



# The Queen Elizabeth Hospital RESEARCH REPORT 2008





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The Institute

basil hetzel institute for medical research

The Queen Elizabeth Hospital

RESEARCH REPORT 2008

'08





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## 2008 Foreword

The completion of the new Basil Hetzel Institute for Medical Research has now occurred and all staff moved into the new building by December 2008. This new facility is truly a jewel in the research crown within South Australia and represents a state-of-the-art modern facility capable of serving the needs of The Queen Elizabeth Hospital for the foreseeable future. In addition to the modern and well thought-through design, the building is so positioned on the site that a further doubling of its size could occur if funds could be provided. This increasing footprint could occur without significant disruption to the occupants of the new building.

Although the need to have modern bricks and mortar in order to conduct research is essential, it is also essential that the research direction and processes are in place. To this

end a review of the research endeavours of the Institute were conducted during the year by Professor Jeffrey Robinson and Professor Heddy Zola with the generous support of TQEH Research Foundation. They have recommended that funding be focussed through major research groups and that these groups be charged with the responsibility of nurturing new individuals wishing to pursue research endeavours at The Queen Elizabeth Hospital. To this end, five groups have been selected and in excess of \$4 million promised to them by TQEH Research Foundation over the next three to five years subject to satisfactory performance. This provides a reasonable funding base for them to plan for the future and should see the focus of the research activities within the Basil Hetzel Institute become more cohesive and focussed. The new building itself will encourage more teamwork as the

old facility was isolating and worked against co-operative efforts. Time will tell whether this review and the facility will deliver the promise it holds, however early impressions and comments would indicate that a truly outstanding facility has now been obtained.

During the year, the Shine/Young Report was handed down. This was a review of the research direction that South Australia should take. The Queen Elizabeth Hospital and its new research facilities are ideally positioned to meet the directions set by the Shine/Young Report. Shine/Young envisages a centralised State research facility, probably located close to the new Marjorie Jackson Nelson Hospital, and this would be combined with viable nodes of activity particularly located close to the major public hospitals. There would be membership within the nodes of the research institute and the ability to have expensive centralised facilities probably located within a central facility with the nodes being able to conduct the research efforts appropriate to the site and the staff located at the periphery. It is important that a direction be set for South Australian research, which is retreating on any measure of success, certainly at an NHMRC level. This has been largely due to an inability of State planning to foster research endeavours and States where state-supported and centralised research has occurred have seen huge improvements in the funding dollars they are able to attract. South Australia is now twenty years behind other states and has an enormous task to re-establish itself at an appropriate level for its population.

Over the last 2–3 years with the planning of the new building, the extraordinary efforts and energies of the staff have certainly come to the fore. In particular, the Manager of the new facility, Kathryn Hudson, has done an excellent job in her first twelve months, Associate Professor Ray Morris in leading the management group of the Institute has shaped a dynamic facility and Gwenda Graves, Assistant to the Director of Research, has held together a group of sometimes difficult, disparate and frustrating individuals and developed a cohesive plan and an outstanding resource for The Queen Elizabeth Hospital.

The year 2009 will need to see the beginning of the fruits of all this prepara-



*“Time will tell whether this review and the facility will deliver the promise it holds, however early impressions and comments would indicate that a truly outstanding facility has now been obtained.”*

tion in the form of new grants and new groups wishing to work within the research infrastructure of The Queen Elizabeth Hospital. Already the NHMRC output of 2008 is the best the hospital has ever enjoyed and hopefully portents well for the future.

**Guy Maddern**  
**Director of Research**  
**The Basil Hetzel Institute**  
**for Medical Research**  
**The Queen Elizabeth Hospital**



## Department of Anaesthesia



**Dr Roelof van Wijk**

### Research focus

- Regional Anaesthesia anatomy, imaging and techniques
- Predictors of acute postoperative pain, with special focus on psychosocial predictors
- Peri operative patient temperature control
- Airway management techniques
- Teaching and learning aspects of acute pain management



## Overview

The Department of Anaesthesia provides services to Surgery, Cardiology, Imaging, Psychiatry, and the Pregnancy Advisory Centre. Our Acute Pain Service provides advice and postoperative pain management services throughout the Hospital.

TQEH Anaesthesia Department is part of the SA/NT Anaesthetic Rotation Scheme for the training of Registrars in Anaesthesia. The Department is engaged in teaching airway skills for Resuscitation, Ambulance staff and the Emergency Department. We are also involved in the assessment of rural General Practitioners for Anaesthetic privileges. We supply lectures and bed-side teaching sessions for 4th to 6th year medical students. The Department participates in the redesign and implementation of undergraduate teaching in Anaesthesia and Pain Medicine for medical students, together with other Departments and disciplines within the region.

Research is focused on regional anaesthesia anatomy, imaging and techniques, in collaboration with TQEH Radiology Department; predictors of acute postoperative pain, with special focus on psychosocial predictors, in collaboration with the Department of Psychology at the University of Adelaide and TQEH Psychiatry Department; peri operative patient temperature control; airway management techniques; and teaching and learning aspects of acute pain management.

## Staff

### Head of Department

R van Wijk MD PhD FANZCA FFPMANZCA

### Consultants

P Cornish FANZCA

A Craig FRCA FANZCA

K France FANZCA

T George FANZCA

E Holt FANZCA

M Kha FANZCA

G Koo FANZCA

E Krishnappa FANZCA

A Laver FANZCA

P Chien Lim FANZCA

R Limb FRCA FANZCA

A Michael FANZCA

G Miller FFARCS(I) FANZCA

R Mitchell FANZCA

A Moffat FFARCS

K Osborn FANZCA

A Rainbird FANZCA

V Rao FANZCA

H Stevens FANZCA

G Tham FANZCA

V Thiruvankatarajan FANZCA

T Visvanathan FANZCA

P Woodhouse FANZCA

### Consultant Physician

C Gibb FRACP

### Visiting Medical Officers

M Alam FANZCA

E Chye FANZCA

A Colby FANZCA

J Currie FFARCS

A Czuchwicki FANZCA

R Mules FANZCA

P Naderi FANZCA

D Nemeth FANZCA

G Newcombe FANZCA

K Peng Ng FANZCA

A Sen FANZCA

### Overseas Trained Specialist Anaesthetists

J Jeyadoss MD DNB

R Sethi MD FRCA

R Steiner Anästhesiologe

### Nurse Practitioner

J Tonkin CNC



## Cardiology Unit

### Research Focus

The Cardiology Unit has recently undertaken formal association with other TQEH researchers in Clinical Pharmacology and Vascular Surgery, and researchers in the Physiology Department, University of Adelaide, to form 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

### **Early Reperfusion Therapies for Acute Myocardial Infarction (A/Prof J Beltrame)**

The emergency treatment of acute myocardial infarction has undergone a rapid evolution in past 25 years with coronary artery angioplasty and stenting being the considered the optimal therapy to re-establish coronary patency. Clinical studies being undertaken at TQEH are examining pharmacologic therapies which may further enhance these mechanical treatments.

The IVANA trial (Intravenous Verapamil and Nitrates in Acute Myocardial Infarction) is an ongoing multi-centre study supported by the National Heart Foundation and co-ordinated by TQEH. This study is examining the hypothesis that the coronary vasodilator/anti-aggregatory agents (Verapamil and Nitroglycerin) improve flow to the area of infarcting myocardium thereby improving outcomes in these



patients. This study is nearing completion, and is to be followed by the NACIAM study, addressing the potential protective role of N-acetylcysteine in acute infarction.

### **Mechanisms and Therapeutics of Coronary Microvascular Disorders (A/Prof J Beltrame)**

Angina pectoris usually results from obstruction of large coronary arteries. A minority of patients suffer from a condition characterised by spasm of the small coronary vasculature, referred to as the coronary slow flow phenomenon. This condition, first characterised at TQEH, frequently causes marked impairment of quality of life and responds poorly to standard anti-anginal therapy.

On-going studies on this disorder include clinical characterisation of similar microvascular conditions; pathophysiological and imaging studies evaluating responsible mechanisms; in-vitro studies determining the impact of calcium channel blockers and statins on microvascular vasomotor responses; and a National Heart Foundation grant-in-aid supported clinical study assessing the anti-anginal efficacy of bosentan. These studies are being undertaken in close collaboration with University of Adelaide Department of Physiology, and a number of clinical units within TQEH including Neurology, Radiology, and Thoracic Medicine.

### **Impact of Coronary Heart Disease on Quality of Life (A/Prof J Beltrame)**

Coronary heart disease is not only associated with significant mortality but also substantial morbidity. Utilising established instruments, TQEH researchers are examining the clinical progress of patients with coronary artery disease and factors influencing their quality of life.

### **Depression in Patients with Coronary Heart Disease (A/Prof J Beltrame).**

In collaboration with TQEH Psychiatry Department, studies are being undertaken to examine the impact of depression on patients with coronary heart disease. Therapeutic strategies to manage these patients are also being assessed.

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

Aortic stenosis (AS) is the most common cause of 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"). Studies in a cohort of 255 ageing normal subjects have identified function 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 resulting from lack of nitric oxide effect. 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) and also an evaluation of the effects of ramipril in rabbits.

### **Metabolic anti-ischaemic agents (A/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



**Professor John Horowitz**



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.

**Optimising the effects of Nitrates and Nitric Oxide in arteries and platelets (Prof J Horowitz, Dr Y Chirkov, A/Prof J Kennedy)**

The basis for this research is to related observations. First of all, 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 are evaluating the effects of hydralazine as a potential treatment for nitric oxide resistance.

Patients at risk of nitrate tolerance lose their ability to release nitric oxide from organic nitrates. We have investigated the possibility that aldehyde dehydrogenase (ALDH) is the critical enzyme involved in this process; however, it appears that ALDH, while a valid marker for nitrate tolerance, is not the main mediator of this problem.

We are also investigating the potential role of the nitroxyl anion as a means of optimising vasodilator function. Since we have previously shown that responsiveness of tissues to nitric oxide may be attenuated in high risk groups of patients, we wish to examine potential means for circumventing this problem. Both novel donors of nitroxyl anion and "direct" activators of soluble guanylate cyclase are under investigation.

Finally, it has recently been demonstrated that hydralazine may augment responses to organic nitrates. We are trying to determine whether this interaction may be useful in the management of ischaemia.

**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 increase 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 woman 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.

**Non-pharmacological interventions in Heart Failure (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 lead 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.



## **Pathogenesis of Tako-Tsubo Cardiomyopathy – “Broken Heart Syndrome”**

**(Prof J Horowitz, A/Prof J Beltrame, Dr S Unger, A/Prof J Kennedy and 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.

A recently initiated, NHMRC-funded research project will set out to improve diagnostic methodology for such patients, evaluate the risk of peroxynitrate formation in the pathogenesis of the condition, and determine whether there is actually complete recovery from attacks.

## **Role of thioredoxin/Txnip system in human disease. (Prof J Horowitz, A/Prof J Kennedy and 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.

## **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. We have increasingly utilised MRI imaging to characterise cardiac anatomy and function. This is increasingly important for identification of microinfarction 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. Endothelial Progenitor Cells 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.



