issues including respiratory diseases, obesity, the metabolic syndrome and a number of nutrition related issues. Professor

*The Department of Medicine has major involvement in undergraduate and postgraduate teaching and training; undergraduate and postgraduate curriculum development and undergraduate postgraduate assessment, basic and applied research; clinical service and management.*

Adams is the inaugural Chair of the SA Health Literacy Alliance, a diverse group of 60 members from university, health, education, and research and clinical and community sectors, formed to provide leadership and support for developing and applying the concept of health literacy as a means of equitably improving health and wellbeing.

in 2011 Professor Adams and his staff have been conducting the MAILES sleep studies from the Basil Hetzel Institute. The MAILES Study (Men: Androgens, Inflammation, Lifestyle and Environment Study) has been funded by the National Health & Medical Research Council (NHMRC) over 3 years. This study contains the world's largest cross-sectional study of sleep-disordered breathing in men that is aimed at determining the independent relationship between Obstructive Sleep Apnoea and uro-genital health, sexual function, sex steroids and inflammation and their contribution to cardiovascular disease (CVD) and type 2 diabetes mellitus (T2DM). At the BHI the sleep apnoea component of the study has been conducted by the Health Observatory team with recruitment undertaken by clinical trials project staff Sandy Pickering, Tina Stravropolous and Antonia Troncone.



Extensive biomedical, demographic, risk factor and psycho-social data has been collected longitudinally to contribute largely to the overall demographic statistics.

Professor John Horowitz is an academic cardiologist who is well known in Australia and internationally. He is the director of the Cardiology Unit and the Clinical Pharmacology Unit. He is an esteemed researcher with an extensive publication record and is at the forefront in studies involving the pathophysiology and therapeutics of cardiovascular disorders such as coronary artery disease, heart failure, and aortic stenosis. He supervises a large group of basic and clinical researchers, including many post-doctoral research students. The details of his research activities are summarised in the Cardiology Unit report.

Associate Professor Simon Koblar is a neurologist and the director of the Stroke Research Program and leads an innovative research team investigating the use of dental pulp stem cells as a potential therapy for stroke patients. Recently he has been awarded two NHMRC research project grants to pursue this therapeutic approach. He has also been awarded the inaugural Peter Couche Foundation research grant, which was supported by the 'Don't Speak' fundraising campaign; in which he was an avid participant.

Associate Professor Renuka Visvanathan is an academic geriatrician and is a Chief Investigator with the Health Observatory in the Basil Hetzel Institute and is the lead for the newly established Positive Ageing Research Group within the Observatory. She is currently an invited member on the Resthaven Board, Clinical Governance Advisory Group-Royal District Nursing Service South Australia and the Malnutrition Advisory Group-Nestle Nutrition Australia. In 2011/2012, Associate Professor Visvanathan is also leading the establishment of an innovative teaching program for medical students in a residential aged care site on behalf of the University of Adelaide Medical School in partnership with Resthaven Inc. This project is funded by Health Workforce Australia. Dr Neha Mahajan, an academic health psychologist, has been appointed to coordinate teaching and gradually develop a research program at the residential aged care site. Dr Cynthia Piantadosi, research fellow, continues to work on the NHMRC funded Frailty and Nutrition Study. Associate Professor Renuka Visvanathan is also the Director of the Aged & Extended Care Services. Further details of her research interest and details about the emerging ageing research program at The Queen Elizabeth Hospital is detailed in the Aged & Extended Care Services section.

Associate Professor Chris Zeitz is an academic cardiologist with multiple clinical roles including Co-Director of the Division of Medicine and the Director of the Cardiac Catheterisation Laboratory. He is also the founding Director of the Cardiology Assistance to Remote Districts in Australia – South Australia division (CARDIA-SA) clinical group and is a member of the University of Adelaide Spencer Gulf Rural Health School. CARDIA-SA is a University of Adelaide initiative that provides consultative cardiology services to rural regions of South Australia. Assoc Prof Zeit's research interests include the management of acute coronary syndromes and indigenous cardiovascular health with active research projects in these important fields.

Dr Sharmalar Rajendran is an interventional cardiologist and a senior lecturer in Medicine. Her research interests focus on the cardiovascular consequences of polycystic ovary disease. She is actively involved in the 4th year medical student teaching program as well as supervising postgraduate research students.

Dr Peter Zalewski continued his studies on the role of zinc in regulation of apoptosis in the respiratory system and in asthma funded by an NHMRC project grant with Professor Richard Ruffin and Dr Chiara Murgia (a visiting research fellow from the Institute for Food and Nutrition in Rome). Contributing to this work are research officer Rhys Hamon, looking at the effects of intracellular Zn on expression of a major inhibitor of apoptosis XIAP, and fourth year PhD student Eugene Roscioli whose thesis concerns the role of XIAP in airway biology and asthma. The grant focuses on the role of Zn ions in regulation of the family of Zn-rich Inhibitor of Apoptosis Proteins (IAPs). A number of new techniques have been established in the laboratory, including Western blotting and mammalian cell gene expression techniques to enable the experiments to be performed. Dr Zalewski is also Chief Investigator A on an NHMRC project grant looking at the role of zinc in phagocytosis in collaboration with A/Prof Sandy Hodge and A/Prof Hubertus Jersmann (Hanson Institute, and Discipline of Medicine, RAH). Dr Zalewski is a co-supervisor of PhD student Razinah Sharif who is working on aspects relating to measurement of zinc levels and deficiency in human buccal cells, in collaboration with scientists at CSIRO, WCH and the Waite institute and of Mariae Bosco (with A/Prof Toby Coates, Renal Unit). Dr Zalewski is also a member of CIDR (Centre for Inflammatory Diseases Research), an across-discipline collaboration between scientists and clinicians at TQEH, focusing on chronic inflammation and especially the role of the inflammasome. Dr Zalewski has become a member of the zinc project arm of IRSES, a European funded grant enabling exchange of information between European scientists and their non-European counterparts. By this collaboration, BHI is linked to INRAN, Institute for Food and Nutrition (Rome) through which exchange of scientists can occur.

Dr Sarah Appleton was a foundation research officer in the Observatory. She has completed her doctoral studies investigating the complexity of the relationship between obesity and respiratory disease, utilising data from the North West Adelaide Health Study. She has published extensively on chronic disease issues in national and international journals and has extended her research interests into areas such as diabetes, the metabolic syndrome, obesity, epidemiological methods and extending working life. In 2011 she worked on The Hospital Research Foundation small grant developing an asthma app for tracking asthma symptoms and treatments which will hopefully improve compliance and overall asthma health.

Dr Cynthia Piantadosi is currently working with Professor Ian Chapman and Associate Professor Renuka Visvanathan on a national multicentre study The effect of testosterone and a nutritional supplement in under-nourished, older people (NHMRC grant number 627178).

Dr Tiffany Gill joined the Health Observatory TQEH team in 2011. Dr Gill is a trained physiotherapist as well as long time accomplished epidemiologist. Since moving from SA Health, Dr Gill has been awarded a NHMRC Early Career Fellowship with her research interests are focussed primarily on the epidemiology of musculoskeletal disorders, she has also published widely in other areas related to chronic disease, risk factor epidemiology and public health.

Rosanna Tavella joined Medicine as a staff member after being a PhD student with Cardiology. Rosanna will graduate with PhD in early 2012 and has been working as the Clinical Data Project Manager with Professor Beltrame and the Statewide Cardiology Clinical Network. She is the also the data coordinator for CADOSA study.

Dr Grant Buchanan and his Molecular Ageing Laboratory moved to the BHI in May 2011. This group is a highly acclaimed and successful research team holding multiple ARC, Prostate Cancer Foundation and Cancer Australia grants. Collaborating with Surgery and a focus on clinical improvements, this group does and will have a large research impact.

Prof John Horowitz, Dr Rajendran and A/Prof Zeitz have their further research interests detailed in the Cardiology section of this report.

A/Prof Simon Koblar has his research interests detailed in the Neurology section of this report.

A/Prof Renuka Visvanathan has her research interests listed in the Aged Care and Extended Services section of this report.

## Staff

### Michell Professor of Medicine

J Beltrame BSc MBBS PhD FRACP

### Professor in Cardiology

J Horowitz MBBS BMedSc(Hons) PhD FRACP

### Professor in Medicine

RJ Adams MBBS MD FRACP

### Emeritus Professor

RE Ruffin BSc(Hons) MBBS(Hons) MD FRACP

### Associate Professors

S Koblar MBBS PhD FRACP

R Visvanathan MBBS PhD FRACP

CJ Zeitz MBBS PhD FRACP

### Senior Lecturers

S Rajendran MBBS FRACP PhD

PD Zalewski BSc(Hons) PhD

N Mahajan BA MAPsychol PhD MPsych

G Buchanan PhD

### Research Fellows

SL Appleton BSc(Hons) PhD

C Piantadosi BAppSc(Hon) PhD

S Bray BSc(Hons) PhD

T Gill BAppSc(Physio), MAppSc(Physio), CertHlthEc, PGradDip(Hlth Sc), MBA, PGradDip(Biostats), PhD

E Need PhD

P Grover BSc MSc PhD

### Peter Doherty Research Fellow

CJ Lang BSc(Hons) PhD

### Postdoctoral Fellow

C Murgia PhD (Visiting)

### Hospital Scientists

AG Milton BSc (Hons)

R Jakobczak BSc

### Clinical Data Project Manager

R Tavella B Health Sc(Hons)

### Research Officer

R Hamon BSc(Hons)

J Q Ng BSc (Hons)

J Licari B Health Sc (Hons)

C Nazar BNurs

A Wee BSc

### Clinical Trial Coordinators

S Pickering

T Stavropoulos

A Troncone

### Research Administrators

J Sowden

L Gallina

### Discipline Secretary

A Brown

A Jaghoori  
Comparison of selective and dual endothelin blockade on Simvastatin effect on endothelin vasoconstrictor response

D DiFiore  
Health Outcomes in Patients with Vasopastic Angina: Local Experience and Comparison with Japanese Patients

L Giorgio  
Exploring the interaction between fibroblasts and tumour cells in prostate cancer

D Leach  
Tumour microenvironment in prostate cancer

E Swinstead  
Progesterone receptor signalling in breast cancer cellular processes

### Higher degrees Awarded

R Tavella PhD awarded, University of Adelaide. Thesis entitled: "Health status outcomes in patients undergoing coronary angiography for the evaluation of chest pain". Special commendation from Dean of Graduate Studies for outstanding thesis.

N Cutri PhD awarded, University of Adelaide. Thesis entitled: "Clinical Studies of Patients with Acute Coronary Syndromes in the Absence of Obstructive Coronary Artery Disease".

### Postgraduate Students

S Yu  
CASA cytokines, adiposity, sarcopenia and ageing: a pilot study

E Roscioli  
The role of ZIP 1 in regulating apoptosis in cells in the respiratory epithelium

G Tucker  
Refinements in health status measurement

E Dent  
Investigation and management of nutritional frailty in older people

S Nair  
Post-prandial hypotension in the elderly

R Dreyer  
Variation in Recovery: Role of Gender on Outcomes of Young Acute Myocardial infarction (AMI) – Patients. The VIRGO Study

N Ghaffari  
The modulation of vasomotor responses by statin therapy platelet aggregation

V Kopetz  
Biological determinants of the coronary slow flow phenomenon

K Rajopadhyaya  
Molecular physiology of vascular function

D Calvanese  
The evaluation of cardiovascular health in chronic methamphetamine users

### Honours Students

S Biermann BSc

T Pasupathy BSc(Biomedical Science)

M Wittwer BSc(Biomedical Science)

### Vacation Scholars 2011-2012

A Khoo - Post Prandial Hypotension project

### Awards

Dreyer R. Finalist for the South Australian Heart Research Achievement awards, EO Myers Trust Fund travel grant, University of Adelaide Health Science Postgraduate Fellowship, Australian Federation of University Women's Barbara Crase Bursary, University of Adelaide Faculty of Health Science Postgraduate Research Conference. (Best overall presentation). Ivan De Lande Travel Award 2011

Jaghoori A. University of Adelaide Faculty of Health Science Postgraduate Research Conference. (Best overall presentation). Best Junior PhD (Laboratory) category prize, The Queen Elizabeth Hospital Research Day 2011.

Dent E. The Hospital Research Foundation Award, Clinical Higher Degrees category oral presentation, the Queen Elizabeth Hospital Research Day, Adelaide October 2011.

Du YT. Poster prize, the Queen Elizabeth Hospital Research Day, Adelaide October 2011.

## Grants

Australian Research Council. (Project grant #LP 0990065) Australian baby boomer generation, obesity and work - patterns, causes and implications. (\$489,764 2011) 2009-2011, Hugo G, Wittert G, Adams RJ, Cobiach L, Daniel N, Findley CC, Taylor AW, Wilson DH, Winefield HR, Woolacott AL, Ruffin RE.

Australian Research Council. (ARC Discovery Projects) Molecular dynamics of steroid receptor crosstalk. (\$116,000 2011) 2011 – 2013, Buchanan G, Need E, Tilley WD, Greene GL, Coetzee GA.

NHMRC. (Project grant #627227) Effect of sex steroids, inflammation, environmental and biopsychosocial factors on cardiometabolic disease risk in men. (\$587,671 2011) 2010-2012, Wittert G, Wilson D, Trivison T, Adams R, Taylor A, McKinley J, Jenkins A, Milne, R, Hugo G, Atlantis E.

NHMRC. (Project grant # 627223) Alveolar macrophage zinc and zinc transporters and their role in phagocytosis. (\$92,917 2011) 2010-2012, Zalewski P, Hodge S, Jersmann H.

NHMRC. Early Career Fellowship (Australian Public Health) The impact of musculoskeletal disorders on an Australian population. (\$72,508 2011) 2011-2014, Gill T.

Prostate Cancer Foundation of Australia. (Young Investigator grant) Targeting chemokine signalling in prostate cancer. (\$125,000 2011) 2011– 2012, Buchanan G.

SA Heart Foundation. Chronic refractory angina – defining its characteristics and exploring endothelin blockade as new potential therapy. (\$331,915 2011) 2011 – 2014, Beltrame JF.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) TQEH Vascular Disease and Therapeutics Research Group: towards improved outcomes for vascular disease. (\$250,000 2011) 2009-2013, Horowitz JD, Beltrame JF, Morris RG, Fitridge RA, Zeitz CJ, Wilson DP, Sallustio BC, Chirkov YY, Kennedy JA, Cowled PA.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) The Health Observatory. (\$250,000 2011) 2009-2013, Adams RJ, Wilson D, Hill C, Visvanathan R, Wittert G, Ruffin R.

The Hospital Research Foundation. (Small grant) Role of zinc transporter 8 in islet anti-oxidative roles (\$20,000 2011) Zalewski P.

The Hospital Research Foundation. (Small grant) A pilot study of a mobile telephone “asthma application” for asthma management. (\$15,600 2011) Appleton S.

## New grants awarded for 2012

Arthritis Australia Project Grant. An examination of shoulder pain using MRI in older people. (\$15,000) Gill T, Hill C, Shanahan M, Allison A.

Arthritis Australia Project Grant. Inflammatory effects of immune complexes. (\$20,000) Zalewski P, Tran H, Lester S.

Cancer Australia. Androgen receptor action in the prostate cancer microenvironment. 2012 – 2015 (\$567,000) Buchanan G.

Prostate Cancer Foundation of Australia. Prostate Cancer Fndn of Australia Young Investigator Grant. Targeting chemokine signalling in prostate cancer. (\$250,000) Buchanan G.

Resmed Foundation. Sleep, sexual health, inflammation and cardiometabolic disease in a large male cohort. (US\$49,925) Adams R, McEvoy D, Wittert G, Araujo A.

The Hospital Research Foundation. Equipment Grant. (\$14,030) Zalewski P, Beltrame J, Rischmueller M.

University of Adelaide. (Faculty of Health Sciences New Appointment Funding) The impact of musculoskeletal disorders on an Australian population. (\$12,500) Gill T.

University of Adelaide. (Discipline of Medicine). Equipment Grant. (\$10,000) Zalewski P, Beltrame J, Rischmueller M.

**Dr Elaine Leung**  
(See story page 54)

---



## *Neurology Unit*

### **Research Focus**

- Investigating environmental, genetic and proteomic risks for stroke
- Investigation of the therapeutic application of adult stem cells to repair the brain following stroke
- Investigation of inflammatory pathways in stroke and other diseases
- Primary health stroke prevention research
- Statistical parametric mapping analysis of regional cerebral blood flow (Nuclear Medicine collaboration)
- Epilepsy Research (clinical trials of new anti-epileptic medication)
- Dementia Research (clinical trials of new Alzheimer's Disease and Prodromal Alzheimer's Disease medications)
- Multiple Sclerosis (clinical trials of new RRMS treatments)

*The Neurology Department has two main research arms:*

***Stroke related research** which involves genetic and proteomic investigations into risk for stroke, stem cell therapy to repair the brain following stroke, inflammatory pathways involved in stroke, and primary health stroke prevention research.*

***Clinical trials** sponsored to investigate the benefit to our patient populations of new therapeutics in dementia, epilepsy and multiple sclerosis.*

### **Stroke Research Programme**

The Stroke Research Programme (SRP), directed by A/Prof Simon Koblar and co-director Dr Anne Hamilton-Bruce, collaborates with the University of Adelaide via the Schools of Medicine, Medical Science, Molecular and Biomedical Science and the Robinson Institute. The Programme also participates in the Australian Stroke Genetics Collaboration, a multi-state, multi-centre Australian study into the genetic causes of stroke.

SRP is undertaking pre-clinical studies investigating how best to deliver Dental Pulp Stem Cells (DPSC) and if improvement can be achieved when DPSC are administered days after stroke. Several possible mechanisms of action may underlie how DPSC improve brain function: this is another major research interest.

Recently our paper on the association of the phosphodiesterase 4D (PDE4D) gene and cardioembolic stroke in an Australian cohort has been published in *International Journal of Stroke*.



PhD candidate Michael Djukic's proteomic biomarker research in transient ischaemic attack (TIA) patients has discovered several likely biomarkers which have IP applications. Wai Khay Leong is finishing her PhD on the functional use and underlying mechanisms of using DPSC in a rat stroke model. She won best poster presentation at the International Scientific Conference for the Stroke Society of Australasia and also Research Day, University of Adelaide. Dr Elaine Leung continues her PhD defining characteristics of TIA assessment and management and determining if a community-based rapid access TIA clinic improves patient stroke outcome. She has recently published in the British Medical Journal.

Team members have continued to present at community meetings to raise awareness about our research and funding needs, to support our research.

SRP team members and Stroke Unit staff participated in a very successful International Scientific Conference for the Stroke Society of Australasia, convened in Adelaide by A/Prof Koblar.

## Clinical Trials

### Stroke

The Servier PERFORM study – an international, randomized, double-blind, two parallel group study comparing Terutroban 30mg o.d. versus Aspirin 100mg o.d. administered orally for a 3-year mean duration. Protocol No: CL3-18886-012-AUS. Recent analysis of interim data revealed no significant advantage of Terutroban versus Aspirin and therefore the trial sponsor decided to prematurely terminate the trial, importantly there were no safety concerns with active trial therapy.

### Epilepsy

The Department has been recruiting for two new studies. USL P09-004 investigates Slow Release Topiramate as adjunctive therapy for refractory partial onset seizures with or without secondary generalisation; SP0993 and the extension SP0994 study are monotherapy controlled trials of Lacosamide 200 to 600 mg day, versus Controlled Release Carbamazepine (400 to 1200 mg day) versus placebo. Such investigative trials will allow access to new anti-epileptic drugs that may not become available to the general public until Pharmaceutical Benefits Scheme (PBS) listing and allows development of valuable clinical experience in the utilisation of these drugs.

### Dementia

The Memory Clinic and Clinical Cognitive Research Unit's continue to participate in many national and International studies. Dr Karyn Boundy is the Chairperson of the Australasian Consortium of Centres for Clinical Cognitive Research (AC4R) to facilitate clinical trials in memory conditions in Australasia. She is also the South Australian and AC4R representative for Neurosciences Trials Australia – a clinical trials platform with “nodes” in each neurological subspecialty area to facilitate both investigator driven and to also to attract pharmaceutical company early stage phase I – III research to Australia. Dr Boundy has spoken at local General Practitioner (GP) division, national and international meetings about aspects of dementia management and diagnosis of less common dementias e.g., frontal lobe and tauopathies.

The satellite Neurology/Memory Clinic has proven popular in Port Lincoln and Tumby Bay via Rural Health SA.

Various international publications have arisen from participation in the Prospective Research in Memory Clinics (PRIME), a database that studies all types of dementia patients attending Australian Memory Clinics. Applications have been successfully made to PBS/PBAC to simplify prescribing of AD medications.



### Alzheimer Symptomatic Trials

Various trials have been commenced, completed or are in extension phase.

Lundbeck compound Lu AE58054, a selective serotonin receptor 6 (5-HT<sub>6</sub> receptor) antagonist for patients with moderate Alzheimer's disease completed recruitment in 2011 and is under analysis.

Roche compound RO5313534, added to donepezil for mild to moderate Alzheimer's Disease was completed and shown to be safe but ineffectual. The Pfizer Phase 2 study of Multiple Doses of PF 04360365 in Patients with Mild to Moderate Alzheimer's Disease, a humanized monoclonal antibody was proven safe but further studies are on hold.

The Medivation/Pfizer sponsored DIM18 (Dimebon) Phase III study for mild to moderate Alzheimer's Disease continues in a Phase III mono-therapy extension study with results awaited.

Servier's CL2-38093-005 protocol for compound S 38093, has now been advanced to phase IIb, with an anticipated add on therapy study due to commence in 2012.

Sanofi-Aventis are researching the effect of SAR110894D at doses of 0.5 mg, 2 mg, and 5 mg/day for 24 weeks in patients with mild to moderate Alzheimer's disease on stable donepezil therapy.

### Disease Modifying Trials in Alzheimer's Disease

Recruitment for the Wyeth/Elan -3000/1-WW **APOE-4 non-carrier** study extension now ensures ongoing patients receive 4 years of treatment with this monoclonal antibody.

In 2012, the Department is expected to participate in an IVIG phase III study, along with a BACE inhibitor Phase II-III, both indicated for Alzheimer's disease.

### Prodromal AD

Roche is studying the effects of RO4919832 on Cognition and Function in Prodromal Alzheimer's Disease for two years. This study is being conducted due to gantenerumab having a preclinical profile consistent with AB reduction effect, additionally in the multiple ascending dose (MAD) study conducted in AD patients, gantenerumab appeared to inhibit and reduce the accumulation of brain AB observed on positron emission tomography (PET) brain scans.

Roche is studying the effects of RO4919832 on Cognition and Function in Prodromal Alzheimer's Disease for two years. This study is being conducted due to gantenerumab having a preclinical profile consistent with AB reduction effect, additionally in the multiple ascending dose (MAD) study conducted in AD patients, gantenerumab appeared to inhibit and reduce the accumulation of brain AB observed on positron emission tomography (PET) brain scans.

### Multiple Sclerosis (MS)

The field of MS continues to be excited by news of important research, newly approved drug treatments and many new and on-going drug trials. Cladribine (Movectro), an oral immunosuppressive drug, was approved in Australia this time last year and the drug was offered to MS patients under the Product Familiarisation Program (PFP) at this hospital to 6 patients. Unfortunately the company has decided to discontinue marketing the drug due to unsuccessful submissions for approval in the US and Europe. Fingolimod (Gilenya) is another oral drug which was approved earlier this year in Australia and most countries around the world. It reversibly traps a proportion of lymphocytes in the lymph nodes thereby reducing neuro-inflammation in RRMS. Fingolimod was also offered to MS patients under the PFP until it was PBS-listed in September.

We completed several MS trials this year. The extension to the Fingolimod CFTY720D2301 protocol has just been completed after 2 years. We await the results.

The Fingolimod (FTY720D2316) trial looking at a more in-depth assessment of the cardiac, ophthalmic and dermatological effects finished after 6 months. We await the results.

Daclizumab (Zenepax) is an anti-CD25 antibody that reduces survival of activated T cells, possibly by NK cells. In the phase II study, Daclizumab resulted in a 78% reduction in new contrast-enhancing lesion formation, occurring over 2 months. An 80% reduction in exacerbation rate was also seen. The phase III study (DECIDE Study) comparing the efficacy of Daclizumab against Avonex over 2 years has just completed at this site. Results are awaited.

Protocol EFC105031 trialled an oral compound (Teriflunomide) which inhibits T-cell proliferation. The Phase II study has shown significant reduction of disease activity on MRI scans and a trend towards lower annualised relapse rates and disability. The current Phase III study compares 2 different doses of Teriflunomide against placebo over two years. Preliminary results are very promising. We were not able to recruit any patient during the recruitment period and the study was discontinued at this site.

The CAMMS323 and CAMMS324 protocols trial Alemtuzumab in treatment-naïve and previously treated MS patients respectively. This monoclonal antibody is approved for the treatment of B-cell chronic lymphocytic leukaemia in many countries. CAMMS323 finished this year and the final (& to be published) results shows a 55% reduction in relapse at 2 years in adults treated with Alemtuzumab compared with those receiving interferon. Similarly, the 324 study shows a 49 percent reduction in relapse rate in patients treated with Alemtuzumab 12 mg compared to interferon beta-1a over two years of study. Importantly, there was also a 42 percent reduction in the risk of sustained accumulation (worsening) of disability as measured by the Expanded Disability Status Scale (EDSS). An extension study is in place to monitor the longer term effects of Alemtuzumab.

COPERNICUS was a prospective, parallel group, non-randomised open-label observational study comparing Copaxone With Interferons in patients with confirmed Multiple Sclerosis. This was a study based in Australia & New Zealand only. Unfortunately the study was stopped after a year due to slow and low recruitment numbers which would not be sufficient to obtain a meaningful statistical analysis.

Neuromyelitis optica (NMO) has been recognised as a distinct clinical and pathological variant of multiple sclerosis (MS). Clinically, the disease is confined to the optic nerves and spinal cord where severe relapses of inflammatory demyelination result in accumulation of significant morbidity. Pathologically, demyelination is often accompanied by neuronal and astrocyte loss, a distinction from MS. The recent discovery of an antibody to the water channel, aquaporin-4 (located on astrocyte endfeet) in cases of clinical NMO appears consistent with this idea. A study on a prevalence survey of cases of NMO identified by neurologists in Australia and NZ in 2010 and an incidence survey from 2010 to 2013 is in progress. This project has three main objectives. First, to establish the prevalence and incidence of neuromyelitis optica in Australia and New Zealand using clinical criteria. Second, to estimate the sensitivity and specificity of NMO IgG serum testing for the diagnosis of NMO in this population. Third, by comparison with existing cohorts of classical MS, highlight the demographic and clinical features of Antipodean NMO. This study is on-going.

New studies being considered are a long term observational study on the safety and efficacy of Fingolimod in patients taking the drug post PBS-listing, a Phase II/III efficacy and safety study on the second-generation Fingolimod which hopefully will have less of the major side effects and an observational study on the use of a new syringe unit for an old injectable MS drug.

## Staff

### Senior Consultant Neurologist / Director of Neurology

MK Robinson MBBS FRACP

### Senior Visiting Neurologist

GH Purdie MBBS FRACP

KL Boundy MBBS FRACP

H Waddy BMBS FRACP

### Senior Consultant Neurologist / Director of Stroke Unit / Chair, Statewide Stroke Clinical Network (SA Health)

J Jannes BMBS FRACP PhD

### Clinical Academic Neurologist / Director of Stroke Research Programme

SA Koblar BMBS FRACP PhD

### Chief Clinical Neuropsychologist

AC Kneebone BA Dip App Psych MA PhD FAPS

### Consultant Neurologist

C Short BSc MBBS FRACP

J Leyden BMBS FRACP

A Tan BMBS FRACP

### Principal Medical Scientist / Co-Director of Stroke Research Programme

MA Hamilton-Bruce BSc MSc MBA PhD AFCHSE CBiol MSB CSci FIBMS

### Medical Scientist

MB Donk BHSc

### Chief EEG Technologist

J Pruszkowski Diploma in Medical Analysis

### Stroke Clinical Network Development Manager (SA Health)

K Goldsmith

### Neurology Secretary

JA D'ordoy Cert IV Bus Admin

### Administrative Assistant

K Greet

### Administrative Assistant (part-time)

R Richards

### Memory Unit Secretary

K McKinna

### Clinical Nurse Manager

KJ Webb RN BN

### Comprehensive Epilepsy Program NP

S Horn NP

### Stroke Nurse

L Dodd RN BN

### Transient Ischaemic Attack (TIA) Nurse

P Toner RN BN

### Stroke Research Nurse

S Castle RN BN

J Cranefield RN BN, MHLthSc (HlthServMgmt)

### Clinical Research Trials

JA Deimel MNsgSc(Nurse Prac), BN, RN

PCK Cheung RN

P Steventon RN

S Casey RN BN

J Cranefield RN BN, MHLthSc (HlthServMgmt)

### Senior Medical Scientist for SRP

AG Milton BSc(Hons) Dip Comp Sci

### PhD candidates

M Djukic BHSc(Hons) GradCertBus(Acc)

Proteomic and genomic investigations in transient ischaemic attack

K Ellis BSc(Biomed Science) BPsych(Hons)

Neuronal differentiation of dental pulp stem cells in vitro and in vivo and their influence on endogenous cortical inhibition

VJ Krawczyk BSocSc(Hum Serv) Hons BArts

Animal-human intercorporeality: exploring interactions and organisational processes within a neo-liberal context

WK Leong BSc(Biotech)(Hons)

Mechanisms of neuroregeneration post-ischaemic stroke – stem cell and molecular studies

ES Leung MBBS BSc(Med) DCH FRACGP

That a community-based approach to Transient Ischaemic Attack (TIA) care is effective

### Completed Honours

S Biermann BSc

Health literacy levels and lifestyle behaviours in a stroke population

### Awards

Biermann S	Best Honours Student Oral Presentation Prize, The Queen Elizabeth Hospital research Day, Adelaide, October 2011
Djukic M	Best Lay Description Prize, The Queen Elizabeth Hospital research Day, Adelaide, October 2011

### Grants

Adelaide Scholarships International (ASI) (\$22,500 2011), Leong WK.

NHMRC. Australian Stroke Genetics Collaborative: Genome-wide association study in Ischaemic Stroke (\$1,100,000 2011) 2009 – 2011, Levi C, Sturm J, Attia J, Scott R, Koblar SA, Lincz L, Jannes J.

NHMRC. (Project Grant) Brain repair following stroke: the role of Npas4, a neural-specific transcription factor (\$590,048 2011) 2011-2013, Koblar SA, Hamilton-Bruce A, Milton AG, Lin Y, Lewis M.

NHMRC. (Project Grant) Role of Tenascin-C and TLR-4 in carotid atherosclerosis related stroke, (\$297,524 2011) 2011-2013, Clancy P, Koblar SA.

NHMRC. (Project Grant) The Role of Eph/ephrin Interactions in Mediating Mesenchymal Stem Cell Commitment, Migration and Bone Fracture Repair (\$185,000 2011) 2009-2011, Gronthos S, Koblar SA, Matsuo K.

Peter Couche Foundation. Intravenous Delivery of Stem Cells for Stroke Therapy (\$150,000 2011), Koblar SA.

Rebecca L Cooper Medical Research Foundation for Brain Sciences. Stroke Research Equipment Grant (\$18,500 awarded in 2010, for 2011), Koblar S, Hamilton-Bruce A, Lewis M, Milton AG, Kremer K, Rich J, Leong WK.

Stroke SA. Stem Cell Therapy in Stroke (\$3,000 – awarded 2010 for 2011), Koblar SA, Hamilton-Bruce MA, Milton A.

Stroke SA. Stem Cell Therapy in Stroke (\$5,000 – awarded June 2011), Koblar SA, Hamilton-Bruce MA, Milton A.

Stroke SA. Stem Cell Therapy in Stroke (\$5,000 – awarded December 2011), Koblar SA, Hamilton-Bruce MA, Milton A.

Stroke Foundation. TIA Management and Diagnosis - COMBAT and Biomarker Discovery (\$20,000 2010-2011) Leung E, Koblar SA.

Sturt Fleurieu, COMBAT Community based research for the management of TIA (\$40,000 2011) Leung E, Koblar SA.

The Hospital Research Foundation Strategic Initiatives. (Program grant). Inflammatory Mechanisms and Therapies in Chronic Disease, Asthma, COPD, Stroke, Cerebrovascular Disease, Rheumatology Diseases and Chronic Rhinosinusitis (\$180,000 2011) 2009-2011, Rischmueller M, Wormald PJ, Koblar SA, Lang C, Lester S, Tan LW, Zalewski P.

University of Adelaide Australian Postgraduate Award (\$22,500 2011) Djukic M.

Prime Database Survey funding from Janssen Cilag (\$25,000 2007 - 2011) Boundy KL.

## Collaborations

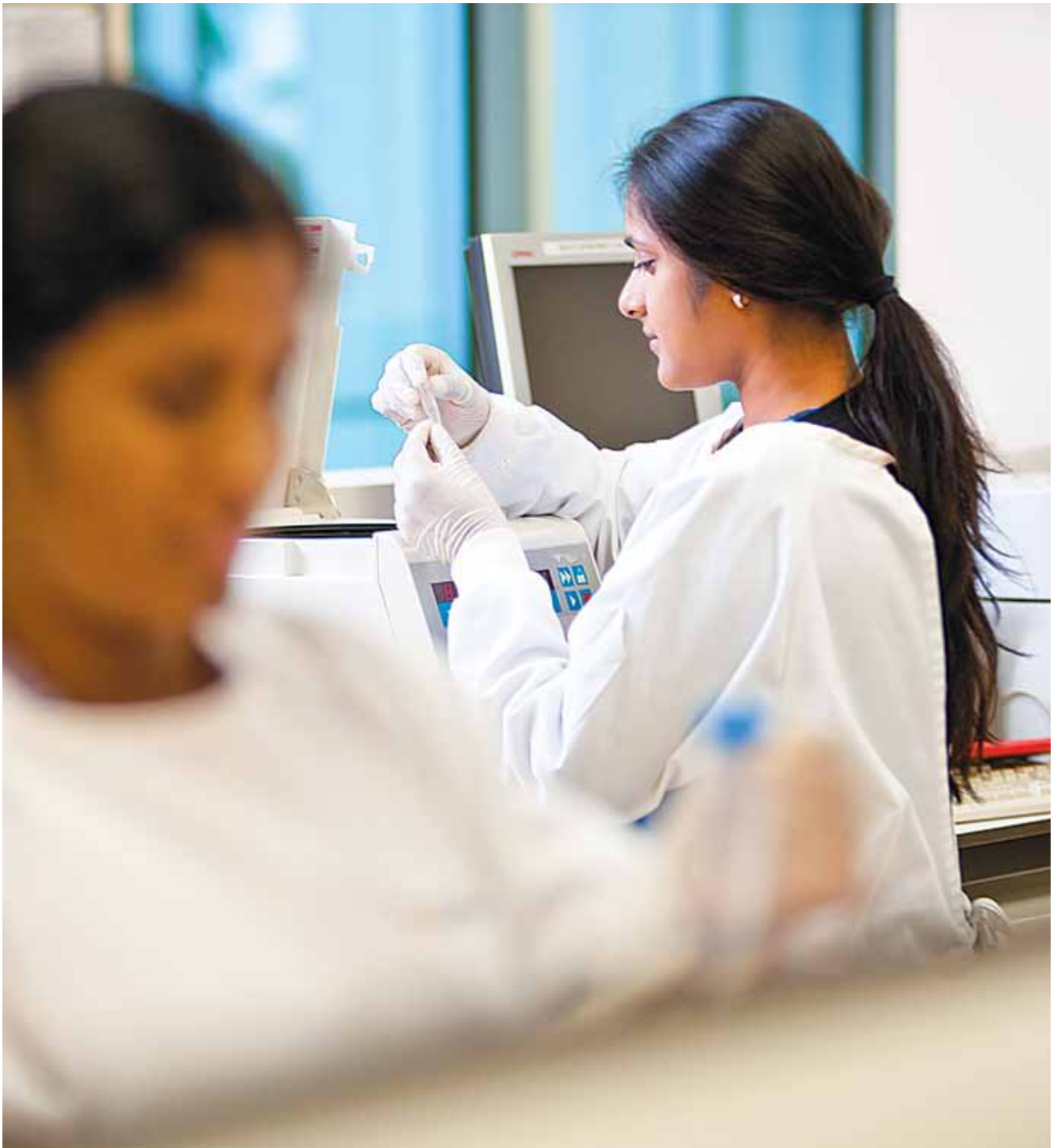
1) Neuroplasticity - experiments and collaborations made re determining the mechanism of action of DPSC improving stroke outcome. These have been undertaken at Cambridge with Professor James Fawcett, Cambridge Centre for Brain Repair, University of Cambridge and with Professor Jean-Claude Baron, Lewin Stroke & Rehabilitation Unit, Addenbrookes Hospital, Cambridge.

2) Inflammation and stroke - collaborations set-up with Professor Stefano Pluchino from Cambridge Centre for Brain Repair (formerly University of San Raffael, Milan, Italy). May 2010. Professor Stefano Pluchino also agreed to give plenary lecture at SSA meeting in Adelaide 2011.

3) TIA - collaborations begun with Drs Peter Martin and Liz Warburton, TIA services, Lewin Stroke & Rehabilitation Unit, Addenbrookes Hospital, Cambridge.