## **Collaborators**

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

## **Staff**

### **Professor of Cardiology**

Director, Cardiology Unit  
JD Horowitz MBBS BMedSc(Hons) PhD FRACP

### **Associate Professors**

JF Beltrame BSc BMBS FRACP PhD FESC FACC, FCSANZ  
CJ Zeitz MBBS FRACP PhD OstJ

### **Senior Clinical Staff**

O Akbar Ali MBBS FRACP  
W-P Chan MBBS FRACP  
CL Gibb MBBS FRACP  
ADB Hains MBBS FRACP  
JTY Hii BMBS FRACP  
LB Jesuthasan MBBS BMedSci FRACP  
SB Limaye MBBS MD MRCP FRACP  
K Mishra MBBS MD MRCP FRACP  
D Ninio MBBS(Hons) FRACP



P Sage MBBS PhD FRACP  
 AL Sverdlov MBBS, FRACP  
 S Unger MBBS PhD FRACP  
 AS Warner MBBS BMedSci(Hons) PhD FRACP

### Senior Research Scientists

JA Kennedy BSc(Hons) PhD  
 YY Chirkov BSc, PhD  
 A Holmes PhD  
 D Ngo PhD

### Laboratory Manager

I Stafford BSc

### Research Assistants

T Heresztyn BSc  
 D Das BSc

### Technical Officer

G Murphy BSc

### Trial Coordinators

S Leslie RN Cor Care Cert  
 L Owen RN BEd Dip T (Nurs) Crit Care Cert  
 M Black RN  
 J Rose RN  
 K MacMillan RN

### Postgraduate Students

#### PhD Candidates

C Ball BSc(Hons) "Calcium T-Channel Distribution in the Human Vascular Tree and its Relation to Function"  
 N Cutri BSc(Hons) "The Characteristics of Microspastic Angina"  
 N Ghaffari BSc(Hons) "The Modulation of Vasomotor Responses by Statin Therapy"  
 A Philpott MBBS FRACP "Mechanisms and prevention of nitrate tolerance"  
 B Jesuthasan MBBS FRACP "Coronary and myocardial perfusion studies of the coronary slow flow phenomenon"  
 A Chan MBBS "The polycystic ovary syndrome and coronary risk"  
 A Sverdlov MBBS "Pathogenesis of aortic sclerosis"  
 V Kopetz BSc(Hons) "Clinical and biological determinants of the coronary slow flow phenomenon"  
 R Tavella BSc(Hons) "Prognostic determinants on patients with chest pain and normal coronary angiography"  
 G Mahadevan MBBS "The pathophysiology and potential therapeutics of diastolic heart failure"  
 M DeSciscio BSc(Hons) "Metabolic manipulation and inflammation in heart failure"

### Masters Candidates

K Mishra MBBS "Pathogenesis of aortic valve calcification"

### Awarded

D Ngo BPh(Hons). PhD thesis entitled "Aortic stenosis: pathogenesis studies and therapeutic interventions"

S Rajendran MBBS(Hons). PhD thesis entitled "Platelet Aggregation and the renin angiotensin system"

JL Zhao. MMedSci thesis entitled "Potential utility of changes in entropy as an adjunct to the electrocardiography diagnosis of reversible myocardial ischaemia"

### Vacation Scholarships 2008-09

TQEH Research Foundation/University of Adelaide (FHS) Vacation Scholarship "Takotsubo Cardiomyopathy as a NO-deficiency state: Studies during remission" \$1,050 Y Yeap.

National Heart Foundation Summer Scholarship "Does the thioredoxin/Txnip system modulate outcomes in acute coronary syndromes?" \$1,500 G Awaad.

### Grants

NHMRC Project Grant "Novel cGMP-Based Therapies Prevent Left Ventricular Remodeling" (\$197,250 2008) 2008-2010, Ritchie RH, Horowitz JD, Kemp-Harper BH.

NHMRC – Health Services Research Program "Which Heart failure Intervention is most Cost-effective and consumer friendly in reducing Hospital care: The WHICH? Study" (\$175,740 2008) 2008-2012, Stewart S, Scuffham P, Marwick T, Horowitz JD, Krum H, Davidson P, Peter M, Reid C.

National Heart Foundation of Australia "Modulation of myocardial metabolism in heart failure: implications regarding inflammation, vascular platelet and myocardial function" (\$130,000 2007-2008) Horowitz JD, Kennedy J, Chirkov Y, Edwards J.

National Heart Foundation of Australia "Endothelial dysfunction, redox stress and the pathogenesis of aortic valve calcification" (\$129,000) 2008-2009, Horowitz JD, Kennedy JA.



National Heart Foundation of Australia "The prevalence of heart failure in Aboriginal communities in Central Australia: The Heart for the Heart Study (Stage 1)". (\$129,000 2008) 2008-2009, Brown A, Stewart S, Zeitz C, Krum H, Lee G, McGrady M, Carrington M.

National Heart Foundation of Australia "The early use of N-AcetylCysteine in Acute Myocardial Infarction (The NACIAM Study)" (\$90,300 2008) 2008-2009, Beltrame JF, Arstall MA, Selvanayagam J, Horowitz JD.

Cardio Vascular Lipid (CVL) Research Grant – Pfizer Australia. "Is the therapeutic induction of bradycardia beneficial in heart failure- implications for cardiac contractility" (\$55,000 2008) Neil, C.

Cardio Vascular Lipid (CVL) Research Grant – Pfizer Australia. "Polycystic Ovary Syndrome and Cardiac Risk".(\$55,000 2008) Chan W-P.

### Awards

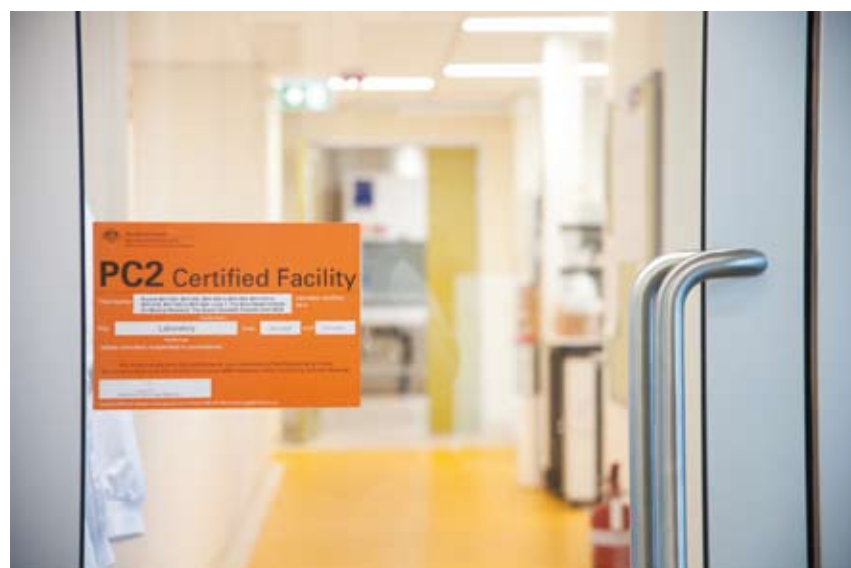
C Ball. Cardiac Society of Australia and New Zealand 2008 Young Investigators Prize

Abstract Title. The Role of L- and T-channels in the Large Vessels and Microvasculature.

Biographical Data. Christine Ball has a Bachelor of Science degree (majoring in Physiology) and an Honours degree in Cardiovascular Physiology. Christine is a post-graduate student in the Cardiology Unit at The Queen Elizabeth Hospital under the supervision of A/Prof John Beltrame in the third year of her candidature with a thesis entitled "Calcium L- and T-Channel Distribution in the Vasculature and its Relation to Function". She also collaborates with Drs David Wilson (Molecular Physiology of Vascular Smooth Muscle Laboratory) and David Saint in the Discipline of Physiology at the University of Adelaide and is supported by a University of Adelaide Faculty of Health Sciences/Queen Elizabeth Hospital Research Foundation Postgraduate Scholarship.

### TQEH Research Day 2008

K Rajopadhyaya. The Queen Elizabeth Hospital Research Foundation Award for best presentation, Basic Science Honours Students Group 2 category, The Queen Elizabeth Hospital Research Day, Adelaide October 2008



C Ball. The Queen Elizabeth Hospital Research Foundation Award for best presentation, Higher Degrees Basic Research Group 1 (Senior) category, The Queen Elizabeth Hospital Research Day, Adelaide October 2008

V Kopetz. The Queen Elizabeth Hospital Research Foundation Award for best presentation, Higher Degrees Basic Research Group 2 (Senior) category, The Queen Elizabeth Hospital Research Day, Adelaide October 2008

## Acknowledgements

The Cardiology Unit wishes to thank the Anne-Marie Trimboli Trust, the NHF and NHMRC for their ongoing project and research staff support and the National Heart Foundation, The Queen Elizabeth Hospital Research Foundation and the University of Adelaide for their valuable support to its students.



## Clinical Pharmacology Unit

### Research Focus

- Method evaluation in therapeutic drug monitoring, providing optimal testing for clinical care
- Perhexiline genetics and metabolism
- Studies involving the drugs used in organ transplantation to avert rejection
- Local anaesthetic drugs in post-operative pain management and fast-track surgery

## Overview

Medical research initiatives through 2008 have primarily focussed on ongoing collaborative investigations aimed at using scientific principals to enhance the quality of clinical care that TQEH patients may enjoy in the short or longer terms. Whilst the laboratory has a *raison d'être* to do the more complex therapeutic drug assays, we have also undertaken to complement that work with pharmacological interpretation of results, as well as undertaking research work with these same drugs. The work described below highlights such initiatives.

### 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 which 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 enhance its safe clinical use and to develop new therapies for the treatment of 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. Our previous student, Mr Ben Davies, was awarded the degree of Doctor of Philosophy this year for his studies investigating the fate of perhexiline in the body.

### Transplantation therapy

- Our laboratory is part of a SA/NT team involved in a long-term strategy to provide pancreatic islet cell transplantation for the treatment of type-1 diabetes. Specifically, our role is to provide the national drug monitoring service in the national consortium. We acknowledge the hard work of the Juvenile Diabetes Research Foundation (JDRF) in making this funding available.
- A PhD study into the cellular mechanisms by which the liver handles mycophenolate and other drugs given to transplant recipients is now nearing completion. Mr Ian Westley

has submitted his thesis, which has identified the MRP2 liver transporter protein involved in the elimination of mycophenolate and its metabolites from the body, and in addition, has generated evidence that mutations of MRP2 may affect an individual's risk of developing kidney damage.

- With funding from The Queen Elizabeth Hospital Research Foundation, we are undertaking 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. Preliminary data suggests that genetic variability in another transporter protein, P-glycoprotein, may play a role in determining clinical outcomes in renal transplant recipients. This work has now secured funding from NHMRC for 2009-2011.

Local anaesthesia and 'fast-track' surgery Progress with this clinical trial in patients undergoing colorectal surgery has progressed significantly during 2008, such that we expect to have studied 50 patients by the end of the year. This PhD project (Ms Sumi Krishnan) is part of a collaborative investigation (with Departments of Surgery, and of Anaesthesia) of Fast Track surgery aimed at delivering better quality clinical outcomes in patients undergoing such surgery and in a shorter time frame. As patients will occupy hospital beds for a shorter term, this will reduce the overall length of stay in hospital indices. The trial involves using a commercial device, called a Pain Buster® that slowly infuses local anaesthetic drug close to pain nerve fibres adjacent to the surgical incision site. This minimises the pain experienced by the patients and so reduces or eliminates the need for major analgesic drugs (ie, narcotics) and hence their undesirable side effects. The Pain Buster device is portable, so allowing the patient to get out of bed sooner and move about, hence often enhancing recovery. An interim analysis was programmed when the first 40 patients had been studied and trends observed that were consistent with the working hypotheses. So we anticipate that the results will be statistically significant once the (ethics approved) 80 patients have been completed.



**Associate Professor  
Ray Morris**





## Staff

### Chief Medical Scientist

RG Morris BSc PhD

### Principal Medical Scientist

BC Sallustio BSc PhD

### Senior Medical Scientist

IS Westley BMedSc

R Bright BSc(Hons)

### Grant-Funded Scientist

B Noll BSc (Hons)

### Technical Officers

FA Wicks BSc

A Kalaitidis BSc

C Lang-Jones Cert Med Lab Sc

### Administrative Officer

J Borosewicz BSc

### Postgraduate Students

#### PhD Candidates

B Davies BSc(Hons) "Metabolism and enantiomer selectivity of the anti-anginal agent perhexiline" PhD passed 2008.

IS Westley BMedLabSc "Drug interactions involving mycophenolic acid and cyclosporin" (Thesis submitted)

J Licari BHSc(Hons) "Investigation of the pharmacological effect of (-)- and (+)-perhexiline"

S Krishnan BHSc(Hons) "The clinical evaluation of fast-track surgery including extended local anaesthetic infusion for post-operative pain"

### MSc Candidate

M Cervelli BPharm "Sirolimus interaction with diltiazem in renal transplantation"

### Honours Candidate

SC Chew BHSc "Influence of CYP3A5 genetic polymorphisms on clinical outcomes in renal transplant patients receiving calcineurin inhibitors"

## Grants

Juvenile Diabetes Research Foundation Program Grant "South Australian and Northern Territory Pancreatic Islet Isolation Program" (\$4.3m 2006 – 2009) Russ GR, Coates PTH, Morris RG, Sallustio BC, and all other members of SANTIP.

Surgical Synergies. Product support for patient local anaesthesia studies. (approx \$70,000 2008) Morris RG, Hewett P, Karatassas A, Tonkin J.

TQEH Research Foundation Research Project Grant. "Transporter Pharmacogenetics and Drug Response" (\$51,000 2008) Sallustio BC, Somogyi AA, Collier JK, Morris RG, Russ GR.

TQEH Research Foundation/University of Adelaide Faculty of Health Sciences Divisional Postgraduate Scholarships (\$40,012 2008) 2007-2009, Licari J, Krishnan S.

# Dermatology Unit

## Research Focus

- Clinical trials of new treatments for basal cell carcinomas of the skin



**Dr Warren Weightman**



## Overview

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.

We have been involved in four studies during 2007.

The first study is in association with the Renal Unit of TQEH. This is a randomized, open-label study to compare the rate of new non-melanoma skin cancer in maintenance of renal allograft recipients converted to a Sirolimus-based regimen versus continuation of a Calcineurin Inhibitor-based regimen (Protocol No: 0468HI-407-AUS). This study ended in November 2008.

The second study is also in association with the Renal Unit of TQEH. This is a 12 month

open-label, randomized, multi-centre, sequential cohort, dose finding study to evaluate the efficacy, safety and tolerability of oral AEB071 versus Neoral in combination with Certican, Simulect and corticosteroids in de novo adult renal transplant recipients. The dermatology unit is doing the safety skin assessments.

The third 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 fourth study is a multicenter, randomized, double-blind, placebo-controlled, Phase II Study to evaluate the safety and efficacy of subcutaneous bioresorbable implants of CUV1647 for the prophylactic treatment of pre-cancerous skin lesions of the head, forearms and hands in immune compromised, organ transplant patients.

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

## Staff

### Head of Department

W Weightman MBBS FRACP FACD

### Visiting Dermatologists

P Selva MBBS FACD

A Lewis MBBS FRACGP FACD

YC Lee MBBS FACD

### Dermatology Registrar

C Long MBBS



## Endocrinology Unit

### Research Focus

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



## Overview

Our major research emphasis focuses on health care delivery and the development of efficient strategies to diagnose and monitor diabetes and osteoporosis. Support for our research has come from a wide range of government and private organisations.

On the clinical front we continually review our data on the status of people with diabetes who attend the unit's Diabetes Assessment Clinic. This clinic provides a "one stop shop" which includes checking for predisposition to diabetes, risk factors for complications, the complications themselves and current therapy. We hope to identify the important targets that are being missed and the tools which could reduce this risk and the incidence of complications in future.

At the same time we are evaluating strategies to prompt/improve diabetes management by the general practitioners who refer patients for assessment. If successful, we will broaden the audience for these prompts on diabetes care and the areas they cover.

In 2008 we continued the North West Adelaide Health Study in collaboration with other departments in The Queen Elizabeth Hospital The Epidemiology unit of the Department of Health and the University of South Australia. We are studying a representative sample of residents in North West Adelaide, checking for risk factors and early indicators of health problems, especially diabetes and cardiovascular and respiratory disease. The original cohort was first assessed in 2000 and has been reassessed twice more to give longitudinal information on health status, changes in health status and associations with these changes. Alongside the quantitative data the University of South Australia team are assessing qualitative information including quality of life and the individual responses to changes in health status. These studies will give us data on the factors associated with improved, stable or worsening health status and ideas on how medical, self care and quality of life can be improved. We broadened the study to cover Whyalla and included a cohort of children. These will give us insight into the health of country SA and children.

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 programs in the western and northern metropolitan areas targeting those with osteoporosis, their health professionals and the general community.

We now have two dual Xray absorptiometer (DXA) scanners (at the Lyell McEwin and at The Queen Elizabeth Hospital). These meet the needs of the northern and western suburbs of Adelaide and associated country areas. Our combined services now see over 5,600 patients per year and we have a database containing records for over 25,000 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 sixth year. Participants are followed up every three 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.

Unfortunately 2008 saw the closure of our Clinical Trials centre. We are now focusing our attention on the other research areas, particularly epidemiology.



**Dr Pat Phillips**



## Staff

### Director

PJ Phillips MBBS MA MRACMA FRACP  
Grad Dip Hlth Econ

### Medical Specialists

M Bidhu MBBS MD (India)  
CG Beng MBBS MRC PATH MAACB Associate  
Physician (Clin Chemistry Dept)

### Scientists

C Seaborn BSc  
E Bowen 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)

### Clinical Trials Coordinators

R Cox CN BN MN  
N Smith RN  
C Strongylos BSc (Hons) MND

### Diabetes Centre Nurses

T Willson RN BNg (Hons) Grad Cert Health (Diab Man  
and Ed) CDE  
L Pinto RN CN  
D Barrow RN Grad Cert (Diab Ed)  
M Ross RN BNg Grad Cert (Renal) Grad Cert (Diab Ed)  
CDE Cert for Workplace Ed and Training  
E Kopsaftis Grad Cert Health (Diab Man and Ed)  
M Hodgson RN RM BMid Grad Cert (Diab Ed)

### Podiatry Service

D Brown DipAppSc Nursing BappSc Podiatry  
D Filipak BappSc Podiatry

### Dietitians

M Carapetis BHSc MND  
C Stanton BSc DipEd MND

### Diabetes Outreach

J Giles Grad Cert (Diab Ed) MN  
(Advanced Prac) CDE  
C Gilbert BA (Hons)  
B Cummins

### Administration

L Roberts  
C Bouthémy (Dip.Hlth.Sc)  
J Grimsey  
L McDonald  
V Watson  
A Gazzard  
J Cocks

## Grants

Novo Nordisk "Web Based Diabetes  
Program" (\$3,000 2008) Giles J, Phillips P,  
Hill P.



## Gastroenterology and Hepatology Unit

### Research focus

- The leaky gut in coeliac disease
- Intestinal growth and intestinal stem cells
- Cytokines, oils and bowel inflammation

### Overview

There have been several highlights during 2008. Dr Guy Sander joined the Department as a Postdoctoral Research Fellow and brought a new NHMRC grant investigating the cause of increased permeability of the small intestine in coeliac disease. Dr Sander has been collaborating with Dr Adrian Cummins on coeliac disease for several years. His research group has included Subhobrata Das as Research Assistant and Anne Chua as an Honour's student. The particular interest is whether interleukin 13 causes changes in gap junction proteins such as claudin 2. Dr Sander will also provide expertise in molecular biology for this and other projects in the Department.

Another highlight is a second NHMRC grant for Dr Adrian Cummins that will explore the regulation of intestinal stem cells and the postnatal growth of the small intestine. Research staff include Rino Donato as Research Assistant and Josh Woenig as Technical Assistant. Work has commenced on investigating the Wnt/beta catenin and Notch growth factor pathways



with help from Jane Fauser, PhD student, and Krishna Jeyaraman, Honours student. Jane Fauser is enrolled in the Discipline of Agricultural and Animal Science at Roseworthy Campus of the University of Adelaide and is supervised by A/Prof Gordon Howarth, and is based substantially at TQEH.

Through the collaboration between Gastroenterology and Roseworthy Luca Prisciandaro, is undertaking a PhD under the cosupervision of Dr Cummins and A/Prof Howarth, investigating the use of novel probiotics in treating inflammatory bowel disease. A related project with Suzanne Mashtoub (Honours student) will investigate the beneficial properties of emu oil in intestinal inflammation. Another collaboration between Dr Cummins and Dr Imme Penttila of the Women's and Children's Research Institute is evaluating food allergy and the ideal age for the introduction of beta lactoglobulin (the principal antigenic protein in cow's milk) to infants. Some workers believe avoiding allergic foods even in allergy prone families may be counterproductive.

Professor Ian Roberts-Thomson and Wendy Uylaki have been investigating cytokine polymorphisms in inflammatory bowel disease. Particular proteins called cytokines either promote or inhibit the inflammatory response. Interleukin-5 is a cytokine which is linked to the function of eosinophils and may have a role in the development of bowel inflammation, particularly in ulcerative colitis. The current project is investigating interleukin-5, interleukin-5 gene expression and genetic variants (polymorphisms) in inflammatory bowel disease.

Randall Grose was awarded a PhD for the study of invariant NKT cells in coeliac disease and inflammatory bowel disease. Nicola Leung has completed her practical work and will be submitting her PhD thesis during 2009 on immunoregulatory cells in coeliac disease and inflammatory bowel disease.

Dr Ilmar Lidums has been studying coeliac disease using images of the small bowel obtained by capsule endoscopy. This technique can be used to estimate the extent of small bowel inflammation and the improvement that occurs on a gluten-free diet. In patients with coeliac disease, the upper small bowel is more inflamed than the lower small bowel as the former is exposed to higher concentrations of wheat protein (gluten).