## Awards

Leong WK	Poster Prize Robinson Institute Centre for Stem Cell Research Annual Meeting, Adelaide, November 2011. "Human Dental Pulp Stem Cells survive, migrate and differentiate following transplantation in the ischaemic rat brain". Leong WK, Henshall T, Helps S, Vink R, Lewis M, Gronthos S, Koblar S (\$1,000).
Leung E	Alan Chancellor Medal 2011, Royal Australian College of General Practitioners Conference, October 2011, Hobart, Tasmania. "COMMunity based rapid Transient Ischaemic Attack (TIA) care: COMBAT Stroke" (\$500)



## *Nuclear Medicine Unit*

### **Research Focus**

- Statistical parametric mapping of regional cerebral blood flow and MRI
- Development of new image processing techniques in brain and cardiac MRI imaging
- Evaluation of ischaemia and cardiac denervation in heart failure
- Evaluation of relationships between brain MRI and clinical scores in Chronic Fatigue Syndrome (CFS)

*Our Department's research continues to focus on the major areas of cardiac and neurological nuclear medicine.*

Dr Thanh Nguyen is continuing her investigation into the association between cardiac sympathetic denervation (as assessed by myocardial I-123 MIBG imaging), myocardial ischaemia (assessed with stress Tc-99m Sestamibi imaging) and outcomes, particularly ventricular arrhythmias, in patients with heart failure (1,2). The Cardiology department funded medical physicist Ben Crouch to extend software already developed in the department to specifically detect and quantify defects in cardiac MRI scans. The program, designed in consultation with Dr Chris Neil, incorporates a database of normal 3D cardiac MRI scans against which an individual patient scan is assessed.

In 2011 Neuroimaging research and development built on the image processing expertise of the medical physicists in the department. Medical Physics registrar Dr Daniel Badger completed the research project (3) for his master's degree in Medical Physics (a requisite of the program for certification in Medical Physics). Dr Leighton Barnden's collaboration with medical physicists in London and Paris resulted in another publication (4). Dr Barnden supervised another University of Adelaide masters project which validated software developed by him to improve the quantification of absolute cerebral bloodflow.

Continued funding from 2009 allowed Ben Crouch to continue analysis of brain MRI images in Chronic Fatigue Syndrome (CFS) (5) under the supervision of Dr Barnden. Our application of SPM for quantitative analysis of T1 and T2-weighted MRI is a world first. We discovered involvement of brainstem and prefrontal white matter structures not yet reported in the CFS literature. The first report on this work was published (6) and two further reports are in preparation that describe important new insights into this poorly understood condition. Recruitment and extended scanning of a new group of CFS subjects is underway.



## Staff

### Director

S Unger MBBS FRACP PhD

### Visiting Medical Specialists

M Kitchener MBBS FRACP

R Casse MBBS FRACP

A Warner MBBS FRACP PhD

G Cehic MBBS FRACP

K Tan MBBS FRACP

M Nottage MBBS FRACR

### Medical Scientists

L Barnden BSc(Hons)PhD MACPSEM

D Badger BSc(Hons) PhD

B Crouch BSc(Hons)

### MSc in Medical Physics

D Badger

B Crouch

### Registrar

S Weerasooriya MBBS

### Technologists (shared with LMH)

P Ong

G Pandos

T Smith

P Sotiropoulos

N Farnham

E Langeluddecke

J Lawrie

D Maglica

R Edwards

M Patterson

## Higher Degree Students

### Higher degree Awarded

LA Wuhaib	Data driven optimization of a scintigraphic method to assess brain perfusion. MSc thesis, University of Adelaide; 2011.
-----------	---

### PhD candidate

TH Nguyen	Cardiac Denervation in Heart Failure
-----------	--------------------------------------

### Grants

The Mason Foundation. Investigation of the progression of brain abnormalities in Chronic Fatigue Syndrome (CFS) using MRI in a longitudinal study of post-viral fatigue subjects (\$100,000 2011) 2009-11, Barnden L, Kwiatek R.

## *Nursing Research*

### **Research Focus**

- Fundamentals of Nursing Practice
- Responding to rapid deterioration in patients
- VTE Prophylaxis
- CPI projects – responding to patient calls
- Integration of Nurse Practitioner roles into the hospital
- Hand Hygiene
- MRO Management
- Nutrition
- Risk assessment
- Bed Management & improving efficiency
- Chronic Disease Management in the Community (avoiding unnecessary admissions)

*The Nursing Service continually strives for improvement in practice, service and efficiency, looking at the evidence from within and external to the hospital while in an environment of ever increasing demand and change.*

We continue to work collaboratively with our local health network partners in the Central Adelaide region to develop better systems of care as well as providing greater opportunities for our staff to partner on clinical projects and research to improve our patients care both within the hospital and in the community.

Nurses are fundamental to patient flow and bed utilisation and do this together with medical, allied health and support service staff. We now have 6 additional Nurse Practitioners in Breast/Endocrine, Orthopaedics, Vascular, Epilepsy & Emergency Department with several others working toward authorisation in Palliative Care, Geriatrics, Haematology/Oncology, Dementia & Cognitive Health, Heart Failure, Acute Cardiac Assessment and Emergency Care. These expert nurses provide patients with effective management aimed at reducing presentations and continuing their care in the community. We continue to provide opportunities for Nurses to develop their professional practice and to attend/present at national and international conferences/summits as well as develop collaborative links with the University post graduate studies with our research collaboration to be extended during 2012.



# Otolaryngology, Head And Neck Surgery, Department Of

## **Research Focus**

Research in the Department of Otolaryngology, Head and Neck Surgery is focused on understanding the pathogenesis of chronic rhinosinusitis (CRS), using a multidisciplinary approach, aimed at identifying new diagnostic/prognostic markers and treatment strategies to the benefit of our patients.

*The ENT department is committed to excellence in ENT research and education. The research team currently consists of twelve Masters and PhD students, supported by four scientists and clinical staff and is recognized internationally as one of the leading rhinological research institutions in the world.*

This is evidenced by the large number of scientific publications produced (17 publications in 2011) and scientific prizes that were awarded to members of the department at national and international scientific meetings.

Dr Sarah Vreugde has joined the group mid 2011 as Chief Research Scientist, replacing Dr Lor Wai Tan. She has a clinical background in medicine, specialized in ENT, and has extensive experience in molecular and cell biology. Her research focuses on understanding molecular mechanisms of disease, aimed at identifying molecular targets for the development of new diagnostic and treatment strategies. The assistance provided by Research Assistants Dr Clare Cooksley, Mr Damien Jones and Ms Dijana Miljkovic has seen an increase in the pace of research in the ENT Unit and has been invaluable technical support for the Unit.

## **Pathophysiological aspects of chronic rhinosinusitis**

Chronic rhinosinusitis (CRS) is a complex multifactorial disease or group of diseases that have similar clinical symptoms. Despite extensive research in the bacteriological and immunological aspects of the disease, the pathogenetic basis of CRS remains poorly understood. Several of our research projects are aimed at understanding molecular, cellular, microbiological and immunological aspects of CRS.

Dr Neil Tan, MSc candidate, is studying mechanisms in which *S. aureus* invades the intracellular compartments of the nasal mucosal surfaces in patients with CRS and the effects such invasion has on the gene expression profile of epithelial cells in an *in vitro* system of primary nasal epithelial cells. The aim of his study is to investigate if and how intracellular *S. aureus* affects the disease outcome of CRS at a molecular and cellular level. Dr Clare Cooksley joined the lab as a Research Assistant in mid-2011. Apart from her responsibility for the day-to-day running of experimental protocols, her research project focuses on specific TLR response pathways that we have found to be affected in patients with CRS and that may be directly induced by the presence of bacterial products, enabling the bacteria to evade an immune response. Ahmed Bassiouni, MSc candidate, is focusing on understanding the role of eosinophilic inflammatory load, fibrosis and remodelling in patients with refractory chronic rhinosinusitis (rCRS) and failure of surgical and medical treatment.



#### **The host immune response to *Staphylococcus* and fungal antigens in Chronic Rhinosinusitis (CRS)**

Ms Dijana Miljkovic is working on a 3 year Garnett Passe and Rodney Williams Memorial Foundation Project Grant "The role of *Staphylococcus aureus* superantigens and fungal antigens in chronic rhinosinusitis" awarded to Dr Harshita Pant, Senior ENT Consultant. The team is characterizing mucosal inflammatory cell populations in CRS patients and studies the immune responses and the local mucosal antibody responses to different pathogens utilizing flow cytometry, ImmunoCAP, ELISA and Bioplex.

Dr Daniel Cantero, MSc candidate, joined us in 2011 and has set up an *in vitro* explant model system of sinonasal tissues to study the host immune response to *S. aureus* in the planktonic state and in the form of biofilm in CRS patients. He is using the Bioplex Multi Arrayer (Biorad, USA) to study cytokines in the supernatant and a customized RT-PCR array to determine corresponding innate immune mediators in the tissue.

Dr Samuel Boase is nearing the end of his PhD, where he successfully developed an animal model to study the formation of fungal & bacterial biofilm on sinonasal mucosa, as well as the effect of cilia dysfunction and inflammation on fungal biofilm formation. He also characterized the patient's IgE specific response to

SAE and fungi in the serum and diseased mucosa and correlated this with the presence of *S. aureus* and fungi which reside at the mucosal interface. His work was awarded the Ron Gristwood Medal, Best Registrar Presentation ASOHS (SA) in 2011.

#### **Microbiome and microbe-microbe interactions in CRS**

Dr Joshua Jervis-Bardy is finalizing his PhD project. This year he has focused his research on understanding microbe-microbe interactions between different *Staphylococcus* strains and how quantitative and qualitative differences in infecting agents may determine the disease severity in a sheep model of chronic rhinosinusitis. Dr Edward J Cleland, PhD candidate, joined our group in 2011. The aims of his study are (1) to determine the microbiome in pre-operative and post-operative CRS patients and in CRSwNP vs CRSsNP vs Control patients using probes specific for 16s rRNA (bacteria) and 18s rRNA (fungus), (2) to determine the relative prevalence of bacterial species per sample and correlate with disease severity and (3) to determine if a relationship exists between bacterial prevalence and biofilm status.

### **New treatment strategies for chronic rhinosinusitis**

Treatment of CRS is aimed at controlling rather than curing the disease. However, despite optimal treatment measures, a significant subset of patients do not respond well and require multiple surgical interventions and repetitive antibiotic treatments, favouring the development of *Staphylococcus* strains resistant to all known antibiotics (MRSA). There is thus a need for the identification of further and improved therapeutic targets to treat this complex disease.

Dr Camille Jardeleza, PhD candidate, studies the association of nitric oxide (NO) with *Staphylococcus aureus* biofilms in the setting of chronic rhinosinusitis (CRS). After testing the effects of NO on *S. aureus* biofilms *in vitro*, Dr. Jardeleza will now test the efficacy of NO against *S. aureus* biofilms *in vivo* in a large animal model. manda Drilling, PhD candidate, is assessing the efficacy of a bacteriophage cocktail to eliminate *S. aureus* biofilm formation *in vitro* and at a second stage, in an *in vivo* model of rhinosinusitis. Dr Thanh Ha, MSc candidate, is in charge of a clinically-based human study which aims to evaluate the effects of Chitosan gel on wound healing following Endoscopic Sinus Surgery and Modified Endoscopic Lothrop Procedure – in particular, the production or absence of intra-nasal adhesions and the narrowing of sinus openings are being evaluated in an ongoing double-blinded randomized controlled trial.

### **Efficacy and safety study of a novel Chitosan gel in a neurosurgical sheep model.**

Dr Sukanya Rajiv, MSc candidate, is studying the haemostatic potential of a novel Chitosan gel in a neurosurgical sheep model and studies the acute and chronic inflammatory changes caused by the Chitosan gel in the above model.

### **Staff**

#### **Professor of Otorhinolaryngology Head & Neck Surgery and Head of Department**

PJ Wormald MD FCS(SA) FRCS(Ed)

#### **Senior Lecturer**

G Rees MBBS FRACS

#### **Staff Specialists**

S Floreani MBBS FRACS

J Ling MBBS FRACS

S Rajapaksa MBBS FRACS

H Pant MBBS FRACS

D Close MBBS FRACS

#### **Rhinology Fellow**

B Hanna MB BCh BAO AFRC SI PhD

#### **ENT Registrar**

S Chawla MBBS

#### **Chief Scientist, Otolaryngology Head & Neck Surgery**

S Vreugde MD PhD

#### **ENT Research Assistants**

D Milkjovic BSc

D Jones BSc

C Cooksley BSc PhD

#### **Clinical Nurse Operating Theatres**

T Nicholls RN BN MN

#### **Secretary**

L Martin

## Postgraduate Doctoral Students

### Completed theses – 2011

A Foreman MBBS

The characterisation of biofilms in chronic rhinosinusitis and its clinical and immunological consequences

D Singhal MBBS

Fungal bacterial Biofilms in chronic rhinosinusitis

### Continuing Postgraduate Students

R Valentine MBBS

Haemostasis and Wound Healing following Endoscopic Sinus and Skull Base Surgery

S Boase MBBS(Hons)

Investigating the role of fungus, and fungal biofilms in CRS pathogenesis

J Jervis-Bardy MBBS

Novel anti-biofilm therapies in chronic rhinosinusitis

J Micklen BBTech (Hons)

Australian Aboriginal Head and Neck Cancer Patients: Health-related Quality of Life in South Australia and the Northern Territory

C Jardeleza MD

The Role of Nitric Oxide in the Pathophysiology of *Staphylococcus aureus* Biofilm Formation in Chronic Rhinosinusitis

E Cleland MBBS

The relevance of PNAG-producing *S.aureus* in predicting outcomes following endoscopic sinus surgery

A Drilling BBiotech (Hons)

Use of bacteriophage to treat *Staphylococcus aureus* sinusitis in a sheep model

S Rajiv MBBS

The efficacy of Chitosan gel on hemostasis in neurosurgical sheep model.

D Cantero MD

The host Immune Response to *Staphylococcus aureus* biofilm in Chronic Rhinosinusitis

N Tan MBBS BSc(Hons) MRCS DO-HNS

The role of *Staphylococcus Aureus* in the pathophysiology of Chronic Rhinosinusitis

Thanh Ha MBBS

To the effects of Chitosan gel on wound healing following Endoscopic Sinus Surgery and Modified Endoscopic Lothrop Procedure

A Bassiouni MBBSCh

Understanding the role of eosinophilic inflammatory load, fibrosis and remodelling in patients with refractory chronic rhinosinusitis (rCRS) and failure of surgical and medical treatment."

### Awards

Jardeleza C

Best Basic Science Research Award, American Rhinologic Society (ARS), San Francisco Ca, USA September 10 2011. "The Effects of Nitric Oxide on *Staphylococcus aureus* Biofilm Growth and its Implications in Chronic Rhinosinusitis"

Boase S

The Ron Gristwood Medal, Best Registrar Presentation, Australasian Society of Otolaryngology Head & Neck Society (ASOHS) SA, November 2011

Valentine R & Ha T

Maurice Cottle Award for best clinical paper, American Rhinology Society Meeting SA, September 2011 (Joint Winners)

### Grants

Garnett Passe and Rodney Williams Memorial Foundation. The role of *Staphylococcus aureus* superantigens and fungal antigens in chronic rhinosinusitis. (\$98,416 2011) 2010-2012, Pant H, Wormald PJ, Foreman A, Tan LW, Macardle P.

Garnett Passe and Rodney Williams Memorial Foundation. (Surgeon Scientist grant) (\$75,000 2011) Cleland E.

Garnett Passe and Rodney Williams Memorial Foundation. (Surgeon Scientist grant) (\$75,000 2010-11) Boase S.

The Hospital Research Foundation Strategic Initiatives Funding (Program grant). Inflammatory mechanisms and therapies in chronic disease-asthma, COPD, stroke, cerebrovascular disease, rheumatology diseases and chronic rhinosinusitis (\$180,000 2011) 2009-2011, Rischmueller M, Wormald PJ, Koblar S, Lester S, Lang C, Tan LW, Zalewski P.



# Psychiatry, University Of Adelaide Discipline Of

## Research Focus

- The relationship between depression and cardiovascular disease and its management.
- The development of more efficient and effective strategies for the management of mental illness.

*During 2011, patients continued to be recruited for a randomised controlled trial of omega 3 fatty acids for depression in patients with ischaemic heart disease. The trial is part of a project funded by the National Heart Foundation and beyondblue which is also investigating possible mechanisms including the role of endothelial dysfunction on any impact of omega 3 fatty on depression.*

Dr Schrader continued his collaboration with Prof John Beltrame from the Discipline of Medicine and together they supervise three PhD students - Alexis Wheeler, Rachel Dreyer and Tracy Air whose projects focus on various aspects of the association between cardiac disease and depression. During the year Rosanna Tavella was awarded her PhD with a special commendation from the Dean for her investigation into the impact of depression on quality of life in cardiac patients. Alexis Wheeler continued a project examining mortality rates in cardiac patients with depression and this work is being carried out in association with the Epidemiology Branch of the South Australian Department of Health. She continued recruiting patients for a study to determine the effect of mindfulness based meditation on heart rate variability in depressed outpatients at the Centre for the Treatment of Anxiety and Depression. Rachel Dreyer continued a project which will examine gender effects in the presentation and management of cardiovascular disease. Tracy Air continued working on her project which will examine the impact of depression on the cost to the community of cardiovascular disease. The newly appointed Head of the Discipline of Psychiatry, Professor Bernhard Baune, has begun a collaboration with Dr Schrader and Professor Beltrame which will investigate depression in patients recruited to Professor Beltrame's CADOSA project.

Dr Rohan Dhillon, Dr Tarun Bastiampillai and Dr Jorg Strobel and Dr Niranjana Bidargaddi continued to develop their interest in new approaches to the management of mental illness and completed a study into the management of psychiatric patients in the emergency department. Dr Rohan Dhillon has begun a PhD project into the impact of psychiatric comorbidity in patients with physical illness. Dr Stephanie Fryar-Williams continued a study aimed at identifying bio-markers in patients with a range of psychiatric disorders. Dr Maura Kenny, clinical senior lecturer, continued to develop her interest in mindfulness based cognitive psychotherapy at the Centre for the Treatment of Anxiety and Depression.

## **Staff**

### **Senior Lecturer**

GD Schrader MBBS PhD FRANZCP

### **Research Fellows**

S Fryar- Williams MBBS BSc FRANZCP

N Bidargaddi PhD

### **Research Nurse**

L Burres RN

### **Administration**

D Alberton

## **Postgraduate Students**

### **PhD candidates**

A Wheeler

Associations between depression and cardiac disease

R Dreyer

Variation in Recovery: Role of Gender on Outcomes of Young Acute Myocardial infarction (AMI) – Patients. The VIRGO Study

T Air

The economic impact of depression in cardiovascular disease

R Dhillon

Impact of psychiatric comorbidity on outcome in physical illness

### **Grants**

National Heart Foundation of Australia/Beyondblue.

Omega-3 fatty acid supplementation for symptoms of depression in cardiovascular disease. (\$111,250 2011) 2008-2012, Schrader GD, Beltrame J, Howe P, Berry N, Coates A, Buckley J.

## *Renal Unit*

### **Research Focus**

- Many aspects of the care of patients with renal disease with special emphasis on kidney transplantation at clinical, epidemiological and experimental levels.
- A new research initiative which began in 2005-6 in the field of pancreatic islet transplantation as treatment for Type-1 diabetes mellitus has produced the department's first islet transplant. Eight islet transplants occurred in 2010-11 with tremendous success.
- The third year of a three year Hospital Research Foundation Program Grant continues to establish the renal unit as a centre for renal translational research, and to bring areas of research into the clinical arena for the benefit of renal transplant patients.

*The research program at the Department of Nephrology and Transplantation Services at The Queen Elizabeth Hospital has a strong laboratory base for research in transplantation and diabetes research.*

2011 has again been an extremely productive year for research in the department. The highlights of the year have been:

- Ongoing funding from the Juvenile Diabetes Research Foundation for the Pancreatic Islet Transplant Project; a total of eight transplants now being performed;
- Research funding to the department exceeding one million dollars;
- Over forty publications in peer reviewed international medical journals;
- Two PhD Student completions in 2011;
- SA Research Excellence Award to Dr Natasha Rogers for her PhD thesis.

### **Laboratory Research**

Laboratory research at The Queen Elizabeth Hospital continues to have a strong translational basis with an emphasis on Transplantation models. Early in 2011 Dr Ravi Krishnan resigned from TQEH to become Senior Vice-President of Research for Diabetes, Metabolic Syndrome and Immunological Diseases with the regenerative medicine company Mesoblast.

### **Vale Dr Ravi Krishnan**

Ravi commenced work at TQEH in 1990, being senior hospital scientist working with Dr Graeme Russ in Australia's first dedicated Transplantation Immunology Laboratory (established by Graeme Russ in 1984). During his 21 years working at TQEH, Ravi was instrumental in initiating many avenues of transplant research. His early TQEH work involved studies on the lymphocyte marker CD44, and on developing novel transplant therapeutic molecules. He developed a series of monoclonal antibodies against sheep specific adhesion molecules, which were tested in the department's ovine renal transplantation model. With Professor Graeme Russ, Ravi developed the department's transplantation gene therapy program, resulting in a number of novel sheep-specific gene therapy viral vectors. Through his interest in cell therapy, Ravi worked extensively on Dendritic cells and ultimately on mesenchymal stem cells, forming collaborations with the University of Adelaide's Centre for Stem Cell Research. During his time at the hospital he supervised eight PhD students, two masters students and nineteen Honours students, predominately through the University of Adelaide but also through Flinders University. Ravi made a tremendous contribution to the Hospital and the Department and continues to support TQEH based research through his new scientific position at Mesoblast. We wish him all the best for the future.

### **Mesenchymal Stem Cell (MSC) Research**

During 2011 Dr Dyane Auclair, assisted by Ms Julie Johnson and Ms Kisha Sivanathan, developed the ovine renal transplantation model to apply Stem Cell Therapy. Crucial to this project was the development of new collaborations with the National Large Animal Research Imaging Facility (LARIF) at the Gilles Plains campus of SA Pathology. In collaboration with Dr Tim Kuchel, a grant was obtained to allow Magnetic Resonance Imaging of the transplanted kidney, allowing direct in vivo imaging of MSC in the kidney for the first time. Dr Auclair continued her studies on the use of immunosuppressive medications in the sheep model. Ms Sivanathan worked as a research assistant to Dr Auclair, having been awarded first class honours through the Department in 2010. Presentations were made at the Transplantation Society of Australia and New Zealand (TSANZ) and at the Australian Society of Immunology meetings. Ms Sivanathan was subsequently awarded an International Students Post-Graduate PhD scholarship through the University of Adelaide, with which she will undertake PhD studies in 2012.

### **Dendritic Cell Research**

During the year Dr Natasha Rogers and Ms Darling Rojas were both awarded the degree of Doctor of Philosophy. Dr Rogers completed her thesis on ischaemia reperfusion injury and the novel use of Curcumin (an NF-KB inhibitor). Natasha's research was recognised by the award of a prestigious CJ Martin Fellowship from the National Health and Medical Research Council (NHMRC). She was also recognised by the South Australian State Government, by an award of the best PhD for Research Excellence in South Australia. She is currently working at the University of Pittsburgh. Ms Darling Rojas completed her PhD on tolerogenic Dendritic cells for use in clinical islet transplantation and was appointed as junior faculty at the Thomas E. Starzl Transplantation Institute in Pittsburgh. Dr Michael Collins continues in his second year PhD studies working on targeted Dendritic cell therapy. Dr Collins won the President's Prize for clinical research at the Transplantation Society of Australia and New Zealand's annual scientific meeting in Canberra.

### South Australian and Northern Territory Islet Program

The South Australian and Northern Territory Islet Program (SANTIP) conducted its first islet transplant at The Queen Elizabeth Hospital into patients with Type 1 diabetes at the beginning of 2010. Since then a total of eight islet transplants were performed in four patients during 2010-2011 period. Two of these recipients have become insulin free, and the remaining two patients have experienced significant improvement in their blood glucose control. SANTIP continues to be extremely active in sending organs from to St Vincent's Institute in Melbourne for islet isolation. Dr Daisy Mohanasundaram continued with her expertise in rodent islet isolation in mice and rats. She has continued a project in Type II diabetes to investigate the role of critical zinc transporters in islet biology in collaboration with Dr Peter Zalewski in the Department of Medicine. Ms Clare Mee has also utilised her expertise in small animal handling in isolation of islets from rodent pancreata and investigated the role of the zinc transporter ZIP-1 in knock-out models. Mr Chris Drogemuller has developed a unique model of testing the variability of zinc transporter gene expression in isolated human islets. Chris, together with Dr Claire Jessup and A/Prof Toby Coates supervised Ms Amy Hughes in developing adenoviral gene therapy as a novel therapy to prevent apoptosis in transplanted islets. Amy is now in the final year of her PhD studies. Ms Mariea Bosco, supervised by A/Prof Toby Coates, Dr Daisy Mohanasundaram and Dr Peter Zalewski continued her PhD studies in 2011 to study the role of zinc transporter gene expression in diabetes. Mr Clyde Milner provided laboratory supervision and management on the Islet Transplantation Program until his retirement in September 2011. We wish him all the best in his retirement. On the clinical side Islet Transplant nurse Ms Toni Miller has coordinated the transplant list.

### Zinc Transporter Research

Significant progress has been made in characterization of the crucial transporters involved in pancreatic zinc homeostasis in 2011. Zinc is a crucial regulator of insulin production, packaging and secretion. The highest concentration of zinc in the body is found in the pancreas. Understanding zinc in the pancreas is likely to be of importance in both type-1 and type-2 diabetes. In particular, patients with both types of diabetes may have antibodies that recognise zinc transporters and may play a direct role in this disease. In collaboration with the Department of Medicine's Drs Peter Zalewski and Dr Carol Lang, researchers from the SANTIP have worked to characterise the zinc transporters in humans, and have provided the first detailed description of the zinc transporter ZIP-14, which is expressed in both pancreatic beta cells and alpha cells. It is possible that immunity directed at this transporter may play a role in the pathogenesis of diabetes. This work has been performed by Dr Daisy Mohanasundaram and Ms Mariea Dency-Bosco.

## Staff

### Co-Director and Professor Renal and Transplant Services

GR Russ MBBS FRACP PhD

### Senior Staff Nephrologists

RP Carroll MB BCh MA FRACP

SP McDonald MBBS(Hons) FRACP PhD

### Transplant Surgeons

CH Russell MB BCh FRACS BA(Hons) MA (Oxon) FRCS (Edin)

### Renal Transplant Nephrologist

PTH Coates MBBS FRACP PhD

### Senior Medical Scientist

C Drogemuller BSc(Hons)

### Medical Scientists

C Milner BAppSc

S Kireta BSc

D Mohanasundaram PhD

M Stephenson PhD

C Mee BHlthSc

### CJ Martin Fellow

C Jessup PhD

### Research Assistants

D Rojas BSc (Hons) from Oct 2010

### Technical Officers

J Johnston

### Clinical Trials

B Hockley RN

C Russ RN

M Hockley RN

K Fisher

D Turner RN

E Scott RN

T Miller RN

C Chan RN

## ANZDATA Registry

L Excell

B Livingston B Surv G Dip CIS

N Briggs PhD

B Grace PhD Dip SCI

C Leitch

H Dent BSc(Hons)

## Postgraduate Students

### PhD degrees (Awarded)

N Rogers MBBS FRACP

Specific targeting of dendritic cells with tolerogenic liposomes in allotransplantation. University of Adelaide, February 2011.

D Rojas BSc (Hons)

Studies of clinically applicable human tolerogenic dendritic cells and PD-L2 genetic modification of human islet allograft to promote graft survival. University of Adelaide, June 2011.

## Continuing Postgraduate Students

M Collins MBChB FRACP

Tolerogenic dendritic cell therapy in kidney transplantation

S Sen MBBS FRACP

Investigation of classical and novel risk factors for cardiovascular disease and function in kidney disease

A Hughes BSc(Hons)

Transduction of pancreatic islets with insulin-like growth factor-II for transplantation in the treatment of type-I diabetes

M Bosco BSc(Hons)

The role of Zinc Transporter families in islet cell biology

C Hope BBiotech(Hons)

Predicting Recurrent Cutaneous Squamous Cell Carcinoma Development in Renal Transplant Recipients

## Grants

NHMRC. (Project grant 565033) The role of Dendritic Cells in infection and immunity under immunosuppression. (\$161,240 2011) 2009-2011, Coates PT, Kitching R.

The Hospital Research Foundation. (Small grant) Synthesis of dendritic cell-targeted liposomes to inhabit the innate and adaptive immune responses in a non-human primate model of organ transplantation. (\$10,000 2011) Rogers N, Coates T.

The Hospital Research Foundation. (Small grant) Role of zinc transporters in islet antioxidative roles. (\$20,000 2011) Mohanasundaram D, Coates T, Zalewski P.

The Hospital Research Foundation. (Program grant) Translational Centre for Renal Research (\$180,000 2011) 2009-2011, Russ G, Coates T, Krishnan R, McDonald S, Morris R, Sallustio B.

Collaborative Centre for Stem Cell Research. Endothelial progenitor cells and sphingosine kinase in islet transplantation (2011-2011 \$75,000) Jessup CF, Bonder C, Coates PT.

Medvet Laboratories. (2011 Round for Special Research Projects and Research Fellowships) Re-vascularising Transplant Pancreatic Islets for Increased Survival and Function (\$92,000 2011) 2011-2013, Jessup CF, Bonder CS, Coates PT.

NHMRC. (CJ Martin Fellowship) The thrombospondin-1/CD47 axis in kidney transplantation. (\$98,756 2011) 2011-2014, Rogers N.

Thomas E Starzl Fellowship in Transplantation Biology, University of Pittsburgh, USA 2011, 2011-2014, Rojas D.

## Acknowledgements

The Renal Unit especially wishes to thank The Hospital Research Foundation for its continuing program, scholarship and small grants support.





# Respiratory Medicine Unit And Clinical Practice Unit

## Research Focus

- Best Practice/medication/ counselling combination intervention for inpatient smoking cessation (STOP study)
- Smoking prevention initiatives for young people
- Nicotine receptor up-regulation with transdermal nicotine patches
- Evaluation of the Central Northern Adelaide Health Service Smoke Free Policy
- Positional aspects to obstructive sleep apnoea management
- Nitric Oxide
- Mandatory reporting of sleep apnoea
- Innovative forms of portable oxygen delivery (POC study)
- Screening for hepatopulmonary syndrome in patients with chronic liver disease and chronic active hepatitis
- Tobacco cessation interventions for Indigenous populations
- Pharmacotherapy for anxiety and depression in patients with COPD (Chronic Obstructive Pulmonary Disease)

*A range of evidence based projects, pharmaceutical industry new drug trials, sleep-related and other studies are underway.*

A range of evidence based projects, pharmaceutical industry new drug trials, sleep-related and other studies are underway.

The Respiratory Medicine Unit and Clinical Practice Unit have collaborated across multiple units and multiple hospitals to evaluate the potential synergistic benefits of varenicline tartrate and best practice counselling for inpatients compared to the same counselling on its own. Varenicline, which has PBS approval is superior to nicotine patches for sustained smoking abstinence yet has never been formerly evaluated when commenced in an inpatient setting. The best practice counselling is supplied by The South Australian Quit Line which is based on Greenhill Road and provides a year round service to smokers, in the form of highly supportive, professionally trained counsellor support. The purpose of the project is to evaluate the impact of this inpatient initiated new medication/Best Practice counselling, to issue smoking cessation as a secondary prevention, in people admitted with smoking related illnesses.

A number of TQEH Registrars, Advanced Trainees, Research Officers, Medical Students and Consultants have undergone training workshops for The Cochrane Collaboration to undertake systematic reviews in specialised areas of Respiratory Medicine. In 2011 a two day course was held for an 'Introduction to analysis' workshop in Adelaide in addition to an Advanced Cochrane course at the TSANZ ASM in Perth. In total nineteen reviews are being conducted under the supervision of A/Prof Brian Smith and other members of the Australian Cochrane Airways Group Network across most states of Australia. In 2011 three reviews and two protocols were published in the Cochrane Library, including 'Home care outreach nursing for COPD', 'Community interventions for the prevention of smoking in young people' and 'Pharmacological interventions for anxiety and panic disorder in patients with COPD'.

Respiratory Medicine and The Clinical Practice Unit have also collaborated with Professor Michael Roberts and Dr Tom Robertson from the Therapeutics Research Centre as well as with the Professor of Medicine, John Beltrame, to conduct a pilot evaluation of nicotine receptor up-regulation activity through metabolic induction, changes in responsiveness and surrogate evaluation methods. Through The Hospital Research Foundation grant a successful recruitment commenced mid-2011.

The Clinical Practice Unit commenced evaluating the Hospital's Smoke Free Policy initiated in May 2010, as per Central Northern Adelaide Health Service recommendations. Follow-up data was collected in June/July 2011 and the report is nearing completion.

The Respiratory Medicine Unit's Sleep Laboratory is evaluating the effects of exercise/weight loss/lifestyle upon the indicators of Obstructive Sleep Apnoea, led by Chief Scientist Sean Homan. In addition the laboratory is looking at diagnosis and therapy of positional sleep apnoea, led by Dr Antony Veale. Sleep technician Nathan Elgar is also conducting an evaluation into South Australian government legislation on the mandatory reporting of sleep apnoea by doctors and the subsequent effect on patient diagnosis and care.

An evaluation to compare portable oxygen units and regular oxygen cylinders in a randomised, controlled cross-over design was completed in 2011. The trial evaluated the efficacy and effectiveness of oxygen delivery with the latest, easy to use portable oxygen device for patients with COPD requiring oxygen therapy.

According to medical literature hepatopulmonary syndrome has a reported prevalence of 20-30%, however the actual prevalence seen in clinical practice is significantly lower. As a result the question is raised whether the prevalence is actually lower than what is reported in the literature, or if failed or miss-diagnosis of hepatopulmonary syndrome is occurring. As such the Respiratory Medicine Unit is collaborating with the TQEH Gastroenterology Unit to screen for hepatopulmonary syndrome in patients with chronic liver disease or chronic active hepatitis via assessment of orthodeoxia. Arterial blood gases are collected while in the supine and prone positions to examine PO<sub>2</sub> results along with additional testing. Recruitment is scheduled to finish in 2011.

The Pulmonary Function Laboratory is consolidating its formal comparison of lung function in Asian and non-Asian subjects to evaluate the need for correction according to ethnicity, and exploring bronchial challenge techniques, including the use of Mannitol.

The Respiratory Research Unit continues to evaluate a range of new medications for COPD, Asthma, IPF and Bronchiectasis led by Drs. Antony Veale and Jon Polasek.





## **Staff**

### **Director**

BJ Smith FRACP Dip Clin Epi PhD

### **Senior Consultants**

I Nikitins FRACP

A Veale PhD FRACP

J Polasek FRACP

A Roy FRACP

S Lehmann FRACP

D Grosser FRACP

### **Advanced Trainee**

S Mysore

K Ramsay

### **Principal Medical Scientist**

S Homan MSc

### **Pulmonary Function Laboratory**

D Keatley BSc(Biomed)(Hons)

A Herrero Adv RSC Cert of Science

N Leonardis BSc

M Storey

### **Clinical Trials Unit Coordinator**

K Boath Mgt Cert Adv Cert BHLthSc

### **Research Nurse**

P Gluyas RN RM CC Cert

### **Sleep Laboratory**

M Smith BSc

T Faulkner BPsych(Hons)

N Elgar BSc (Hons)

M Shaw

T Hams (Admin)

## **Respiratory Nurses**

L Kotal RN RM CC Cert Post Grad Dip Health Counselling

K Lawton BAN

K Royals RN

M Peskett RN

### **Unit Pharmacist**

T Jones B Pharm Dip Ed PhD

### **Secretarial**

R McCawley

N Pukala Dip BAd

M Ashley

C Deegan

### **Clinical Practice Unit researchers**

K Carson Cert III Lab Skills; Dip Lab Med

M Brinn BHLth Sc (Life Sc) Flinders BHLth Sc (Anat Hons) Adelaide

N Labiszewski BSSc

### **Post graduate Students**

#### **PhD**

J Bignall BSc(Hons)

Positional effects of obstructive sleep apnoea

#### **Masters**

K Carson Cert III Lab Skills; Dip Lab Med

Tobacco cessation and prevention for Indigenous populations

## Grants

The Hospital Research Foundation. (Small grant) Pilot evaluation of nicotine upregulation activity through metabolic induction, changes in responsiveness and surrogate evaluation methods (\$20,000 2011) Roberts M, Smith BJ, Robertson T, Carson KV, Ward M.

## Clinical Trials

### A/Professor Brian Smith, Dr Antony Veale & Dr Jonathan Polasek

Boehringer Ingelheim: Idiopathic Pulmonary Fibrosis study designed to evaluate efficacy of a new medication to prevent scarring of lungs and disease progression in subjects with Idiopathic Pulmonary Fibrosis. (\$3,524) Study completed.

Boehringer Ingelheim: Roll over study for those subjects participating in the Idiopathic Pulmonary Fibrosis study designed to evaluate efficacy of a new medication to prevent scarring of lungs and disease progression in subjects with Idiopathic Pulmonary Fibrosis. (\$8,843 2011). Study ongoing.

Boehringer Ingelheim: Emphysema study designed to compare the delivery of Tiotropium® via the Respimat™ Inhaler versus the currently used handihaler®. (\$48,148 2011) Long-term ongoing study.

Boehringer Ingelheim: Study designed to assess the efficacy of Tiotropium combined with a new 24 hour reliever medication delivered via the Respimat™ Inhaler in subjects with COPD (\$2,200 2011). Study commenced October 2011.

Gilead: Idiopathic Pulmonary Fibrosis study designed to assess the efficacy of Ambrisentan in subjects with Idiopathic Pulmonary Fibrosis. (\$ 20,490 2011) Study completed.

Pharmaxis: Study designed to assess the safety and efficacy of inhaled Mannitol® in subjects with bronchiectasis. (\$28,512 2011) Study ongoing.

Hunter Immunology: Study designed to assess the efficacy of an oral Haemophilus Influenzae vaccine in subjects with severe COPD. (\$66,934 2011) Study completed.