We have been exploring capsule endoscopy images of the small bowel in coeliac disease patients and correlating the findings with histopathology of the small bowel.

Special thanks must go to Wendy Uylaki and Josh Woenig who helped organise the Gastroenterology laboratories for the move to the newly completed research Institute.

## 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)

### Technical Officers

GJ Goland Cert App Sc(ML)  
J Woenig BSc

### Research Assistant

R Donato BSc(Hons)  
S Das BSc(Hons)

### Completed thesis

R Grose PhD Thesis entitled "Deficiency of NK-T Cells in coeliac disease and inflammatory bowel disease"

### Postgraduate Scholars PhD Candidates

N Leung "Deficiency of immunoregulatory cells in Inflammatory bowel disease"

J Fauser "The effect of probiotics on the small intestine"

L Prisciandaro BScAnimal Sci(Hons) "Novel probiotic supernatants and treatment of gastrointestinal disorders".

### Honours candidates

K Jeyaraman "The modulatory and interactive role of Notch signalling in intestinal stem cells and small intestinal growth during postnatal mammalian development"



**Professor  
Ian Roberts-Thomson**

A Chua "Analysis of the transport of a fluorescently-labelled  $\alpha$ -gliadin peptide across intestinal epithelial monolayers challenged with IL-13 and IFN $\gamma$ "

S Mashtoub "Potential effects of emu oil on colonic protection and repair in rats with dextran sulphate sodium-induced colitis"

## Awards

K Jeyaraman. Prize for best Honours student presentation Group 1 at TQEH Research Day 2008. Prize sponsored by the TQEH Research Foundation. First class Honour's, Physiology, University of Adelaide.

S Mashtoub. First class Honours, Prize for highest Honour's assessment, Physiology, University of Adelaide.

Professor I Roberts-Thomson. Elected Fellow of the American Gastroenterological Association (AGAF).

## Grants

Channel 7 Children's Medical Research Foundation of SA Inc "Equipment grant for Nikon 90i microscope and CoolSnap camera" (\$37,000 2008) Cummins AG.

CYWHS Research Foundation  
"Understanding gliadin peptide influx in childhood coeliac disease" (\$50,000 2008) Sander G.

Given Imaging Capsule Endoscopy Research grant "The role of capsule endoscopy in coeliac disease" (\$8,950 2008) Lidums I.

NHMRC Project grant "Regulation of intestinal stem cells and intestinal growth" (\$135,000 2008) 2008-2010, Cummins AG and Penttila IA.

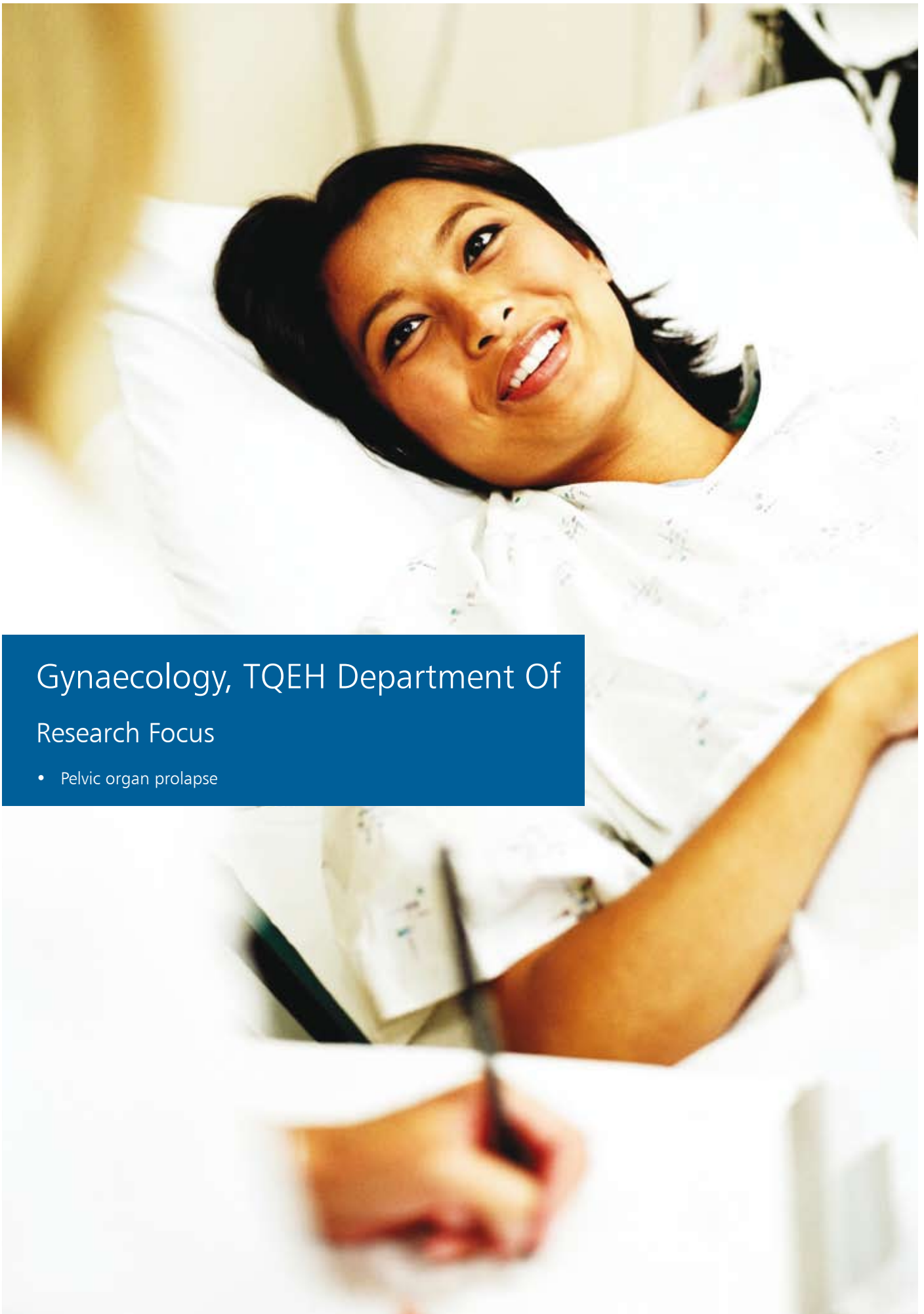
NHMRC Complementary Medicine Project grant "Novel probiotics and naturally-sourced extracts as treatment strategies for chemotherapy-induced intestinal mucositis" (\$107,000 2008) 2008-2010, Howarth G, Butler R, Cummins AG.

NHMRC Project grant "The role of the intestinal epithelium in gliadin peptide influx in coeliac disease" (\$161,000 2008) 2008-2010, Sander G.

TQEH Research Foundation Equipment grant for Nikon 90i microscope and CoolSnap camera (\$84,000 2008) Cummins AG.

## Acknowledgements

Studies on growth of the small intestine are undertaken in collaboration with the Women's and Children's Hospital, Adelaide (Professor G Davidson, Dr D Moore, Dr R Couper, Dr P Hammond), the Royal Children's Hospital, Melbourne (Prof A Catto-Smith and A/Prof D Cameron), Sydney Children's Hospital (Dr A Day), Women's and Children's Health Research Institute (Dr I Penttila) and in the Discipline of Agriculture, Roseworthy Campus, University of Adelaide Campus (A/Prof G Howarth). Research studies have been supported by the Channel 7 Research Foundation of SA, The Queen Elizabeth Hospital Research Foundation, The Australian Crohn's and Colitis Association and Given Imaging.



## Gynaecology, TQEH Department Of Research Focus

- Pelvic organ prolapse



## Overview

The Gynaecology department provides a comprehensive range of general gynaecological and subspecialist investigations and procedures with an emphasis on minimally invasive surgery. Particular areas of expertise include 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 our 2008 Research Report the department continues to build personnel and funds to support future large trials particularly in the area of pelvic organ prolapse and related minimally invasive surgical treatments, including mesh vaginal repair; Essure sterilisation and gynaecological oncology. However, Dr Chris Barry, continues to promote a more diverse interest in pelvic floor disorders with interest in natural remedies and molecular mechanisms related to bladder inflammatory disorders. Dr Barry was appointed to the department in January 2006 and was previously a senior lecturer in Obstetrics and Gynaecology at James Cook University, Queensland. He is currently completing a PhD thesis in the role of 3D ultrasound in assessing pelvic organ prolapse and further research in anatomical inter relationships in conjunction with the University of Adelaide anatomy department is underway.

Research interests include final assessment of vaginal mesh repair trials into uterine conservation; new approaches to imaging pelvic organ prolapse, novel treatments (e.g. Botox) for chronic pelvic pain and interstitial cystitis, and management of women with severe endometriosis and infertility and menopause trials.

Dr John Miller, senior visiting gynaecological oncologist, has continued recruiting patients for the Australian National Ovarian and Endometrial Cancer Study. This study involves collection of tissue from cancer patients together with demographic data. It is hoped that the correlation of cancer biology with demographics will help delineate the cause of these cancers and lead to the development of novel therapies for gynaeco-

logical malignancy. His registrar has been undertaking research into proteomics and their ability to screen for ovarian cancer. Dr Amita Singla has been involved in a prospective study to develop new biochemical markers of genetically abnormal pregnancies. She has been collecting blood samples prior to amniocentesis and will use these samples to correlate genetic abnormality in the foetus with biochemical changes in the blood. It is hoped that this will lead to more sensitive and specific non-invasive tests for foetal genetic abnormality. She is also participating in two antenatal trials at the Women's and Children's Hospital including a study on Twins: Timing of Birth at Term along with the PROGRESS study (Progesterone after previous pre-term birth for the prevention of Neonatal Respiratory distress syndrome). Furthermore, she has also been involved as co-investigator with clinical trials on H4Z-MC-GJAD; Eli-Lilly, Phase 3, trialling medication Arzoxifene to compare effects of Arzoxifene on vertebral fracture incidents and on invasive breast cancer incidents in post menopausal women with osteoporosis or low bone density.

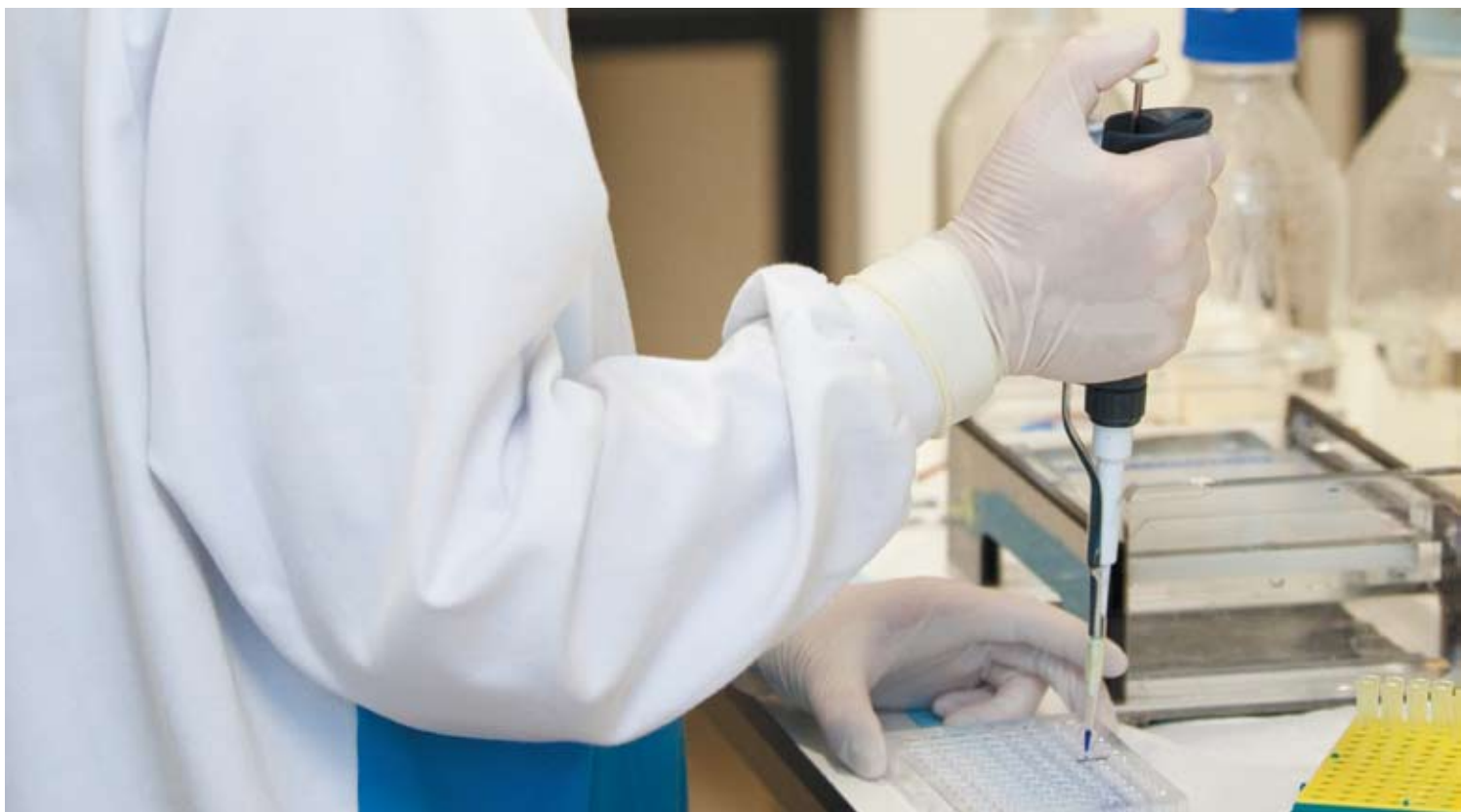
Drs Barry and Munday are coordinating the hospital's arm of a multi-centre prospective randomised trial of vaginal mesh repair for the correction of cystocele (MAP study). Dr Paul Duggan at the Royal Adelaide Hospital is the principal investigator. Dr Munday, in association with Dr Martin Ritossa, has continued his involvement with the long term follow-up of the STOP 2000 (Essure Sterilisation) phase 3 trial participants on behalf of the late Professor John Kerin. This project has been extended to 10 years follow-up and should be completed in 2011. The first STOP trial procedures were conducted at TQEH in the late 1990's.

Dr Juneja, senior registrar in Gynaecology and new Fellow of RANZCOG has been undertaking a pilot study investigating the role of hysterectomy in prolapse repair with a seeding grant from the Australian Gynaecological Endoscopy Society Research Committee. Her term supervisors are Drs Barry and Munday.

In addition the department is part of the TVT-World registry with a total of over 1700 cases of slings for incontinence in 20 worldwide centres prospectively collecting data on efficacy and safety of surgical



**Dr Roy Watson**



management of female incontinence. The POPPY study is also a international collaborative multi centre randomised study to investigate the use of pelvic floor muscle strengthening for female pelvic organ prolapse. The TQEH is the only centre in South Australia to be approved for enrolment.

## Staff

### Director

R Watson MBBS FRANZCOG

Senior visiting gynaecologist with specialist interest in pre malignant disease, tutor and assessor for the RANZCOG and vice president of the College.

### 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.

D Roberts MBBS FRANZCOG

Visiting medical specialist, obstetrician and gynaecologist.

J Semmler MBBS FRANZCOG

Visiting Medical specialist, committee member of human reproduction advisor South Australia.

### Clinical Nurse Coordinator

S O'Toole RN RM

### PhD Candidates

D Lekamge MBBS "Role of the Transforming Growth Factor beta family in ovarian function"

O Tunc BSc (Hons) "Oxidative stress and male infertility"

# Haematology And Medical Oncology, Combined Departments of

## Research Focus

- Identification, development and clinical trial of new therapeutic agents for the treatment of cancer
- Further understanding of the mechanisms underlying solid cancers and haematological disease, particularly myeloproliferative disorders and leukaemia.
- Development of new cancer diagnostic assays



**Associate Professor  
Peter Bardy**

## 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 and mTOR inhibitors) and antithrombotic agents. Currently there are over 30 active clinical trials available to patients within the unit. These include investigator driven, cooperative group and pharmaceutical driven Phase I to Phase III studies. Over 15% of patients are ultimately entered in clinical trials well above the recommended 10% target. The unit consists of Medical Oncologists and 8 Clinical trials coordinators and a dedicated Clinical Research Fellow. Trial results from our unit have been presented by our team at this years American Society of Clinical Oncology, ESMO and NCI-EORTC meeting and include work with anti-angiogenic therapy combined with chemotherapy and Phase I results of NPI-0052, a novel proteasome inhibitor. In addition, collaboration with the Basil Hetzel Institute has allowed clinical trial tissue banks to be used with the aim to explore the EGFR pathway in correlation with clinical outcomes. The unit also has a primary interest in non-malignant haematology (Dr Simon McRae). The primary focus in this area is

pulmonary embolism and venous thromboembolism and the use of new anticoagulants. This work involves company sponsored studies as well as investigator-led trials.

Through Dr Peter Bardy the Unit has a long-standing interest in genomics of allogeneic hematopoietic stem cell transplantation. The focus has been on Mannose-binding lectin and its biology and clinical implications. This has resulted in a number of recent publications; in particular a 2008 Blood paper describes the association between Mannose-binding lectin status and risk of major infection following sibling allogeneic hematopoietic stem cell transplantation.

## Laboratory-based studies

### **Project 1: Molecular-genetic approaches to identify lesions in myeloproliferative neoplasms**

**(A/Prof R D'Andrea, Dr Peter Bardy)**

We have focused on the myeloproliferative disorder (MPD) Polycythemia vera (PV), a haematological disease 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 dys-regulation of haemopoietic stem





cell growth and normal blood cell growth factor responses. An acquired mutation is present in a high percentage of PV patients. This mutation affects the activity of the intracellular signaling molecule JAK2 which plays a critical role in normal growth factor responses. We have confirmed that this mutation is present in 95% of patients in our cohort and we continue to investigate the activities of the mutant protein. In addition we have recently published the presence of novel JAK2 lesions in patients that do not have this common mutation. Studies focused on identification of further lesions in PV that cooperate with the JAK2 mutation, are well advanced in collaboration with Dr. Charles Mulligan (St Jude's Research Institute, Memphis, USA).

**Project 2: Australian Familial Haematological Cancer Study (AFHCS) (A/Prof R D'Andrea, A/Prof Peter Bardy)**

Studies of families showing single gene inheritance for predisposition to haematological malignancies will facilitate the identification of the genes and mechanisms involved in the first steps of these cancers. This has been a successful approach to the identification of genes implicated in solid tissue cancers. In collaboration with Prof. Hamish Scott and Dr Graeme Suthers we have identified a number of South Australian kindreds with familial haematological malignancy, recorded pedigree data, collected clinical and demographic data about family members, and stored biological samples (blood, tissue) from both affected and unaffected family members. Having identified these families of interest, and excluded the involvement of known predisposition genes, we are now using sophisticated genetic approaches to identify new genes underlying the early events in haematological malignancy. We have recently identified a novel mutation in a large South Australian family and are currently completing functional studies with the mutant protein.

**Project 3: Discovery of protein biomarkers for diagnostic and therapeutic applications in colorectal cancer (Dr J Hardingham, Dr T Chataway, Mr P Hewett, Ms G Arentz)**

Patients diagnosed with early stage 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 5 years of surgery. This suggests that an occult metastatic disease process was already under-way, or that viable tumour cells with proliferative and metastatic potential had been shed from the primary tumour site during surgical resection. Such occult circulating tumour cells (CTCs) are considered to be responsible for disease relapse in CRC. Currently, the use of adjuvant chemotherapy is the standard of care for resected stage III colon cancer. However, there has been no direct evidence from randomised controlled trials to support the routine use of adjuvant chemotherapy for stage II colon cancer. It is thus imperative that accurate staging of the disease is achieved so that appropriate treatment decisions can be made. Our group developed immunobead RT-PCR, a technique for capturing epithelial cells from blood or peritoneal lavage fluid using immunomagnetic beads (Epithelial Enrich, Dynal) with RT-PCR of the target markers to detect the captured cells. Currently, immunobead capture relies on EpCAM labelled magnetic beads, an antibody specific to epithelial-derived tumour cells as well as normal epithelial cells. Although EpCAM is the antibody used in recently developed commercial kits for CTC detection in blood, it has been reported that its expression was some 10-fold lower on CTCs compared to primary and metastatic tissues, suggesting that EpCAM expression is dependent on the local micro-environment and is down-regulated in disseminated cells. Hence there is an explicit need for a more effective antibody panel to increase the specificity of immunobead capture of tumour cells. Our aim this year was thus to use surface membrane vital cell CyDye™ labelling and 2D difference gel electrophoresis (DIGE) to identify tumour specific cell surface biomarkers as specific antibody targets for immunobead labelling. Several differentially expressed proteins were identified and these are being validated as tumour specific surface membrane proteins using flow cytometry on a range of tumour cell lines and normal cells. In addition several potential tumour-specific biomarkers previously identified using laser micro-dissected (LMD) colon tumour and matched normal mucosa, have been validated for use as RT-PCR markers. The outcome of this work will be the development of a sensitive and specific immunobead RT-PCR assay to detect CTCs in blood or post-operative

peritoneal lavage samples at diagnosis, to sub-classify those early stage patients at high risk of relapse. This work was a joint collaboration with Flinders and Adelaide Proteomics facilities.

#### **Project 4: Detection of occult disseminated tumour cells and tumour DNA (Dr M Raynor, A/Prof A Dobrovic)**

This project focuses on the detection of occult disseminated disease in patients with early stage breast cancer. We are studying the significance of circulating tumour cells in patients with early stage operable breast cancer and monitoring the presence of occult disease (circulating tumour cells and tumour DNA in the plasma) at regular intervals after surgery. To isolate circulating tumour cells we make extensive use of the Immunobead RT-PCR method, which was previously established in this department (see above). In addition, plasma is separated from the blood samples for the detection of tumour DNA using methylation markers. Currently, approximately 270 patient blood samples have been collected for immunobead harvesting of tumour cells and preparation of plasma DNA. Many of these patient samples now have 3, 6, and 12 month follow up samples. The immunobead RT-PCR method has now been adapted for a high-throughput platform to allow quantitation, faster processing of samples and clear distinction between specific and background amplification. Ten experimental gene markers and three housekeeping gene markers have now been fully optimised and validated for tumour cell detection. The utility of methylation as a tumour marker has been demonstrated by several studies and we have established methods for detecting DNA originating from tumour cells and for analysing several genes previously shown to be commonly methylated in breast cancer cells. Methylation probes for the Methylight assay have been designed for multiple genes of interest and internal controls. We will initially use quantitative methylation-specific PCR (Q-MSP) to measure the extent of gene methylation in patient plasma DNA. We will now also use new technology High Resolution Melting (HRM) which has been shown to detect DNA methylation and is a more sensitive and cost effective methodology.