Intermune Inc: Study designed to compare the efficacy of Pirfenidone compared with placebo and effect on FVC in patients with idiopathic Pulmonary Fibrosis. Study commenced December 2011.

**Dr Sam Whittle**  
(See story page 84)





# *Rheumatology Unit*

## **Research Focus**

- Autoimmunity
- Epidemiology
- Evidence based medicine
- Immunogenetics
- Osteoarthritis
- Giant Cell Arteritis

*The Rheumatology Unit strives to augment its clinical rheumatology services with research into the causation and complications of rheumatic diseases and evaluation of new generations of pharmaceutical agents for the treatment of arthritis. The major research focus is towards the immunogenetics, pathogenesis, and epidemiology and treatment of a number of rheumatic diseases.*

Associate Professor Catherine Hill is chief investigator on an NHMRC funded randomized clinical trial of fish oil in the treatment of knee osteoarthritis, a chief investigator on the Health Observatory Program grant funded by The Hospital Research Foundation, and a newly appointed Chief Investigator to the North West Adelaide Health Study (NWAHS). Other current areas of investigation include population studies of musculoskeletal disorders, including data from the NWAHS cohort study, influence of health literacy on health outcomes and chronic diseases, establishment of the SA Giant Cell Arteritis (GCA) Registry, and systematic reviews of steroid sparing agents in GCA and Polymyalgia Rheumatica (PMR). She is currently undertaking surveys of gout in collaboration with Arthritis SA. A/Prof Hill's paper on the prevalence and correlates of shoulder pain in the NWAHS cohort, published in late 2010 in the International Journal of Rheumatology has been cited as one of the journal's most accessed papers in 2011, and together with Tiffany Gill, she has been awarded Arthritis Australia funding for a study of shoulder pain using MRI. A/Prof Hill was also an NHMRC Grant Review Panel member in 2011.

Dr Maureen Rischmueller's research group, led by Ms Sue Lester, continues to focus on the genetics of autoimmunity, providing insights into biological mechanisms underlying disease, and ultimately enabling identification of therapeutic targets. In addition to their large cohort of patients with Sjögren's syndrome, they, in collaboration with Drs Simon Burnet, Catherine Hill, and Samuel Whittle, are continuing to archive DNA and serum samples from a range of other rheumatic diseases, such as systemic lupus erythematosus, scleroderma osteoarthritis and giant cell arteritis. Further, we are an integral part of an Australia and New Zealand alliance for genomic studies on patients with arthritic conditions and will be the hub for giant cell arteritis samples and associated studies. Additionally, we manage the Australian Scleroderma Interest group sample repository, which now consists over 800 patients. Professor Hans Nossent from the University of Tromsø in Norway spent a productive sabbatical year with us, studying the genetics of the type I interferon pathway and cytokine and clinical associations in both SLE and Sjögren's syndrome.

Another important component of the Rheumatology Unit's research interests is the Centre for Inflammatory Diseases Research (CIDR). In the coming year, this will focus on inflammatory properties of autoantigen containing immune complexes and the role of zinc in this inflammation.

Dr Rischmueller also leads one of the three largest rheumatology clinical trials units in Australia, and is a principal investigator on clinical trials for patients with a wide range of rheumatological diseases including rheumatoid arthritis, systemic lupus erythematosus, psoriatic arthritis, ankylosing spondylitis, osteoarthritis, fibromyalgia, and chronic back pain.

Dr Samuel Whittle completed the degree of Master of Clinical Epidemiology at the University of Newcastle in 2010. He is a multi-national fellow of the 3e ("Evidence, Expertise, Exchange") initiative, an international collaboration of rheumatologists and epidemiologists. He presented the 3e initiative guidelines for pain management in inflammatory arthritis at the European Congress of Rheumatology in May 2011, which according to published reports, was so popular that "there was standing room only and delegates were battering down the door for the opportunity to hear what is likely to change the clinical practice of 1 in 5 rheumatologists". He is involved in the Cochrane Collaboration, having undertaken systematic reviews of opioid therapy in rheumatoid arthritis, neuromodulators, antidepressants and muscle relaxants in inflammatory arthritis, and is currently undertaking reviews of steroid-sparing agents in GCA and PMR, and fish oil in rheumatoid arthritis. He is an associate editor of the International Journal of Rheumatic Diseases, and was an NHMRC Grant Review Panel member in 2011.

Dr Simon Burnet is the Medical Director and Vice Chairman of Arthritis SA and is on the education and research committees. Arthritis SA project to establish a South Australian Musculoskeletal Portfolio which identifies SA research into musculoskeletal medicine, will serve to identify and collate the excellent work being done in rheumatology research in SA. Dr Burnet is also the Treasurer of the state branch of the Australian Rheumatology Association and the state representative for the federal council of the ARA.

## Grants

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) The Health Observatory (\$250,000 2011) 2009-2013, Adams RJ, Wilson DW, Hill CL, Visvanathan R, Ruffin RE, Wittert G.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) Inflammatory mechanisms and therapies in chronic disease - asthma, COPD, stroke, cerebrovascular disease, rheumatology diseases and chronic rhinosinusitis (\$180,000 2011) 2009-2011, Wormald PJ, Koblar SA, Lang CJ, Lester S, Rischmueller M, Tan LW, Zalewski P.

Arthritis Australia. (Project grant) The Australasian Arthritis Genomics Recruitment Collaborative: Infrastructure for establishing a quality clinical resource for genetic research. (\$50,000 2011) Brown M, Merriman T, Rischmueller M.

## New Grants commencing 2012

Arthritis Australia. (Project grant) Inflammatory Effects of Immune complexes. (\$20,000 2012) Tran H, Zalewski P, Lester S.

Arthritis Australia. (Grant-in-Aid). An investigation of shoulder pain using MRI. (\$20,000) Gill T, Hill C, Shanahan M, Allison A.

## Awards

Graf S

University of South Australia Oral Presentation. Prize in Clinical Research Category, The Queen Elizabeth Hospital Research Day, Adelaide, October 2011.

## **Staff**

### **Director/Senior Lecturer**

M Rischmueller MBBS FRACP

### **Staff Specialists**

S Burnet MBBS FRACP

F Cai MBBS FRACP

CL Hill MBBS MD MSc(Epi) FRACP

SL Whittle MBBS (Hons) MClinEpid FRACP

### **Registrars**

S Graf MBBS

R Black MBBS

### **Rheumatology Research Administration Coordinator**

S Downie-Doyle BSc(Hons) PhD

### **Visiting Researcher**

J Nossent (University of Tromso, Norway)

### **Medical Scientist**

S Lester BSc(Hons)

### **Associate Investigator (via CIDR)**

H Tran BSc PhD

### **Clinical Trials Coordinators**

R Battersby BSc Grad Cert Drug Development

J Mere BNursing, BHSc

S White BNursing

### **Research Assistants**

K Adams BSc(Hons), MPhil

E Dunstan BSc

### **Clinical Trials Assistant/Administrative Support**

M Bubicich BSc(Hons)

M Devine

J Marrett BBus(Mkt)

K Ridley BECEd, Cert II&III Bus

### **Rheumatology Clinical Nurses**

A Batty BNursing

C Tosh Dip AppSc(Nursing)



## *Surgery, University of Adelaide Discipline of*

### **Research Focus**

- Early breast disease research
- Metastatic breast disease
- Innovative colorectal surgery
- Risk factor identification and development of risk scoring for patients with abdominal aortic aneurysm
- Team simulation
- Development of improved characterisation of hepatic shunting
- Health systems research within mainstream orthopaedics
- Assessment of statewide prostate cancer management
- Cataract surgery vision outcome
- Outcome of treatment for macular degeneration

*The Discipline of Surgery has seen a substantial increase in its activity with the arrival in 2011 of Professor Eric Gowan's group investigating viral processes, as well as the arrival of two Breast Fellows, Professor Andreas Evdokiou and Associate Professor Wendy Ingman. Both these groups have brought already significant success with them and it is hoped that they will be able to build on this prior performance within the supportive environment of the Basil Hetzel Institute.*

Surgical research and its translation from the laboratory to the bedside continues to be a high priority for the Discipline and a number of the groups have continued to perform well in this area. The Discipline of Surgery is currently producing approximately one paper a week and the total brought in to support research by the group is in excess of \$6,500,000.

2011 has been a year of substantial consolidation and increasing productivity should start to appear over the next two to three years.

**Staff**

**RP Jepson Professor of Surgery**  
**Head, Discipline of Surgery**  
**Head, School of Medicine**  
**Director, Division of Surgery**  
**Director of Research, Basil Hetzel Institute for**  
**Translational Health Research**

GJ Maddern MBBS PhD MS MD FRACS

**Professor of Vascular Surgery**

R Fitridge MBBS MS FRACS

**Professor of Colorectal Surgery**

P Hewett MBBS FRACS

**Associate Professors**

N Rieger MBBS MS FRACS

WEW Roediger MBBCh MSc DPhil(Oxon) FRACS

FHG Bridgewater MBBS FRACS FRCS

**Senior Lecturers**

M Bruening MBBS MS FRACS

M Goggin FRCSI(Ophth) FRANZCO MS

J Miller MBBS FRACS

G Rees MBBS FRACS

D Rodda MBBS FRACS

D Walsh MBBS FRACS

**Staff Specialists**

A Anthony MBBS FRACS

M Hamilton MBChB FRACS

P Hewett MBBS FRACS

H Kanhere MBBS FRACS

C Lai MBBS FRACS

P Subramaniam MBBS FRACS

D Tonkin MBBS FRACS

D Walters MBBS FRACS

N Wright MBBCh FRSA FRACS (Vascular)

**Visiting Specialists**

G Benveniste MBBS FRACS

F Bridgewater MBBS FRCS FRACS

B Carney MBBS FRACS

D Close MBBS FRACS

R Harries BMBS FRACS

M Lodge MBBS FRACS

I Patterson MBBS FRACS

D Lance BM FRACS

B Landers MBBS FRACS

M Lloyd MBBS FRACS

A Lord MBBS FRACS

K Moretti MBBS FRACS

R Parkyn MBBS FRACS

A Porter MBBS FRACS

**Clinical Title Holders**

S Ali Clinical Lecturer

A Anthony Clinical Lecturer

W Babidge Affiliate Assoc/Professor

F Bridgewater Clinical Assoc/Professor

J Black Clinical Lecturer

P Byrne Clinical Lecturer

B Carney Clinical Lecturer

S Chong Clinical Senior Lecturer

D Close Clinical Lecturer

P Cowled Affiliate Senior Lecturer

A Cowin Affiliate Assoc/Professor

P Cooper Clinical Lecturer

P Drew Visiting Research Fellow

D Economos Clinical Lecturer

R Fleming Clinical Lecturer

H Forbes Clinical Lecturer

N Gehling Clinical Lecturer

JS Gilhotra Senior Lecturer

P Hewett Clinical Professor

V Humeniuk Clinical Lecturer

A Karatassas Clinical Lecturer

C Lai Clinical Senior Lecturer

CM Lee Clinical Senior Lecturer

M Lloyd Clinical Lecturer

A Luck Clinical Senior Lecturer

E Mah Clinical Senior Lecturer

B McCusker Clinical Lecturer

R McGovern Clinical Lecturer

K Moretti Clinical Lecturer

J Muecke Clinical Lecturer

S Neuhaus Clinical Assoc/Professor

R Parkyn Clinical Assoc/Professor

M Patkin Clinical Lecturer

R Phillips Clinical Lecturer  
S Phipps Clinical Lecturer  
C Pozza Clinical Lecturer  
T Proudman Clinical Senior Lecturer  
M Rao Clinical Assoc/Professor  
S Raptis Clinical Senior Lecturer  
T Rayner Affiliate Lecturer  
D Roach Clinical Senior Lecturer  
C Russell Clinical Associate Lecturer  
S Sabaratnam Clinical Lecturer  
N Sacks Clinical Professor  
C-KL Shaw Clinical Senior Lecturer  
R Strickland Clinical Lecturer  
P Stuart Clinical Lecturer  
P Sutherland Clinical Senior Lecturer  
LW Tan Affiliate Senior Lecturer  
M Tie Clinical Lecturer  
D Walters Clinical Senior Lecturer

**RP Jepson Research Fellow**

P Cowled PhD

**Technical Officers**

B Hutchens  
M Slawinski  
M Smith

**Research Officer**

E Smith PhD

**Senior Project Coordinator**

E Hauben PhD

**Project Coordinators**

L Leopardi BSc BEng(Biomedical)(Hons)  
S Lauder BA(Hons)

**Clinical Trials Coordinators**

S Page BMedSc(Hons)  
B Sivendra BMedRad(NucMed)  
N Cutri BSc(Hons) PhD  
K Barry BMedRad(Diag)

**Colorectal Research Coordinator**

J Stephens BSc(Hons) MPH

**NHMRC EVAR Trial**

**Project Manager**

M Boulton BSc(Hons) GradDiplM

**Project Coordinator/Database Manager**

K Fitzpatrick BSc(Hons) PhD  
T Seery BAppSci

**Virology Group**

E Gowans PhD  
B Grubor-Bauk PhD  
W Yu PhD

**Breast Cancer Research Group**

**Michell-McGrath Breast Cancer Fellow**

A Evdokiou BSc(Hons) PhD

**Research Officers**

V Panagopoulos BSc  
S Hay BSc  
V Liapis BSc

**Breast Biology And Cancer Group**

**THRF A/Professor in Breast Cancer Research Fellow  
NBCF Research Fellow, and Research Program Leader,  
Mammary Gland Biology**

W Ingman PhD

**Research Officers**

M De Nichilo PhD  
D Glynn PhD  
P Dasari PhD  
L Hodson BSc(Hons)



## Postgraduate Students

### Completed Thesis

C Lauder MBChB

Evaluation of ex-vivo liver perfusion as a liver support device in a porcine model of fulminant hepatic failure. Master of Surgery 2011.

### PhD candidates

S Krishnan BHLthSc(Hons)

The clinical evaluation of fast-track surgery including extended local anaesthetic infusion for post-operative pain

N Ruze Haji BSc(Hons) BAppSc(Podiatry)

The role of Flii in the pathology of diabetic wounds

J Smith MBBS PhD

The litigation threat to surgical practice: Legal reform and risk management

T Matthews BHLthSc(Hons)

The clinical analysis of liver function: can portosystemic shunts be measured?

I Zinonos BSc(Hons)

Pro-apoptotic receptor agonists (PARAS) in the treatment of breast cancer development and progression

M Lee BSc(Hons)

Anti-neoplastic and anti-osteolytic properties of HDAC Inhibitors: A promising therapeutic approach for skeletal malignancies

### Master of Surgery candidates

P Ho MBBS

Physician Assistants: Trialling a new health professional in the South Australian health system

L Tiong MBBS

Improving the Safety and Efficacy of Bimodal Electric Tissue Ablation

D Robinson MBBS

Outcome modelling in vascular surgery

A Cameron MBBS BMedSci

The role of Flightless in excessive scarring and its potential as a target for a novel therapy

## Postgraduate Scholarships

RACS Foundation for Surgery Louis Waller Medico-Legal Scholarship (\$60,000 2011) Smith J.

The Hospital Research Foundation/University of Adelaide Faculty of Health Sciences (\$22,860 2011) Matthews T.

RACS WG Norman Research Fellowship (\$41,250 2011) Cameron A.

The Hospital Research Foundation/University of Adelaide Faculty of Health Sciences Divisional Scholarship (\$22,860 2011) Robinson D.

## Grants

Australia-India Biotechnology Fund. A vaccine for hepatitis C virus. (\$100,000 2011) 2010-2013, Gowans EJ, Torresi J, Das S.

ACH2. Development of a cytolytic HCV vaccine. (\$114,000 2011) Gowans EJ.

ACT Health. ACT ASM. ASERNIP-S. (\$26,657 2011) Maddern G.

American College of Surgeons. Horizon scanning. ASERNIP-S. (\$102,299 2011) Maddern G.

ANZGOSA. Database. ASERNIP-S. (\$62,000 2011) Maddern G.

ARC Linkage Grant. On the cutting edge: promoting best practice in surgical innovation. (\$48,000 2011) 2011-2014, Rogers WA, Johnson AJ, Townley C, Sheridan J, Ballantyne A, Lotz M, Meyerson D, Tomosey GF, Eyer AA, Maddern GJ, Thomson CJ.

Breast SurgANZ. National Breast Cancer audit. ASERNIP-S. (\$176,000 2011) Maddern G.

BreastScreen Aotearoa (NZ Ministry of Health). Three annual reports showing breast cancer cases referred through BreastScreen Aotearoa. ASERNIP-S (\$16,000 2011) Maddern G.

Commonwealth Department of Health and Ageing, MSAC grant. Systematic reviews. ASERNIP-S. (\$577,932 2011) Maddern G.

Commonwealth Department of Health and Ageing. Horizon scanning for HealthPACT. ASERNIP-S. (\$69,869 2011) Maddern G.

Commonwealth Department of Health and Ageing. MBS Quality Framework. ASERNIP-S. (\$98,325 2011) Maddern G.

Commonwealth Department of Health and Ageing. Simulated Surgical Skills Program. ASERNIP-S. (\$1923,608 2010–2011) 2008–2011, Maddern G.

Commonwealth Department of Health and Ageing. Therapeutics Goods Administration. ASERNIP-S. (\$109,794 2011) Maddern G.

Cook Australia. Endoluminal audit. ASERNIP-S. (\$2,825 2011) Maddern G.

Johnson & Johnson Medical. Research Assistant/Data Manager (\$40,000 2011) 2011–2012, Hewett P.

National Breast Cancer Centre. National Breast Cancer audit – survival project. ASERNIP-S. (\$40,000 2011) Maddern G.

National Breast Cancer Foundation. (Early Career Fellowship) Immune system determinants of breast cancer susceptibility (\$150,000 2011) 2011–2014, Ingman W.

NHMRC. (Project grant, ID 565313) Macrophages in developmental programming of reproductive health \$511,500 (\$170,500 2011), 2009–2011, Ingman W.

NHMRC. (Project Grant, ID 1012950) TGFBI is a pivotal regulator of endometriotic lesion development. (\$141,262 2011) 2011–2013, Hull L, Ingman W.

Robinson Institute. (Collaborative Research Funding Scheme) Extracellular matrix – macrophage crosstalk in the mammary gland (\$12,000 2011) Ingman W, Ricciardelli C, Russell D, Sharkey D.

Channel 7 Children's Research Foundation. (Research Grant, ID 11356) Understanding the inflammatory basis of mastitis (\$70,000 2011) Ingman W.

NHMRC (Project Grant). Function of flightless I in the skin blistering disorder epidermolysis bullosa. (\$172,000 2011) 2010–2012, Cowin A.

NHMRC. Career Development Award (CDA-2) "Novel therapeutic strategies for the treatment of skeletal malignancies" (\$135,000 2011) 2010–2013, Evdokiou A.

NHMRC. (Project grant ID # 565357): Antitumour efficacy of TRAIL: an immunotherapeutic approach for the treatment of skeletal malignancies. (\$173,000 2011) 2009–2011, Evdokiou A, Findlay DM, Zannettinno ACW.

NHMRC. (Project Grant) Prospective evaluation of a model to predict outcomes following endovascular aortic aneurysm repair. (\$253,000 2011) 2009–2013, Fitridge R, Boulton M, Golledge J, Maddern G, Thompson M, Barnes M.

Northern Territory Department of Health. Northern Territory Audit of Surgical Mortality. ASERNIP-S. (\$74,083 2011) Maddern G.

Queensland Department of Health. Queensland Audit of Surgical Mortality. ASERNIP-S. (\$575,304 2011) Maddern G.

RACS/MMIM/CSSANZ. Colorectal cancer audit. ASERNIP-S. (\$35,000 2011) Maddern G.

South Australian Department of Health. Assessment of New Technologies. ASERNIP-S. (\$184,578 2011) Maddern G.

South Australian Department of Health. ENT funding. (\$500,000 2010–2011) 2010–2015. Maddern G.

South Australian Department of Health. South Australian Audit of Perioperative Mortality. ASERNIP-S. (\$303,046 2011) Maddern G.

Tasmanian Department of Health. Tasmanian Audit of Surgical Mortality. ASERNIP-S. (\$19,670 2011) Maddern G.

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) Development and assessment of novel surgical technologies and their introduction into the Australian healthcare system. (\$250,000 2011) 2009–2013, [Maddern G](#), [Wormald PJ](#), Jamieson G, [Fitridge R](#), [Hewett P](#).

The Hospital Research Foundation Strategic Initiatives Funding. (Program grant) Vascular Diseases and Therapeutics Research Group: Towards improved outcomes for vascular disease (\$250,000 2011) 2009–2011, Horowitz JD, Beltrame JF, Morris, RG, [Fitridge RA](#), Zeitz CJ, Wilson DP, Sallustio BS, Chirkov YY, Kennedy JA, [Cowled PA](#).

The Hospital Research Foundation Professor in Breast Cancer Research Fellowship (\$250,000 2011–2012) 2011–2016, Evdokiou A.

The Hospital Research Foundation Associate Professor in Breast Cancer Research Fellowship (\$200,000 2011–2012) 2011–2016, Ingman W.

Victorian Department of Health. Victorian Audit of Surgical Mortality. ASERNIP-S. (\$704,546 2011) Maddern G.

Western Australian Department of Health. Western Australian Audit of Surgical Mortality. ASERNIP-S. (\$450,100 2011) Maddern G.

## Awards

Zinonos I

University of Adelaide Prize for best Senior PhD (Laboratory Research)  
The Queen Elizabeth Hospital  
Research Day, Adelaide, October 2011.

## *Ophthalmology*

### **New grants commencing 2012**

NHMRC. Mucosal immunity to HIV. (\$188,000 pa, 2012-2014) Gowans EJ, Suhrbier A, Wesselingh S.

SAHMRI (TCCSA). (Project grant App1031549) Oesophageal adenocarcinoma from patients with or without Barrett's oesophagus: different gene expression and DNA methylation profiles, biomarkers for survival and response to treatment and biology? (\$87,500 2012) Drew PA, Underwood TJ, Ruzskiewicz AR, Jamieson GG.

The Foundation Daw Park Grants for Medical Research. (Project grant) DNA methylation in prostate cancer: a pathway to the discovery of novel prognostic biomarkers and future therapies. (\$19,200 2012) Pinnock C, Buchanan G, KopsaftisT, Drew PA.

### **Current research activities**

Research and publication has been taking place in the Department of Ophthalmology for many years particularly regarding cataract surgery outcome, focusing on astigmatism. This research continues and has been extended to include outcome of accommodating intra-ocular lenses. Furthermore, research into the physiology of accommodation in young people is being used to influence treatment of presbyopia in older patients. Care of patients with retinal disease continues to grow in this Department prompting further efforts to improve outcome in this area. The published product of this research continues to grow. Further additions to the research and clinical equipment in the department have been facilitated by the generous efforts of local Lions Clubs in 2011.

### **Staff**

#### **Head of Unit**

J Gilhotra MBBS FRANZCO

#### **Visiting Specialists**

M Goggin MBBCh BAO FRCSI(Ophth) FRCOphth DO MS

S Phipps MBBS FRANZCO

D Economos MBS FRANZCO

N Gehling BMBS FRACO

P Fleming MBBS FRANCO

J Black MBBS FRANZCO

R Phillips MBChB FRCS DO FRCOphth MD

D Taranath MBBS FRANZCO

P Cooper MBBS FRACO

#### **Photographer**

A Drew

#### **Photographer/Cataract Audit**

P Anderson

## *Orthopaedics and Trauma, Department of*

The Queen Elizabeth Hospital (TQEH) Department of Orthopaedics and Trauma has continued with new research initiated in the last few years focusing on trialling new technologies that have the potential not only to improve patient outcomes in regard to comfort and longevity of joint replacements but also create new efficiencies for surgical time and costs.

The Research Unit undertakes to collect and interpret data from a number of long term prospective randomised trials in addition to planning and initiating new Consultant driven research. The Unit also supports various levels of Orthopaedic trainee staff with appropriate advice and logistical support for the implementation and presentation/publication of their own research.

Research continues to be of vital importance in all areas of health. With higher consumer expectations and increased patient access to information from various sources regarding new arthroplasty prostheses and instrumentation, the need for institutions like the TQEH Department of Orthopaedics and Trauma to continue to accurately inform patients of what is realistically available and supply a quality impartial research capacity to monitor these new technologies is vitally important for optimal outcomes for both Orthopaedic professionals and the health consumer.

## Staff

### Director

G Morrison MBChB FRCS (Ed) FRACS FAOrthA

### Deputy Director

N Cullen MD FRCS(C) FRACS FAOrthA

### Visiting Specialists

ET Mah MD BMBS FRACS FAOrthA

P Lewis MBBS FRACS FAOrthA

L Ferris MBBS BSc (Med) FRACS

J van Essen MBBS FRACS (Ortho)

W Duncan MBBS FRACS (Orth)

G Nimon MBBS FRACS (Orth)

C Begg MBBS FRACS (Orth)

T Stevenson MBChB FRCS FRACS FAOrthA

N Pourgeizis MBBS FRACS (Orth)

C Gooi MBBS FRACS (Orth)

A Bajhau MBBS FRACS (Orth)

### Medical Cover

Geriatric Team

### Arthroplasty Fellow

A Pillai (Trauma & Orth)

A Qureshi (Trauma and Orth)

### Foot & Ankle Fellow

L Iselin Access Appt FMC

### Visiting Arthroplasty Fellows

W Wagner, Oswestery, Wales, UK

M Jauregui, Argentina, South America

### Arthroplasty Outcomes Officer

G West B Physio

### Executive Secretary

B Stoddard

### Secretaries

E Smythe

J Whatling

E Parker

### Nursing Staff

L Thomas CPC – Joint Replacement

J Gould CSC – Joint Replacement

## Current research activities

### Recruitment complete – Follow up continues

- Bauze R, Clayer M, Lewis P, Stevenson T, Morrison G, Butcher C, Waters D, Mah E, Brook P, Cullen N. A Comparative Trial between the Spectron Total Hip Replacement and the Exeter Total Hip Replacement.
- Munyard A, Cullen N. A Trial of the TRAC Mobile Bearing Total Knee Replacement. Butcher C, Lewis P, Stevenson T, Morrison G, Waters D, Mah E, Brook P,
- Bauze R, Clayer M. A Comparative Trial between the NexGen Fixed Bearing Total Knee Replacement and the NexGen Rotating Platform Total Knee Replacement.
- Lewis P, Butcher C, Phillips S, Gillespie, P, Morrison G, Cullen N, Duncan W, West G Functional Outcome Study Comparing Small and Large Diameter Metal on Metal Hip Prostheses.

### Recruitment Continues

- Morrison G, Cullen N, Duncan W, Begg C, van Essen J. Total Knee Arthroplasty Using Patient Specific Templating – An Outcome Study
- Deshaies A, Lewis P, Butcher C, Gillespie P. Evaluation of Blood Flow in the Proximal Tibia during Unicompartamental and Total Knee Replacements
- Mah E, Sharma K. Comparative study on the clinical outcome of arthrodesis versus arthroplasty for small finger carpo-metacarpal arthritis – a prospective randomized study.
- Ferris L, Cullen N, Wilkinson D, Fintland J. Functional Outcome Study Treating Tendinopathy in and around the foot using Hyperbaric Oxygen (HBO) treatment.
- Pourgeizis N, Morrison G, Pillai A, Yeo C, West G. The accuracy of MRI based specific cutting blocks in TKR.
- Morrison G, Pourgeizis N, Duncan W, Begg C, van Essen J, Pillai A. The Visionaire Cutting Block System – An outcome study.
- Morrison G, Cullen N, Duncan W, Begg C, van Essen J. The Signature Knee Guide. Total Knee Arthroplasty using Patient Specific Templating – An outcome study.
- French T, Russell N, Pillai A, Morrison G. Clinical Audit: Diagnosing Loosening of Total Knee and Hip Replacements Using Radionuclide Arthrography.

Funding for research in this department has been obtained totally from industry contributions to the Orthopaedic and Trauma Research Fund. In 2011 contributions have come from Smith & Nephew (\$23,250) and Biomet (\$34,240).

# Therapeutics Research Centre, University of South Australia

## Research Focus

The focus of the Therapeutics Research Centre is to improve patient outcomes by improved diagnosis and treatment with medicines. Our work, in collaboration with a number of medical specialties, includes:

- Intensive care: improved use of antibiotics, antifungals and other medications in the severely ill.
- Skin cancer & other skin conditions: better diagnosis and treatment using advanced non-invasive imaging technologies and topical products.
- Liver disease: understanding how liver diseases affect medicines and how to treat patients.
- Nanomedicines: exploring the therapeutic potential and safety for nanomedicines.
- Medicine efficiency & safety: exploring how well medicines work and if other products are safe.
- Patient medicines: strategies for improving medication outcomes for patients in their own home.

*The Centre's research interests cover a spectrum of therapeutics from the chemistry of drugs, the effects drugs have on the body and the effects the body has on drugs, through to how drugs can be best used to treat disease. Current special interests include defining drug disposition and effects by in vitro and in vivo bioimaging using confocal and multiphoton reflectance, fluorescence and Raman spectroscopy.*

The Director of the Centre, Professor Michael Roberts, is an Australian National Health & Medical Research Council Senior Principal Research Fellow based at both The Institute (Basil Hetzel Institute; affiliated with the University of South Australia School of Pharmacy) and the University of Queensland School of Medicine at Princess Alexandra Hospital in Brisbane, Australia.

## Intensive care

Inappropriate doses of antibiotics are likely to contribute to poor outcomes for ICU patients. Emerging data describes how clinician-led dosing frequently results in inappropriate serum antibiotic concentrations. Such inappropriate concentrations can lead to antibiotic failure, antibiotic toxicity and/or the development of antibiotic resistance. The question confronting clinicians is – what is the appropriate antibiotic dose to use in the individual patient to achieve the best outcome for this patient. Our project aims to develop dosing guidelines to achieve serum concentrations that optimise antibiotic exposure in these patients. This work also involves the Lyell McEwin Hospital and the Royal Brisbane and Women's Hospital.

### **Skin cancer, skin ageing & other conditions**

Many products are applied to the skin to prevent skin cancer or to treat skin diseases. Our work seeks to better understand how we can make such products more effective, safer and appropriate for conditions such as psoriasis. One major component is concerned with the evaluation of nanotechnology products applied to the skin. Although milk has been acknowledged as a good nutrient and is used in skin care formulations, a systematic study of the benefits of milk on the skin has not been carried out. We are defining rules governing the delivery of peptides (especially those derived from milk) to the different layers of the epidermis using different formulations and certain delivery devices. This project will also define the distribution patterns of milk peptides in terms of both the properties of the peptides and the delivery systems used.

### **Medicine efficiency**

Multimodal microscopy and spectroscopy offer the exciting prospect of non-invasive imaging of human skin in vivo in high resolution, in three dimensions and in time. Our ability to image the skin to a depth of 200µm (papillary dermis) with this technology will enable us to use it as a potential window to study and treat cardiovascular problems such as those arising from diabetes complications, cardiovascular disease, arthritis and smoking.

### **Liver disease**

The liver is the main organ in the body for drug metabolism and detoxification. Our work in this area seeks to address the poorly understood question: what is the in vivo disposition and response in liver of the drugs for treatment of liver diseases? The results of this work will help us better design new drugs and choose the most effective drugs for liver disease. The research may also help us find a better strategy for liver transplantation and thus improve success rates.

### **Nanomedicines**

Nanomaterials are defined as having at least one dimension within the range 1-100 nm. Commercial applications that use nanomaterials include sunscreen (zinc oxide) and clinical imaging agents. We are investigating what happens to commercially available and therapeutic nanoparticles if they pass through the skin and enter the blood.

### **Safety of occupational and environmental chemicals**

Assessment of skin absorption is a major regulatory requirement in registering any product that presents potentially harmful or therapeutic skin exposure. While the rigorous assessment used in regulating therapeutic drugs is well established, the main tool used for dermal regulatory human health risk assessments on potentially harmful chemicals needs further validation and refinement to provide a more reliable assessment of in vivo bioavailability, effects and decontamination.

### **Patient medicines**

Some patients have difficulty in remembering to take their medicines and, in some instances, packaging the tablets into special boxes, called Dose Administration Aids (DAA), in which all of the tablets are grouped together with clear information on when the tablets should be taken, can aid the patient to adhere to recommended medication routines. This work seeks to evaluate the Department of Veterans Affairs DAA Service and compare: a) the cost of providing health services to veterans enrolled in the DAA Service (including any cost benefits) and b) health outcomes for veterans using DAAs with those of veterans who do not use DAAs.



## Research Staff

### UniSA Research Chair: Therapeutics & Pharmaceutical Science

MS Roberts BPharm PhD DSc MBA FACP

### UniSA Research Fellows

TA Robertson BSc PhD

P Li BPharm MPharm

## Postgraduate Students

### PhD Candidates

Q Zhang BPharm

Structural determinants and formulation effects on percutaneous absorption

A Amarasekera BPharm

Does vitamin D deficiency contribute to endothelial dysfunction in diabetes patients with obesity?

R To-a-nan BPharm MCLinPharm

Variability in patient response to oral and transdermal medication

R Kuswahyuning BPharm

Role of formulation and solute properties in cosmeceutic delivery and effects

FB Sime BPharm

Does therapeutic drug monitoring of beta-lactams in the critically ill improve clinical outcomes? A randomized controlled trial.

## Grants

NHMRC. (Project grant # 569710) Pharmacodynamics in Liver Disease and in Liver Surgery. (\$288,592) 2009-2011, Roberts MS, Weiss M, Macdonald G, Fawcett J, Vitetta L, Fletcher LM.

The Hospital Research Foundation. (Small grant 2011) Pilot evaluation of nicotine receptor up-regulation activity through metabolic induction, changes in responsiveness and surrogate evaluation methods (\$20,000 2011) Roberts M, Smith B, Robertson T.

Cancer Council South Australia. (Research Project Grant #1012810) Skin bioavailability and targeted skin delivery by topical application. (\$85,000 2011) (Multistate with Qld) Roberts M.

University of South Australia Equipment Grant. (Sansom Institute for Health Research Infrastructure Scheme) API3000 MSMS detector for quantification of drugs. (\$32,000 2011) Roberts M.

NHMRC University of South Australia Equipment Grant. (#640139) Bruker EScan electron paramagnetic resonance analyser (\$62,100 2011) Roberts M, Robertson T, Horowitz J.



# Publications 2011

## AGED AND EXTENDED CARE SERVICES

### Papers

Piantadosi C, Visvanathan R, Naganathan V, Hunter P, Cameron ID, Lange K, Karnon J, Chapman IM. The effect of testosterone and a nutritional supplement on hospital admissions in under-nourished, older people. *BMC Geriatrics* 2011; 11: 66-73.

Silakong T, Yu S, Visvanathan R. A dedicated teaching block for undergraduate geriatric medicine improves knowledge. *Australasian Journal on Ageing* 2011; 30(4): 234-238.

## ANAESTHESIA, Department of

### Papers

Jeyadoss J, Nanjappa N, Nemeth D. Awake intubation using Pentax AWS video-laryngoscope after failed fiberoptic intubation in a morbidly obese patient with a massive thyroid tumour and tracheal compression. *Anaesthesia and Intensive Care* 2011 Mar;39(2):311-2.

Chambers DG, Willcourt RJ, Laver AR, Baird JK, Herbert WY. Comparison of Dilapan-S and laminaria for cervical priming before surgical pregnancy termination at 17-22 weeks' gestation. *International Journal of Women's Health* 2011;3 347-352.

Adhikary SD, Thiruvengkatarajan V, Babu KS, Tharyan P. The effects of anaesthetic agents on cortical mapping during neurosurgical procedures involving eloquent areas of the brain (Review). *The Cochrane Database Syst Rev.* 2011 Nov 9;11.

## CARDIOLOGY UNIT

### Papers

Carrington MJ, Ball J, Horowitz JD, Marwick TH, Mahadavan G, Wong C, Abhayaratna WP, Haluska B, Thompson DR, Scuffham PA, Stewart S. Navigating the fine line between benefit and risk in chronic atrial fibrillation: Rationale and design of the Standard versus Atrial Fibrillation specific management study (SAFETY). *Int J Cardio* 2011. (Epub ahead of print).

Horowitz JD, Rosenson RS, McMurray JJ, Marx N, Remme WJ. Clinical Trials Update AHA Congress 2010. *Cardiovasc Drugs Ther* 2011 25(1):69-76.

Ling LH, Chik W, Averbuj P, Pati P, Sverdlov A, Ngo D, Morris RG, Sallustio BC, Horowitz JD. Effects of aging, renal dysfunction, left ventricular systolic impairment and weight on steady state pharmacokinetics of perhexiline. *Ther Drug Monit* 2011; 33(2):251-6.

Lopes RD, Horowitz JD, Garcia DA, Crowther MA, Hylek EM. Warfarin and Acetaminophen Interaction: A Summary of the evidence and biologic plausibility. *Blood* 2011. Dec 8;118(24):6269-73.

Ngo DTM, Stafford I, Sverdlov AL, Qi W, Wuttke RD, Zhang Y, Kelly DJ, Weedon H, Smith MD, Kennedy JA, Horowitz JD. Ramipril retards development of aortic valve stenosis in a rabbit model: mechanistic considerations. *Br J Pharmacol* 2011; 162(3):722-32.

Ngo DTM, Chan WP, Rajendran S, Heresztyn T, Amarasekera A, Sverdlov AL, O'Loughlin PD, Morris HA, Chirkov YY, Norman RJ, Horowitz JD. Determinants of insulin responsiveness in young women: Impact of polycystic ovarian syndrome, nitric oxide, and Vitamin D. *Nitric Oxide* 2011; 25(3):326-30.

Nguyen TH, Neil CJ, Sverdlov AL, Mahadavan G, Chirkov YY, Kucia AM, Stansborough J, Beltrame JF, Selvanayagam JB, Zeitz CJ, Struthers AD, Frenneaux MP, Horowitz JD. N-terminal pro brain natriuretic protein levels in Tako-tsubo Cardiomyopathy. *Am J Cardiol* 2011; 108(9):1316-2.

Nightingale AK, Sverdlov AL, Rajendran S, Mishra K, Heresztyn T, Ngo DTM, Horowitz JD. Lack of association between aortic sclerosis and left ventricular hypertrophy in elderly subjects. *Int J Cardiol* 2011; 150(1):33-8.

Nordin BE, Lewis JR, Daly RM, Horowitz J, Metcalfe A, Lange K, Prince RL. The calcium scare-what would Austin Bradford-Hill have thought? *Osteoporosis Int* 2011; 22(12) 3073-7.

Stewart S, Carrington MJ, Marwick T, Davidson PM, Macdonald P, Horowitz J, Krum H, Newton PJ, Reid C, Scuffham PA. The WHICH? Trial: rationale and design of a pragmatic randomized, multicentre comparison of home-vs clinic-based management of chronic heart failure patients. *Eur J Heart Fail* 2011 Aug;13(8):0909-16.

Sverdlov AL, Ngo DT, Nightingale AK, Rajendran S, Mishra K, Heresztyn T, Ritchie RH, Marwick TH, Frenneaux MP, Horowitz JD. The endogenous NOS inhibitor asymmetric dimethylarginine (ADMA) predicts LV mass independent of afterload. *Nitric Oxide* 2011; 25(1): 41-6.

Sverdlov AL, Ngo DT, Horowitz JD. Pathogenesis of aortic sclerosis: association with low BMI, tissue nitric oxide resistance, but not systemic inflammatory activation. *Am J Cardiovasc Dis* 2012;2(1):43-49.

Sverdlov AL, Ngo DTM, Chapman MJ, Ali OA, Chirkov YY, Horowitz JD. Pathogenesis of aortic stenosis: not just a matter of wear and tear. *Am J Card Disease* 2011;1 (2):185-189.

Tricoci P, Huang Z, Held C, Moliterno DJ, Armstrong PW, Van de Werf F, White HD, Aylward PE, Wallentin L, Chen E, Lokhnygina Y, Pei J, Leonardi S, Rorick TL, Kilian AM, Jennings LH, Ambrosio G, Bode C, Cequier A, Cornel JH, Diaz R, Erkan A, Huber K, Hudson MP, Jiang L, Jukema JW, Lewis BS, Lincoff AM, Montalescot G, Nicolau JC, Ogawa H, Pfisterer M, Prieto JC, Ruzyllo W, Sinnaeve PR, Storey RF, Valgimigli M, Whellan DJ, Widimsky P, Strony J, Harrington RA, Mahaffey KW; TRACER Investigators. Thrombin-receptor antagonist vorapaxar in acute coronary syndromes. *N Engl J Med.* 2012 Jan 5;366(1):20-33. Epub 2011 Nov 13.

## CLINICAL PHARMACOLOGY UNIT

### Papers

Ling L, Chik W, Averbuj P, Pati P, Sverdllov A, Ngo D, Morris RG, Sallustio BC, Horowitz JD. Effects of aging, renal dysfunction, left ventricular systolic impairment, and weight on steady state perhexiline. *Therapeutic Drug Monitoring* 2011;33:251-256.

Noll BD, Collier JK, Somogyi AA, Morris RG, Russ GR, Hesselink DA, Van Gelder T, Sallustio BC. Measurement of Cyclosporine A in Rat Tissues and Human Kidney Transplant Biopsies - A Method Suitable for Small (< 1mg) Samples. *Therapeutic Drug Monitoring* 2011;33(6):688-693.

Sallustio BC, Noll BD, Morris RG. Comparison of blood sirolimus, tacrolimus and everolimus concentrations measured by LC-MS/MS, HPLC-UV and immunoassay methods. *Clinical Biochemistry* 2011;44:231-236.

## ENDOCRINOLOGY UNIT

### Papers

Aziz SI, Khattak KA, Usmani ZA, Ladipeerla N and Pittman K. Metyrapone: A management option for Ectopic ACTH syndrome in Small Cell Lung Cancer treated with IV Etoposide *BMJ Case Reports* 2011; doi:10.1136/bcr.04.2010.2917.

Jesudason D and Clifton P. The interaction between dietary protein and bone health. *Journal of Bone and Mineral Metabolism* 2011 29:1 1-14, DOI: 10

Jesudason D and Wittert G. Endocannabinoid system in food intake and metabolic regulation. *Current Opinion in Lipidology* 2008 19:4 344-348

Jesudason DR, Clifton P. Interpreting different measures of glomerular filtration rate in obesity and weight loss: pitfalls for the clinician. *Int J Obes (Lond)*. 2011 Dec 20. doi: 10.1038/ijo.2011.242. [Epub ahead of print]

## GASTROENTEROLOGY AND HEPATOLOGY UNIT

### Papers

Abimosleh SM, Linday RJ, Butler RN, Cummins AG, Howarth GS. Emu oil increases colonic crypt depth in a rat model of ulcerative colitis. *Digestive Diseases Science* 2011; December 7 [Epub ahead of print].

Fausser JK, Prisciandaro LD, Cummins AG, Howarth GS. Fatty acids as potential adjunctive colorectal chemotherapeutic agents. *Cancer Biology & Therapy* 2011 Apl 15; 11:724-731.

Howard K, Salkeld G, Pignone M, Hewett P, Cheung P, Olsen J, Clapton W, Roberts-Thomson IC. Preferences for CT colonography and colonoscopy as diagnostic tests for colorectal cancer: A discrete choice experiment. *Value Health* 2011; Dec14(8):1146-1152.

Huynh D, Khoo EE, Roberts-Thomson IC. Focal nodular hyperplasia. *J Gastroenterol Hepatol* 2011; Feb26(2):416.

Lidums I, Cummins AG, Teo E. The role of capsule endoscopy in suspected celiac disease patients with positive celiac serology. *Dig Dis Sci*. 2011 Feb;56(2):499-505.

Prisciandaro LD, Geier MS, Butler RN, Cummins AG, Howarth GS. Evidence supporting the use of probiotics for the prevention and treatment of chemotherapy-induced intestinal mucositis. *Critical Reviews in Food Science and Nutrition* 2011;Mar;51(3):239-247.

Priscaindaro LD, Geier MS, Butler RN, Cummins AG, Howarth GS. Probiotic factors partially improve parameters of 5-fluorouracil-induced intestinal mucositis in rats. *Cancer Biology & Therapy* 2011;Apl1;11(7):671-677.

Roberts-Thomson IC, Fon J, Uylaki W, Cummins AG, Barry S. Cells, cytokines and inflammatory bowel disease: a clinical perspective. *Expert Reviews Gastroenterology and Hepatology* 2011; Dec5(6):703-716.

### Books

Roberts-Thomson IC. Endoscopy for rural surgeons: ERCP. In: Rural Surgery. Challenges and Solutions for the Rural Surgeon. Wichmann MW, Borgstrom DC, Caron NR, Maddern G. Eds. Berlin, Heidelberg, Springer-Verlag, 2011, p47-50.

Roberts-Thomson IC, Nguyen NQ. Diagnostic and therapeutic endoscopy in the biliary tract and pancreas. In *Therapeutic Gastrointestinal Endoscopy*. Pascu O, Tantau M. Eds. InTech online publication, 2011. (<http://www.intechopen.com/articles/show/title/diagnostic-and-therapeutic-endoscopy-in-the-biliary-tract-and-pancreas>).

Lidums I, Teo E, Field J, Cummins AG. Capsule endoscopy: A valuable tool in the follow-up of people with celiac disease on a gluten-free diet. *Clinical and Translational Gastroenterology* 2011; 2, e4; doi:10.1038/ctg.2011.3; published online 18 August 2011.

Lidums I, Mechaber AJ. Celiac Disease. In: Goldmann D, First Consult, Amsterdam, Elsevier In. (URL:[http://www.firstconsult.com/das/pdxmd/body/0/0?type=med&eid=9-ul.0-\\_1\\_mt\\_1014763](http://www.firstconsult.com/das/pdxmd/body/0/0?type=med&eid=9-ul.0-_1_mt_1014763))

## HAEMATOLOGY AND MEDICAL ONCOLOGY, The combined Departments of

Arentz G, Chataway T, Price TJ, Izwan Z, Hardi G, Cummins AG, Hardingham JE. Desmin expression in colorectal cancer stroma correlates with advanced stage disease and marks angiogenic microvessels. *Clinical Proteomics* 2011;Dec 5,8(1):16-22.

Bishnoi S, Pittman KB, Colbeck M, Townsend A, Hardingham JE, Sukumaran S, Hooper B, Tuck M, Roder D, Luke C, Price TJ. Small cell lung cancer: patterns of care and their influence on survival - 25 years experience of a single Australian oncology unit. *Asia Pac J Clin Oncol* 2011;Sep7(3):252-7.

Brown AL, Salerno DG, Sadras T, Engler GA, Kok CH, Wilkinson CR, Samaraweera SE, Sadlon TJ, Perugini M, Lewis ID, Gonda TJ, D'Andrea RJ. The GM-CSF receptor utilizes  $\beta$ -catenin and Tcf4 to specify macrophage lineage differentiation. *Differentiation* 2012 Jan;83(1):47-59.

Butcher CM, Neufing PJ, Eriksson L, Carmichael CL, Wilkins EJ, Melo JV, Lewis ID, Bardy PG, Scott HS, D'Andrea RJ. RUNX1 mutations are rare in chronic phase polycythaemia vera. *Br J Haematol* 2011 Jun;153(5):672-5.

Diakiw SM, Kok CH, To LB, Lewis ID, Brown AL, D'Andrea RJ. The granulocyte-associated transcription factor Krüppel-like factor 5 is silenced by hypermethylation in acute myeloid leukemia. *Leuk Res* 2012 Jan;36(1):110-6.



- Hahn CN, Chong CE, Carmichael CL, Wilkins EJ, Brautigan PJ, Li XC, Babic M, Lin M, Carmagnac A, Lee YK, Kok CH, Gagliardi L, Friend KL, Ekert PG, Butcher CM, Brown AL, Lewis ID, To LB, Timms AE, Storek J, Moore S, Altree M, Escher R, Bardy PG, Suthers GK, D'Andrea RJ, Horwitz MS, Scott HS. Heritable GATA2 mutations associated with familial myelodysplastic syndrome and acute myeloid leukemia. *Nature Genetics* 2011 Sep 4;43(10):1012-7.
- Haller DG, Tabernero J, Maroun J, de Braud F, Price TJ, Van Cutsem E, Hill M, Gilberg F, Rittweger K, Schmoll H-J. Capecitabine plus oxaliplatin versus 5-fluorouracil/ folinic acid as adjuvant therapy for stage III colon cancer. *J Clin Oncol* 2011, April 10;29 (11):1465-71
- Khattak MA, Townsend AR, Beeke C, Karapetis CS, Luke C, Padbury R, Maddern G, Roder D, Price TJ. Impact of age on choice of chemotherapy and outcome in advanced colorectal cancer. *Eur J Cancer* 2011 Nov 24. [Epub ahead of print]
- Kotasek D, Tebbutt N, Desai J, Welch S, Siu LL, McCoy S, Sun Y, Johnson J, Adewoye AH, Price TJ. Safety and pharmacokinetics of motesanib in combination with gemcitabine and erlotinib for the treatment of solid tumors: a phase 1b study. *BMC Cancer* 2011; Jul 26;11:313
- McIntock C, Brighton T, Chunilal S, Dekker G, McDonnell N, McRae S, Muller P, Tran H, Walters BN, Young L. Recommendations for the prevention of pregnancy-associated venous thromboembolism. *Aust N Z J Obstet Gynaecol* 2011 Oct 6, doi: 10.1111/j.1479-828X.2011.01361.x. [Epub ahead of print]
- Millward M, Price T, Townsend A, Sweeney C, Spencer A, Sukumaran S, Longenecker A, Lee L, Lay A, Sharma G, Gemmill RM, Drabkin HA, Lloyd GK, Neuteboom ST, McConkey DJ, Palladino MA, Spear MA. Phase 1 clinical trial of the novel proteasome inhibitor marizomib with the histone deacetylase inhibitor vorinostat in patients with melanoma, pancreatic and lung cancer based on in vitro assessments of the combination. *Invest New Drugs* 2011 Nov 12. [Epub ahead of print]
- Murphy NM, Diviney M, Szer J, Bardy PG, Grigg A, Hoyt R, King-Kallimanis B, Holdsworth R, McCluskey J, Tait BD. The Effect of Folinic Acid on Methylenetetrahydrofolate Reductase Polymorphisms in Methotrexate-Treated Allogeneic Hematopoietic Stem Cell Transplants. *Biol Blood Marrow Transplant* 2011 Sep 14 [Epub ahead of print]
- Neo EL, Beeke C, Price TJ, Maddern G, Karapetis C, Luke C, Roder D, Padbury R. The South Australian clinical registry for metastatic colorectal cancer. *ANZ J Surg* 2011 May;81(5):352-7.
- Peeters M, Price TJ, Cervantes A, Sobrero AF, Ducreux M, Hotko Y, André T, Chan E, Lordick F, Punt CJ, Strickland AH, Wilson G, Ciuleanu TE, Roman L, Van Cutsem E, Tzekova V, Collins S, Oliner KS, Rong A, Gansert J. Randomized phase III study of panitumumab with fluorouracil, leucovorin, and irinotecan (FOLFIRI) compared with FOLFIRI alone as second-line treatment in patients with metastatic colorectal cancer. *J Clin Oncol* 2010 Nov 1;28(31):4706-13.
- Price TJ, Hardingham JE, Lee CK, Weickhardt A, Townsend AR, Wrin JW, Chua A, Shivasami A, Cummins MM, Murone C, Tebbutt NC. Impact of KRAS and BRAF Gene Mutation Status on Outcomes From the Phase III AGITG MAX Trial of Capecitabine Alone or in Combination With Bevacizumab and Mitomycin in Advanced Colorectal Cancer. *J Clin Oncol* 2011;Jul 1;29(19):2675-82.
- Price TJ, Zannino D, Wilson K, Simes RJ, Cassidy J, Van Hazel GA, Robinson BA, Broad A, Ganju V, Ackland SP, Tebbutt NC. Bevacizumab is equally effective and no more toxic in elderly patients with advanced colorectal cancer: a subgroup analysis from the AGITG MAX trial: an international randomised controlled trial of Capecitabine, Bevacizumab and Mitomycin C. *Ann Oncol* 2011 Oct 29. [Epub ahead of print]
- Rao N, Butcher CM, Lewis ID, Ross DM, Melo JV, Scott HS, Bardy PG, D'Andrea RJ. Clonal and lineage analysis of somatic DNMT3A and JAK2 mutations in a chronic phase polycythemia vera patient. *Br J Haematol* 2012 Jan;156(2):268-70 Epub ahead of print Aug 2, 2011.
- Rodgers SE, Lloyd JV, Mangos HM, Duncan EM, McRae SJ. Diagnosis and management of adult patients with von Willebrand disease in South Australia. *Semin Thromb Hemost* 2011 Jul;37(5):535-41.
- Sun MT, Chan W, McRae S, Selva D. Protein C deficiency with concurrent essential thrombocytosis and orbital compartment syndrome. *Clin Experiment Ophthalmol* 2011 Jun 30, doi: 10.1111/j.1442-9071.2011.02642.x. [Epub ahead of print]
- Tebbutt NC, Murphy F, Zannino D, Wilson K, Cummins MM, Abdi E, Strickland AH, Lowenthal RM, Marx G, Karapetis C, Shannon J, Goldstein D, Nayagam SS, Blum R, Chantrill L, Simes RJ, Price TJ; on behalf of the Australasian Gastro-Intestinal Trials Group (AGITG). Risk of arterial thromboembolic events in patients with advanced colorectal cancer receiving bevacizumab. *Ann Oncol* 2011 Aug;22(8):1834-8.

## INTENSIVE CARE UNIT

Ekinici EI, Clarke S, Thomas MC, Moran JL, Cheong K, Macisaac RJ, Jerums G: Dietary salt intake and mortality in patients with type 2 diabetes. *Diabetes Care* 2011, 34: 703-709.

Forsblom C, Thomas M, Moran J, Saraheimo M, Thorn L, Waden J, Gordin D, Frystyk J, Flyvbjerg A, Groop PH: Serum adiponectin concentration is a positive predictor of all-cause and cardiovascular mortality in type 1 diabetes. *J Intern Med* 2011, 270: 346-355.

Forsblom C, Harjutsalo V, Thorn LM, Waden J, Tolonen N, Saraheimo M, Gordin D, Moran JL, Thomas MC, Groop PH: Competing-Risk Analysis of ESRD and Death among Patients with Type 1 Diabetes and Macroalbuminuria. *J Am Soc Nephrol* 2011, 22: 537-544.

Kadam V, Moran J: Epidural infusions versus transversus abdominis plane (TAP) block infusions: retrospective study. *Journal of Anesthesia* 2011, 25: 786-787.

Moran JL, Solomon PJ, for the Adult Database Management Committee (ADMC) of the Australian and New Zealand Intensive Care Society (ANZICS): Conventional and advanced time series estimation: application to the Australian and New Zealand Intensive Care Society (ANZICS) adult patient database, 1993GÇö2006. *J Eval Clin Pract* 2011, 17: 45-60.

Pettilä V, Westbrook A, Nichol A, Bailey M, Wood E, Syres G, Phillips L, Street A, French C, Murray L, Orford N, Santamaria J, Bellomo R, Cooper D on behalf of The Blood Observational Study Investigators for the ANZICS- Clinical Trials Group Age of red blood cells and mortality in the critically ill *Critical Care* 2011,15:R116.

Sinnollareddy M, Peake SL, Roberts MS, Lipman J, Roberts JA. Using pharmacokinetics and pharmacodynamics to optimise dosing of antifungal agents in critically ill patients: a systematic review. *Int J Antimicrob Agents* 2012 Jan;39(1):1-10. Epub 2011 Sep 16.

Sinnollareddy M, Peake SL, Roberts MS, Playford EG, Lipman J, Roberts JA. Pharmacokinetic evaluation of fluconazole in critically ill patients. *Expert Opin Drug Metab Toxicol* 2011 Nov;7(11):1431-40.

Thomas MC, Soderlund J, Lehto M, Makinen VP, Moran JL, Cooper ME, Forsblom C, Groop PH: Soluble receptor for AGE (RAGE) is a novel independent predictor of all-cause and cardiovascular mortality in type 1 diabetes. *Diabetologia* 2011, 54: 2669-2677.

Thomas MC, Moran J, Forsblom C, Harjutsalo V, Thorn L, Ahola A, Wad\*<sup>n</sup> J, Tolonen N, Saraheimo M, Gordin D, Groop PH, for the FinnDiane Study Group: The Association Between Dietary Sodium Intake, ESRD, and All-Cause Mortality in Patients With Type 1 Diabetes. *Diabetes Care* 2011, 34: 861-866.

## Books

Grealy B, Chaboyer W. ACCCN's Critical Care Nursing 2nd Edition 2011-12-20. Editors Doug Elliott D, Aitken L, Chaboyer W. Chapter 6, Essential Nursing Care of the Critically Ill Patient. Elsevier Australia. pp 105-132.

Peake SL, Ridley E, Chapman M. Energy Goals in the Critically Ill Adult. Annual Update in Intensive Care and Emergency Medicine 2011. J.-L. Vincent (Ed). Springer Science+ Business Media Publishers 2011; Chapter XVI: pp694-70.

## MEDICINE, University of Adelaide Discipline of

## Papers

Adams RJ, Appleton SL, Gill TK, Taylor AW, Wilson DH, Hill CL. Cause for concern in the use of non-steroidal anti-inflammatory medications in the community -a population-based study. *BMC Family Practice* 2011 Jul 7;12(1):70.

Buchanan G, Need EF, Barrett JM, Bianco-Miotto T, Thompson VC, Butler LM, Marshall VR, Tilley WD, Coetzee GA. Corepressor effect on androgen receptor activity varies with the length of the CAG encoded polyglutamine repeat and is dependent on receptor/corepressor ratio in prostate cancer cells. *Mol Cell Endocrinol* 2011 Aug 6;342(1-2):20-31.

Chittleborough CR, Winefield H, Gill TK, Koster C, Taylor AW. Age differences in associations between psychological distress and chronic conditions. *International Journal of Public Health* 2011; 56:71-80.

Daly AM, Parsons JE, Wood NA, Gill TK, Taylor AW. Food consumption habits of South Australians and Western Australians, as measured by a Food Frequency Questionnaire. *BMC Research Notes* 2011 Nov 23;4(1):507.

Jayaram L, Chunilal S, Pickering S, Ruffin RE, Zalewski Peter D. Sputum zinc concentration and clinical outcome in older asthmatics. *Respirology* 2011;16:3:459-466.

Gill TK, Hill CL. Smoking, body weight, physical activity and risk of lower limb total joint replacement in a population-based cohort of men: Comment on the article by Mnatzaganian et al. *Arthritis Rheum* 2011 Dec 6; Epub ahead of print.

Jayaram L, Zalewski, P. The Clinical Relevance of Zinc in Respiratory (Mainly Airway) Disease Management in Treatment Strategies. *Airways Disease Management* 2011; V1 pp 15-22.

Khoo J, Piantadosi C, Duncan R et. al. Comparing effects of low energy diet and a high protein low fat diet on sexual and endothelial function, urinary tract symptoms and inflammation in obese diabetic men. *J Sex Med* 2011;8: 2868-2875.

Lang CJ, Hansen M, Roscioli E, Jones J, Murgia C, Leigh Ackland M, Zalewski P, Anderson G, Ruffin R. Dietary zinc mediates inflammation and protects against wasting and metabolic derangement caused by sustained cigarette smoke exposure in mice. *Biometals* 2011 Feb; 24(1):23-39.

Martini A, Javanparast S, Ward P, Baratin G, Gill T, Cole S, Tsourtos G, Aylward P, Jiwa M, Misan G, Wilson C, Young G. Colorectal cancer screening in rural and remote areas: Analysis of the National Bowel Cancer Screening Program data for South Australia. *Rural and Remote Health* 2011 May 12; Apr-Jun;11 (2):1648.

Martini A, Javanparast S, Ward P, Cole S, Aylward P, Baratin G, Gill T, Tsourtos G, Misan G, Wilson C, Young G. Screening for colorectal cancer screening in remote, rural and metropolitan South Australia: Analysis of the National Bowel Cancer Screening Program data. *Public Health Bulletin SA* 2011;8: 49-55.

Massy-Westropp N, Gill TK, Taylor AW, Bohannon R, Hill CL (2011): Hand Grip Strength: age and gender stratified normative data in a population-based study. *BMC Research Notes* 2011; 4:127.

Menz HB, Gill TK, Taylor AW, Hill CL. Age and sex differences in disabling foot pain prevalence using different definitions of the Manchester Foot Pain and Disability Index. *BMC Musculoskeletal Disorders* 2011;12:243.

Sharif R, Thomas P, Zalewski P, Graham R, Fenech M. The effect of Zinc Sulphate and Zinc Carnosine on genome stability and cytotoxicity in the WIL2-NS lymphoblastoid cell line. *Mutation Research. Genetic Toxicology and Environmental Mutagenesis* 2011 Feb 28;720(1-2):22-33.

Sharif R, Thomas P, Zalewski P, Graham P & Fenech M. The Role of Zinc in Genomic Stability. *Mutation Research* 2011 Feb 28;720(1-2):22-33.

Shi Z, Dal Grande E, Taylor AW, Gill TK, Adams R, Wittert GA. Association between soft drink consumption and asthma and chronic obstructive pulmonary disease among adults in Australia. *Respirology* 2011 Dec 5; Epub ahead of print.

Shi Z, Yuan B, Taylor AW, Dai Y, Pan X, Gill TK, Wittert GA. Monosodium glutamate is related with a higher increase of blood pressure over 5 years: findings from the Jiangsu Nutrition Study of Chinese adults. *Journal of Hypertension* 2011; 29(5):846-53.

Taylor AW, Coveney J, Ward PR, Henderson J, Meyer SB, Pilkington R, Gill TK. Fruit and vegetable consumption - The influence of aspects associated with trust in food and safety and quality of food. *Public Health Nutrition* 2011 Aug 2:1-10.

Taylor AW, Chittleborough C, Gill TK, Winefield H, Baum F, Hiller J, Goldney R, Tucker G, Hugo G. Relationship of social factors including trust, control over life decisions, problems with transport and safety, to psychological distress in the community. *Social Psychiatry & Psychiatric Epidemiology* 2011 Feb 25; Epub ahead of print.

Taylor AW, Winefield H, Kettler L, Roberts R, Gill TK. A population study of 5 to 15 year olds - full time maternal employment not associated with high BMI. The importance of screen-based activity, reading for pleasure and sleep duration in children's BMI. *Maternal and Child Health Journal* 2011 Apr 20; Epub ahead of print.

Wang Q, Bailey CG, Ng C, Tiffen J, Thoeng A, Minhas V, Lehman ML, Hendy SC, Buchanan G, Nelson CC, Rasko JE, Holst J. Androgen Receptor and Nutrient Signaling Pathways Coordinate the Demand for Increased Amino Acid Transport during Prostate Cancer Progression. *Cancer Res.* 2011 Dec 15;71(24):7525-7536.

Ward PR, Meyer SB, Verity F, Gill TK, Luong CN. Complex problems require complex solutions: the utility of social quality theory for addressing the Social Determinants of Health. *BMC Public Health* 2011;11:630.

Ward P, Javanparast S, Cole S, Gill T, Ah Matt M, Aylward P, Baratin G, Carter S, Jiwa M, Martini A, Misan G, Tsourtos G, Wilson C, Young G: The equity of colorectal cancer screening: a cross-sectional analysis of the National Bowel Cancer Screening Program data for South Australia. *Australia and New Zealand Journal of Public Health* 2011; 35:61-65.

### Book Chapter

Zalewski PD. Role of Zinc in Mammalian Cell Cycle and Cell Death in Zinc in Human Health Editor L Rink. IOS Press BV (Amsterdam) 2011; 63-93.

### NEUROLOGY UNIT

#### Papers

Arthur A, Zannettino A, Panagopoulos R, Koblar SA, Sims NA, Stylianou C, Matsuo K, Gronthos S. EphB/ephrin-B interactions mediate human MSC attachment, migration and osteochondral differentiation. *Bone* 2011; 48(3): 533-542.

Boussier MG, Amarenco P, Chamorro A, Fisher M, Ford I, Fox K, Hennerici MG, Mattie HP, Rothwell PM, Cordove A, Fratacci MD and PERFORM study investigators. Terutroban versus Aspirin with cerebral ischemic events: a randomized, double-blind, parallel-group trial. *Lancet* 2011; 377(9782):2013-2022.

Boussier MG, Amarenco P, Chamorro A, Fisher M, Ford I, Fox K, Hennerici MG, Mattie HP, Rothwell PM and PERFORM investigators. Rationale and design of a randomized, double-blind, parallel-group study of terutroban 30mg/day versus aspirin 100mg/day in stroke patients: the prevention of cerebrovascular and cardiovascular events of ischemic origin with terutroban in patients with a history of ischemic stroke or transient ischemic attack (PERFORM) study. *Cerebrovascular Diseases.* 2011; 27(5):509-518.

Cheng JN, Jannes J, Lee A, Hedde R, Koblar SA. A patient with anaphylaxis after alteplase infusion. *J Clinical Neuroscience* Nov 2011 [Epub ahead of print]

Golledge J, Clancy P, Maguire J, Lincz L, Koblar SA (2011). The role of Tenascin C in cardiovascular disease. *Cardiovascular Research* 92(1):19-28.

Kleinig T, Leyden JM, Lee A, Jannes J. A Population-based study of thrombolysis for acute stroke in South Australia. *Medical Journal of Australia* 2011; 194(3):111-115.

Krawczyk V, Hamilton-Bruce MA, Koblar SA, Panickar P. The under-reported nature of Transient Ischaemic Attacks (TIAs): the need to take a qualitative research direction. *Int J Stroke* 2011 Sept 6(Suppl 1) 45.

Lee LH, Chrysosidis S, Jannes J. Rescue Therapy with Local Intra-arterial Urokinase after Poor Clinical Response with Intravenous rtPA (recombinant tissue plasminogen activator) in Acute Ischaemic Stroke. *Internal Medical Journal* 41 (7) pp.570-3, 2011.

Leung ES, Hamilton-Bruce MA, Koblar SA. Transient ischaemic attacks assessment and management. *Australian Family Physician* 2011 Jan-Feb;40(1-2):9; author reply 9.

Leung E, Hamilton-Bruce A, Stocks N, Koblar S. COMBAT: COMMunity Based rapid Access TIA care. A pilot study. *Int J Stroke* 2011 Sept 6(Suppl 1) 20.

Leung E, Hamilton-Bruce MA, Stocks N, Koblar SA. Funny Turn. *BMJ* 2011 Dec 5; 343 doi: 10.1136/bmj.d7465 [Epub ahead of print].

Leyden JM, Chong WK, Kleinig T, Lee A, Field JB, Jannes J. A Population-based study of thrombolysis for acute stroke in South Australia. *Medical Journal of Australia* 2011; 194(3): 111-115.

McLennan S, Lam A, Mathias J, Koblar SA, Hamilton-Bruce M, Jannes J. Role of vasodilation in cognitive impairment. *Int J Stroke* 2011; 6(3): 280.

Milton AG, Aykanat VM, Hamilton-Bruce MA, Nezc M, Jannes J, Koblar SA (2011). Association of Phosphodiesterase 4D (PDE4D) Gene and Cardioembolic Stroke in an Australian Cohort. *Int J Stroke* 2011; 6(6) 420-6.

Phillips MCL, Leyden JM, Kleinig T, Chong WK, Czapran P, Lee A, Koblar SA, Jannes J. Ischemic Stroke among young people aged 15 to 50 years in Adelaide in South Australia: More Obesity, Marijuana and Amphetamine Abuse. *Med J Australia* 2011 Nov 21;195(10):610-4.







## Abstracts

Benedict A, Leung E, Koblar S. This study is a subset of COMBAT stroke: community-based rapid access transient ischaemic attack (TIA) management. *Int J Stroke* 2011 Sept 6(Suppl 1) 4.

Biermann S, Appleton S, Hamilton-Bruce A, Koblar S, Adams R. Health literacy levels in a stroke population. *Int J Stroke*. 2011 Sept 6(Suppl 1) 19.

Chaudry O, Dawe A, Khoo E, Hamilton-Bruce A, Jannes J, Sebben R, Koblar SA. The degree of collateralization is related to the potential recuperation ratio in acute ischemic stroke. *Int J Stroke*. 2011 Sept 6(Suppl 1) 13.

Djukic M, Lewis MD, Leung E, Jannes J, Hamilton-Bruce MA, Chataway T, Koblar SA. Human plasma biomarker investigation of transient ischaemic attack (TIA) by 2D-differential in-gel electrophoresis (DIGE) and mass spectrometry: a pilot study. *Int J Stroke* 2011 Sept 6(Suppl 1) 42.

Hamilton-Bruce MA & Koblar SA. Authorship conundrums. *Int J Stroke* 2011 Sept 6(Suppl 1) 45.

Holliday E, Maguire J, Biros E, Golledge J, Lewis M, Koblar S, Jannes J, Hankey G, Baker R, Parsons M, Sturm J, Lincz L, Moscato P, Scott R, Attia J, Levi C. Genome-wide association studies of ischaemic stroke and large artery atherosclerosis. *Int J Stroke* 2011 Sept 6(Suppl 1) 53.

Leong WK, Henshall TL, Arthur A, Kremer KL, Lewis MD, Helps SC, Field J, Hamilton-Bruce A, Warming S, Manavis J, Vink R, Gronthos S, Koblar SA. Human adult stem cells as a treatment for focal cerebral ischemia. *Int J Stroke* 2011 Sept 6(Suppl 1) 33.

Leong WK, Klaric T, Lewis M, Koblar SA. Upregulation of Npas4 expression is early and transient following focal cerebral ischemia in adult rodent brain. *Int J Stroke* 2011 Sept 6(Suppl 1) 47.

Maguire J, Holliday E, Sturm J, Golledge J, Lewis M, Koblar S, Jannes J, Hankey G, Lincz L, Moscato P, Baker R, Parsons M, Scott R, Attia J, Levi C. Australian stroke genetics collaborative: genetic associations with ischaemic stroke functional outcome. *Int J Stroke* 2011 Sept 6(Suppl 1) 44.

Moey A, Koblar S, Leyden J, Kimber T, Kleinig T, Lee A, Jannes J. Thrombolysis rates in South Australia: a follow-up study. *Int J Stroke* 2011 Sept 6(Suppl 1) 24.

## NUCLEAR MEDICINE

### Papers

Barnden L, Crouch B, Kwiatek R, Burnet R, Mernone A, Chrysosidis S, et al. A brain MRI study of chronic fatigue syndrome: Evidence of brainstem dysfunction and altered homeostasis. *NMR Biomed*. 2011;24(10):1302-12.

Stute S, Carlier T, Cristina K, Noblet C, Martineau A, Hutton B, Barnden L, Buvat, I. Monte Carlo simulations of clinical PET and SPECT scans: Impact of the input data on the simulated images. *Phys Med Biol*. 2011;56:6441-57.

Vallat W, Unger SA. The role of nuclear medicine in diagnosing complications related to catheter-based AF ablation. *J Nucl Cardiol* 2011 Dec;18(6):1103-6.

## OTOLARYNGOLOGY, HEAD AND NECK SURGERY, Department of

### Papers

Foreman A, Holtappels G, Psaltis AJ, Jervis-Bardy J, Field J, Wormald PJ, Bachert C. Adaptive immune responses in *Staphylococcus aureus* biofilm-associated chronic rhinosinusitis. *Allerg*. 2011;66(11):1449-56.

Foreman A, Jervis-Bardy J, Wormald PJ. Do biofilms contribute to the initiation and recalcitrance of chronic rhinosinusitis? Review. *Laryngoscope* 2011;121(5):1085-91.

Jervis-Bardy J, Foreman A, Bray S, Tan L, Wormald PJ. Methylglyoxal-infused honey mimics the anti-*Staphylococcus aureus* biofilm activity of manuka honey: Potential implication in Chronic Rhinosinusitis. *Laryngoscope* 2011;121(5):1104-7.

Levin M, Tan LW, Baker L, Wormald PJ, Greiff L, Ohlin M. Diversity of immunoglobulin E-encoding transcripts in sinus mucosa of subjects diagnosed with non-allergic fungal eosinophilic sinusitis. *Clin Exp Allergy* 2011;41(6):811-20.

Madge SN, Chan W, Malhotra R, Ghabrial R, Floreani S, Wormald PJ, Tsirbas A, Selva D. Endoscopic dacryocystorhinostomy in acute dacryocystitis: a multicenter case series. *Orbit* 2011;30(1):1-6.

Singhal D, Foreman A, Jervis-Bardy J, Wormald PJ. *Staphylococcus aureus* Biofilms: Nemesis of Endoscopic Sinus Surgery. *Laryngoscope* 2011;121(7):1578-83.

Singhal D, Baker L, Wormald PJ, Tan L. *Aspergillus fumigatus* biofilm on primary human sinonasal epithelial culture. *Am J Rhinol Allergy* 2011;25(4):219-25.

Valentine R, Wormald PJ. A vascular catastrophe during endonasal surgery: An endoscopic sheep model. *Skull Base* 2011;1(2):109-113.

Valentine R, Wormald PJ. Carotid artery injury after endonasal surgery. *Otolaryngol Clin North Am* 2011;44(5):1059-79.

Valentine R, Wormald PJ. Controlling the surgical field during a large endoscopic vascular injury. *Laryngoscope* 2011;121(3):562-6.

Valentine R, Boase S, Jervis-Bardy J, Moratti S, Robinson S, Wormald P-J. The Efficacy of Hemostatic Techniques in the Sheep Model of Carotid Artery Injury. *Int Forum All & Rhinol* 2011; Vol 1 (2) Mar/Apr;118-122.

Yip JM, Seiberling KA, Wormald PJ. Patient-reported olfactory function following endoscopic sinus surgery with modified endoscopic Lothrop procedure / Draf 3. *Rhinology* 2011;49(2):217-20.

## PSYCHIATRY, University of Adelaide Discipline of

### Papers

Bastiampillai T, Khor LJ, Dhillon R. Complicated management of mania in a setting of undiagnosed sleep apnoea. *Journal of ECT* 2011;27 (1):15-16.

Dhillon R, Tibrewal P, Bastiampillai T, Krishnan S, Opray N. Transgender late onset psychosis-the role of sex hormones. *Australian New Zealand Journal of Psychiatry* 2011; 45 (7): 595-596.

Dhillon R, Bastiampillai T, Tee K, Vanlint A. Clozapine and QTc prolongation: a case study. *Aust N Z J Psychiatry* 2011 Dec;45(12):1098-9.

Goh T, Dhillon R, Bastiampillai T. Manic Induction with Interferon Alpha Therapy. *Australian New Zealand Journal of Psychiatry* 2011 Nov;45(11):1004.

Lander M, Bastiampillai T. Neutropenia associated with quetiapine, olanzapine, and aripiprazole. *Aust N Z J Psychiatry* 2011 Jan;45(1):89.

Lin Z, Chuah A, Mohan T, Dhillon R, Bastiampillai T. Movement disorder as prodrome of schizophrenia. *Aust N Z J Psychiatry* 2011 Oct;45(10):904.

Malalagama G, Bastiampillai T, Dhillon R. Clozapine use in Australia. *Australasian Psychiatry* 2011;19(2):175.

Malalagama G, Bastiampillai T, Dhillon R. Clozapine prescription patterns in Australia over the last 10 years. *Aust N Z J Psychiatry* 2011 Jun;45(6):498-9.

Tibrewal P, Dhillon R. Caffeine induced psychotic exacerbation. *Australian New Zealand Journal of Psychiatry* 2011; 45, (2):179-180.