## **Staff**

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

Head of Clinical Haematology  
A/Prof PG Bardy MBBS FRACP FRCPA

### **Head of Clinical Oncology**

A/Prof KB Pittman MBBS MD FRACP

### **Head of Clinical Research**

A/Prof TJ Price MBBS FRACP

### **Staff Specialists/Clinical Trials**

RM Green MBBS FRACP FRCPA  
U Hahn MD FRCPA  
S McRae MBBS FRACP FRCPA  
JE Norman MBBS FRACP  
WK Patterson MBBS FRACP  
K Robinson MBBS FRCPA FRACP

### **Chief Medical Scientist and Laboratory Head**

A/Prof RJ D'Andrea PhD

### **Principal Medical Scientist and Group Leader**

JE Hardingham BSc PhD

### **Clinical Associates**

T Price  
A Townsend  
P Bardy  
P Hewett  
N Rieger

### **Grant Funded Scientists**

MP Raynor PhD  
C Butcher MMedSc  
P Neufing PhD

### **Research Assistants**

J Wrin BSc  
YY Ho BSc  
C Menz BScHons  
L Eriksson MSc (Sweden)

### **Clinical Trial Manager**

S Yeend EN

### **Clinical Trial Study Coordinators**

P Cooper BSc  
G Dymmott  
J Jefferies B Biotech(Hons) B App Sc(Human Movement)  
A Griffiths (based at Lyell McEwin Hospital)  
L Pirc B Biotech(Hons)  
J Williams BSc Gen(Hons)





### **Clinical Research Fellow**

A Townsend MBBS

### **Clinical Trial Administration**

A Barr

## **Postgraduate Students**

### **PhD candidates**

G Arentz

C Kok

### **Honours candidates**

M Quach

XX Shi

### **3rd year lab placement**

M Cutting

### **2008 – 2009 Vacation Students**

H Carthew

## **Collaborators**

- (1) A/Prof S Barry, Department of Paediatrics, University of Adelaide, Adelaide
- (2) Dr T Chataway, Flinders Proteomic Facility, Flinders University
- (3) A/Prof A Dobrovic, Molecular Pathology Research, Department of Pathology, Peter MacCallum Cancer Centre, Melbourne
- (4) Prof T Gonda, Diamantina Institute, for Cancer, Immunology and Metabolic Medicine, University of Queensland, Brisbane
- (5) Mr P Hewett, Colorectal Surgical Unit, Department of Surgery, The Royal Adelaide and Queen Elizabeth Hospitals, Adelaide
- (6) Dr I Lewis, Department of Haematology, Institute of Medical and Veterinary Science, Adelaide
- (7) Dr C Mullighan, St. Jude Children's Research Hospital, Memphis, Tennessee, USA
- (8) Mr N Rieger, Colorectal Surgical Unit, Department of Surgery, The Royal Adelaide and Queen Elizabeth Hospitals, Adelaide
- (9) Dr H Scott, Walter and Eliza Hall Institute, Victoria
- (10) Prof LB To, Department of Haematology, Institute of Medical and Veterinary Science, Adelaide
- (11) Prof Angel Lopez, Division of Human

Immunology, Institute of Medical and Veterinary Science, Adelaide

- (12) Ms M Wallwork and Mr J Terlett, Adelaide Microscopy
- (13) Mr D Walsh, Breast/Endocrine Unit, Department of Surgery, The Queen Elizabeth Hospital, Adelaide
- (14) Dr Graeme Suthers, Familial Cancer Unit, Adelaide Women's and Children's Hospital

## **Grants**

Cancer Australia "PETACC 6 trial, neoadjuvant chemotherapy for T3/T4 rectal carcinoma" (\$477,800 2008/2009) Price T.

The Cancer Council South Australia "Development of new biomarkers for micro-metastatic disease detection in early stage colorectal cancer" (\$82,750 2008). Hardingham JE, Chataway T, Hewett P.

Inner Wheel Australia "Cord blood stem cell differentiation" (\$62,000 2008) Barry S, D'Andrea R, Lewis I.

Merck Sorono Pharma "EGFR pathway assessment in patients receiving anti angiogenesis therapy" (\$60,000 2008-2009) Price T, Townsend A, Hardingham J.

NHMRC "The Molecular Biology of Polycythemia Vera" (\$216,000 2008) 2008-2010, D'Andrea R, Scott H, Bardy P, Melo J.

NHMRC Project grant "The molecular identification of FoxP3 positive regulatory T cells" (\$154,250 2008) 2006 – 2008, Barry S, Shannon F, Zola H, D'Andrea R.

NHMRC "Dissecting FLT3 signaling in acute myeloid leukaemia" (\$193,333 2008) 2007-2009, D'Andrea RJ, Gonda TJ.

NHMRC Equipment grant 2008 (CATH) "Liquid nitrogen cryostorage facility" (\$8,600 2008) D'Andrea R.

Genome Institute Singapore, Technology Access Grant "Beta-catenin target genes in AML" D'Andrea RJ, Brown AL, Copeland N, Jenkins N, Bard-Chapeau E. Provides access to specialised technology at GIS.



Stem Cell Healthcare and Tech Inc "Cord blood stem cell expansion" (\$92,000 2008)  
Barry S, D'Andrea R, Lewis I.

TQEH Research Foundation Near Miss Project Grant "KLF5 function in normal and leukemic myelopoiesis" (\$98,000 2008)  
D'Andrea R, Brown A, Lewis I, Bardy P.

TQEH Research Foundation Small Grant "Over-expression of SET is a critical factor in Wnt/β-catenin signalling in colorectal cancer" (\$20,000 2008) Hardingham J, Townsend A, Price T.

TQEH Research Foundation Small Grant "Analysis of DNA in plasma as a new methodology for early detection and monitoring of cancer" (\$20,000 2008)  
Raynor M, Dobrovic A.

## Awards

C Kok 8th Australasian Microarray & Associated Technologies Association (AMATA) Meeting, Dunedin, New Zealand (AUD \$500 2008) AMATA student travel bursary and oral presentation.

## Acknowledgements

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





## Research Focus

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

## Intensive Care Unit



A/Prof Sandra Peake

### 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 by the NHMRC and is being conducted over 2.5 years 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. The study commenced at TQEH in October 2008 and is a collaboration between the Emergency Department and the Intensive Care Unit.

#### **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 will commence in 2009.

#### **STATInS:**

#### **Study of atorvastatin therapy in sepsis**

A phase II randomised controlled trial of atorvastatin therapy in intensive care patients with severe sepsis. The study is NHMRC-funded and is being performed under the auspices of the ANZICS CTG. The purpose of this study is to assess the effects of atorvastatin on the biological and clinical outcomes of adult intensive care patients with severe sepsis. The study will establish whether a definitive phase III trial in Australia and New Zealand is feasible and justifiable, and will provide essential information on the cost and likely sample size for such a trial. Recruitment commenced November 2007.

### **A controlled comparison of eritoran tetrasodium and placebo in patients with severe sepsis**

A multi-centre, international, industry-sponsored randomised, double-blind, placebo-controlled study. The purpose of this research study is to assess the safety and efficacy of an experimental drug called eritoran tetrasodium (eritoran) in patients with severe sepsis. Eritoran belongs to a group of drugs called Lipid A antagonists. Previous studies have indicated that eritoran works by blocking the effect of toxic products and by reducing the production of inflammatory chemicals that can contribute during an infection to the symptoms of sepsis. The study will also measure how health care costs are affected by its use. The study commenced in May 2007 and continued in 2008.

### **Sepsis and DIC**

A multi-centre, industry-sponsored randomised, double-blind, placebo-controlled, Phase-2B study is underway to assess the safety and efficacy of a drug called ART-123 on subjects with sepsis and disseminated intravascular coagulation. ART-123 is thought to act by stopping thrombin-mediated clotting and enhancing Protein C activation at the site of clotting rather than systemically; thereby reducing the risk of bleeding. Recruitment commenced November 2007.

### **Efficacy and Safety of Drotrecogin Alfa (Activated) in Adult Patients with Septic Shock**

A randomized, double-blind, placebo-controlled, multicenter, Phase 3 study of drotrecogin alfa (activated) administered as a continuous 96-hour infusion to adult patients with septic shock commenced in 2008. The purpose of this placebo-controlled study is to determine if drotrecogin alfa (activated) treatment provides significant mortality reduction and organ function improvement in patients with septic shock compared with placebo treatment in patients receiving the current standard of care for septic shock. This study will also assess the effectiveness of drotrecogin alfa (activated) in reducing 28-day mortality in patients with septic shock and concomitant severe protein C deficiency at baseline. Recruitment commenced August 2008.

## **Observational Studies**

### **A Prospective Observational Study of Blood Product Transfusion Practices in Australian Intensive Care Units**

A prospective observational study conducted in August 2008 to benchmark current and presently unavailable data detailing blood transfusion practices in Australian intensive care units. This study is a collaboration of the Australian Red Cross Blood Service and the Australian and New Zealand Intensive Care Research Centre, Monash University and endorsed by the Australian and New Zealand Intensive Care Clinical Trials Group. Information gained from this study will assist with a proposed NHMRC Project Grant submission in 2009 to support a randomised controlled trial designed to optimise blood transfusion strategies and patient outcomes in Australia and internationally.

### **STATInS TIME (Time-In-Motion Evaluation) Study**

A time and motion evaluation study of a phase II randomised controlled trial of atorvastatin therapy in intensive care patients with severe sepsis (STudy of Atorvastatin Therapy In Sepsis). This sub-study is a prospective, observational, time-in-motion evaluation study using a real-time daily management log to document the time required by Research coordinators to perform all aspects of the STATInS study. The findings from this study will assist with the understanding of the time required to perform the coordination of a research project. This knowledge may be used at a local level for sites to project and justify operating costs of local personnel and to assess the economic feasibility of a study. This information will also be used to inform the planning and design of future studies and to provide more accurate staff cost estimates for future grant applications.

### **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 done in collaboration with the Royal Adelaide Hospital Intensive Care Department. Recruitment was completed in 2008.

**The epidemiology of radiocontrast exposure in critically ill Australian adults: a prospective, multi-centre, observational study**  
A study to determine the incidence of intravascular radiocontrast (contrast) nephropathy following exposure to contrast among adults admitted to Intensive Care Unit's (ICU) in Australia is nearly completed. This study is in collaboration with the Royal Prince Alfred Hospital Intensive Care Unit.

## 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.

## 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 commenced in September 2008. Funding was received from The Queen Elizabeth Hospital Research Foundation to assist with this study.

### **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 has commenced. The study is funded by a \$15,000 grant from the Intensive Care Foundation.

## Outcome Studies

### **Tight glycaemic control**

An ANZICS CTG-endorsed, multi-centre NHMRC-funded Australian and Canadian trial comparing 2 target ranges for blood glucose control in critically ill patients predicted to stay in ICU for longer than 48 hours commenced in April 2005. Planned enrolment was 4000 patients in Australia and New Zealand and 2000 patients in Canada. The study was completed in August 2008 with 6,105 subjects having been recruited.

### **Radiocontrast-induced nephropathy in ICU patients**

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

### **Outcome from Idiopathic Pulmonary Fibrosis**

A retrospective study examining the outcome of patients with idiopathic pulmonary fibrosis admitted to ICU for

respiratory failure has been completed. Preparation is underway to submit the results of this study for publication.

### **Gentamicin and creatinine clearance**

In conjunction with Dr Terry Jones (Pharmacy) a prospective observational study comparing various modes of creatinine clearance in ICU patients, including the clearance of gentamicin is continuing.

### **Gentamicin-computer derived dosing and clearance in ICU**

In conjunction with Dr Terry Jones (Pharmacy) this study is examining the benefits of using a computer derived dosing schedule and creatinine clearance estimates for all patients prescribed gentamicin in the Intensive Care Unit.

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

## **Staff**

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

### **Director**

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

### **Consultant Specialists**

JL Moran MB BS FANZCA FRACP FJFICM MD  
SL Peake BM BS BSc(Hons) FJFICM PhD  
S Moodie MB CHB FJFICM  
K Lee MBBS MBus FACEM FJFICM  
S Jacobs MBChB FRCA FANZCA

### **Research Coordinator**

P Williams RN IntCCert, BN

### **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  
C Nottage MBBS  
J Ng MBBS

### **Nursing staff**

B Grealy RN RM IntCCert BN MN(Res)  
S Flynn RN IntCCert  
L Esca RN IntCCert  
R Fraser RN Int CCert

Studies have also been undertaken in collaboration with Dr Terry Jones, The Queen Elizabeth Hospital Pharmacy and Dr Ken Ooi, Emergency Department and the Royal Adelaide Hospital and Royal Prince Alfred Intensive Care Units.

## **Grants**

Australian and New Zealand Intensive Care Foundation Grant "TAME study: An Audit of the Time and Financial Costs involved in the Review Process of Multi Centre Clinical Trials in Australia and New Zealand" (\$3,000 2008) Williams P.

Australian and New Zealand Intensive Care Foundation Grant "Comparison of Haemodynamic Effects Of Paracetamol In the Critically Ill – A Randomised Trial of Intravenous versus Enteral Paracetamol" (\$15,000 2008) Kelly S, Williams P, Peake S, Moran J.

Australian and New Zealand Intensive Care Foundation Grant "An economic evaluation of resuscitation in sepsis" (\$100,000 2008) Peake S.

The Queen Elizabeth Hospital Research Foundation "Incidence and adverse effects of prolonged QT in ICU patients" Vinodh TM, Peake S, Williams P; and "Assessing the safety of a continuous potassium chloride infusion in critical care: A randomised controlled trial" (\$4,474 2008) Chalwin R, Peake S, Williams P.





## Research Focus from genes and cells to population health

- Basic research studies of the physiology of zinc in the respiratory system
- Population research on chronic disease
- Patient safety and quality improvement
- Nutritional problems affecting older people
- Health Services and systems research
- Undergraduate and postgraduate assessment

## Medicine, University of Adelaide, Discipline of

### Overview

The Department of Medicine has major involvement in Undergraduate and Postgraduate teaching, and training; undergraduate and postgraduate curriculum development; basic and applied research; clinical service and management. Members of the department are involved in basic science research, clinical research, and epidemiological research across the disciplines of Neurology, (see Neurology Report), Ageing, Cardiology (see Cardiology report), chronic diseases and risk factors; and population health. Workplace based assessment is a new area of interest

A/Prof Renuka Visvanathan is the Director of the Aged and Extended Care Services at

The Queen Elizabeth Hospital (TQEH). Her major research interest is in ageing and nutrition. Together with Dr Solomon Yu (PhD Student, Geriatrician), data from the Cytokine, Adiposity, Sarcopenia and Ageing (CASA) Study are being analysed. Three abstracts from this study were presented by Dr Yu at the 2008 Australia and New Zealand Society for Geriatric Medicine Annual Scientific Meeting. In 2008, A/Prof Visvanathan was also awarded a University of Adelaide, Faculty of Health Science Early Career Researcher Small Grant Award to further her work in the CASA study. Together with A/Prof Robert Adams, A/Prof John Beltrame and Prof David Wilson, the LuFLi study (NHMRC funded) was completed and data analysis has commenced. The



LuFLi study is a diagnostic trial of therapy to diagnose asthma in older people. In October 2008, A/Prof Visvanathan was invited to the Nestle sponsored Mini Nutritional Assessment (MNA) Initiative in Lausanne, Switzerland. This multi-national program of work which includes data from her previous study (Visvanathan et al. Age and Ageing 2004) is looking at improving the practical application of the MNA. The MNA is a nutritional screening tool that is used internationally to screen for under-nutrition in older people.

Professor Richard Ruffin is involved in studies on asthma and COPD epidemiology, and continuing a population health study examining chronic diseases (diabetes, obesity, asthma, COPD, cardiac risk factors, renal disease) within the North Western Adelaide population. This work is defining incidence, severity, undiagnosed disease prevalence, and the burden of disease in the population. A linked data set is facilitating this work. Research of educational assessment at the undergraduate and postgraduate level has commenced, and will provide an evidence base for future junior doctor training, workplace based assessment and training material developments are occurring.

A/Prof Adams is continuing work on population health and chronic disease, particularly within the North West Adelaide Health Study cohort population. He is continuing work funded by the NHMRC on a diagnostic trial of therapy to diagnose asthma in older people. Other funded projects include examining the effectiveness of spirometry in managing asthma in general practice. Within the ARC-funded Nutrition, Obesity, Lifestyle and Environment Study (NOBLE) he is examining the effects of obesity on respiratory health, the understanding of obesity in the community, and in collaboration with the School of Economics, the economic implications of obesity. The second stage of this project has recently received further major funding from the ARC and will be examining the effect of obesity on "baby boomers" and workforce participation. He has a major interest in health literacy and is conducting several projects looking at the relationship of health literacy and health outcomes. A/Prof Adams is the project leader of the Team STEPPS Project, funded by the Australian Commission on Safety and Quality in Health Care,

which has successfully initiated a training project in clinical handover and communication at five SA sites, including two sites at TQEH, and will be extending this project to other sites over the coming year.

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). A Research Officer, Rhys Hamon, was appointed to carry out experiments relating to the grant. The field of research also forms the thesis of a PhD student Eugene Roscioli. 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. Another of the PhD students Lata Jayaram is in the final stages of writing up her thesis and a paper on the zinc-related aspects of this study. Dr Zalewski is a co-supervisor of a 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. Other collaborations with Dr Peter Coyle and Alan Rofe (IMVS) and Prof Vicky Clifton (LMF) are being established. He has also joined CIDR (Centre for Inflammatory Diseases Research), a cross-discipline collaboration between scientists and clinicians at TQEH and BHI, focusing on chronic inflammation and especially the role of the inflammatory. Dr Zalewski presented the zinc and airway studies at the European Respiratory Society Lung Science Meeting in Estoril Portugal and TSANZ in Melbourne, both in March/April 2008. He also attended a meeting on protein ubiquitination in the Canary Islands, prior to the ERS meeting. He has been invited to chair a symposium on zinc and apoptosis at the International Society for Zinc Biology in Jerusalem in November 2009.

Dr Carol Lang is a NHMRC Peter Doherty Research Fellow who conducts research into the role of zinc in airway inflammation and infection. Dr Lang collaborates with



**Professor Richard Ruffin**

Prof Gary Anderson and Dr Rosa Gualano at the Departments of Pharmacology and Medicine at the University of Melbourne. Implications for airway zinc, and the proteins that transport zinc in airway cells, are now being investigated in response to respiratory viruses, cigarette smoke and inflammatory mediators. Carol is also interested in understanding the role zinc transporter proteins play in airway inflammation. She was recently awarded a Clive and Vera Ramaciotti Foundation Establishment Gift and a TQEH Research Foundation Grant to continue this work. Drs Lang and Zalewski are also working with Dr Toby Coates (Transplantation) and Dr Chiara Murgia (INRAN, Italy) to investigate zinc transporters in pancreatic islets.

Professor Wilson is an epidemiologist employed by the Department of Medicine to contribute a major population focus to health and health outcomes. This includes the management of population studies and applied research staff. He was the founder of the South Australian Health Omnibus Survey (SAHOS), an annual population household survey, which is conducted on an annual basis providing health data for a number of health organisations. He is also a co-founder of the North West Adelaide Health Cohort Study (NWAHS), a biomedical and biographical population study of chronic diseases and related issues. He is currently the manager of the Nutrition Obesity Biomedical Lifestyle and Environment (NOBLE) Study, which comprises a number of multi-disciplinary doctoral students investigating obesity in the population. He has made important contributions on the targeting of key population groups on the obesity pandemic. His students have contributed significantly to the international literature on obesity and related phenomena. Professor Wilson is a recognised international expert on population surveillance and a member of the World Association on Risk factor Surveillance (WARFS). He has contributed substantially to the thinking on population research and its application to new areas such as infectious diseases and health literacy. He is a strong advocate of the need for multi-disciplinary research of health problems in the development of sustainable solutions.

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

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

## Staff

### Professor of Medicine

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

### Professor in Cardiology

J Horowitz PhD FRACP

### Associate Professor

RJ Adams MBBS MD FRACP

J Beltrame PhD FRACP

S Koblar MBBS PhD FRACP

R Visvanathan MBBS PhD FRACP

CJ Zeitz MBBS FRACP

### Research Fellows

PD Zalewski BSc(Hons) PhD

### Project Officer

DH Wilson PhD MPH BED

### Hospital Scientist

AG Milton BSc(Hons)

### Technical Officer

SL Appleton BSc(Hons)

R Hamon BSc(Hons)

### Personal Assistant

E Mourtzios

### Postgraduate Students

D Grosser MBBS FRACP

L Jayaram MBChB FRACP

SL Appleton BSc(Hons)

S Yu MBBS FRACP

E Roscioli BSc(Hons)

### Peter Doherty Research Fellow

CJ Lang BSc (Hons) PhD

### Postdoctoral Fellow

C Murgia PhD (Visiting)

## Grants

Australian Commission for Safety and Quality in Healthcare "Proposal to develop, implement and evaluate Team STEPPS teamwork training system" (\$298,154 2008) 2007-2008, Adams R, Pirone C, Stead K.

Bernie Lewis Foundation, TQEH Research Foundation and Faculty of Health Sciences, University of Adelaide-Establishment Fund "Support to NWAH study for PhD and equipment" (\$80,000 2006-08) Visvanathan R *et al.*

Clive and Vera Ramaciotti Foundations "Investigating the role of two recently discovered zinc transport proteins, known as ZIP1 and ZIP14, in airways inflammation and infection" (\$27,109 2008) Lang CJ.