Zhigao L, Chia A, Mohan T, Dhillon R, Bastiampillai T. Movement disorder as a prodrome of schizophrenia. *Australian New Zealand Journal of Psychiatry* 2011; 45 (10):903-904.

## RENAL UNIT

### Papers

Bosco MD, Mohanasundaram DM, Drogemuller CJ, Lang CJ, Zalewski PD, Coates PT. The role of zinc and zinc transporters in pancreatic islets and its potential role in islet transplantation. *Diabetic Studies* 2010 Winter; 7(4):263-74.

Eng HS, Bennett GD, Chang SH, Dent H, McDonald SP, Bardy P, Coughlan P, Russ GR, Coates PT. Donor HLA specific antibodies predict development and define prognosis in transplant glomerulopathy. *Human Immunol* 2011; 72:386-91.

Mohanasundaram D, Drogemuller C, Brealey J, Jessup CF, Milner C, Murgia C, Lang CJ, Milton A, Zalewski PD, Russ GR, Coates PT. Ultrastructural analysis, zinc transporters and hormones expression in new world primate (*Callithrix jacchus*) and human pancreatic islets. *Gen Comp Endocrinol* 2011 Nov 1;174(2):71-9.

Penko D, Mohanasundaram D, Sen S, Drogemuller C, Mee C, Bonder CS, Coates PT, Jessup CF. Incorporation of endothelial progenitor cells into pseudoislets. *Islets* 2011; 1:73-79.

Rogers NM, Eng HS, Yu R, Kireta S, Tsiopelas E, Bennett GD, Brook NR, Gillis D, Russ GR, Coates PT. Desensitization for renal transplantation: depletion of donor-specific anti HLA antibodies, preservation of memory antibodies and clinical risks. *Transplant Int* 2011;24:21-29.

Rogers N, Stephenson M, Kitching A, Horowitz J, Coates P. Amelioration of renal ischaemia-reperfusion injury by liposomal delivery of curcumin to renal tubular epithelial and antigen presenting cells. *Br J Pharmacol* 2011 Jul1. doi: 10.1111/j-1476-5381 (Epub ahead of print)

Sen S, McDonald SP, Coates, PT, Bonder, CS. Endothelial progenitor cells: novel biomarker and promising cell therapy for cardiovascular disease. *Clinical Science* 2011; 120:263-283.

Yu R, Faull RJ, Coates PT, Coates PS. Calcium supplements lower bone resorption after renal transplant. *Clin Transplant* 2011; Aug 21 Epub ahead of print.

## RESPIRATORY MEDICINE UNIT

### Papers

Carson KV, Brinn MP, Labiszewski NA, Esterman AJ, Chang AB, Smith BJ. Community interventions for preventing smoking in young people. *Cochrane Database of Systematic Reviews* 2011, Issue 7. Art. No.: CD001291. DOI: 10.1002/14651858.CD001291.pub2.

Carson KV, Brinn MP, Veale A, Esterman AJ, Smith BJ. Interventions for smoking cessation in Indigenous populations. Protocol: *Cochrane Database of Systematic Reviews* 2011, Issue 3. Art. No.: CD009046. DOI: 10.1002/14651858.CD009046 (IF 6.186).

Carson KV, Labiszewski NA, Brinn MP, Veale A, Chang AB, Esterman AJ, Smith BJ. Interventions for smoking prevention in Indigenous youth. PROTOCOL. *Cochrane Database of Systematic Reviews* 2011, Issue 9. Art. No.: CD009325. DOI: 10.1002/14651858.CD009325.

Lawn S, Lawton K. Chronic condition self-management support within a respiratory nursing service. *Journal of Nursing and Healthcare of Chronic illness* 2011, 3(4); 372-380.

Mysore S, Ruffin RE. Long-Acting beta-agonists in asthma management: What is the current status? *Drugs* 2011; 71(16); 2091-2097.

Roy A, Jones D, Slavotinek J, Kichenadasse G, Karapetis C, Lam E, Bishnoi S, Koczwara B. Very high GFR in cancer patients undergoing chemotherapy: Prevalence, carboplatin dosing patterns and chemotherapy toxicity. *Asia-Pacific Journal of Clinical Oncology* 2011; 7(3); 281-286.

Roy A, Schultz TJ, Carson KV, Smith BJ, Powell H, Wilson A, Walters EH. Asthma self management education with either regular healthcare professional review or written action plan or both for adults. Protocol. *Cochrane Database of Systematic Reviews* 2011, Issue 12.

Usmani ZA, Carson K, Cheng JN, Smith B. Pharmacological interventions for the treatment of anxiety and panic in patients with chronic obstructive pulmonary disease. *Cochrane Database of Systematic Reviews* 2011, Issue 11. Art. No.: CD008483. DOI: 10.1002/14651858.CD008483.pub2.

Wong CX, Carson KV, Smith BJ. Home care by outreach nursing for chronic obstructive pulmonary disease. *Cochrane Database of Systematic Reviews* 2011, Issue 3. Art. No.: CD000994. DOI: 10.1002/14651858.CD000994.pub2.

### Abstracts

KV Carson, MP Brinn, NA Labiszewski, MJ Peters, AJ Veale, BJ Smith. TQEH (The Queen Elizabeth Hospital), Basil Hetzel Institute for Translational Health Research: Research Day, Adelaide, October 2011 Interventions for smoking cessation in Indigenous populations: A meta-analysis.

KV Carson, MP Brinn, NA Labiszewski, MJ Peters, AJ Veale, AJ Esterman, BJ Smith. Postgraduate Research Conference; National Wine Centre, Adelaide, September 2011 Interventions for smoking cessation in Indigenous populations.

## RHEUMATOLOGY UNIT

### Papers

Cole A, Gill TK, Taylor AW, Hill CL. Prevalence and associations of hand pain in the community: results from a population-based study. *Scand J Rheumatol* 2011; 40(2):145-9.

Gilboa-Geffen Adi, Wolf Y, Hanin G, Melamed-Book N, Pick M, Estelle R. Bennett ER, Greenberg DS, Lester S, Rischmueller M, Soreq H. Activation of the alternative NFkB pathway improves disease symptoms in a model of Sjögren's syndrome. *PLoS One* 2011;6(12):e28727.

Graf S, Hakendorf P, Lester S, Patterson K, Walker J, Smith M, Ahern MP. Roberts-Thomson P. South Australian Scleroderma Register: Autoantibodies as predictive biomarkers of phenotype and outcome. *International Journal of Rheumatology* 2011 November 30 doi: 10.1111/j.1756-185X.2011.01688.x. [Epub ahead of print]

Gregory MK, Lester SE, Cook-Johnson RJ, Gibson RA, Proudman SM, Cleland LG, James MJ. Fatty acid desaturase 2 promoter mutation is not responsible for Δ6-desaturase deficiency. *Eur J Hum Genet* 2011; 11:1202-4.



Hill CL, Lester S, Taylor AW, Shanahan ME, Gill TK. Factor structure and validity of the shoulder pain and disability index in a population-based study of people with shoulder symptoms. *BMC Musculoskeletal Disord* 2011; 12:8.

Hissaria P, Lester S, Hakendorf P, Woodman R, Patterson K, Hill C, Ahern M, Smith M, Walker J, Roberts-Thomson P. Survival in scleroderma: results from the population-based South Australian Register. *Internal Medicine Journal* 2011; 41 (5): 381-90.

Hissaria P, Roberts-Thomson PJ, Lester S, Ahern MJ, Smith MD, Walker JG. Cigarette smoking in patients with systemic sclerosis reduces overall survival: comment on the article by Hudson et al. *Arthritis Rheum* 2011; 63(6):1758-9.

Massy-Westropp NM, Gill TK, Taylor AW, Bohannon RW, Hill CL. Hand Grip Strength: age and gender stratified normative data in a population-based study. *BMC Res Notes* 2011;4:127.

Menz HB, Gill TK, Taylor AW, Hill CL. Age and gender differences in disabling foot pain using different definitions of the Manchester foot pain and disability index. *BMC Musculoskeletal Disord* 2011;12:243.

Ninan J, Nguyen AM, Cole A, Rischmueller M, Dodd T, Roberts-Thomson P, Hill CL. Mortality in patients with biopsy-proven giant cell arteritis: a South Australian population-based study. *J Rheumatol* 2011;10:2215-7.

Richards BL, Whittle SL, Buchbinder R. Antidepressants for pain management in rheumatoid arthritis. *Cochrane Database Syst Rev* 2011 Nov 9;11:CD008920

Steele E, Williamson J, Lester S, Stewart B, Millman J, Carnegie P, Lindley R, Pain G, Dawkins R. Genesis of ancestral haplotypes: RNA modifications and reverse transcription-mediated polymorphisms. *Human Immunology* 2011; 72(3):283-93.

Wechalekar M, Lester S, Proudman S, Cleland LG, Whittle SL, Rischmueller M, Hill CL. Active Foot Synovitis: Criteria for remission and disease activity underestimate foot involvement in rheumatoid arthritis. *Arthritis and Rheumatism* 2011 Dec 1. doi: 10.1002/art.33506. [Epub ahead of print]

Whittle SL, Richards BL, Husni E, Buchbinder R. Opioid therapy for treating rheumatoid arthritis pain. *Cochrane Database Syst Rev* 2011; Nov 9;11:CD003113.

Williamson JF, Steele EJ, Lester S, Kalai O, Millman JA, Wolrige L, Bayard D, McLure C, Dawkins RL. Genomic evolution in domestic cattle: Ancestral haplotypes and healthy beef. *Genomics* 2011; 97(5):304-12.

## **SURGERY, University of Adelaide Discipline of**

### **Papers**

Ahern E, Thavaneswaran P, Babidge W, Maddern GJ. Consumer perspectives in surgical research and audit. *International Journal of Technology Assessment in Health Care* 2011; 27:337-42.

Allardyce RA, Bagshaw PF, Frampton CM, Frizelle FA, Hewett PJ, Rieger NA, Smith JS, Solomon MJ, Stevenson ARL. Ethical issues with the disclosure of surgical trial short-term data. *ANZ Journal of Surgery* 2011; 81:125-31.

Atkins GJ, Rowe PS, Lim HP, Welldon KJ, Ormsby R, Wijenayaka AR, Zelenchuk L, Evdokiou A, Findlay DM. Sclerostin is a locally acting regulator of late-osteoblast/preosteocyte differentiation and regulates mineralization through a MEPE-ASARM-dependent mechanism. *J Bone Miner Res* 2011 Jul;26(7):1425-36.

Bearman M, Anthony A, Nestel D. A pilot training program in surgical communication, leadership and teamwork. *ANZ Journal of Surgery* 2011; 81:213-5.

Belch J, Hiatt WR, Baumgartner I, Driver IV, Nikol S, Norgren S, Van Bell E, on behalf of the TAMARIS Committees and Investigators. Effect of fibroblast growth factor NVIFGF on amputation and death: a randomised placebo-controlled trial of gene therapy in critical limb ischaemia. *Lancet* 2011; 377:1929-37.

Böchler D, Riambau V, Fitridge R, Wolf Y, Hayes P, Silveira P, Numan F, Engage Investigators. Worldwide experience with the Endurant stent graft: review of the literature. *Journal of Cardiovascular Surgery (Torino)* 2011; 52:669-81.

Boult M, Fitzpatrick K, Barnes M, Maddern G, Fitridge R. Developing tools to predict outcomes following cardiovascular surgery. *ANZ Journal of Surgery* 2011; 81:768-73.

Boult M, Fitzpatrick K, Maddern GJ, Fitridge R. A guide to multi-centre ethics for surgical research in Australia and New Zealand. *ANZ Journal of Surgery* 2011; 81:132-6.

Clark JC, Akiyama T, Thomas DM, Labrinidis A, Evdokiou A, Galloway SJ, Kim HS, Dass CR, Choong PF. RECK in osteosarcoma: a novel role in tumour vasculature and inhibition of tumorigenesis in an orthotopic model. *Cancer* 2011 Aug 1;117(15):3517-28.

Deo H, West G, Butcher C, Lewis P. The prevalence of cognitive dysfunction after conventional and computer-assisted total knee replacement. *The Knee* 2011 (18) 117-120.

Fairhurst K, Strickland A, Maddern G. Simulation speak. *Journal of Surgical Education* 2011; 68:382-6.

Fairhurst K, Strickland A, Maddern G. The LapSim reality simulator: promising but not yet proven. *Surgical Endoscopy* 2011; 25:343-55.

Field K, Platell C, Rieger N, Skinner, I, Wattchow D, Jones I, Chen F, Kosmider S, Wohlers T, Hibbert M, Gibbs P. Lymph node yield following colorectal cancer surgery. *ANZ Journal of Surgery* 2011; 81:266-71.

Freeman LM, Lam A, Petcu E, Smith R, Salajegheh A, Diamond P, Zannettino A, Evdokiou A, Luff J, Wong PF, Khalil D, Waterhouse N, Vari F, Rice AM, Catley L, Hart DN, Vuckovic S. Myeloma-induced alloreactive T cells arising in myeloma-infiltrated bones include double-positive CD8+CD4+ T cells: evidence from myeloma-bearing mouse model. *J Immunol* 2011 Oct 15;187(8):3987-96.

Goggin M, Moore S, Esterman A. Outcome of toric intraocular lens implantation after adjusting for anterior chamber depth and intraocular lens sphere equivalent power effects. *Archives of Ophthalmology* 2011; 129:998-1003.

Goggin M, Moore S, Esterman A. Toric intraocular lens outcome using the manufacturer's prediction of corneal plane equivalent intraocular lens cylinder power. *Archives of Ophthalmology* 2011; 129:1004-8.

- Gravante G, Ong S, Metcalfe M, Bhardwaj, N, Maddern G, Lloyd D, Dennison A. Experimental application of electrolysis in the treatment of liver and pancreatic tumours: principles, preclinical and clinical observations and future perspectives. *Surgical Oncology* 2011; 20:106–20.
- Gregory PA, Bracken CP, Smith E, Bert AG, Wright JA, Roslan S, Morris M, Wyatt L, Farshid G, Lim YY, Lindeman GJ, Shannon MF, Drew PA, Khew-Goodall Y, Goodall GJ. An autocrine TGF-beta/ZEB/miR-200 signaling network regulates establishment and maintenance of epithelial-mesenchymal transition. *Mol Biol Cell* 2011 May 15;22(10):1686–98.
- Ho P, Maddern G. Physician Assistants: employing a new health provider in the South Australian health system. *Medical Journal of Australia* 2011; 194:256–8.
- Howard K, Salkeld G, Pignone M, Hewett P, Cheung P, Olsen J, Clapton W, Roberts-Thomson IC. Preferences for CT colonography and colonoscopy as diagnostic tests for colorectal cancer: a discrete choice experiment. *Value Health* 2011; 14:1146–52.
- Hull ML, Zahied Johan M, Hodge WL, Robertson SA, Ingman WV. Host-Derived TGFBI Deficiency Suppresses Lesion Development in a Mouse Model of Endometriosis. *Am J Pathol* 2011 Dec 29. [Epub ahead of print] PubMed PMID: 22210480.
- Kanhere H, Kanhere M, Maddern GJ. Re: Risk-based selective referral for cancer surgery: A potential strategy to improve perioperative outcomes [Letter to the Editor]. *Annals of Surgery* 2011; 253:632–3.
- Khattak MA, Townsend AR, Beeke C, Karapetis CS, Luke C, Padbury R, Maddern G. Impact of age on choice of chemotherapy and outcome in advanced colorectal cancer. *European Journal of Cancer* 2011; [E-pub ahead of print].
- Klemp M, Fronsdaal KB, Facey K, HTAi:Policy:Forum. What principles should govern the use of managed entry agreements? *International Journal of Technology Assessment in Health Care* 2011; 27:77–83.
- Koch M, Garden OJ, Padbury R, Rahbari NN, Adam R, Capussotti L, Fan ST, Yokoyama Y, Crawford M, Makuuchi M, Christophi C, Banting S, Brooke-Smith M, Usatoff V, Olakkengil S, Rao M. Evolution of minimally invasive surgery for donor nephrectomy and outcomes. *Journal of the Society of Laparoendoscopic Surgeons* 2011; 15:208–12.
- Olakkengil S, Rao MM. Transplantation of kidneys with renal artery aneurysm. *Clinical Transplantation* 2011; 25:E516–E9.
- Peters AA, Ingman WV, Tilley WD, Butler LM. Differential effects of exogenous androgen and an androgen receptor antagonist in the peri- and postpubertal murine mammary gland. *Endocrinology* 2011 Oct;152(10):3728–37.
- Pishas KI, Al-Ejeh F, Zinonos I, Kumar R, Evdokiou A, Brown MP, Callen DF, Neilsen PM. Nutlin-3a is a potential therapeutic for ewing sarcoma. *Clin Cancer Res* 2011 Feb 1;17(3):494–504.
- Rahbari NN, Garden OJ, Padbury R, Brooke-Smith M, Crawford M, Adam R, Koch M, Makuuchi M, DeMatteo RP, Christophi C, Banting S, Usatoff V, Nagino M, Maddern G, Hugh T, Vauthey J-N, Greig P, Rees M, Yokoyama Y, Fan ST, Nimura Y, Figueras J, Capussotti L, Büchler, MW, Weitz J. Posthepatectomy liver failure: a definition and grading by the International Study Group of Liver Surgery (ISGLS). *Surgery* 2011; 149:713–24.
- Rahbari NN, Garden OJ, Padbury R, Maddern G, Koch M, Hugh T, Tan ST, Nimura Y, Figueras J, Vauthey J-N, Rees M, Adam R, DeMatteo RP, Greig P, Usatoff, V, Banting S, Nagino M, Capussotti L, Yokoyama Y, Brooke-Smith M, Crawford M, Christophi C, Makuuchi M, Büchler MW, Weitz J. Post-hepatectomy haemorrhage: a definition and grading by the International Study Group of Liver Surgery (ISGLS). *HP* 2011; 13:528–35.
- Ricciardelli C, Frewin KM, Tan Ide A, Williams ED, Opeskin K, Pritchard MA, Ingman WV, Russell DL. The ADAMTS1 protease gene is required for mammary tumor growth and metastasis. *Am J Pathol* 2011 Dec;179(6):3075–85.
- Nagino M, Maddern G, Hugh T, Vauthey J-N, Greig P, Rees M, Nimura Y, Figueras J, DeMatteo RP, Büchler, MW, Weitz J. Bile leakage after hepatobiliary and pancreatic surgery: a definition and grading of severity by the International Study Group of Liver Surgery. *Surgery* 2011; 149:680–8.
- Lauder C, Garcea G, Strickland A, Maddern G. Use of a modified chitosan-dextran gel to prevent peritoneal adhesions in a rat model. *Journal of Surgical Research* 2011; 171:877–82.
- Liu JF, Sun J, Drew PA. Characterization of excitatory and inhibitory motor neurons to the human gastric clasp and sling fibers. *Can J Physiol Pharmacol* 2011 Sep;89(9):617–22.
- Maddern G, Smith JW. Surgical ethics, law and mandatory reporting. *ANZ Journal of Surgery* 2011; 81: 855–856.
- Maddern G, Smith JA, Babidge W, Guy GS. Development of clinical-quality registers in Australia: the way forward. *Medical Journal of Australia* 2011; 195:266.
- Naef M, Mouton WG, Naef U, van de Weg B, Maddern GJ, Wagner HE. Esophageal dysmotility disorders after laparoscopic gastric banding – an underestimated complication. *Annals of Surgery* 2011; 253:285–09.
- Nancarrow DJ, Clouston AD, Smithers BM, Gotley DC, Drew PA, Watson DI, Tyagi S, Hayward NK, Whiteman DC; Australian Cancer Study; Study of Digestive Health. Whole genome expression array profiling highlights differences in mucosal defense genes in Barrett's esophagus and esophageal adenocarcinoma. *PLoS One* 2011;6(7):e22513.
- Neilsen PM, Noll JE, Suetani RJ, Schulz RB, Al-Ejeh F, Evdokiou A, Lane DP, Callen DF. Mutant p53 uses p63 as a molecular chaperone to alter gene expression and induce a pro-invasive secretome. *Oncotarget* 2011 Dec 25. [Epub ahead of print] PubMed PMID: 22203497.
- Neo EL, Beeke C, Price T, Maddern G, Karapetis C, Luke C, Roder D, Padbury R. South Australian clinical registry for metastatic colorectal cancer. *ANZ Journal of Surgery* 2011; 81:352–7.
- Norwood M, Stephens J, Hewett P. The nursing and financial implications of laparoscopic colorectal surgery: data from a randomized controlled trial. *Colorectal Disease* 2011; 13:1303–7.

Smith JS, Maddern G. The negligent failure to disclose medical risks: the limits of the common law. *ANZ Journal of Surgery* 2011; 81:664–5.

Smith JW, Maddern G. Surgical implications of global warming. *Medical Journal of Australia* 2011; 195:324.

Stranz CV, Fraenkel G, Butcher AR, Esterman AJ, Goggin MJ. Survival of bacteria on the ocular surface following double application of povidone-iodine before cataract surgery. *Eye* 2011; 25:1423–8.

Strickland A, Fairhurst K, Lauder C, Hewett PJ, Maddern G. Development of an ex vivo simulated training model for laparoscopic liver resection. *Surgical Endoscopy* 2011; 25:1677–82.

Sturm L, Dawson D, Vaughan R, Hewett P, Hill AG, Graham JC, Maddern GJ. Effects of fatigue on surgeon performance and surgical outcomes: a systematic review. *ANZ Journal of Surgery* 2011; 81:502–9.

Sturm LP, Cooter RD, Mutimer KL, Graham JC, Maddern GJ. A systematic review of dermal fillers for age-related lines and wrinkles. *ANZ Journal of Surgery* 2011; 81:9–17.

Tiong L, Finnie JW, Field J, Maddern G. Bimodal Electric Tissue Ablation (BETA): A study on ablation size when the anode is placed on the peritoneum and the liver. *Journal of Surgical Research* 2011; [E-pub ahead of publication].

Tiong L, Finnie JW, Field J, Maddern G. Bimodal Electric Tissue Ablation (BETA)-effect of reversing the polarity of the direct current on the size of ablation. *Journal of Surgical Education* 2011; [E-pub ahead of publication].

Tiong L, Maddern GJ. Systematic review and meta-analysis of survival and disease recurrence after radiofrequency ablation for hepatocellular carcinoma. *British Journal of Surgery* 2011; 98:1210–24.

Tiong L, Parkyn R, Walters D, Field J, Lai C, Walsh DCA. Dilemma in multifocal breast cancer – largest versus aggregate diameter. *ANZ Journal of Surgery* 2011; 81:614–8.

Wang Z, Zhao Y, Smith E, Goodall GJ, Drew PA, Brabletz T, Yang C. Reversal and prevention of arsenic-induced human bronchial epithelial cell malignant transformation by microRNA-200b. *Toxicol Sci* 2011 May;121(1):110–22.

Wilson WRW, Fitridge RA, Weekes AJ, Morgan C, Tavella R, Beltrame JF. Quality of life of patients with peripheral arterial disease and chronic stable angina. *Angiology* 2011.

Wong SS, Chebib M, Haqshenas G, Loveland B, Gowans EJ. Dengue virus PrM/M proteins fail to show pH-dependent ion channel activity in *Xenopus* oocytes. *Virology* 2011 Mar 30;412(1):83–90.

Zinonos I, Labrinidis A, Lee M, Liapis V, Hay S, Ponomarev V, Diamond P, Findlay DM, Zannettino AC, Evdokiou A. Anticancer efficacy of Apo2L/TRAIL is retained in the presence of high and biologically active concentrations of osteoprotegerin in vivo. *J Bone Miner Res* 2011 Mar;26(3):630–43.

### Book Chapters

Anthony A. Airway management: A surgical perspective. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 465–82.

Anthony A. Management of the severely injured. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 483–500.

Bruening M. Pancreatitis. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 195–200.

Bueti T, Rana M, Wichmann MW. Preoperative risk assessment in rural surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 133–4.

Cowled P, Fitridge R. Pathophysiology of reperfusion injury. In: Fitridge R, Thompson M (eds) *Mechanisms of Vascular Disease: A Reference Book for Vascular Specialists*. Adelaide: Barr Smith Press, University of Adelaide, 2011; 331–50.

Esufali A. Bowel obstruction. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 223–30.

Fitridge R, Hamilton M. Trauma surgery: Vascular emergencies. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 563–70.

Fitridge R, McRae S. Acute pain management. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 77–84.

Fitridge R, Thompson M (eds). *Mechanisms of Vascular Disease: A Reference Book for Vascular Specialists*. Adelaide: Barr Smith Press, University of Adelaide, 2011; 553.

Hamilton M. Vascular surgery: Acute limb ischaemia. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 359–68.

Hamilton M. Vascular surgery: Management of the diabetic foot. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 369–74.

Hamilton M. Aortic dissection and connective tissue disorders. In: Fitridge R, Thompson M (eds) *Mechanisms of Vascular Disease: A Reference Book for Vascular Specialists*. Adelaide: Barr Smith Press, University of Adelaide, 2011; 255–76.

Hewett P. Rectal cancer. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 251–4.

Hewett P, Lu CT. Bowel cancer. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 245–50.

Kanhere H, Fitridge R. Trauma surgery: Neck Trauma. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) *Rural Surgery. Challenges and Solutions for the Rural Surgeon*. Berlin Heidelberg: Springer-Verlag, 2011; 535–40.



*The Institute's focus  
is on translational health research,  
an emerging area of medical science  
that aims to improve public health  
through collaborative discoveries  
and innovations in patient care,  
education and research.*

---

Kanhere H, Strickland A. Gallbladder surgery: Laparoscopic cholecystectomy and management of bile duct stones in the rural setting. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 169–80.

Lloyd M, Miller J. Rigid endoscopy: Cystoscopy. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 51–4.

Maddern G, Wichmann MW. Rural surgical education: The Australian approach. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 3–4.

McCusker B. Dupuytren's contracture. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 411–4.

Miller J, Whelan C, Sivapragasam K. Urological conditions. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 433–50.

Rieger N. Stoma surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 255–8.

Roediger W. Management and surgery of inflammatory bowel disease. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 281–8.

Trochslar M, Satyadas T, Kanhere H. Pancreatic surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 187–94.

Walsh D. Breast surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 331–9.

Wichmann MW. Palliative surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 27–9.

Wichmann MW. Gastric surgery. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 163–8.

Wichmann MW. Surgery of the spleen. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 201–4.

Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds). Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 597 pp.

Wichmann MW, Jauch K-W. Diverticulitis. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 231–6.

Wichmann MW, Spelsberg FW. Fiber optic endoscopy: Bronchoscopy. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 35–40.

Wichmann MW, Spelsberg FW. Fiber optic endoscopy: Gastroscopy. In: Wichmann MW, Borgstrom DC, Caron NR, Maddern G (eds) Rural Surgery. Challenges and Solutions for the Rural Surgeon. Berlin Heidelberg: Springer-Verlag, 2011; 41–6.

## **THERAPEUTICS RESEARCH CENTRE Papers**

Anissimov YG, Roberts MS. Modelling dermal drug distribution after topical application in human. *Pharmaceutical Research* 2011;28:2119–2129.

Davies PG, Venkatesh B, Morgan TJ, Presneill JJ, Kruger PS, Thomas BJ, Roberts MS and Mundy J. Plasma acetate, gluconate and interleukin-6 profiles during and after cardiopulmonary bypass: A comparison of plasma-lyte 148 with a bicarbonate-balanced solution. *Critical Care* 2011;15.

Douglas A, Udy AA, Wallis SC, Jarrett P, Stuart J, Lassig-Smith M, Deans R, Roberts MS, Taraporewalla K, Jenkins J, Medley G, Lipman J and Roberts JA. Plasma and tissue pharmacokinetics of cefazolin in patients undergoing elective and semielective abdominal aortic aneurysm open repair surgery. *Antimicrobial Agents and Chemotherapy* 2011;55:5238–5242.

Fanning KJ, Robertson TA, Prins JB and Roberts MS. Changes in antibiotic distribution due to pancreatitis. *Antimicrobial Agents and Chemotherapy*. 2011;55:3008–3011.

Koenig K, Raphael AP, Lin L, Grice JE, Soyer HP, Breunig HG, Roberts MS and Prow TW. Applications of multiphoton tomographs and femtosecond laser nanoprocessing microscopes in drug delivery research. *Advanced Drug Delivery Reviews* 2011;63:388–404.

Krishnan G, Roberts MS, Grice J, Anissimov YG and Benson HaE. Enhanced transdermal delivery of 5-aminolevulinic acid and a dipeptide by iontophoresis. *Biopolymers* 2011;96:166–171.

Kruger PS, Harward ML, Jones MA, Joyce CJ, Kostner KM, Roberts MS and Venkatesh B. Continuation of statin therapy in patients with presumed infection a randomized controlled trial. *American Journal of Respiratory and Critical Care Medicine* 2011;183:774–781.

Labouta HI, Liu DC, Lin LL, Butler MK, Grice JE, Raphael AP, Kraus T, El-Khordagui LK, Soyer HP, Roberts MS, Schneider M and Prow TW. Gold nanoparticle penetration and reduced metabolism in human skin by toluene. *Pharmaceutical Research* 2011;28:2931–2944.

Li P, Robertson TA, Thorling CA, Zhang Q, Fletcher LM, Crawford DHG and Roberts MS. Hepatic pharmacokinetics of cationic drugs in a high-fat emulsion-induced rat model of nonalcoholic steatohepatitis. *Drug Metabolism and Disposition* 2011;39:571–579.

Lin LL, Grice JE, Butler MK, Zvyagin AV, Becker W, Robertson TA, Soyer HP, Roberts MS and Prow TW. Time-correlated single photon counting for simultaneous monitoring of zinc oxide nanoparticles and nad(p)h in intact and barrier-disrupted volunteer skin. *Pharmaceutical Research* 2011;28:2920–2930.

- Liu X, Grice JE, Lademann J, Otberg N, Trauer S, Patzelt A and Roberts MS. Hair follicles contribute significantly to penetration through human skin only at times soon after application as a solvent deposited solid in man. *British Journal of Clinical Pharmacology* 2011;72:768-774.
- Mitragotri S, Anissimov YG, Bunge AL, Frisch HF, Guy RH, Hadgraft J, Kasting GB, Lane ME and Roberts MS. Mathematical models of skin permeability: An overview. *International Journal of Pharmaceutics* 2011;418:115-129.
- Monajjemzadeh F, Hassanzadeh D, Valizadeh H, Siahi-Shadbad MR, Mojarrad JS, Robertson TA and Roberts MS. Detection of gabapentin-lactose maillard reaction product (schiff's base)/application to solid dosage form preformulation/part 2. *Pharmazeutische Industrie* 2011;73:376-382.
- Monajjemzadeh F, Hassanzadeh D, Valizadeh H, Siahi-Shadbad MR, Mojarrad JS, Robertson TA and Roberts MS. Detection of gabapentin-lactose maillard reaction product (schiff's base) application to solid dosage form preformulation/part 1. *Pharmazeutische Industrie* 2011;73:174-177.
- Mostafa A, Medley G, Roberts DM, Mohamed MS, Elshanawani AA, Roberts MS and Liu X. Simultaneous quantification of carbamate insecticides in human plasma by liquid chromatography/tandem mass spectrometry. *Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences* 2011;879:2234-2238.
- Prow TW, Grice JE, Lin LL, Faye R, Butler M, Becker W, Wurm EMT, Yoong C, Robertson TA, Soyer HP and Roberts MS. Nanoparticles and microparticles for skin drug delivery. *Advanced Drug Delivery Reviews* 2011;63:470-491.
- Prow TW, Liu D, Faye R, Lin LL, Grice JE, Soyer HP and Roberts MS. Simultaneous imaging of metal nanoparticle penetration and metabolic changes in human skin using fluorescence lifetime imaging. *Experimental Dermatology* 2011;20:E873-E874.
- Roberts DM, Wilks MF, Roberts MS, Swaminathan R, Mohamed F, Dawson AH and Buckley NA. Changes in the concentrations of creatinine, cystatin c and ngal in patients with acute paraquat self-poisoning. *Toxicology Letters* 2011;202:69-74.
- Roberts MS, Dancik Y, Prow TW, Thorling CA, Lin LL, Grice JE, Robertson TA, Koenig K and Becker W. Non-invasive imaging of skin physiology and percutaneous penetration using fluorescence spectral and lifetime imaging with multiphoton and confocal microscopy. *European Journal of Pharmaceutics and Biopharmaceutics* 2011;77:469-488.
- Roberts MS, Liu X, Zou Y, Siebert GA, Chang P, Whitehouse MW, Fletcher L and Crawford DHG. Effect of adjuvant-induced systemic inflammation in rats on hepatic disposition kinetics of taurocholate. *American Journal of Physiology-Gastrointestinal and Liver Physiology* 2011;300:G130-G136.
- Sinnollareddy M, Peake SL, Roberts MS, Playford EG, Lipman J and Roberts JA. Pharmacokinetic evaluation of fluconazole in critically ill patients. *Expert Opinion on Drug Metabolism & Toxicology* 2011;7:1431-1440.
- Thorling CA, Dancik Y, Hupple CW, Medley G, Liu X, Zvyagin AV, Robertson TA, Burczynski FJ and Roberts MS. Multiphoton microscopy and fluorescence lifetime imaging provide a novel method in studying drug distribution and metabolism in the rat liver in vivo. *Journal of Biomedical Optics* 2011;16.
- Thorling CA, Liu X, Burczynski FJ, Fletcher LM and Roberts MS. Effect of hepatic ischemia reperfusion injury on the function of p-glycoprotein in transporting rhodamine 123. *Hepatology* 2011;54:695A-695A.
- Wunnapuk K, Medley GA, Liu X, Grice JE, Jayasinghe S, Gawarammana I, Buckley NA and Roberts MS. Simple and sensitive liquid chromatography-tandem mass spectrometry methods for quantification of paraquat in plasma and urine: Application to experimental and clinical toxicological studies. *Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences* 2011;879:3047-3052.
- Zhang Q, Li P and Roberts MS. Maximum transepidermal flux for similar size phenolic compounds is enhanced by solvent uptake into the skin. *Journal of Controlled Release* 2011;154:50-57.
- Zhou F, Zhang J, Li P, Niu F, Wu X, Wang G and Roberts MS. Toward a new age of cellular pharmacokinetics in drug discovery. *Drug Metabolism Reviews* 2011;43:335-345.
- Prow TW, Monteiro-Riviere NA, Inman AO, Grice JE, Chen X, Zhao X, Sanchez WH, Gierden A, Kendall MaF, Zvyagin AV, Erdmann DE, Riviere JE and Roberts MS. Quantum dot penetration into viable human skin. *Nanotoxicology* 2011;1 Apr:1-13.
- Roberts JA, Roberts MS, Semark A, Udy AA, Kirkpatrick CMJ, Patterson DL, Roberts MJ, Kruger PS and Lipman J. Antibiotic dosing in the at risk critically ill patient: Linking pathophysiology with pharmacokinetics/pharmacodynamics in sepsis and trauma patients. *BMC Anesthesiology* 2011;11:3.
- Robertson TA, Sanchez WY, Roberts MS. Are commercially available nanoparticles safe when applied to the skin? *Journal of Biomedical Nanotechnology* 2010;6:452-468.

### Book chapter

Grice JE, Prow TW, Kendall MaF and Roberts MS. Electrical and physical methods of skin penetration enhancement. In: *Transdermal and topical drug delivery: Principles and practice*. Eds Benson HAE, Watkinson AC. Wiley 2011. Chapter 3, pp 43-66.







# *Invited Presentations at International and National Meetings 2011*

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Aged &amp; Extended Care Services (Geriatric Medicine)</b>		
2nd Annual National Hospital Nutrition and Hydration Conference, Sydney, October 2011	Nutritional Challenges for Older Patients: Translating Knowledge into Practice	F Appleton
Improving the Care for the Elderly in Hospitals and Community Workshop, Kuala Lumpur, Malaysia, March 2011	Volunteers Led Patient Group Activities	D Coles, F Ibrahim
Improving the Care for the Elderly in Hospitals and Community Workshop, Kuala Lumpur, Malaysia, March 2011	Community Nursing for Older People	K Hales
Alzheimer's Australia Conference, Brisbane, May 2011	Volunteers Led Patients Group Activities Project	F Ibrahim, D Coles
Improving The Care for The Elderly In Hospitals and Community Workshop, Kuala Lumpur, Malaysia, March 2011	Dignity in Care for Delirium and Dementia	F Ibrahim
Ninth Asia/Oceania Regional Congress of Gerontology and Geriatrics, Melbourne, October 2011	The 'All About Me Tool' and 'Talking Photo Album' Project will help enhance Person Centered Care in patients suffering from Dementia and Delirium, including Culturally and Language Diverse ( CALD ) patients	F Ibrahim, S Nair, H Kyriazopolous
Improving the Care for the Elderly in Hospitals and Community Workshop, Kuala Lumpur, Malaysia, March 2011	Gerontology Nursing in Acute Care	R Visvanathan
Improving The Care for The Elderly In Hospitals and Community Workshop, Kuala Lumpur, Malaysia, March 2011	The importance of integrated care; Linking the Hospital to the Community	R Visvanathan
IX Annual Conference of the Indian Academy of Geriatrics, Christian Medical College, Vellore, India, November 2011	Nutritional Frailty	R Visvanathan
<b>Department of Anaesthesia</b>		
Australian and New Zealand Intensive Care Society Meeting, Brisbane, October 2011	Effect of emergency department length of stay on outcome of patients admitted to the ward, intensive care and step-down units	J Jeyadoss, A Flabouris, J Field, T Soulsby
Society for Ultrasound in Anaesthesia (SUA), Loughborough, UK, May 2011	Ultrasound guided transversus abdominis plane block catheter infusions versus epidural infusions	V Rao Kadam, JL Moran
Australia and New Zealand College of Anaesthetists Meeting, Hong Kong, May 2011	Obstructive Sleep Apnoea (OSA) risk grading and perioperative monitoring	V Rao Kadam, S Neumann, S Kingisepp
Australian College of Nurse Practitioners Annual Conference, Adelaide, October 2011	Acute Pain; Impact and Treatment	R Van Wijk

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Cardiology Unit</b>		
European Society of Cardiology Congress 2011, Paris, France, August 2011	Impact of ageing on the platelet and vascular responses in women with polycystic ovary syndrome	WPA Chan, AL Sverdlov, DTM Ngo, S Rajendran, YY Chirkov, JD Horowitz
European Society of Cardiology Congress 2011, Paris, France, August 2011	Does oral contraceptive therapy induce platelet nitric oxide resistance?	WPA Chan, AL Sverdlov, DTM Ngo, YY Chirkov, JD Horowitz
Cardiac Society of Australia and New Zealand Annual Scientific Meeting, Perth, August 2011	Acute and subacute ECG changes in Tako-Tsubo Cardiomyopathy: are there pathognomonic features?	AM Kucia, CJ Neil, TH Nguyen, J Stansborough, J Selvanayagam, JD Horowitz
European Society of Cardiology, Paris, France, August 2011	How valid are the European Society of Cardiology echocardiographic diastolic criteria in diagnosing heart failure with normal ejection fraction?	D Mahadavan, G Dwivedi, D Jiminez, L Williams, MP Frenneaux
American Heart Association, Orlando, USA, November 2011	How Does Perhexiline Modulate Myocardial Energetics and Ameliorate Redox Stress?	DTM Ngo, NE Drury, D Pagano, MP Frenneaux, JD Horowitz
European Society of Cardiology Congress 2011, Paris, France, August 2011	Determinants and cardiovascular correlates of vitamin D deficiency in Australian women	DTM Ngo, WPA Chan, AL Sverdlov, JD Horowitz
European Society of Cardiology, Paris, France, August 2011	Prolonged mobilization of endothelial progenitor cells post Tako-Tsubo cardiomyopathy	TH Nguyen, C Neil, WPA Chan, JD Horowitz
Cardiac Society of Australia and New Zealand, Perth, August 2011	Changes in cardiac denervation independent of changes in systolic function during follow-up in CHF patients	TH Nguyen, JD Horowitz, SA Unger
American Heart Association, Orlando, USA, November 2011	Progression of Early Aortic Valve Disease: Are ACE Inhibitors Protective?	AL Sverdlov AL, DTM Ngo, WPA Chan, MJ Chapman, YY Chirkov, BJ Gersh, JJ McNeill, JD Horowitz
European Society of Cardiology Congress Paris, France, August 2011	Insights into the initiation of aortic stenosis: roles of ACE-inhibitors and vitamin D	AL Sverdlov, DTM Ngo, YY Chirkov, JD Horowitz
Cardiac Society of Australia and New Zealand, Perth, August 2011	Insight into retardation of aortic stenosis: a therapeutic role for ACE inhibitors?	AL Sverdlov, DTM Ngo, YY Chirkov, JD Horowitz
<b>Clinical Pharmacology Unit</b>		
<b>Abstracts</b>		
Australasian Pharmaceutical Sciences Association, Adelaide, December 2011	Determinants of perhexiline uptake into the human myocardium	C-R Chong, G Licari, NE Drury, MP Frenneaux, JD Horowitz, D Pagano, BC Sallustio
Australasian Society of Clinical & Experimental Pharmacologists & Toxicologists Proceedings, Perth, 2011	Perhexiline is concentrated in both human atria and ventricles: perioperative analysis	C-R Chong, G Licari, NE Drury, ME Frenneaux, JD Horowitz, D Pagano, BC Sallustio
Australasian Society of Clinical & Experimental Pharmacologists & Toxicologists Proceedings, Perth, 2011	96-hour levobupivacaine for post-operative pain management – A protein binding issue	S Krishnan, RG Morris, PJ Hewett, A Karatassas, JA Tonkin, J Field
Royal Australasian College of Surgeons Annual Scientific Meeting Proceedings, Adelaide, May 2011	Local anaesthetic infused at the incision site for post-operative pain management following abdominal surgery	S Krishnan, RG Morris, PJ Hewett, A Karatassas, J Tonkin, J Field
Royal Australasian College of Surgeons Annual Scientific Meeting Proceedings, Adelaide, May 2011	Local anaesthetic infused at the incision site for post-operative pain management following abdominal surgery: A double blind randomised study	S Krishnan, J Field, PJ Hewett, S Tou, A Karatassas, RG Morris
Tripartite Colorectal Meeting Proceedings, Cairns, July 2011	Local anaesthetic infused at the incision site for post-operative pain management following abdominal surgery: A double blind randomised study	S Krishnan, J Field, PJ Hewett, S Tou, A Karatassas, RG Morris
European Association of Clinical Pharmacology & Therapeutics, Budapest, Hungary, June 2011	Myocardial and hepatic disposition of the enantiomers of perhexiline	G Licari, AA Somogyi, RW Milne, BC Sallustio

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
Australasian Society of Clinical & Experimental Pharmacologists & Toxicologists Proceedings, Perth, 2011	Relationship between blood and kidney concentrations of the immunosuppressant tacrolimus in renal transplant recipients	BC Sallustio, E Keen, BD Noll, JK Collier, AA Somogyi
Therapeutic Drug Monitoring, Stuttgart, Germany, October 2011	LC-MS/MS quantification of tacrolimus concentrations in small samples of kidney and liver tissue	BC Sallustio, BD Noll, JK Collier, AA Somogyi, T van Gelder, D Hesselink, RG Morris
Australasian Society of Clinical & Experimental Pharmacologists & Toxicologists Proceedings, Perth, 2011	Steady-state dosage prediction for perhexiline maleate using the initial metabolite to parent ratio	AM Taylor, RG Morris, J Field, BC Sallustio
European Association of Clinical Pharmacology & Therapeutics, Budapest, Hungary, June 2011	Validation of a HPLC-MS/MS method for the determination of plasma docetaxel concentrations	IS Westley, BC Sallustio, RG Morris
Therapeutic Drug Monitoring, Stuttgart, Germany, October 2011	Measurement of bupivacaine absorption following tumescence in burn-ward patients - A pilot study	IS Westley, RG Morris, JE Greenwood, IP Mackie

#### Endocrinology Unit

Australian Diabetes Society/Australian Diabetes Educators Association, Perth, September 2011	A survey of diabetes patients satisfaction to the diabetes education session	J Wang, D Barrow, R Cox R, Hodgson M, Kinasz M, Nitschke C, Wilson R, Willson T, D Jesudason
--	--	--

#### Otolaryngology, Head and Neck Surgery

Australian Transplant Association Annual Meeting, Adelaide, October 2011	Laryngeal Transplantation: Potential & Pitfalls	S Boase
Australasian Society of Otolaryngology Head & Neck Society (ASOHNS) (SA) November 2011	Chronic Rhinosinusitis: microorganisms and the host	S Boase
14th Advanced Functional Endoscopic Sinus Surgery Course, Adelaide, November 2011	The aetiopathogenesis of Chronic Rhinosinusitis	S Boase
American Rhinological Society Annual Meeting, San Francisco, USA, September 2011	Microbiological outcomes following Mupirocin nasal washes for symptomatic, S.aureus-positive Chronic Rhinosinusitis following endoscopic sinus surgery	J Jervis-Bardy
Otolaryngology Head & Neck Nurses Group (OHNNG) Annual Meeting, Melbourne, April 2011	Traditional medicine in modern day Rhinology	J Jervis-Bardy
Society of Country ENT Surgeons (SCENTS) Annual Meeting, Warrnambool Victoria, July 2011	Microbiological outcomes following Mupirocin nasal washes in recalcitrant Staph aureus Chronic Rhinosinusitis	J Jervis-Bardy
St. Vincent's Functional Endoscopic Sinus Surgery Course, Sydney, August 2011	Understanding CRS and novel topical therapies	J Jervis-Bardy
14th Adelaide Advanced Functional Endoscopic Sinus Surgery Course, Adelaide, November 2011	Management of the recalcitrant sinus infection	J Jervis-Bardy
Annual Meeting of the American Academy of Otolaryngology Head and Neck Surgery San Francisco, USA September 2011	Role of biofilms in chronic sinusitis	A Foreman
Australian Otolaryngology Head and Neck Surgery (ASOHNS) Annual Scientific Meeting, Melbourne, April 2011	Chronic infection in rhinology	A Foreman
Otolaryngology Head and Neck Nurses Group Annual Conference, Melbourne, April 2011	Neck Dissection	A Foreman
12th Asia-Oceania Otolaryngology Congress, Invited Speaker, Auckland, New Zealand, February 2011	Biofilms in Chronic Rhinosinusitis	A Foreman
American Rhinologic Society Meeting, San Francisco USA, September 2011	The Effects of Nitric Oxide on Staphylococcus aureus, Biofilm Growth and its Implications in Chronic Rhinosinusitis	C Jardeleza



Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Otolaryngology, Head and Neck Surgery continued</b>		
Australian Society of Otolaryngology Head & Neck Surgery (ASOHNS) Scientific Meeting Melbourne, April 2011	The Effects of Nitric Oxide on Staphylococcus aureus, Biofilm Growth and its Implications in Chronic Rhinosinusitis	C Jardeleza
American Rhinology Society Meeting, San Francisco, USA, September 2011	The efficacy of a novel chitosan gel on ostial stenosis	R Valentine
American Academy of Otolaryngology Head and Neck Surgery Annual Meeting, San Francisco, USA, September 2011	Tumors of the infratemporal fossa and large vascular injuries	R Valentine
Advanced Sinus Surgery Course Hong Kong, November 2011	Advanced techniques of endoscopic surgery, Endoscopic Sinus Surgery – from basic to advanced, Endoscopic surgery for lateral skull base diseases, Frontal surgery – anatomy of the frontal and techniques related to the frontal, The management of vascular injuries during endoscopic skull base surgery	PJ Wormald
American Rhinologic Society, San Francisco, USA, September 2011	Moderator	PJ Wormald
American Academy of Otolaryngology, San Francisco, USA, September 2011	Biofilms in Chronic Sinusitis, Powered Endoscopic Dacryocystorhinostomy, An endoscopic approach to tumors of the infratemporal fossa, Complications in FESS: Doing right when things go wrong	PJ Wormald
Neuroendoscopy Society of Japan, Japan, October 2011	Anatomy, surgical approaches and complications in endoscopic skull base surgery	PJ Wormald
1st Endoscopic Management of Vascular Injuries Workshop, Dublin, Ireland, September 2011	Vascular surgical steps in sheep model of vascular injury: venous and arterial surgical steps, Controlling the surgical field during vascular injury, Vascular controversy	PJ Wormald
3rd Adelaide Endoscopic Management of Vascular Injuries Workshop, Adelaide, November 2011	Vascular surgical steps in sheep model of vascular injury: venous and arterial surgical steps, Controlling the surgical field during vascular injury, Vascular controversy	PJ Wormald
4th International Endoscopic Sinus Surgery Course, Kajetany, Poland, June 2011	Biofilms; Current knowledge, treatment options, Frontal Recess and Frontal Sinus 3-D Anatomy Reconstruction and Surgical Approaches, Surgical Management of Sinonasal Polyposis, Management of Severely Diseased Maxillary Sinus, Endoscopic Approach to Pituitary and Clivus, Anatomy and Approach to the Anterior Cranial Fossa Lesions, Tips and Techniques of 2-surgeon approach, New directions in endoscopic skull base surgery, Anatomy of the Skull Base	PJ Wormald
7th Advanced Functional Endoscopic Sinus Surgery Course, Winchester United Kingdom, June 2011	Frontal Sinus Anatomy and Surgical Approaches, Frontal Recess Vidian Neurectomy, Canine Fossa Puncture and Turbinoplasty, Cutting edge Rhinology, CSF Leak Closure, 'Bath Plug', Modified Lothrop, Cavernous Sinus, Clivus, Infratemporal Fossa	PJ Wormald
11th International Practical Course on Endonasal Endoscopic Sinus Surgery, Marburg, Germany, June 2011	Surgery of the frontal recess – Box plot model, Management of the severely diseased maxillary sinus, Extended approaches to the frontal sinus, Management of the bloody surgical field Endonasal vidian nerve neurectomy, Bath-plug technique of duraplasty, Endonasal endoscopic skull base surgery	PJ Wormald
12th Asia-Oceania Otorhinolaryngology Head & Neck (ORL-HNS) Congress, Auckland, New Zealand, March 2011	Nasal packing, Cavernous sinus invasion, Combined with Head & Neck/Rhinology Faculty Debate	PJ Wormald

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
14th Advanced Functional Endoscopic Sinus Surgery Course, Adelaide Australia, November 2011	The anatomy and endoscopic approaches to the frontal recess, Review of CT scans with reconstruction of the anatomy of the frontal recess, Sphenopalatine artery ligation and vidian neurectomy, Modified Endoscopic Lothrop Procedure, Skull base anatomy lecture, Surgical field and controlling major vascular haemorrhage	PJ Wormald
14th International Rhinologic Society (IRS) & 30th ISIAN in 2011, Tokyo Japan, January 2011	Endoscopic management of skull base lesions, Frontal sinus surgery - anatomy, approaches and the Modified Endoscopic Lothrop Procedure, Approach to Post-op infections after sinus surgery, Transnasal pituitary surgery, The Modified Endoscopic Lothrop Procedure (MELP) - indications, technique & outcomes, Surgical approach to the severely diseased maxillary sinus; DCR - surgical technique and outcomes, Approach to post-operative infections after sinus surgery, Transnasal endoscopic anterior skull base surgery	PJ Wormald
17th Workshop on Functional Endoscopic Sinus Surgery, India, February 2011	Training of endoscopic sinus surgery, Frontal sinus surgery – how I do it, Live Surgery & Cadaver dissections	PJ Wormald

#### Gynaecology Department

University of Adelaide, Ray Last Laboratory, Adelaide, May 2011	Female Pelvic Anatomy Workshop	C Barry
<b>Haematology and Medical Oncology</b>		
ASoC & MGSA Combined Scientific Meeting, Adelaide, March 2011	Molecular genetics of malignant myeloid disease	R D'Andrea
HGSA SA Annual Symposium, Adelaide, September 2011	Molecular genetics of malignant myeloid disease	R D'Andrea
Haematology Society of Australia & New Zealand (HSANZ) SA Annual Scientific Meeting, Adelaide, September 2011	Diamond Blackfan Anaemia	R D'Andrea, SC Bray, C Butcher, A Wee
American Society of Hematology, San Diego, California, USA, December 2011	Mechanisms of Co-Operation of DNMT3A Mutations with JAK2 V617F Through Histone H4 Arginine 3 Provides New Insights in MPN Disease Pathogenesis	N Rao, C Butcher, SC Bray, R D'Andrea

#### Intensive Care Unit

College of Intensive Care Medicine, Annual Scientific Meeting, Canberra, June 2011	The Dilemma of the Intensive Care Doctor	SL Peake
13th Annual Meeting on Clinical Trials in Intensive Care, Noosa, March 2011	ARISE RCT study update	SL Peake for the ARISE Investigators.
13th Annual Meeting on Clinical Trials in Intensive Care, Noosa, March 2011	TARGET study update	SL Peake for the TARGET Investigators
31st International Symposium in Critical Care and Emergency Medicine, Brussels, March 2011	Current trials on EGDT	SL Peake
31st International Symposium in Critical Care and Emergency Medicine, Brussels, March 2011	Obesity can be a survival advantage	SL Peake
31st International Symposium in Critical Care and Emergency Medicine, Brussels, March 2011	Perhaps fewer calories are better	SL Peake
31st International Symposium in Critical Care and Emergency Medicine, Brussels, March 2011	Contrast-induced nephropathy: myth or reality?	SL Peake
36th Australian and New Zealand Annual Scientific Meeting on Intensive Care, Brisbane, October 2011	Waist Circumference correlates with obesity and morbidity better than BMI in Intensive Care patients	JP Raj

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Discipline of Medicine, University of Adelaide</b>		
Australasian Sleep Association Annual Scientific Meeting, Sydney, October 2011	Investigating obstructive sleep apnoea - Will the health system have the capacity to cope? A population study	RJ Adams, C Piantadosi, S Appleton, D McEvoy, C Hill, D Wilson
International Patient Safety Reporting System Conference, Department of Health, Taiwan Joint Commission on Hospital Accreditation (TJCHA), Taipei, August 2011	Communication training to create a culture of patient safety	RJ Adams
International Patient Safety Reporting System Conference Department of Health, Taiwan Joint Commission on Hospital Accreditation (TJCHA), Taipei, August 2011	Safety, leadership & teamwork	RJ Adams
International Society for Behavioural Nutrition and Physical meeting, Melbourne, June 2011	Perceived availability of local resources, sense of community and metabolic syndrome in a population-based cohort	K Baldock, C Paquet, N Howard, N Coffee, A Taylor, RJ Adams, G Hugo, M Daniel
4th International Congress on Prediabetes and the Metabolic Syndrome, Madrid, Spain, April 2011	Metabolic syndrome incidence in a population-based, representative Biomedical cohort over 4.5 years: assessing area-level socioeconomic Disadvantage and individual psychosocial wellbeing	M Daniel, C Paquet, N Coffee, N Howard, M Cargo, A Taylor, G Hugo, RJ Adams
International Epidemiological Association Conference, Edinburgh, Scotland, August 2011	Chronic Disease in Specific Populations: An Epidemiological Analysis	TK Gill, A Taylor, K Price, R Pilkington
International Epidemiological Association Conference, Edinburgh, Scotland, August 2011	Prevalence and incidence of chronic conditions in an Australian population based cohort study: 2000 to 2010	TK Gill, A Taylor, J Grant, E Dal Grande, RJ Adams, S Appleton
ARA/RHPA Annual Scientific Meeting, Brisbane, May 2011	Burden of low health literacy in musculoskeletal disease: Results of a South Australian population survey (Poster presentation)	C Hill, S Appleton, TK Gill, J Black, RJ Adams
ARA/RHPA Annual Scientific Meeting, Brisbane, May 2011	Knowledge of arthritis within the community	TK Gill, J Black, J Bennett, S Burnet, A Taylor
ARA/RHPA Annual Scientific Meeting, Brisbane, May 2011	Relationships between health professionals and patients (Awarded Highly Commended Prize)	TK Gill, J Black, J Bennett, S Burnet, A Taylor
International Society for Behavioural Nutrition and Physical Meeting, Melbourne, June 2011	Accessibility to public spaces and cardio-metabolic risk in a population-based biomedical cohort	C Paquet, TP Orschulok, N Coffee, N Howard, G Hugo, A Taylor, RJ Adams, M Daniel
Faculty of Health Sciences Postgraduate Research Conference, Adelaide SA, August 2011	Androgen signalling in prostate cancer stroma	DA Leach, EF Need, S Chopra, RA Taylor, GP Risbridger, CB Pinnock, DB DeFranco & G Buchanan
TQEH Research Day, Adelaide SA, October 2011	Androgen signalling in prostate cancer stroma	DA Leach, PA Drew, E Smith, EF Need, & G Buchanan
12th Australasian Prostate Cancer Conference, Melbourne Vic, August 2011	Stromal Androgen Receptor is inversely associated with prostate cancer related death	DA Leach, EF Need, S Chopra, RA Taylor, GP Risbridger, CB Pinnock, DB DeFranco & G Buchanan
33rd Annual Lorne Genome Conference, Lorne VIC, February 2011	Androgen signalling in prostate cancer stroma	DA Leach, EF Need, S Chopra, RA Taylor, GP Risbridger, CB Pinnock, DB DeFranco & G Buchanan
Institute of Australian Geographers Conference, Wollongong, July 2011	Geographic accessibility to open public spaces and cardio-metabolic risk	N Howard, N Coffee, C Paquet, TP Orschulok, G Hugo, A Taylor, RJ Adams, M Daniel
World Alliance of Risk Factor Surveillance Conference, Toronto, Canada, October 2011	Trends in the frequency of fast food consumption among South Australian children aged 1 to 17 Years, 2002 – 2010	A Taylor, J Wu, E Dal Grande, TK Gill
World Alliance of Risk Factor Surveillance Conference, Toronto, Canada, October 2011	Trends in the reduction of fat milk consumption of Australian Children 2006 to 2010 (Poster presentation)	A Taylor, P Bai, E Dal Grande, J Avery, Z Shi, TK Gill

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
Health System Reform in Asia 2011 Conference, Hong Kong, December 2011	Inequities in access to healthcare: analysis of national survey data across six Asian countries	PR Ward, SB Meyer, F Verity, TK Gill, CN Luong
ENDO 2011: The 93rd Annual Meeting & Expo, Boston, USA, June 2011	Sex Hormone Binding Globulin Is a Marker of Hepatic Insulin Sensitivity and Lipogenesis, but Is Not Independently Associated with T Activity Type 2 Diabetes Mellitus in Men	G Wittert, S Martin, D Wilson, A Jenkins, A Araujo, P O'Loughlin, A Taylor, RJ Adams
<b>Neurology Unit</b>		
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	This study is a subset of COMBAT stroke: community-based rapid access transient ischaemic attack (TIA) management	A Benedict, E Leung, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	SA.Health literacy levels in a stroke population	S Biermann, S Appleton, MA Hamilton-Bruce, SA Koblar, R Adams
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	The degree of collateralization is related to the potential recuperation ratio in acute ischemic stroke	O Chaudry, A Dawe, E Khoo, MA Hamilton-Bruce, J Jannes, R Sebben, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Human plasma biomarker investigation of transient ischaemic attack (TIA) by 2D-differential in-gel electrophoresis (DIGE) and mass spectrometry: A pilot study	M Djukic, M Lewis, E Leung, J Jannes, MA Hamilton-Bruce, T Chataway, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Proteomic Analysis of Plasma Following Transient Ischaemic Attack (TIA)	M Djukic
Medical Research Week SA Scientific Meeting of the Australian Society for Medical Research (ASMR), Adelaide, June 2011	Neuronal Differentiation of Human Adult Dental Pulp Stem Cells to Interface Cortical Prosthetics	K Ellis, D O'Carroll, M Lewis, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Australian Stroke Genetics Collaboration	SA Koblar
International Society for Stem Cell Research (ISSCR) 9th Annual Meeting, Toronto, Canada, June 2011	Human Adult Dental Pulp Stem Cells Enhance Post-Stroke Functional Recovery through Non-Neural Replacement Mechanisms	WK Leong
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Human adult stem cells as a treatment for focal cerebral ischemia.	WK Leong, TL Henshall, A Arthur, KL Kremer, MD Lewis, SC Helps, J Field, MA Hamilton-Bruce, S Warming, J Manavis, R Vink, S Gronthos, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	The under-reported nature of Transient Ischaemic Attacks (TIAs): The need to take a qualitative research direction	V Krawczyk, MA Hamilton-Bruce, SA Koblar, P Panickar
School of Molecular and Biomedical Science's Annual Postgraduate Symposium, Adelaide, Australia, July 2011	Human Adult Dental Pulp Stem Cells Enhance Post-Stroke Functional Recovery through Non-Neural Replacement Mechanisms	WK Leong
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Upregulation of Npas4 expression is early and transient following focal cerebral ischemia in adult rodent brain	WK Leong, T Klaric, M Lewis, SA Koblar
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Australian stroke genetics collaborative: genetic associations with ischaemic stroke functional outcome	J Maguire E Holliday, J Sturm, J Golledge, M Lewis, SA Koblar, J Jannes, G Hankey, L Lincz, P Moscato, R Baker, M Parsons, R Scott, J Attia, C Levi
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Thrombolysis rates in South Australia: a follow-up study	A Moey, SA Koblar, J Leyden, Kimber T, Kleinig T, Lee A, Jannes J
Stroke Society of Australasia 22nd Annual Scientific Meeting, Adelaide, September 2011	Thrombolysis rates in South Australia: a follow-up study	A Moey, SA Koblar, J Leyden, T Kimber, T Kleinig, A Lee, J Jannes
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	Inflammasome activation implicated in disease pathogenesis in asthma and primary Sjogren's syndrome	H Tran, M Rischmueller, S Lester, LW Tan, M Lewis, SA Koblar, C Lang, P Zalewski

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Neurology Unit continued</b>		
<b>Poster Presentations</b>		
Medical Research Week SA Scientific Meeting of the Australian Society for Medical Research (ASMR), Adelaide, June 2011	Human Adult Dental Pulp Stem Cells Improve Outcomes in Ischemic Stroke After Intracerebral Transplantation	WK Leong, T Henshell, A Arthur, K Kremer, M Lewis, S Helps, MA Hamilton-Bruce, S Warming, J Manavis, R Vink, S Gronthos SA Koblar
Stroke Society of Australasia (SSA) Annual Scientific Meeting, Adelaide, September 2011	Human Adult Dental Pulp Stem Cells Enhance Post-Stroke Functional Recovery through Non-Neural Replacement Mechanisms	WK Leong, TL Henshall, A Arthur, KL Kremer, MD Lewis, SC Helps, J Field, MA Hamilton-Bruce, S Warming, J Manavis, R Vink, S Gronthos, SA Koblar
School of Molecular and Biomedical Science's Annual Research Symposium, Adelaide, December 2011	Human Adult Dental Pulp Stem Cells Enhance Post-Stroke Functional Recovery through Non-Neural Replacement Mechanisms	WK Leong, TL Henshall, A Arthur, KL Kremer, MD Lewis, SC Helps, J Field, MA Hamilton-Bruce, S Warming, J Manavis, R Vink, S Gronthos, SA Koblar
Medical Research Week SA Scientific Meeting of the Australian Society for Medical Research (ASMR), Adelaide, June 2011	Investigation of Neurotrophin Receptor p75 in Adult Mouse Dental Pulp Stem Cells (DPSC)	W Pan, AG Milton, ML Rogers, SA Koblar
Medical Research Week SA Scientific Meeting of the Australian Society for Medical Research (ASMR), Adelaide, June 2011	Activity of Embryonic Stem Cell-derived Neuronal Cultures on a Microelectrode Array: Investigating the Role of Npas4	L Sandeman, SA Koblar, D O'Carroll
Medical Research Week SA Scientific Meeting of the Australian Society for Medical Research (ASMR), Adelaide, June 2011	miRNA Regulation of Npas4	M Stevens, SA Koblar, M Lewis
<b>Nuclear Medicine</b>		
<b>Poster Presentation</b>		
Cardiac Society of Australia and New Zealand Annual Scientific Meeting Perth, August, 2011	Changes in cardiac denervation independent of changes in systolic function during follow-up in chronic heart failure patients.	TH Nguyen, JD Horowitz, SA Unger
<b>Nursing</b>		
2nd Annual National Hospital Nutrition & Hydration Summit, Melbourne, October 2011	Nutritional Challenges for Older Patients in the Acute Care Setting a Nursing Perspective	F Appleton
Australian Nurse Teachers Society, Professional Development Meeting, Adelaide, November 2011	What is the role of the ACPC?	J Burgess
Australian Nurse Teachers Society, Professional Development Meeting, Adelaide, November 2011	Role of the TPPP Clinical Nurse	M Gallacher
Medical Imaging Nurses Association National Conference (MINA) October 2011	Neuroimaging in Epilepsy	S Horn
APSIC Conference, Melbourne, November 2011	Have we got our MRO Management wrong? (Poster Presentation)	M Juraja
APSIC Conference, Melbourne, November 2011	To sustain an effective hand hygiene program, do you need a hand hygiene coordinator? (Oral Presentation)	JW Lloyd & M Juraja
Vascular 2011 Vision and Reality Conference, Brisbane, November 2011	Maggots: The Run Away Dressing	W McInnes
Vascular 2011 Vision and Reality Conference, Brisbane, November 2011	The role of an Enrolled Nurse in a busy Multi-disciplinary High Risk Diabetic Foot Clinic	H Nicolas
Practice Nurses Conference, Adelaide, October 2011	ABI and Doppler Workshop	K Simunov, H Nicolas
9th International Conference for Emergency Nurses Adelaide, September 2011	TEAMSTEPPS – the Introduction of Leadership, mutual support and communication to improve patient safety in an Emergency Department (Key note speaker)	C McCaskill

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
3rd Annual Emergency Department Conference, Melbourne, July 2011	TEAMSTEPPS – the Introduction of Leadership, mutual support and communication to improve patient safety in an Emergency Department (Oral Presentation)	C McCaskill
Vascular 2011 Conference – Vision and Reality Brisbane, November 2011	SWAT Role	K Simunov
Vascular 2011 Conference – Vision and Reality Brisbane, November 2011	What Else Is Out There?	K Simunov
Renal Society of Australasia 39th Annual Conference, Adelaide, June 2011	Nutritional Knowledge of South Australian Metropolitan Renal Nurses	I Speight, J Abraham Cheruparambil, Y Woon, J Ju, D Ind
Australian Nurse Teachers Society, Professional Development Meeting, Adelaide, November 2011	After Hours Clinical Support Nurses	J Swincer, J Keenan
Nephrology Education Network Symposium, Melbourne, February 2011	Building an Education Framework	C Wilden
<b>Orthopaedics and Trauma</b>		
Australian Orthopaedic Association SA, Adelaide, April 2011	Impaction bone grafting around the knee. Is it worth the Graft?	A Qureshi
Australian Orthopaedic Association SA, Adelaide, April 2011	Prediction of survival of the Birmingham resurfacing arthroplasty at 10 years	A Qureshi
Australian Orthopaedic Association SA, Adelaide, April 2011	Tensegrity tibial osteotomies	A Qureshi
Australian Orthopaedic Association SA, Adelaide, April 2011	Single-stage bilateral total hip replacement in patients less than 35 years of age. 40 arthroplasties 5 to 17 years follow up	E Robbens
Australian Orthopaedic Association SA, Adelaide, April 2011	Total hip replacement in with inflammatory arthritis under 35 years of age. A 7 to 9 year follow-up	E Robbens
Australian Orthopaedic Association SA, Adelaide, April 2011	An approach and risk assessment to the management of diabetic ankle fractures using the Adelaide (AFDA) algorithm	J Yee
EFORT (European Federation of National Associations of Orthopaedics and Traumatology Copenhagen, Denmark, June 2011	An approach and risk assessment to the management of diabetic ankle fractures using the Adelaide (AFDA) algorithm	J Yee
<b>Renal Unit</b>		
Annual Scientific Meeting of the American Transplant Conference, Philadelphia, May 2011	Magnetic resonance imaging cell tracking of mesenchymal stem cells injected in kidney autografts of sheep	D Auclair
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Apparent lack of immune response following repeated intravenous injections of mesenchymal stem cells in sheep: Preliminary data.	D Auclair
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Oral Sirolimus is absorbed by the gastrointestinal tract of the sheep, achieving adequate trough concentrations in blood and reducing the proliferation of peripheral mononuclear cells ex vivo	D Auclair, BC Sallustio, RG Morris, R Krishnan
41st Australasian Society for Immunology, Adelaide, December 2011	Successful magnetic resonance imaging cell tracking of superparamagnetic iron oxide-labelled mesenchymal stem cells injected in ovine kidney grafts	D Auclair
47th Annual Scientific Meeting of the ANZSN Adelaide, September 2011	The sheep model of kidney transplantation: 20 years expertise leading towards elucidating the therapeutic benefits of mesenchymal stem cells	D Auclair
Australian Society for Medical Research, Adelaide, June 2011	Down regulation of zinc transporters ZIP14 and ZnT8 in pancreatic islets of type 2 diabetic db/db mice	M Bosco



Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Renal Unit continued</b>		
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Down regulation of zinc transporters ZIP14 and ZnT8 in type 2 diabetic db/db mice pancreatic islets	M Bosco
41st Australasian Society for Immunology, Adelaide, December 2011	Association of type 2 diabetes with significant reduction of zinc levels in db/db mice liver and pancreas	M Bosco
41st Australasian Society for Immunology, Adelaide, December 2011	Association of type 2 diabetes with significant reduction of zinc level in db/db mice liver	M Bosco
Amgen Scientific Congress, Melbourne, March 2011	How do interpret the cross match and HLA antibodies in my living donor transplant (Invited Speaker)	PTH Coates
Australian Society for Immunology, Adelaide, Annual Scientific Meeting, December 2011	Protecting the pancreatic islet after allo-transplantation (Plenary Speaker)	PTH Coates
Annual Scientific Meeting of the American Transplant Conference, Philadelphia, May 2011	Colorectal cancer and pre-malignant colorectal neoplasia are detected with increased prevalence in prospectively screened asymptomatic kidney transplant recipients and may be linked to viral infection	M Collins
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Colorectal cancer and pre-malignant colorectal neoplasia are detected with increased prevalence in prospectively screened asymptomatic kidney transplant recipients and may be linked to viral infection	M Collins
41st Australasian Society for Immunology, Adelaide, December 2011	Developing a monoclonal antibody to target dendritic cells via DC-SIGN in non-human primates: a novel tolerogenic cell-specific therapy	M Collins
47th Annual Scientific Meeting of the ANZSN, Adelaide September 2011	Developing a monoclonal antibody to target DC-SIGN in non-human primates: a novel tolerogenic cell-specific therapy	M Collins
Annual Collaborative Islet Transplant Registry (CITR) Meeting Washington DC, USA, April 2011	The current status of the Adelaide Islet Transplantation program	C Drogemuller
13th World Congress of the International Pancreas and Islet Transplant Association, Prague, Czech Republic, June 2011	Complement activation in the initial phase following pancreatic islet auto- and allo-transplantation	C Drogemuller
13th World Congress of the International Pancreas and Islet Transplant Association, Prague, Czech Republic, June 2011	The cytokine response in the initial phase of islet auto- and allo- transplantation	C Drogemuller
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Complement activation in the initial phase following pancreatic islet auto- and allo-transplantation	C Drogemuller
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	The cytokine response in the initial phase of islet auto- and allo- transplantation	C Drogemuller
41st Australasian Society for Immunology, Adelaide, December 2011	Adenoviral overexpression of insulin like growth factor-II protects islets from proinflammatory cytokine induced apoptosis and necrosis	A Hughes
41st Australasian Society for Immunology, Adelaide, December 2011	Propagation and characterisation of human mesangial cells and the effect of anti-HLA antibodies on pAkt signalling: Implication for transplant glomerulopathy	S Kireta
47th Annual Scientific Meeting of the ANZSN Adelaide Sept 2011	Effect of alloantibodies on human mesangial cells: Implication for transplant glomerulopathy	S Kireta



Conference Title & Date	Title Of Presentation/Poster	Attendee Name
13th World Congress of the International Pancreas and Islet Transplant Association, Prague, Czech Republic, June 2011	ZIP1 knockout mice display altered zinc transporter gene expression profiles in pancreatic tissue	C Mee
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Zinc transporter ZIP1 specific gene expression knockdown alters the expression profile of other critical zinc transporters of the mouse pancreas	C Mee
13th World Congress of the International Pancreas and Islet Transplant Association, Prague, Czech Republic, June 2011	Incretin, glucagon and insulin levels in a patient with fasting hyperglycemia post islet cell transplant	C Milner
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Alteration of zinc and differential expression of zinc transporters in diabetic pancreatic islets	D Mohanasundaram
41st Australasian Society for Immunology, Adelaide, December 2011	Down regulation of zinc transporter ZnT8 in type 1 pancreatic tissue	D Mohanasundaram
29th Annual Scientific Meeting of the TSANZ, Canberra, June 2011	Incorporation of rat vascular progenitor cells into mosaic islet clusters	D Penko
41st Australasian Society for Immunology, Adelaide, December 2011	Endothelial progenitor cells (EPC) enhance beta cell function and may promote engraftment of transplanted pancreatic islets	D Penko
Transplant Nurses' Association Annual Conference, Adelaide, October 2011	Combined renal and liver transplant in the highly sensitised patient	MD Stephenson

#### Respiratory Medicine Unit and Clinical Practice Unit

##### Abstract

TQEH Research Day, Adelaide SA, October 2011	Interventions for smoking cessation in indigenous populations: a meta-analysis	KV Carson, MP Brinn, NA Labiszewski, MJ Peters, AJ Veale, AJ Esterman, BJ Smith
--	--	---

##### Presentations

Thoracic Society of Australia and New Zealand (TSANZ) ASM, Perth, April 2011	Mass media interventions for the prevention of smoking in young people: A systematic review	KV Carson, MP Brinn, A Chang, AJ Esterman, BJ Smith
Chest Conference, Honolulu, Hawaii, October 2011	Physical training for asthma a meta-analysis	MG Chandratilleke, KV Carson, J Picot, MP Brinn, BJ Smith
Thoracic Society of Australia and New Zealand (TSANZ) ASM 2011, Perth, April 2011	Physical training for asthma a meta-analysis	MG Chandratilleke, KV Carson, J Picot, MP Brinn, BJ Smith
American Thoracic Society (ATS), Denver Colorado, USA, May 2011	Mandatory reporting harms rather than helps public road safety	N Elgar, BJ Smith
American Thoracic Society (ATS), Denver Colorado, USA, May 2011	Varenicline tartrate and counseling versus counseling alone in a randomized controlled trial for inpatient smoking cessation: 6 month interim results	BJ Smith, MJ Peters, RA Fitridge, AJ Esterman, JC Litt, JD Horowitz, SA Koblar, J Jannes, AJ Veale, SJ Goldsworthy, MP Brinn, NA Labiszewski, KV Carson
American Thoracic Society (ATS), Denver Colorado, USA, May 2011	A meta-analysis (Cochrane Review) of pharmacological interventions for the treatment of anxiety disorders in COPD	ZA Usmani, JN Cheng, KV Carson, AJ Esterman, BJ Smith

#### Rheumatology Unit

ARA State Meeting, Adelaide, October 2011	The use of temporal artery ultrasound in the diagnosis of giant cell arteritis at the Queen Elizabeth Hospital (Oral presentation)	R Black, D Roach, M Rischmueller, S Lester, C Hill
RACP Trainee Research Awards, Adelaide, November 2011	Decline in hand bone mineral density indicates increased risk for erosive change in early rheumatoid arthritis (Oral presentation)	R Black, L Spargo, C Schultz, B Chatterton, M James, L Cleland, C Hill, S Proudman. Prize for Best Adult Medicine presentation.
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	Triple X Xyndrome (47,XXX) increases the risk and accelerates the onset of systemic lupus erythematosus and Sjögren's syndrome: support for a gene-dose effect from the X chromosome	S Dillon, L Kao, K Kaufman, J Ice, R Omdal, X Mariette, T Witte, G Illei, M Rischmueller, G Nordmark, R Jonsson, M Herlenius, T Vyse, M Brennan, B Rybicki, WF Ng, B Segal, N Rhodus, JT Merrill, C Montgomery, C Lessard, J Harley, K Moser

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Rheumatology Unit continued</b>		
ARA State Meeting, Adelaide, October 2011	Necrotising myopathy: clinico-serologic associations (Oral presentation)	E Ellis, J Tan, S Lester, G Tucker, P Blumbergs, PJ Roberts-Thomson, V Limaye
ARA State Meeting, Adelaide, October 2011	Low copy number of the FCGR3B gene is associated with susceptibility to rheumatoid arthritis (Oral presentation)	SW Graf, S Lester, H Nossent, C Hill, S Proudman, A Lee, M Rischmueller
Royal Australian College of Physicians Congress, Darwin, May 2011	South Australian Scleroderma Register: Autoantibodies as predictive biomarkers of phenotype and outcome (Oral presentation)	SW Graf, P Hakendorf, S Lester, K Patterson, JG Walker, MD Smith, MJ Ahern, PJ Roberts-Thomson. Represented South Australia for the National registrar research prize.
The Basil Hetzel Institute Research Day, Adelaide, October 2011	Low copy number of the FCGR3B gene is associated with susceptibility to rheumatoid arthritis (Oral presentation)	SW Graf, S Lester, H Nossent, C Hill, S Proudman, A Lee, M Rischmueller.
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	South Australian Scleroderma Register: Autoantibodies as predictive biomarkers of phenotype and outcome (Oral presentation)	SW Graf, P Hakendorf, S Lester, K Patterson, J Walker, M Smith, M Ahern, PJ Roberts-Thomson
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	Fish oil in knee osteoarthritis: a two year randomized, double-blind clinical trial comparing high dose with low dose (Poster presentation)	CL Hill, G Jones, L March, R Battersby, K Hynes, T Fedorova, S Lester, S Proudman, LG Cleland
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	Burden of low health literacy in musculoskeletal disease: Results of a population-based survey (Poster presentation)	CL Hill, SL Appleton, TK Gill, J Black, RJ Adams
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	A high-density genome-wide association study by the Sjögren's Genetics Network identifies five novel susceptibility loci for primary Sjögren's syndrome and confirms association with MHC, IRF5 and BLK	C Lessard, J Ice, I Adrianto, J Kelly, R Jonsson, G Illei, M Rishmueller, G Nordmark, X Mariette, C Miceli-Richard, M Herlenius, T Witte, M Brennan, R Omdal, T Vyse, J Lessard, B Rybicki, JM Anaya, J Harley, C Montgomery, K Moser
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	Large scale, high density genotyping performed by the Sjögren's genetics network using the ImmunoChip identifies PRKRA as a novel Sjögren's syndrome susceptibility locus and confirms association with IRF5, BLK and MHC	C Lessard, I Adriantol, J Ice, J Kelly, R Jonsson, G Illei, M Rischmueller, G Norrdmark, X Mariette, C Miceli-Richard, M Herlenius, T Witte, M Brennan, R Omdal, P Gaffney, J Lessard, WF Ng, N Rhodus, B Segal, RH Scolfield, J James, JM Anaya, J Harley, C Montgomery C, K Moser
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	The prevalence of sicca symptoms, and their association with asthma and sinusitis in a community sample (Poster presentation)	S Lester, M Rischmueller, LW Tan, PJ Wormald, P Zalewski, S Appleton, RJ Adams, CL Hill
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	Interferon alpha activation in relation to pro-inflammatory cytokines and anti-Ro/La response in primary Sjögren's syndrome (Poster presentation)	H Nossent, M Rischmueller, S Lester
ACR/ARHP Annual Scientific Meeting, Chicago, USA, November 2011	Low copy number of Fcgamma 3B is a disease susceptibility and severity factor in primary Sjögren's syndrome (Poster presentation)	H Nossent, M Rischmueller, S Lester
1st Symposium of the Asia Pacific League of Associations for Rheumatology, Taipei, Taiwan, April 2011	Low copy number of Fcgamma receptor IIIB predisposes to Sjögren's syndrome as well as SLE, but contributes to disease through different pathways (Oral presentation)	H Nossent, M Rischmueller, A Becker-Merok, S Lester
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	Low copy number of Fcgamma receptor IIIB predisposes to Sjögren's syndrome as well as SLE, but contributes to disease through different pathways (Oral presentation)	H Nossent, M Rischmueller, A Becker-Merok, S Lester
European League Against Rheumatism Congress, London, May 2011	The efficacy and safety of anti-depressants in inflammatory arthritis: a cochrane systematic review (Poster Presentation)	B Richards, S Whittle, R Buchbinder

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
European League Against Rheumatism Congress, London, May 2011	The efficacy and safety of muscle relaxants in inflammatory arthritis: a systematic literature review (Poster presentation)	B Richards, S Whittle, R Buchbinder
ARA State Meeting, Adelaide, October 2011	The contribution of birth order and parity to the risk of developing scleroderma (Oral presentation)	P Russo, S Lester, PJ Roberts-Thomson.
52nd Annual Meeting of Australian Rheumatology Association, Brisbane, May 2011	Inflammasome activation implicated in disease pathogenesis in asthma and primary Sjogren's syndrome (Poster presentation)	H Tran, M Rischmueller, S Lester, LW Tan, M Lewis, SA Koblar ,C Lang, P Zalewski
European League Against Rheumatism Congress, London, May 2011	Multinational evidence-based recommendations for pain management by pharmacotherapy in inflammatory arthritis: integrating systematic literature research and expert opinion of a broad panel of rheumatologists in the 3e initiative (Oral presentation)	S Whittle, A Colebatch Adams, M Englbrecht, G Hazlewood, J Marks, H Radner, S Ramiro, B Richards, I Turner, D Aletaha, C Bombardier, R Buchbinder, C Edwards, R Landewé, U Müller-Ladner, D van der Heijde D
European League Against Rheumatism Congress, London, May 2011	The efficacy and safety of opioids in rheumatoid arthritis: a cochrane systematic review (Poster presentation)	S Whittle, B Richards, R Buchbinder
23rd Annual Scientific Meeting of the Australian Sleep Association and the Australian Sleep Technologists Association, Sydney, October 2011	Surfactant for OSA in patients with primary Sjögren's syndrome	Z Usmani, P Catcheside, N Antic, M Rischmueller, M Smith, T Gordon, D McEvoy

#### Surgery, University of Adelaide Discipline Of

##### Poster Presentations

TQEH Research Day, Adelaide SA, October 2011	Exploring the interaction between tumour cells and fibroblasts in prostate cancer (poster presentation)	L Giorgio, T Harris, PA Drew, E Smith, G Buchanan
Australasian Society for Immunology Meeting, Adelaide, Australia, December 2011	Effect of Macrophage Depletion in Lipopolysaccharide-induced Mastitis (poster presentation)	D Glynn, M Hutchinson, WV Ingman
Gordon Research Conference on Mammary Gland Biology, Rhode Island, USA, June 2011	Development of a mouse model of mastitis (poster presentation)	D Glynn, M Hutchinson, WV Ingman
NHMRC 75th Symposium, Canberra, Australia, November 2011	Understanding the biology of pre-menopausal breast cancer risk (poster presentation)	WV Ingman
Australasian Society for Immunology Meeting, Adelaide, Australia, December 2011	The carcinogen DMBA increases the proportion of IL10-producing CD4 and CD8 T cells in the mammary gland draining lymph node (poster presentation)	SM NoorDin, LM Moldenhauer, M DeNichilo, SA Robertson, WV Ingman
Pacific Rim Breast and Prostate Cancer Meeting, Kingscliff, Australia, May 2011	Epithelial cell-derived TGFβ1 regulates macrophage abundance and phenotype in the mammary gland (poster presentation)	X Sun, SA Robertson, WV Ingman (Winner of Best Poster Award to X Sun)
Faculty of Health Sciences Postgraduate Research Conference, Adelaide, August 2011	Progesterone receptor signalling in breast cancer cellular processes	EE Swinstead, EF Need, E Smith, G Buchanan
TQEH Research Day, Adelaide, October 2011	Progesterone receptor signalling in breast cancer cellular processes (poster presentation)	EE Swinstead, EF Need, E Smith, G Buchanan

##### Presentations

ANZSVS Annual Scientific Meeting, Brisbane, November 2011	Contemporary management of the diabetic foot	R Fitridge
RACS ASC, Adelaide, May 2011	Current status of the EVAR trial	R Fitridge
Society for Vascular Surgery Annual Scientific Meeting, Chicago, June 2011	Development of the Australasian Vascular Surgical Audit	R Fitridge, B Bourke, B Beiles, I Thomson, M Grigg
Asia Pacific Academy of Ophthalmology Congress, Sydney 2011	Low contrast acuity with Crystalens HD compared to monofocal intraocular lens	M Goggin, Z Zamora-Alejo, S Moore, A Esterman, D Parker, K Ullrich

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Surgery, University of Adelaide Discipline Of, continued</b>		
<b>Presentations</b>		
ANZSVS Annual Scientific Meeting, Brisbane, November 2011	Contemporary management of the diabetic foot	R Fitridge
RACS ASC, Adelaide, May 2011	Current status of the EVAR trial	R Fitridge
Society for Vascular Surgery Annual Scientific Meeting, Chicago, June 2011	Development of the Australasian Vascular Surgical Audit	R Fitridge, B Bourke, B Beiles, I Thomson, M Grigg
Asia Pacific Academy of Ophthalmology Congress, Sydney 2011	Low contrast acuity with Crystalens HD compared to monofocal intraocular lens	M Goggin, Z Zamora-Alejo, S Moore, A Esterman, D Parker, K Ullrich
Asia Pacific Academy of Ophthalmology Congress, Sydney, 2011	Accommodation and near vision with Crystalens HD compared to monofocal intraocular lens in cataract patients	M Goggin, Z Zamora-Alejo, S Moore, A Esterman, D Parker, K Ullrich
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna, Austria, September 2011	MICS and Toric IOLs – targeting optimum outcomes	M Goggin
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna Austria, September 2011	Toric IOLs: Planning and Workflow	M Goggin
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna Austria, September 2011	The effect of misalignment of toric IOL's and a refraction-based method of realignment	M Goggin
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna Austria, September 2011	Toric intraocular lens outcome adjusting for anterior chamber depth and intra-ocular lens sphere equivalent power effects: Instructional Course: Managing and analysing astigmatism, LRIs and toric implants in cataract and refractive surgery	M Goggin
RACS ASC, Adelaide, May 2011	Does a stoma help to prevent leakage after a low anterior resection	P Hewett
RACS ASC, Adelaide, May 2011	Cylindrical APR	P Hewett
Sydney Colorectal Meeting, November 2011	Cylindrical APR	P Hewett
South Australian Perioperative Nursing Annual Conference, Adelaide, October 2011	Pseudomyxoma peritonei and heated intraperitoneal chemotherapy	P Hewett
Tripartite Colorectal Meeting, Cairns, July 2011	The infusion of local anaesthetic for post-operative pain management following abdominal surgery	P Hewett
Australasian Society for Immunology Meeting, Adelaide, December 2011	Macrophage-epithelial cell crosstalk in development and function of the mammary gland (invited symposium presentation)	WV Ingman
Pacific Rim Breast and Prostate Cancer Meeting, Kingscliff, Australia, May 2011	Menstrual cycling and breast cancer risk (invited symposium presentation)	WV Ingman
ACHSM Annual Conference, Adelaide, June 2011	Turning the light on reform – perspectives on consumer outcomes – Q&A panel	G Maddern
Asian Pacific HPBA Congress, Melbourne, September 2011	Intra-corporeal micro instruments and nanotechnology	G Maddern
Asian Pacific HPBA Congress, Melbourne, September 2011	Irreversible electroporation (IRE)	G Maddern
Australian Private Hospital 31st Annual National Congress, Sydney, October 2011	Innovations in surgery	G Maddern

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
Carman Oration, Christian Medical College, Vellore, India, December 2011	How should we assess new surgical technologies?	G Maddern
Cruces Hospital, Basque, Spain, December 2011	Health technology: the Australian experience	G Maddern
COSA/ANZUP Annual Scientific Meeting, Perth, November 2011	Physician Assistants in the surgical oncology setting: The Adelaide experiences	G Maddern
Health Technology Assessment International / International Society for Quality in Health Care Workshop, Hong Kong, September 2011	Knowledge transfer: challenges in putting HTI into practice	G Maddern
International Society for Quality in Health Care, Hong Kong, September 2011	Comparative effectiveness: Just another way to restrict surgical innovation?	G Maddern
International Surgical Week, Yokohama, Japan, August 2011	Results with aggressive resection	G Maddern
Medical Insurance Group Australia, Melbourne, August 2011, Sydney, August 2011, Adelaide, September 2011, Barossa Valley, September 2011, Melbourne October 2011, Perth, October 2011	Hypothetical: "Conduct under the microscope"	G Maddern
Medical Insurance Group Australia, Adelaide, February 2011, Sydney, March 2011	Hypothetical: "Good medicine requires good notes – Poor notes = a poor defence"	G Maddern
RACS ASC, ANZASM Workshop, Adelaide, May 2011	Supervision and Mortality	G Maddern
RACS ASC, DCAS Course, Adelaide, May 2011	Lessons learned in my own academic career so far – Keynote presentation	G Maddern
RACS ASC, HPB Session, Adelaide, May 2011	Asymptomatic gallstones	G Maddern
RACS ASC, Rural Surgery Session, May 2011	How realistic is rural surgical research?	G Maddern
RACS ASC, Skills Training Session, Adelaide, May 2011	Simulated Surgical Skills Program	G Maddern
RACS Section of Academic Surgery, Adelaide, November 2011	Current training pathway for academic surgery in Australia and New Zealand: Research supervisor perspective	G Maddern
RACS Surgical Leaders' Forum, Melbourne, October 2011	Credentialling in surgery – a systematic review	G Maddern
8th Annual HTAi meeting, Rio De Janeiro, June 2011	Percutaneous sclerotherapy for vascular malformations – a systematic review	G Maddern
8th Annual HTAi meeting Rio De Janeiro, June 2011	Surgeons' views of health technology assessment (HTA) process in Australia	G Maddern
8th Scientific Meeting, Australasian Society for Breast Disease, Melbourne, October 2011	Hypothetical: "So we think we know how to treat breast cancer: The perplexed patient"	G Maddern
62nd Uruguayan Congress of Surgery, Montevideo, Uruguay, November 2011	Surgical audit, inevitable or essential?	G Maddern
62nd Uruguayan Congress of Surgery, Montevideo, Uruguay, November 2011	How should we assess new surgical technologies	G Maddern
62nd Uruguayan Congress of Surgery, Montevideo, Uruguay, November 2011	Synchronous stage IV colorectal cancer	G Maddern
ANZSVS Annual Scientific Meeting, Brisbane, November 2011	Long term results of arm vein as the last autogenous option for infrainguinal bypass surgery	D Robinson, R Varcoe, P Subramaniam, G Benveniste, R Fitridge
ANZSVS Annual Scientific Meeting, Brisbane, November 2011	Predictors of survival after EVAR	D Robinson, M Boulton, M Barnes, R Fitridge
RACS ASC, Adelaide, May 2011	Management of aortoenteric fistulas in the endovascular era	D Robinson, M Boulton, R Fitridge

Conference Title & Date	Title Of Presentation/Poster	Attendee Name
<b>Therapeutics Research Centre, University of South Australia</b>		
ECTS/IBMS 3rd Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society, May 2011, Athens, Greece	The vitamin E analogue $\gamma$ -tocotrienol blocks osteoclastogenesis and promotes osteogenesis: Evidence for combined anti-osteolytic and bone forming activity	A Evdokiou, V Liapis, S Hay, A Keramidas, E maltezou, Y Christou, GJ Atkins, DM Findlay, A Odysseos
ECTS/IBMS 3rd Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society, May 2011, Athens, Greece	Local production of Osteoprotegerin by breast cancer cells inhibits cancer-induced osteolysis and intra-osseous tumour burden but fails to restrain extra-medullary tumour growth	I Zinonos, A Labrinidis, V Liapis, S Hay, P Diamond, DM Findlay, ACW Zannettino, A Evdokiou
Australasian Pharmaceutical Science Association (APSA) Meeting Adelaide, December 2011	Pharmacokinetics – absorption and fate of nanoparticles	M Roberts
Australian Pesticides and Veterinary Medicines Authority (APVMA) & National Industrial Chemicals Notification and Assessment Scheme (NICNAS) 2011 International Symposium on Nanotechnology Regulation Sydney, Australia, November 2011	Risk Assessment for Nanotechnology – Exposure and systemic distribution	M Roberts
Australian Society of Cosmetic Chemists (ASCC) 43rd National Conference Brisbane, April 2011	Proving Value - Added Technology in Cosmetics by Non-Invasive Imaging of Human Skin	M Roberts
ACCORD biennial National Conference on “Unleashing our Industry’s Potential: Pathways to an Innovative Future” Gold Coast, October 2011	Skin absorption or topically applied products for cosmeceutic, hygiene and agvet use	M Roberts
Barrier Function of Mammalian Skin Waterville Valley, NH, USA, August 2011	Co-Discussion Leader: New and Divergent Technology Platforms for Investigating the Barrier	M Roberts
Brazilian Congress of Cosmetology São Paulo, Brazil, May 2011	Human Skin Penetration of Inorganic and Organic Sunscreens	M Roberts
Faculté de Pharmacie - Institut des Sciences Pharmaceutiques et Biologiques, Université Claude Bernard, Lyon, France, June 2011	Human Skin Penetration of Sunscreens	M Roberts
First Research Conference on Modelling Barrier Membranes, Frankfurt, Germany, February 2011	Modelling the role of solute-skin, vehicle - skin and solute - vehicle interactions and dermal clearance in defining solute transport across human skin	M Roberts
FLIM 2011 Saarbrücken, Germany May 2011	Using multiphoton tomography to non-invasively describe changes in organ function and drug disposition in human skin and in liver in vivo	M Roberts
Imaging in Cell Biology and Development Symposium Adelaide, September 2011	Using non-invasive imaging to better define drug delivery and disposition	M Roberts
Skin Trail Blazer 2nd Workshop August 2011	Massachusetts Institute Of Technology, Boston, USA Skin Structure – Solute Penetration Relationships. From Scheuplein To The Present	M Roberts
Victor Chang Cardiac Research Institute and St Vincent’s Hospital Sydney International Symposium Sydney, December 2011	Imaging drug disposition in ex vivo and in vivo skin and liver. Imaging: from cells to the heart	M Roberts
8th Advanced Imaging Methods Workshop University of California – Berkeley, USA, January 2011	Quantifying physiological and transport changes in normal and abnormal human epidermis and rat livers using noninvasive multiphoton imaging	M Roberts
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna Austria, September 2011	Objective accommodation measurements in patients implanted with an accommodating IOL versus a monofocal IOL	Z Zamora-Alejo, S Moore, A Esterman, D Parker, K Ullrich, M Goggin
European Society of Cataract and Refractive Surgeons 24th Annual Congress, Vienna Austria, September 2011	Contrast acuity in cataract patients implanted with the Crystalens HD compared to a monofocal intraocular lens	Z Zamora-Alejo, S Moore, A Esterman, D Parker, K Ullrich, M Goggin



---

---

*The South Australian and Northern Territory Islet Program (SANTIP) conducted its first islet transplant at The Queen Elizabeth Hospital into patients with Type 1 diabetes at the beginning of 2010. Since then a total of eight islet transplants were performed in 4 patients during 2010-2011 period. Two of these recipients have become insulin free, and the remaining two patients have experienced significant improvement in their blood glucose control.*

---

---





# *Research Support Structures*

## *The Basil Hetzel Institute Policy Committee*

*The Basil Hetzel Institute (BHI) Policy Committee provides strategic advice for the running of the BHI and optimises the available support for research programs across The Queen Elizabeth Hospital (TQEH).*

The Committee is comprised of senior representatives from:

- the two universities with whom the hospital is affiliated, the University of Adelaide and the University of South Australia;
- University of Adelaide academic heads of departments at TQEH (Medicine and Surgery);
- Allied Health
- Chair, Strategic Research Directions Working Group
- BHI Facility Manager and
- the scientific community

Professor Guy Maddern was reappointed to the position of Director of Research in April 2010 for a five-year term. This leadership position has been critical to furthering the aims of research excellence and enhancing the research reputation of TQEH.

Several sub-committees assist the BHI Policy Committee as required, notably the:

- Research Day Organising Committee, chaired by Dr Prue Cowled, University of Adelaide Discipline of Surgery, in the planning and running of the annual Research Day event.
- Scholarship Selection Committee, chaired by Professor Maddern.
- BHI Management Committee, chaired by Professor Ray Morris, Clinical Pharmacology Unit, in managing the Basil Hetzel Institute.

TQEH Research Secretariat undertakes a range of activities to assist the Director of Research in supporting, fostering and administering quality research activity across TQEH. Gwenda Graves and Bronwyn Lenton man the Secretariat.

### **Research Training**

The BHI Policy Committee aims to support the research capacity within basic and clinical areas through its strategy of enabling a number of scholarships at postgraduate, Honours and vacation levels.

### **Research training promotion**

In 2011 research training opportunities and Scholarship support were actively promoted through the Basil Hetzel Institute Internet site with links to key university research training sites.

### **The Hospital Research Foundation Vacation Research Scholarships**

Three placements offered in TQEH research settings over the 2011-2012 vacation were generously funded through The Hospital Research Foundation Program grants or by individual departments, and provided scholars with the opportunity to gain valuable research experience in a clinical/laboratory environment.

### Honours Research Scholarships

Honours Scholarships continued to be offered at TQEH in 2011. Nine Scholarship recipients undertook projects through a range of Programs including the Vascular Disease and Therapeutics Research Group, the Health Observatory, the Chronic Inflammatory Disease Research Group (CIDR), Stroke Research Program as well as several Departments, specifically Haematology-Oncology, and Gastroenterology.

### Higher Degrees

In 2011 over seventy scholars were undertaking research towards Higher Degrees at TQEH, with five students supported with Hospital Research Foundation Scholarships. In 2011 The Hospital Research Foundation Scholarships provided for stipends which matched the Australian Postgraduate Award (APA) rate. From 2010 Hospital Research Foundation Scholarships are funded via the Program grants, with primary responsibility for selection of research students devolved to research groups.

Other higher degree students at TQEH have scholarship support from a range of funding bodies, including NHMRC, and the University of Adelaide (International scholarships, APA, and Faculty 'Divisional' scholarships).

### Research Day 2011

Research Day 2011 was again held in our new research building, with our combined seminar rooms, atrium and common spaces comfortably accommodating the sizeable event. Research Day has been held for 20 years now and continues to be recognized as a significant annual event in the research calendar at TQEH. The long-established purpose of the Day is to provide an opportunity for students and those "in training" to practice and develop presentation skills under conditions that are typical of most professional society congresses. With this experience, it is expected that research quality from TQEH will benefit as researchers deliver their work to national or international congresses. Prizes are awarded in a number of categories for the best presentation and competition is fierce!

Sponsorship for the Day was obtained from many sources, both University and corporate. However our major sponsor for Research Day has for many years been the Hospital Research Foundation and we are very grateful for this long term support. This year the Foundation sponsored two of the seven oral presentation prizes, as well as prizes for best lay descriptions and we look forward to the Foundation's continued support. The Day was very successful, and our winners are identified in the Award section of the report.

### Dr Prue Cowled,

*Chair, Research Day Organising Committee, 2011*

### Statistical Support Service, TQEH

The Statistical Support Service, jointly funded by BHI and the Faculty of Health Sciences at the University of Adelaide, provides 12 hours per week of statistical assistance to staff and students at the BHI and TQEH more generally.

The service is well used by staff and students, with about 60 different clients during the first nine months of the year, many of whom needed help with several problems. This resulted in about 60 formal reports with many other consultations resulting in 'on the spot' advice.

The range of services has included

- Advice to research staff and students about
  - o Design of health-related research
  - o Statistical aspects of research programs
  - o Preparing data for analysis
  - o Data analysis
  - o Manuscript preparation
- Analysis of data from research programs based at BHI and TQEH.

From October, following the retirement of Dr John Field, and pending appointment of another Statistician at TQEH the Statistical Service was provided by staff of the Statistics Division of the Data Management & Analysis Centre, School of Population Health and Clinical Practice at The University of Adelaide.

### Staff (until October 2011)

JBF Field BSc(Hons) PhD AStat

### Papers published during 2011

Leyden JM, Chong WK, Kleinig T, Lee A, Field JB, Jannes J. A population-based study of thrombolysis for acute stroke in South Australia. *Med J Aust*. 2011 Feb 7;194(3):111-5.

Tiong LU, Finnie JW, Field JB, Maddern GJ. Bimodal Electric Tissue Ablation (BETA): A Study on Ablation Size When the Anode is Placed on the Peritoneum and the Liver. *J Surg Res*. 2011 Feb 26. [Epub ahead of print] PubMed PMID: 21470626.

Tiong LU, Finnie JW, Field JB, Maddern GJ. Bimodal Electric Tissue Ablation (BETA)-Effect of Reversing the Polarity of the Direct Current on the Size of Ablation. *J Surg Res*. 2011 Feb 5. Andrew Foreman, Gabriele Holtappels; Alkis James Psaltis, Joshua Jervis-Bardy, John Field, Peter-John Wormald, Claus Bachert: Adaptive immune responses in *Staphylococcus aureus* biofilm associated chronic rhinosinusitis. *Allergy*, published online 11 Aug 2011, DOI:10.1111/j.1398-9995.2011.02678.x.

Jardeleza C, Foreman A, Baker L, Paramasivan S, Field J, Tan LW, Wormald PJ. The effects of nitric oxide on *Staphylococcus aureus* biofilm growth and its implications in chronic rhinosinusitis. *Int Forum Allergy Rhinol*. 2011 Nov;1(6):438-44. doi: 10.1002/alr.20083. Epub 2011 Jul 29. PubMed PMID: 22144052.

Foreman A, Holtappels G, Psaltis AJ, Jervis-Bardy J, Field J, Wormald PJ, Bachert C. Adaptive immune responses in *Staphylococcus aureus* biofilm-associated chronic rhinosinusitis. *Allergy*. 2011 Nov;66(11):1449-56. doi: 10.1111/j.1398-9995.2011.02678.x. Epub 2011 Aug 11. PubMed PMID: 21834937.

Singhal D, Boase S, Field J, Jardeleza C, Foreman A, Wormald PJ. Quantitative analysis of in-vivo mucosal bacterial biofilms. *International Forum of Allergy & Rhinology*, published online: 29 Jul 2011, DOI: 10.1002/alr.20082.

Rao V, Field J. Ultrasound-guided transverse abdominis plane block for upper abdominal surgery. *Journal of Anaesthesiology Clinical Pharmacology*, 2011, Volume 27, Issue 3, 333-336. DOI: 10.4103/0970-9185.83676.

### Acknowledgement

The Basil Hetzel Institute acknowledges John Field's valuable contribution to the research output of researchers and students over the past seven years. His excellent understanding of both the basic and clinical research activity at the hospital with all its many nuances was extremely helpful in providing efficient statistical support to both staff and students. The Institute wishes him a statistically significant long and happy retirement ( $p < 0.01$ ).

### The Institute (BHI) Policy Committee

#### Current Members, December 2011

Prof Guy Maddern

Prof John Beltrame

Prof Justin Beilby (proxy - Prof Andrew Somogyi)

Mrs Linda South

Prof Pat Buckley

Ms Diana Brown

Dr Andrew Holmes

Dr Prue Cowled

Dr Cynthia Piantadosi

Prof Richard D'Andrea

Prof Ray Morris

Mr Paul Flynn

Ms Kathryn Hudson

A/Prof Simon Koblar

#### Executive Support

Ms Gwenda Graves

**Basil Hetzel Management Committee****Current members, December 2011**

<b>The Institute Level</b>	<b>Representative</b>
Ground Level	Mr Malcolm Brinn
Level 1	Dr Eric Smith Prof Andreas Evdokiou Dr Sarah Bray
Level 2	Dr Peter Zalewski Dr Ian Westley Dr Andrew Holmes
Surgical Suite	Mr Matthew Smith
Hanson Institute (external rep)	A/Prof Peter Coyle
Postgraduate Representative	Ms Nisha Rao
Chair	Prof Ray Morris
BHI Facility Manager	Ms Kathryn Hudson
Executive Support	Ms Gwenda Graves

# Awards

## 2011 Award Winners

### TQEH Research Day 2011

#### Honours Students

Sam Biermann, S Appleton, MA Hamilton-Bruce, SA Koblar, RJ Adams. Supervisors: RJ Adams, SA Koblar, S Appleton. "*Health literacy levels in a stroke population*" (Prize sponsored by The Hospital Research Foundation).

#### Junior PhD Students (Laboratory Research)

Amenah Jaghoori, R Stuklis, M Worthington, J Edwards, DP Wilson, JF Beltrame. Supervisors: J Beltrame; D Wilson. "*Gender Differences in Internal Mammary Artery Vasoconstrictor Responses*" (Prize sponsored by Fisher Biotech and Prosearch International).

#### Senior PhD students (Laboratory Research)

Irene Zinonos, A Labrinidis, V Liapis, S Hay, V Ponomarev, P Diamond, ACW Zannettino, A Evdokiou. Supervisor: A Evdokiou. "Local production of osteoprotegerin by breast cancer cells inhibits cancer induced osteolysis but promotes pulmonary metastasis" (Prize sponsored by the University of Adelaide).

#### Clinical Higher Degrees

Elsa Dent, R Visvanathan, C Piantadosi, I Chapman. Supervisors: R Visvanathan, C Piantadosi, I Chapman. "The mini nutritional assessment as a predictor of Fried's frailty classification in hospitalised older people" (Prize sponsored by The Hospital Research Foundation).

#### Clinical Research

Scott Graf, S. Lester, H. Nossent, A. Lee, S. Proudman, C. Hill, M. Rischmueller. "Low copy number of the FCGR3b gene is associated with susceptibility to rheumatoid arthritis" (Prize sponsored by the University of South Australia).



#### Poster Prize

Yang Timothy Du, S Pasupathy, C Neil, J Beltrame. Supervisor: J Beltrame. "Validation of electrocardiographic parameters of infarct size with cardiac magnetic resonance imaging in acute ST elevation myocardial infarction". (Prize sponsored by Qiagen).

#### Best Lay Description

Michael Djukic, A Lewis, E Leung, J Jannes, A Hamilton-Bruce, T Chataway, S Koblar. Supervisor: S Koblar. "Human Plasma Biomarker investigation of transient ischaemic attack by 2D-differential in gel electrophoresis (2D DIGE): a Pilot study" (Prize sponsored by Jomar Biosciences).



## **Other 2011 Award Winners**

### **Cardiology Unit**

Dreyer, R	Finalist for the South Australian Heart Research Achievement awards; EO Myers Trust Fund travel grant; University of Adelaide Health Science Postgraduate Fellowship; Australian Federation of University Women's Barbara Crase Bursary; University of Adelaide Faculty of Health Science Postgraduate Research Conference. Best overall presentation; Ivan De Lande Travel Award 2011 (\$3,000)
Jaghooori, A	University of Adelaide Faculty of Health Science Postgraduate Research Conference. Best overall presentation.

### **Neurology Unit**

Leong, WK	Poster Prize Robinson Institute Centre for Stem Cell Research Annual Meeting, Adelaide, November 2011. "Human Dental Pulp Stem Cells survive, migrate and differentiate following transplantation in the ischaemic rat brain". Leong WK, Henshall T, Helps S, Vink R, Lewis M, Gronthos S, Koblar S. (\$1,000).
Leung, E	Allan Chancellor Medal 2011, Royal Australian College of General Practitioners Conference, October 2011, Hobart, Tasmania. "COMMunity based rapid Transient Ischaemic Attack (TIA) care: COMBAT Stroke" (\$500). The Alan Chancellor award is presented each year to the best first-time presenter of a research paper at the RACGP's annual conference.

### **Otolaryngology, Head and Neck Surgery, Department of**

Jardeleza, C	Best Basic Science Research Award, American Rhinologic Society (ARS), San Francisco CA USA, September 10 2011 "The Effects of Nitric Oxide on Staphylococcus aureus Biofilm Growth and its Implications in Chronic Rhinosinusitis"
Boase, S	The Ron Gristwood Medal, Best Registrar Presentation, Australasian Society of Otolaryngology Head & Neck Society (ASOHNS) SA, November 2011.
Valentine, R & Ha, T	Maurice Cottle Award for best clinical paper, American Rhinology Society Meeting SA September 2011 (Joint)

### **Respiratory Medicine and Clinical Practice Unit**

Carson, KV	Young Investigator Award Finalist 2011, SA Thoracic Society of Australia and New Zealand, Adelaide, December 2011. "Interventions for smoking cessation in Indigenous populations: A Cochrane meta-analysis"
------------	--

### **Renal Unit**

Collins, M	President's Prize for clinical research, Transplantation Society of Australia & New Zealand, Canberra, June 2011.
Rogers, NM	Best PhD for Research Excellence in South Australia. Awarded by SA Government.

# *Acknowledgements*

Aberdeen University, UK – Department of Cardiology	Medical Research Council UK
AIB Labs	Medvet Laboratories
Anne Marie Trimboli Trust	Monash University – Department of Epidemiology & Preventative Medicine
Arthritis Australia	Monash University – Department of Pharmacology
ASERNIPS	National Health & Medical Research Council (NHMRC)
Austin Health	National Heart Foundation of Australia (NHFA)
Australian Red Cross Blood Service (ARCBS)	Olympic Spirit Greek Friends
BankSA, Findon Branch	Peter Couche Foundation
Baker Research Institute	Rebecca L Cooper Medical Foundation
Beyondblue	Robinson Institute
Cambridge Centre for Brain Repair	Royal Adelaide Hospital
Cancer Australia	Royal Australasian College of Physicians
Cancer Council of South Australia	Royal Australasian College of Surgeons
Channel 7 Children's Medical Research Foundation of SA	Royal Prince Alfred Hospital Intensive Care Unit
Child Health Research Institute	SA Heart Foundation
Child, Youth & Women's Health Service – Familial Cancer Unit	SA Pathology
Clive and Vera Ramaciotti Foundation	Stroke SA
Collaborative Centre for Stem Cell Research	South Australian Department of Health
Commonwealth Dept of Health & Aged Care	St Jude's Research Institute, Memphis USA
CSIRO	St Vincent's Institute Melbourne, Department of Medicine
Diamantina Institute, for Cancer, Immunology and Metabolic Medicine	The Captain Courageous Research Fund
Drake Supermarkets	The Hospital Research Foundation (THRF) (formerly The Queen Elizabeth Hospital Research Foundation)
Dry July	The Intensive Care Foundation
Erasmus University Medical Centre, Rotterdam	Western Australian Institute for Medical Research (WAIMR)
Flinders University	Women's and Children's Hospital
Garnett Passe and Rodney Williams Memorial Foundation	University of Adelaide
Heart Foundation of South Australia (Tom Simpson Trust)	University of Hannover, Germany
Hanson Institute	University of South Australia
Institute for Food and Nutrition (INRAN) (Rome)	Women's and Children's Hospital Adelaide
Kmart West Lakes	
Kidman Park Rotary Club	
Lions Clubs	

**Lee Michaelis**

Chair, The Hospital Research  
Foundation

---



# *The Hospital Research Foundation*

## *Chair Report*

*2011 has provided many challenges not only for The Hospital Research Foundation but for all within the not-for-profit sector and the business sector overall.*

*I am proud to say The Hospital Research Foundation (THRF) had prudently positioned itself to bear these challenges well under the leadership of CEO Paul Flynn, his passionate and dedicated team, the amazing volunteers and the guidance of the Board as a united team. This has enabled the Foundation to successfully achieve targets during 2011 and look towards positive planned outcomes into 2012.*

---

---

---

There have been no changes to the Board Members during 2011, presenting a consistent and strong board whom remain dedicated to driving financial success within the Foundation, ensuring the talented staff we have work in a positive environment all with the primary goal of achieving funds to drive medical research.

#### **Funding Activities**

Dry July was again a great success for The Hospital Research Foundation raising \$111,510.30 for comfort and support of cancer patients in hospital! THRF look forward to our association and funding return growing each year with Dry July; a brilliant cause and an even better result for the Foundation.

We enter our 10th successful Lottery and our second year with the Lifestyles Lottery, we also celebrate our 10th straight year with Scott Salisbury Homes, a valued relationship fostered through a great mutual understanding of our research funding goals.

#### **Research**

The Hospital Research Foundation has had some significant outcomes during 2011, some of which include:

- The addition of Professor Richard D'Andrea as a Hospital Nominated Director.
- The Michell McGrath Breast Cancer and The Hospital Research Foundation Fellowships, the launch of which was received most favorably.
- Professor Richard Ruffin's election as a member elected Director.
- New Chair of Independent Research Review subcommittee, Colin Johnston who is currently a Senior Principal Research Fellow at the Baker IDI Heart and Diabetes Institute, Honorary Professor of Medicine at Monash University and an Emeritus Professor of the University of Melbourne.

#### **Staff**

There has been a small turnover of staff at The Hospital Research Foundation; however this has been due primarily to overseas leave and natural attrition. The team is solid and highly passionate with a great understanding of THRF goals and is committed to achieving these. The volunteer base continues to provide great support to the research aims.

#### **Financial**

Our key performance indicator: Ratio of Funds to Research as a percentage of Gross Profit of 67.7%, in what has been a very difficult financial time is an excellent outcome and well above our annual target of 60%. Although the Foundation has incurred a decrease in revenue this year, which was principally driven by a reduction in fundraising due to the difficult global financial circumstances, we continue to perform well against our key performance indicators. Once again, a hard year has been endured across all markets and THRF performed well against these odds, the strategic direction remains strong and consistent. The CEO Paul Flynn is providing strong leadership along with the support of the Board.

#### **Lee Michaelis**

---

---

*In the middle of 2010 The Hospital Research Foundation announced the inaugural \$1.25 million Michell McGrath Breast Cancer Fellowship, aimed at attracting a researcher of an extremely high standard to TQEH.*

*With a strong response from highly qualified candidates, The Hospital Research Foundation decided to increase the grant and fund two outstanding researchers and their teams in 2011.*

---



**Paul Flynn**

CEO, The Hospital  
Research Foundation

---



# *The Hospital Research Foundation*

## *Chief Executive Officer's Report*

*What an invigorating year it has been. Filled with many  
experiences that enrich our lives and help us validate  
our reason for being.*

---

At The Hospital Research Foundation we support and advocate life-changing medical research that translates into the prevention of disease, the relief of suffering, improved patient care and the restoration of health and wellness for all in our community. That is our mission and that is what we strive to achieve.

The Hospital Research Foundation's major long term funding commitments are in the areas of Cardiac disease, Renal disease, Cancer, Stroke, Diabetes, Rheumatology, Surgical techniques and a broad population health study aimed at improving health outcomes in the community. We also provide significant funds to purchase medical research equipment and provide a variety of smaller grants to assist early career researchers in their work.

This year we were very proud to be able to introduce two major new funding programs. They are The Michell McGrath Breast Cancer Fellowship and The Hospital Research Foundation Breast Cancer Fellowship.

Professor Andreas Evdokiou, The Michell McGrath Breast Cancer Fellow, is the leader of the Breast Cancer Research Unit at the Basil Hetzel Institute, The Queen Elizabeth Hospital. Associate Professor Wendy Ingman, The Hospital Research Foundation Fellow, is the leader of the Breast Biology and Cancer Unit at the Basil Hetzel Institute, The Queen Elizabeth Hospital. This appointment has been significantly supported by the Haematology / Oncology Private Practice Group at The Queen Elizabeth Hospital. We welcome both of these outstanding medical researchers and their teams to our community.

We have recently announced further grant funding in the area of Project Grants, Early Career Research Fellowships, PhD Scholarships and Masters Scholarships. Applications for funding closed in January 2012 and successful applicants will obtain funding from 1st April 2012.

The Hospital Research Foundation has made forward commitments of over \$15 million to support medical research and patient care over the next 5 years. The Global Financial Crisis and its extension to the Euro zone sovereign debt problems are having a negative effect on donors' ability to support research. However, the establishment of our medical research reserve has the objective of ensuring that our pre-commitment to medical research funding is consistent and long term, and will not be adversely affected by short term negative economic impacts.

Our audited financial reports are published in a clear and simple manner on our website [www.hospitalresearch.com.au](http://www.hospitalresearch.com.au). I would like to take this opportunity to thank the Board of Directors, the Staff and selfless volunteers of The Hospital Research Foundation for their wonderful work supporting medical research. You, our generous donors and sponsors deserve our heartfelt thanks for your ongoing support. As a society we have great faith that when we need medical attention we will receive the very best. This high quality medical care for our friends and family is only possible if our doctors, nurses and medical specialists have access to the very best medical research and body of knowledge available. Without your ongoing support this vital, world-class medical research would not be possible.

If you would like to explore other ways that you can support this vital work please call us on 08 8244 1100 or visit our website [www.hospitalresearch.com.au](http://www.hospitalresearch.com.au)

Please remember that your support saves lives.

**Paul Flynn**



Ms Lee Michaelis



Mr John MacPhail

## Board Details

### Chair

Ms Lee Michaelis – Managing Director,  
Gray Management Group

### Deputy Chair

Mr John MacPhail – Partner, Finlaysons

### Board members

Professor John Beltrame – Professor of Medicine,  
The Queen Elizabeth Hospital

Mr John Hender – State Manager – SA, Private Wealth  
– Private Clients, Perpetual Pty Ltd.

Mr Ken Milne – Architect, Milne Architects Pty Ltd.

Professor Richard Ruffin – Emeritus Professor,  
The Queen Elizabeth Hospital

Ms Melinda OLeary – Board Advisor,  
Nova Aerospace Australia

Ms Luciana Larkin – Partner, Tregloans Chartered  
Accountants

Professor Richard D'Andrea, Chief Medical Scientist -  
Department of Haematology-Oncology,  
The Queen Elizabeth Hospital



Professor John Beltrame



Ms Melinda OLeary



Mr John Hender



Ms Luciana Larkin



Mr Ken Milne



Professor Richard  
D'Andrea



Professor Richard Ruffin



The Hospital Research Foundation CEO Paul Flynn (left) with Professor Andreas Evdokiou and Associate Professor Wendy Ingman at the BHI.

---

---

## *Supporting World-Class Research*

### *Research Achievement Highlights*

The Hospital Research Foundation is extremely proud to support a variety of vital research projects this year. Outstanding funding allocations to research is only possible through the continuous and generous support of our donors. Here are just a few of the many research highlights from The Basil Hetzel Institute for Translational Health Research at The Queen Elizabeth Hospital.

#### **Building a Centre of Excellence for Breast Cancer Research**

In 2011 two leading Breast Cancer researchers and their teams made The Queen Elizabeth Hospital (TQEH) their new home, greatly enhancing the world-class breast cancer research at TQEH and the Basil Hetzel Institute for Translational Health Research (BHI).

In the middle of 2010 The Hospital Research Foundation announced the inaugural \$1.25 million Michell McGrath Breast Cancer Fellowship, aimed at attracting a researcher of an extremely high standard to TQEH. With a strong response from highly qualified candidates, The Hospital Research Foundation decided to increase the grant and fund two outstanding researchers and their teams.

Professor Andreas Evdokiou is the Michell McGrath Breast Cancer Fellowship recipient, the first ever awarded by The Hospital Research Foundation. He, along with five members of his research team, is working on a research project focused on the development, progression and metastatic spread of breast cancer.

"A lot of breast cancer research is focused on the primary tumour, but this isn't actually what causes patient mortality most of the time. What does cause mortality is metastases; when the cancer lodges and spreads into other organs," said Professor Evdokiou.

"Over 75 percent of patients with advanced stage breast cancer will have developed metastases into the skeleton and once the cancer reaches this stage the chances of successful treatment are much slimmer."

"My research aim is to identify therapies that will be effective in the metastatic sites such as the bone, as well as the primary site. We are trying to understand what makes bone such fertile soil for the "seed"; the breast cancer cell, to migrate to, lodge in and grow," he said.

The second fellow, Associate Professor Wendy Ingman and her research team of eight scientists are focused on another vital area of breast cancer research: prevention.

"Despite the rising incidence of breast cancer, we have very limited knowledge on how to prevent it. Prevention research only makes up about 4% of the global financial commitment to the breast cancer fight," said A/Prof Ingman.

"Breast Cancer is the most prevalent cancer found in women. Over 13,000 women are diagnosed every year in Australia, but we still don't know why cancer occurs so commonly in this particular tissue," said A/Prof Ingman.

"We want to understand why the breast is so susceptible to cancer, not in terms of lifestyle factors, but the actual underlying cellular mechanisms that underpin breast cancer susceptibility," she said.

Both researchers are very excited about the opportunity to advance their research at TQEH.

"TQEH has the largest Breast Cancer Clinic in the state. Having access to the clinic and patient care will mean significant translational research can be undertaken, benefiting patients as quickly as possible," said Professor Evdokiou.

The Hospital Research Foundation is extremely proud to have brought these innovative teams to TQEH and we look forward to keeping you updated on their research progress.



## **South Australia's** **World First Research** **Collaboration Takes Aim** **at Inflammatory Disease**

Through one of its major Program Grants, The Hospital Research Foundation has brought together four major research groups at the Basil Hetzel Institute for Translational Health Research to form CIDR – Centre for Inflammatory Diseases Research. This group is exploring the common inflammatory mechanisms found in asthma, chronic obstructive pulmonary disease, rhinosinusitis, stroke and rheumatology diseases.

A staggering one in three South Australians live with the debilitating effects of chronic inflammatory disease and this world first collaboration is working hard to help these people.

CIDR researchers have identified a common link between the inflammatory mechanisms that occur in each of the aforementioned diseases. Their aim is to find ways of alleviating inflammation and therefore improve overall health and wellbeing for sufferers.

The collaborative approach has already bore fruit with the first ever images being taken of inflammasomes sitting in the lining of healthy human airways.

“We have known about an inflammatory pathway in asthma but this is the first time inflammasomes have been captured in the lining cells of the normal airway,” said Dr Peter Zalewski, CIDR Researcher and Senior Lecturer in the Discipline of Medicine at TQEH.

“This indicates to us that inflammasomes may play a really important role in the balance between people who have allergies and suffer from illnesses like asthma, compared to healthy people whose bodies are able to defend against bacteria,” he said.

Moving ahead, the CIDR group will be examining human tissues in clinical trials to help find out what genetically predisposes people to inflammatory diseases. The outcomes from this clinical study would include the potential to target specific treatments for each disease.

This story was covered by Channel 7 News early in 2011. If you missed it you can watch it on our YouTube Channel [www.youtube.com/user/hospitalresearch](http://www.youtube.com/user/hospitalresearch)

## **Combining Technologies to Destroy Liver Tumours**

The Hospital Research Foundation is funding innovative surgical research where old technology meets new through one of its five Research Program Grants. This work entered an exciting phase in 2011, providing hope for South Australian patients with liver cancer.

“Cancers in the liver are a problem and we are always challenged with the ways in which we deal with them,” said Professor Guy Maddern, Liver Surgeon and Director of Research at The Queen Elizabeth Hospital (TQEH) and Basil Hetzel Institute for Translational Health Research (BHI).

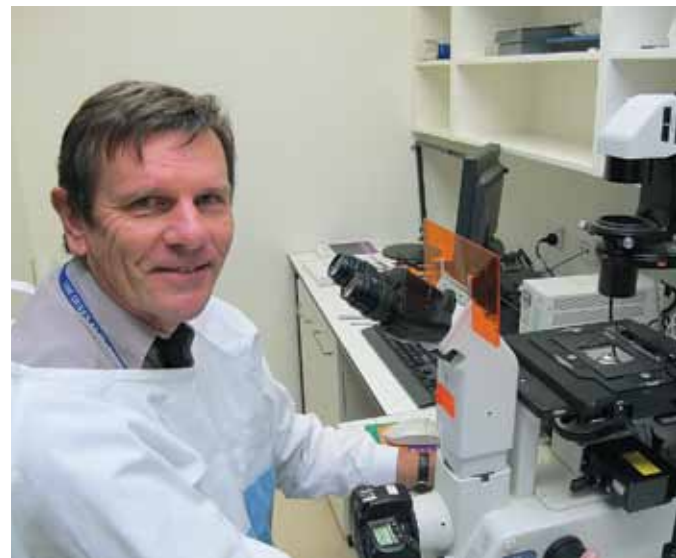
As the busiest single centre for liver cancer removal in the state, TQEH is taking a lead role in furthering research into the combination of electrical technologies which can effectively double the diameter of a liver tumour that can be destroyed.

The new method called Biomodal Electric Tissue Ablation uses two different types of electrical energies to ablate cancerous tumours in a much shorter time frame than was possible using one method in isolation.

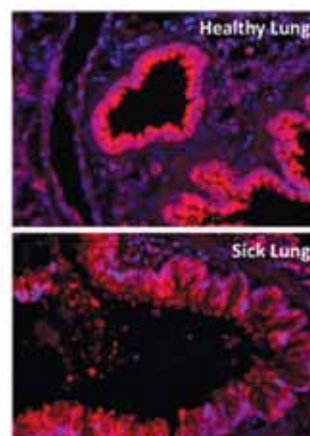
As the early pioneers of ablation technologies, Professor Maddern says his team is now pushing ahead to translate the theoretical work into a patient population.

“Our research is getting us closer and closer to being able to introduce this into actual patients and if the technology works then there is huge potential to help thousands of patients around the world.”

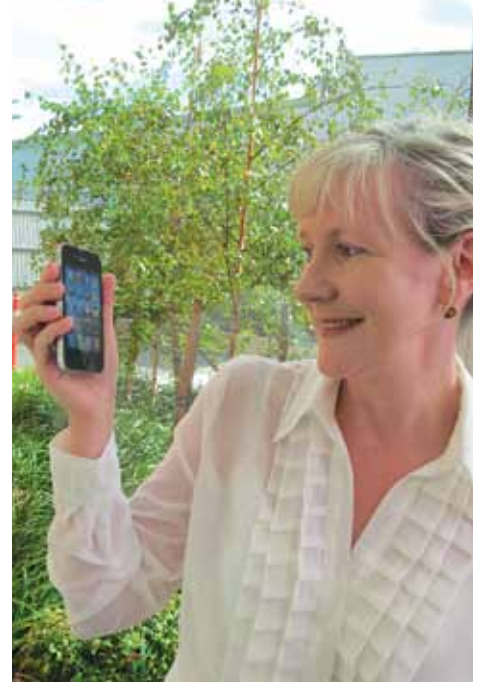
This technology is promising not just for the liver; it also has the potential to destroy tumours elsewhere in the body, such as the kidney.



CIDR Researcher Dr Peter Zalewski in the labs at the Basil Hetzel Institute.



Capturing images of inflammasomes (indicated by red in this image) is a significant breakthrough for the CIDR team.



Dr Sarah Appleton is thrilled to be developing an iPhone application that has the potential to improve Asthma self-management.

## *iPhones Aiding Asthma*

In an exciting nationwide first, researchers at the Basil Hetzel Institute for Translational Health Research (BHI) at The Queen Elizabeth Hospital are focused on improving self-management of asthma through developing an easy-to-use mobile phone application. The Hospital Research Foundation awarded a project grant to fund the development of the technology.

Asthma is currently affecting over 2 million Australians and around 400 people die each year from the disease. Alarming, many asthma deaths are due to poor self-management.

“Like many other chronic diseases, asthma requires daily self-management practices, including managing and monitoring symptoms, adhering to treatment regimens and maintaining a generally healthy lifestyle,” said Dr Sarah Appleton from the Department of Medicine, BHI.

Forgetfulness, laziness, poor inhaler technique, cost of preventative medications and ‘denial’ about the importance and consequences of poor asthma management are among reasons that some people are currently not properly managing their asthma.

“We are developing a mobile phone (iPhone) application, which will hopefully be a more convenient, appealing way for people to manage their asthma, resulting in better management and healthier patients.”

The application will allow people to input their peak flow readings (a way that doctors currently make therapeutic decisions for people with asthma) simply into their phone, without the need for paper diaries. The app will also regularly ‘ask’ the user a number of short, easy questions about their symptoms, and keep track of the answers for referral purposes.

“This tracking of peak flows and symptoms will allow patients to personally monitor their asthma, and provide an indication of when it might be going off track,” said Dr Appleton.

“People commonly have their phones with them at all times and we think the use of modern technology may be a more appealing and convenient way for people to regularly document and manage their asthma,” she said.

The proposed asthma monitoring system will hopefully go ahead after the team has conducted a small pilot study to determine its usability.



PhD student Dr Shailaja Nair is using the Gaitrite machine & software to assess walking patterns in older people.



Channel 7 News reporter Melody Horrill interviews Professor Guy Maddern outside the Basil Hetzel Institute.

## *Fall Prevention: a Priority*

As part of The Health Observatory Program funded by The Hospital Research Foundation, a team of researchers are crucially focused on the prevention of falls in older people.

Falls are a major cause of injury for people aged 65 years and over; they are the leading cause of injury-related hospital admissions in South Australia. It is generally accepted that falls are a natural part of getting older; however researchers at The Queen Elizabeth Hospital strongly negate this and are working on a unique falls prevention project.

"Falling often results in a serious loss of confidence and independence due to injury," said Associate Professor Renuka Visvanathan, Geriatrician at TQEH.

Researchers are looking at a particular condition known as Postprandial Hypotension (a drop in blood pressure after a meal) which they think could be a key cause of many falls in older people.

With significant help from the Kidman Park Rotary Club, a piece of equipment called a GaitRite has recently been purchased, which will allow the researchers to look at how a drop in blood pressure after a meal affects the walking patterns of older people.

The GaitRite is essentially a long mat hooked up to a computer. When walked on it can measure distance between a person's steps, how fast they are walking and how wide their steps are.

Ultimately, this research will increase understanding of what makes older people fall, and importantly, help to develop preventative measures.

## *Bringing Research News to You*

Research news and articles of interest are regularly posted on our website [www.hospitalresearch.com.au](http://www.hospitalresearch.com.au). Highlights and updates are also covered in our quarterly print and e-newsletters. If you would like to receive a copy of our e-newsletter directly to your email inbox, you can subscribe online via our website, or if you would like to receive a printed copy to your mailbox, please call us on (08)8244 1100. We are now also keeping our supporters up-to-date using social media-so join our page on Facebook or follow us on Twitter! If you prefer to watch rather than read your news, we also have a YouTube channel you can subscribe to!

Also, keep your eye out for us in the media! 2011 saw research at the Basil Hetzel Institute for Translational Health Research featured on Channel 7 News numerous times. If you missed any of our stories in the media, you can view them on our YouTube channel.



[facebook.com/thehospitalresearchfoundation](https://facebook.com/thehospitalresearchfoundation)



[twitter.com/hosp\\_research](https://twitter.com/hosp_research)



[youtube.com/hospitalresearch](https://youtube.com/hospitalresearch)

## **Equipment Purchases** **for the Basil Hetzel** **Institute**

Each year The Hospital Research Foundation assists with the purchase of essential equipment for researchers and their teams at the Basil Hetzel Institute for Translational Health Research. In many cases the equipment can be utilized across several different research departments. In 2011 the Foundation contributed \$565,000 to the purchase of vital research equipment, some of which is listed below.

### **Biorad CFX96 Real Time PCR Machine**

Understanding diseases such as diabetes, stroke, asthma, blood disorders, cardiac disease, chronic inflammation of the respiratory system and joints depends on a researcher's ability to examine genes that play a role in maintaining a healthy and balanced internal system at the cellular level. There are hundreds of genes with important related functions and researchers need to get a better picture of how these complicated interactions occur. The CFX 96 and CFX 384 are instruments with the capability of investigating large panels of genes involved in controlling our body's ability to prevent such diseases.

### **Nanodrop 2000**

This equipment is primarily used in surgery research to ensure good quality genetic material is obtained from patients. This is vital for many experiments which look at genes involved in cancer, inflammation, chronic sinus disease and complications associated with vascular disease. With the information gathered from these genes researchers can look at the effect disease treatments might have on patients. Without the use of a small volume spectrophotometer like the Nanodrop, many of these experiments could not take place.

### **Quaternary pump**

The ability to understand diseases such as cardiac disease, diabetes, stroke and polycystic ovary syndrome depends on the ability to measure biomarkers in the blood of patients, healthy subjects (and cellular systems), with a view to studying the behaviour of these biomarkers in patients undergoing clinical treatment.

### **IVIS Lumina XR Imaging System with accessories**

In conjunction with the appointment of Professor Andreas Evdokiou as the inaugural Michell McGrath Breast Cancer Fellow, The Hospital Research Foundation has purchased state-of-the-art imaging equipment for cancer research. The new equipment allows researchers to evaluate the anti-cancer potential of drugs using in-vivo models of cancer development, progression and metastatic spread while dramatically reducing the number of models needed for research.





Dry July Founder Phil Grove, cancer patient Michelle and radio ABC 891 Mornings presenter/Dry July-er Ian Henschke with the cheque for funds raised through Dry July in 2011.

## Events

### **Dry Month Making a Difference for Cancer Patients**

For the third year in a row The Hospital Research Foundation was the proud beneficiary of the nationwide fundraising program Dry July.

Over 600 South Australian participants got on board in 2011, surrendering themselves to an entire month of sobriety. Funds raised from their brave dry efforts will go towards improving the comfort and care of patients with cancer at The Queen Elizabeth Hospital.

An outstanding \$111,510.30 was raised in South Australia this year. The Hospital Research Foundation was thrilled with the significant increase in participant numbers in 2011 and the substantial boost in funds raised.

For people like Michelle Manuel who was diagnosed with Non-Hodgkin's Lymphoma in March 2011, the support of Dry July really made a difference to her stay at The Queen Elizabeth Hospital.

"Since I was diagnosed I've spent 3-4 months of this year confined to a hospital bed at TQEH," said Michelle.

"Dry July is really important because being locked in a hospital room is no fun at all; the last two weeks of my stay I was almost climbing the walls to get out! But when I look back at the time I spent at TQEH I didn't feel like it was a cold, stark, harsh place to be in, which is largely thanks to Dry July."

"The renovations made possible with previous years' Dry July money, along with the purchase of big screen televisions, laptops, books and bookcases have all made the hospital feel more homely and warm. All these things help you to be in a better frame of mind; if you are more comfortable it helps you emotionally and psychologically battle each day."

The Hospital Research Foundation is extremely grateful to all those people who participated and supported Dry July.



While playing 10 heated games of bingo, guests at our Boobie Bingo night were kept entertained by Bingo Masters Jodie & Snowy from Mix 102.3 radio.

## ***Boobie BINGO!***

### **Our Boobie Bingo Kings & Queens!**

Ten Bingo Queens (...and Kings!) were prestigiously crowned at our Australian Breast Cancer Research Boobie Bingo night at the Crowne Plaza in June!

About 180 guests enjoyed a fun filled evening of Bingo, raising vital funds for Breast Cancer research at The Queen Elizabeth Hospital and the Basil Hetzel Institute for Translational Health Research.

Jodie and Snowy from Mix 102.3's breakfast show were our Bingo Masters, keeping guests entertained with inventive 'Bingo Lingo'.

In between 10 games of heated bingo, guests were treated to special presentations by Breast Cancer Research fellows Professor Andreas Evdokiou and Associate Professor Wendy Ingman. Both researchers engaged the crowd, detailing their individual research projects on the development, progression and metastatic spread of breast cancer, and breast cancer prevention, respectively.

Generously donated Alchemy wines and champagne were the beverages of choice, and tasty nuts donated by Nocelle Foods accompanied pre-drinks in the foyer. Guests left at the end of the night with gift bags packed full of goodies, including delicious Nocelle dried fruit and vouchers from our sponsors.

Many thanks to our supporters and sponsors, especially our major sponsors S.O. Asher, Panurgem Pty Ltd, The Advertiser Newspapers and Scott Salisbury Homes.



### Research Students Excel at BHI

The 2011 Research Day at the Basil Hetzel Institute for Translational Health Research (BHI) saw one of the largest fields of student entries in recent years.

As the premier research event on the BHI calendar, research students are given the opportunity to hone their presentation skills in front of a judging panel and their peers in preparation for delivering their work at a national and international level.

"The scope and quality of the research presented was excellent and provides a good indicator for future success of our student population here at the BHI," said Dr Prue Cowled, Chair of the Research Day Committee.

Congratulations to the following Research Day winners: Sam Biermann, Amenah Jaghoori, Irene Zinonos, Elsa Dent, Scott Graf, Yang Du, Michael Djukic and Rachel Dreyer.

The Hospital Research Foundation was delighted to be able to sponsor some of the student awards and provide two busy baristas who served a selection of fabulous coffees throughout the day.

### Understanding Dementia- TQEH Dementia Day 2011

Each week there are 1500 new cases of Dementia in Australia. Dementia is a truly heartbreaking condition which progressively erodes the normal function of our loved ones. As yet, there is no cure.

With so many people living with dementia in Australia and a cure still not within reach, awareness about caring for loved ones with dementia is crucially important. This is what The Queen Elizabeth Hospital's annual Mindful of Dementia Day is all about.

On the 9th of September TQEH was bustling with Mindful of Dementia Day attendees. Health and aged care professionals, along with members of the general public benefited from educational seminars on dementia and had the opportunity to visit numerous information booths hosted by the likes of Alzheimer's Australia SA, Dementia Advisory Behaviour Services, Respecting Patients Choices© along with The Hospital Research Foundation.

Free to the public, this year the event was booked to capacity. Judy Deimel, Chairperson from TQEH Dementia, Cognition & Delirium Group said "It's very important that we ensure our workers and local community have the best possible understanding of dementia and related conditions like delirium."

"This will ensure dignity in care and the best possible outcomes for patients and their families suffering from these sad and debilitating conditions," she said.

The Hospital Research Foundation was proud to be a part of Mindful of Dementia Day and will be supporting the event again in 2012.



Professor Guy Maddern (second left), Professor Basil Hetzel (centre left) and Professor John Beltrame (centre right) with the winning students at Research Day.

### Corporate Breakfasts

This year, The Hospital Research Foundation hosted three Corporate Research Breakfasts where corporate guests were treated to a delicious breakfast and an informative presentation on a particular area of medical research.

The Corporate Research Breakfast series is aimed at informing business professionals in South Australia about the world-class medical research undertaken at The Queen Elizabeth Hospital and the Basil Hetzel Institute for Translational Health Research.

Our guest speakers Associate Professor Simon Koblar, Professor Toby Coates and Dr Stephen Rodda spoke about topics of Stroke, Diabetes and Breast Cancer/Drug Commercialisation respectively.

Grant Tinney, Chief Executive of Precise Advance Manufacturing Group said the presentation on Stroke presented by A/Prof Simon Koblar was incredibly worthwhile.

"The topic of Stroke was very interesting and was presented enthusiastically by A/Prof Koblar. The knowledge I gained may just one day save my life or that of my friends and family, so I'm very grateful I was invited and able to attend," he said.

We look forward to hosting numerous Corporate Breakfasts in 2012 and we thank all our guest speakers and board room sponsors for donating their time and space in 2011.

Lively music and dancing kept attendees at the 2011 Dementia Day entertained.



Mr Peter Goers, TQEH Mindful of Dementia Patron, talks to attendees at the Dementia Day.



Professor Toby Coates informs Corporate Research Breakfast guests about his life-changing Diabetes research.

(L-R) Grace McEvoy, Denise McEvoy & Glynn Williams at the 2011 Basil Hetzel Society Luncheon.



Wendy Bungey & Barry Hankins.

### Luncheon to Thank Our Life Guardians

Kooyonga Golf Club in Lockleys provided a wonderful setting for our annual Basil Hetzel Society Luncheon in October.

Over 85 of our valued Life Guardian supporters joined us for a scrumptious lunch as a thank you for their generous legacy to support medical research at the Basil Hetzel Institute.

With glorious weather enhancing the lovely view of the golf course, guests were treated to a feature presentation given by the Foundation's inaugural Michell McGrath Breast Cancer Fellow, Professor Andreas Evdokiou on his vital breast cancer research.

"The lunch at the Kooyonga Golf Club this year was fantastic; I don't think you could get a better venue, it was just ideal!" said bequestor and guest Gordon Watson.

"The presentation by Professor Evdokiou was very interesting; he did a very good job at making it understandable considering it's a tremendously complex subject," he said.

"This was our fifth lunch and my word; we'll definitely be back next year!"

Thank you to everyone who came along to the lunch, we look forward to seeing you next year!

Members of the Olympic Spirit  
Greek Friends with THRF CEO Paul  
Flynn, staff and doctors from TQEH's  
Haematology-Oncology Unit.



Adelaide United pocket rocket Cassio  
with one of his biggest fans Luka,  
outside the Basil Hetzel Institute.



THRF's Vivien Dossman with Maria  
& Christo Giannoudis at their 2011  
Cancer Support Dinner Dance.



## Corporate & Community Support

Corporate and community groups choose to support world-class medical research at the BHI in a number of different ways, whether it be sponsorship of a major event, raising funds to purchase a piece of scientific equipment, hosting a fundraising event for THRF or developing a staff charity fund. The variety of different medical research projects undertaken at the BHI supported by The Hospital Research Foundation means that no matter how community or workplace groups decide to raise funds for THRF, they can choose a specific area of research that is most important and relevant to them.

This year, cancer research at The Queen Elizabeth Hospital has been boosted by the contributions of the **Olympic Spirit Greek Friends (OSGF)**.

Inspired to raise funds for the Haematology-Oncology Unit at the hospital following the sad death of a close friend from cancer, the ladies of OSGF have rallied together to support medical research through active community fundraising.

Led by the tireless and gracious **Alexandra Vakisidis**, the members of OSGF have generously donated more than \$46,000 since 2003 to the hospital's Haematology-Oncology Unit.

Long-time supporters of The Hospital Research Foundation **Maria and Christo Giannoudis** again hosted their annual Cancer Support Dinner Dance raising an outstanding \$17,245 for cancer research at TQEH!

The proceeds have helped purchase a Biorad CFX 96 Real Time PCR machine that will assist research into bowel cancer - the second most common cancer and the third cause of cancer related deaths in South Australia.

In over 10 years of dedicated support, Maria and Christo, with the help of friends and family, have raised over \$60,000 for The Hospital Research Foundation, and we are so very grateful.

**HP (Hewlett-Packard)** hosted a Pink and Blue Charity Breakfast raising much needed funds for breast and prostate cancer research. The event was MC'd by Triple M's Cosi, and over 150 people attended. The event raised over \$6,700! Guest speakers Dr Kevin Patterson and Dr Amanda Townsend, Medical Oncologists at TQEH, explained how funds raised would assist the Nuclear Medicine Unit with their research. The Unit is undertaking Phase 3 of a large, multi-national trial of targeted radiation therapy using Alpharedin (radium-223) in patients with metastatic prostate cancer and diffuse bone pain.



### **Truly Adelaide United – THRF and The Reds Team Up**

The Hospital Research Foundation partnered with Adelaide United Football Club for an exciting season of first class sports entertainment and inspiring innovation in medical research. THRF also proudly announced that Adelaide United's Brazilian pocket rocket Cassio has joined the team as a much valued ambassador.

The Reds' dual Club Champion is delighted to get behind the Foundation. With two young sons himself, Cassio understands the valuable role hospitals and medical institutions play in improving the health of the community. "I feel very lucky to have a healthy family but I know there are many people out there that aren't as fortunate," Cassio said. "It means a lot to me to be an ambassador for The Hospital Research Foundation and help promote the work that they do."

On his first guided tour of the Basil Hetzel Institute, the dynamic defender was able to get up close and personal with some of the State's leading researchers who demonstrated their latest research into vascular disease and breast cancer.



Vivien Dossman from THRF with Roger Drake, CEO of Drake Supermarkets.



BankSA Findon Branch Manager Andrew Slecicka presents their kind donation of \$5000 to THRF CEO Paul Flynn.

### Super Effort by Drake Supermarkets

In 2011 Drake Supermarkets donated a generous \$18,720 to The Hospital Research Foundation to support vital medical research, raised through sales of the 2010 Drake Supermarkets Charity Showbag.

In 2010, the show bags containing goods donated by generous suppliers including Coca Cola, San Remo, SPC and Glad Wrap, were sold in Drake Supermarkets stores for \$4.99 each. A total of 21,000 show bags were sold and due to fantastic support from Drake customers, the showbags sold out within three days.

The Hospital Research Foundation was one of four charities to receive equal part proceeds of the Charity Showbag campaign which raised a total of \$74,880,80 in its thirteenth year.

Drake Supermarkets have been generous supporters of The Hospital Research Foundation for over 13 years; supporting the community has always been an important part of the company's ethos.

At the presentation and thank you breakfast, CEO Roger Drake explained that "we (Drakes) support the community not for the recognition, but because it's the right thing to do."

### Research a Smart Choice for Kmart

Kmart West Lakes began supporting The Hospital Research Foundation in March 2011, with all proceeds from collection tins at the store counters for three months supporting vital research funded by THRF!

Kmart in Australia have always chosen four charities each year to support. For the first time ever, this year individual stores were able to nominate a charity close to their hearts. The staff at Kmart West Lakes chose The Hospital Research Foundation as their first 'charity of choice' as they felt a close affinity to TQEH, being part of the local community.

### Banks Supporting Research

BankSA Findon again generously supported vital medical research through their Staff & Charitable fund, kindly donating \$5000!

BankSA has been a long-standing supporter of The Hospital Research Foundation, donating sizable amounts to research annually. We thank them for their continual and generous support.

We are also very grateful to Bendigo Bank and their employees for their generous contribution to medical research through the Foundation this year.

Support from businesses like these is so valued as crucial medical research just couldn't continue without them.

### Kidman Park Rotary Club - GaitRite

The Kidman Park Rotary Club raised an incredible \$25,000, which covered almost half of the cost to purchase the GaitRite system. They fundraised by selling books from their book mart and managing car parking at Crows AFL matches.

"Vital research which can now be undertaken because of the GaitRite is obviously very important for the wellbeing of older people- ultimately, this research will increase understanding of what makes older people fall, and help to develop preventative measures. We are thrilled we were able to make a significant contribution," said Dr Bob Hudson, President of the Rotary Club.



Dr Nair (centre) & A/Prof Visvanathan (left) with some of the Kidman Park Rotary Club members on the GaitRite.

## ***Ways you can help***

### **Bequests- Life Guardian Program**

Our Life Guardian Program is a wonderful way people can leave a lasting legacy to research by making a gift in their Will. Our Bequest program helps ensure a strong base for the support of world-class medical research in South Australia well into the future.

THRF Life Guardians who intend to leave gifts of \$10,000 or more to support medical research in their Wills become members of The Basil Hetzel Society which was developed to acknowledge these very special contributors.

### **Regular Giving – Community of Care**

Donors wishing to provide ongoing support to ensure the long term success of life-changing medical research projects can become Regular Givers through our Community of Care program. Regular Donations can be easily set up via the website or by mail on a monthly basis or every three, six or twelve months. We have many regular givers who want to make a difference to peoples' lives with recurring donations.

### **Online Donations**

Online donations can be made simply and securely by visiting the THRF website [www.hospitalresearch.com.au](http://www.hospitalresearch.com.au) and choosing your required donation option. The website gives you many ways to donate, whether it be a Once Off donation, an In Memoriam gift or if you would like to make on-going contributions through our Community of Care program.

It is important that our supporters know how vital funds are being used. The website is focused on detailing the many different research departments, diseases and illnesses that our supporters are assisting, as well as the many research advancements that are only made possible with their generous and committed support.

### **Keeping in Contact...**

One of the many ways we keep in contact with our valued supporters is through mail. We understand that our donors like to hear about how their donations are being spent and our mail campaigns are one way we communicate the many research advancements made possible with their support.

We also like to keep in contact with supporters and potential donors by phone. It is an easy and effective way to spread the word about the life-changing research being conducted at the BHI and many people in the community have been inspired in this way to support the endeavours of the researchers and scientists at The Institute.

A highly effective part of this process is our Key Medallion Program which not only supports vital medical research, but provides a valuable key safety service to members of the Program. We offer membership to our Key Medallion Program as a thank you to those supporters who donate \$50 or more.



Robert & Jan Farrugia were the lucky Home Lottery Grand Prize winners of a \$1.3million Scott Salisbury Home.



Home Lottery winner Katie Connor takes her first ride in her new Porsche.



Winners of the 2011 Lifestyles Lottery Grand Prize Bill & Kerry with their two daughters and Scott Salisbury, outside their new house.



His Excellency The Governor Kevin Scarce and his wife, Mrs Liz Scarce attended one of our community group tours hosted by Professor Ray Morris.

### Lotteries 2011

The Hospital Research Foundation introduced its major lottery program in 2004 starting with the Home Lottery. In 2009 the Lifestyles Lottery was added to the program to help raise the significant funds needed to both maintain and expand world-class research at the Basil Hetzel Institute and The Queen Elizabeth Hospital.

The two lotteries are now well established and enjoy a solid reputation together with tremendous community support. They help provide vital funds to research and a positive return to ticket buyers with an enviable 1 in 20 chance of winning a prize.

For Grand Prize Showhome winners Jan and Robert Farrugia, their dedicated ticket buying paid off with a life-changing win in the 2011 Home Lottery - a \$1.3 million fully furnished Scott Salisbury home in Flagstaff Pines.

"Last year I won an iPod and I thought that was exciting! But really we have always been pleased knowing the proceeds from the Home Lottery go towards such important medical research in South Australia," Jan said.

Lifestyles Lottery winners Bill and Kerry of Hyde Park were similarly overwhelmed with their major prize win which included a \$1.2 million home in Blackwood Park and a 2011 BMW 120i M-Sport Coupe.

"Yesterday began like a normal day and by lunchtime we had received the most extraordinary phone call telling us we had won," said Bill.

Kerry and Bill have supported each lottery and had always viewed their ticket purchase as a donation towards helping vital medical research continue in South Australia.

### Increasing Community Awareness

The Hospital Research Foundation is focused on increasing awareness amongst the community about health and the world-class medical research undertaken at the Basil Hetzel Institute for Translational Health Research (BHI) at The Queen Elizabeth Hospital.

We have been happy to host a number of community groups to attend the BHI for informative research presentations and tours. Groups such as Lions, Rotary and Probus visit the BHI and hear an interesting presentation given by one of the researchers on their area of expertise, and then are treated to a tour of the outstanding Research Institute- including the labs!

We also run a program which gives community groups the opportunity to have a researcher attend their club and give a presentation on their area of research. Our dedicated researchers are passionate about sharing their knowledge, projects and goals with the wider community, and these presentations are a fantastic way of achieving this.

If you would like to book a tour of the BHI for your group or book a researcher to visit your club, please visit <http://www.hospitalresearch.com.au/events/> for more information.



The Hospital Research Foundation, 60 Woodville Road, Woodville South, South Australia 5011

T: + 61 8 8244 1100 | F: +61 8 8244 1200 | W: [www.hospitalresearch.com.au](http://www.hospitalresearch.com.au)