NH&MRC Project Grant ID: 519206 "Airway epithelial IAPs and their interaction with Zn ions" (\$88,500 2008) 2008-2010, Zalewski PD, Ruffin RE, Murgia C.

NHMRC Australian Biomedical (Peter Doherty) Research Fellowship "The role of zinc in the respiratory system and in chronic obstructive pulmonary disease" (\$67,500 2008) 2006-2010, Lang CJ.

Government of South Australia, Premier's Science and Research Fund "Tracking fitness and health in South Australia" (\$450,000 2008) 2006 – 2009, McDermott R, Ruffin R, Luszc M, Filby D, Wittert G.

University of Adelaide Faculty of Health Science Early Career Researcher Small Grant Award "25-OH Vitamin D and adiposity are associated with impaired physical function: What is the role of inflammation?" (\$10,000 2008) Visvanathan R, Chapman I.

TQEH Research Foundation Near Miss Grant "Investigating the role of two recently discovered zinc transport proteins, known as ZIP1 and ZIP14, in airways inflammation and infection" (\$31,000 2008) Lang CJ.





## Neurology Unit

## Research Focus

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



## Overview

The Neurology Department has two main research arms:

**Stroke related research** which involves both genetic investigations into risk for stroke and stem cell therapy to repair the brain following stroke and

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

### Stroke Research Programme (SRP)

The SRP forms a research collaborative between the School of Medicine, School of Molecular Biomedical Science, Australian Research Council Special Centre for the Molecular Genetics of Development, University of Adelaide and Department of Neurology, The Basil Hetzel Institute for Medical Research, The Queen Elizabeth Hospital.

The ongoing study of endothelial function in cerebral small vessel disease (CSVD), with PhD student Ms Ada Lam, has progressed well and is now being finalised. Collaborators include Dr EW Khoo and Dr S Patel (MRI and CSVD) and Ms S McLennan and Associate Professor J Mathias (Cognition and CSVD). The study includes development of our earlier neurogenetics findings, and may lead to further commercialisation of intellectual property (IP). With respect to the IP from our earlier research, 'Atherogen's Mutations associated with stroke' United States patent was issued in October. Further laboratory collaboration includes that with Ms R Tavella, Ms N Cutri and Dr J Beltrame (SNPs and cardiology).

The discovery of stem cells in the human brain has provided a promising future for repair of the human brain following stroke. In this research project, Dr Roopali Verma is investigating stem cell therapy for stroke and has continued her work with ethics approval for a new animal model for stroke. Human brain tissue has also been analysed post-stroke by a collaborator, Professor R Faull, in New Zealand.

Dr Elaine Leung, an academic GP registrar, has investigated Transient Ischaemic Attack (TIA) knowledge in General Practice. High risk patients should be admitted to hospital for observation, and patients at lower risk can be assessed and managed non-urgently.



Dr MK Robinson



GPs need to know how to diagnose TIA and best manage these patients. Research suggests significant gaps exist in GPs knowledge of stroke and TIA. We have assessed this knowledge in Adelaide by inviting GPs in the Western Division of GP to complete a questionnaire. The questionnaire included questions on how GPs prefer to be educated, if knowledge can be improved and about barriers in the delivery of the best care for their patients with TIA's. Our findings should help us determine the best way to deliver this education, enabling GPs to deliver up-to-date care to the community. Dr Leung presented the results of this research in Vienna at the World Stroke Congress in September and will be publishing this in the journal - Australian Family Practice. Dr Leung also won the GP Teaching and Research Award for Australia in 2008.

The 6th World Stroke Congress in Vienna in September was a major Tour de Force for the SRP, with more SRP team members attending and presenting than any other team from Australia. Presenters were Ms A Lam, Dr MA Hamilton-Bruce, Dr E Leung and Associate Professor SA Koblar. The SRP was again represented at the Stroke Society of Australasia Annual Scientific Meeting held in Sydney in August. Mr AG Milton presented on single nucleotide polymorphisms (SNPs) in the gene PDE4D in ischaemic stroke patients, as well as on use of statistical testing of genetic markers for Hardy-Weinberg Equilibrium as a quality control for laboratory results. These posters were also made available on Research Day at TQEH.

Dr Hamilton-Bruce presented 'Epilepsy Artwork in Medical Education' at Ozzawa 2008, the 13th Ottawa International Conference on Clinical Competence, held in Melbourne in February and will be publishing this together with collaborators Associate Professor JN Hudson from the University of Wollongong NSW and Mr H Smith, an artist from Geelong, Victoria. Other collaborations include that with Ms R King, Dr JR Moss and Dr A Mahmood from Public Health at the University of Adelaide, on improving pre-hospital admission and discharge planning to community services for Home and Community Care (HACC) eligible clients in the western suburbs of Adelaide. Team members presented at community meetings to raise awareness about our research as well as funding needs, to support

research. Mr Milton also participated in TQEH Research Foundation's initiative called 'QFacepage' to raise funds for SRP research through the September City-Bay fun run. Australian Neurology Research (ANR), a trust to raise funding for research in Neurology, has developed further and is also raising awareness of the important research being undertaken to provide further support for research in the department. SRP team members also participated in National Stroke Week activities, displaying posters, handing out 'FAST' cards to raise public awareness of stroke symptoms, and promoting a public lecture given by A/Prof Koblar.

MBA student from the University of South Australia, Dr Choudry, undertook research on Intellectual Property and Risk Scenario Analysis. This work was presented by Dr Hamilton-Bruce in Sydney in September at the 30th Annual ANTA Conference in Newcastle NSW. Mr Krawczyk, a Social Science student at the University of South Australia and TQEH Vacation Scholarship student, also undertook a study on managing risk for the SRP, to identify and address risks. The results of this study have assisted the SRP in strategic planning and were presented by Dr Hamilton-Bruce at the 6th World Stroke Congress in Vienna in September. Mr Krawczyk is also undertaking Honours with us and is currently working on the initiation of research into the underreported nature of TIA's.

The Stroke Unit research initiative includes a TIA-MRI protocol for a one-stop shop investigation of TIA encompassing cardiac imaging, for presentation next year by Dr J Jannes. A new study, Stroke Epidemiology in an Australian Rural Cohort (SEARCH), is being launched with NHMRC Fellow, Dr J Leyden, comparing stroke epidemiology and outcome between an urban cohort in north western Adelaide versus a rural cohort across the state. Dr Leyden was also awarded the Allan Kerr Grant Award for Outstanding Postgraduate Learner for 2008 at TQEH.

The year has culminated with very exciting news: Dr SA Koblar has now been promoted to Associate Professor and the Centre for Inflammatory Disease Research (CIDR), with the SRP as one of the collaborators, has just been awarded funding of \$540,000 over three years for research into inflammatory mechanisms underlying a number of chronic diseases, including stroke.



## Epilepsy

Seven trials of new anti-epileptic drugs were undertaken throughout this year, two of which are still actively recruiting. These trials will allow us 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.

## Stroke

One comparative trial of 2 antithrombotics for the prevention of cerebrovascular events of ischaemic origin. Next year a clinical trials nurse will be employed and further studies undertaken.

## Dementia

The Memory Clinic and Clinical Cognitive Research Units participate in many International studies. Dr Karyn Boundy is the Chairperson of the Australasian Consortium of Centres for Clinical Cognitive Research (AC4R) to continue facilitation of clinical trials in memory conditions in Australasia. She has also been selected as 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. She has participated in an analysis of antipsychotics on behavioural and psychological symptoms associated with dementia, which subsequently aided the PBS reimbursement of Risperidone for BPSD. Satellite Neurology/Memory Clinic set up in Port Lincoln via Rural Health SA.

The study with the Rheumatology Unit on neuropsychological, cognitive, behavioural and imaging with MRI and SPECT in Sjogren's Syndrome is submitted for review for publication.

RN Shelley Casey supervises the Prospective Research in Memory Clinics (PRIME) database, studying new presentations with all types of dementia every 6 months. This database allows comparison with centres interstate and international and to provide epidemiological data on our patient group.

## Alzheimer Symptomatic Trials

Ten trials have been commenced, completed or are in extension phase. MEM-MD-71 (Memantine) Huperazine A Implant, (Debio Pharma), E2020-G00-326 (Aricept 23mg SR) and AVA102670 (Rosiglitazone) were completed. Open-label trials of Aricept 23mg SR and Rosiglitazone continue to be studied in the Memory Unit under trial titles E2020-G00-328 and AVA102675, these are twelve month studies.

NOVARTIS are sponsoring a 24 week, multi-center, open-label evaluation of compliance and tolerability of the once-daily 10cm Exelon Patch formulation in patients with probable Alzheimer's disease.

A 24-week GSK study is planned to investigate SB-742457 added to existing donepezil (Aricept) treatment in volunteers with mild to moderate Alzheimer's disease. SB-742457 is an oral selective 5HT<sub>6</sub> receptor antagonist, the permitted Mini-Mental State Examination score is 12-24. Volunteers have a 2:1 chance of active treatment versus placebo in addition to their standard treatment with Aricept.

A study in the use of Aricept for the Behaviours and Psychological Symptoms of Dementia BPSD in Severe AD did not proceed due to financial constraints.

## Disease Modifying Trials in Alzheimer's Disease

3133K1-3000/1-WW are twin protocols using a humanised anti amyloid-beta peptide monoclonal antibody (AAB001). These are 18 month studies with multiple doses of intravenously administer bapineuzumab in subjects with **Mild to moderate Alzheimer's Disease, who are Apolipoprotein E ε4 CARRIERS or NON CARRIERS** compared with placebo subjects. Subjects will be stratified according to Mini-Mental State Examination score 16-21/30 - 21-26/30 and concomitant cholinesterase inhibitor and/or Memantine use.

**H6L-MC-LFAN** uses 'LY450139' a functional inhibitor of γ-secretase to inhibit the synthesis of amyloid-β thereby potentially slowing the underlying rate of disease progression. This 23 month study has 3 escalating dose arms of 100mg, 140mg and an arm initially randomised to placebo for 64 weeks and dose escalated to 140mg 'LY450139'. Concurrent treatment with



a stable dose of a cholinesterase inhibitor or memantine is permitted; the inclusion Mini-Mental State Examination score is 16-26.

An 18 month Phase 2 Pfizer study of Multiple Doses of PF 04360365 in Patients with Mild to Moderate Alzheimer's Disease will be undertaken from the first quarter of 2009. PF-04360365 is a humanized monoclonal antibody directed against an epitope encompassing the C terminal amino acids of the (Amyloid Beta) A $\beta$ 1-40 peptide derived from the Amyloid Precursor Protein (APP). The compound is postulated to decrease A $\beta$  in the brain, whether present as soluble monomers or oligomers or in plaques

### Restless Legs

A long term study on Restless Legs (RLS) with Ropinirole concluded this year.

### Multiple Sclerosis

Many new exciting disease modifying products are being tested. Clinical trials in the area of Relapsing Remitting Multiple Sclerosis (RRMS) continued with protocols such as CFTY720D2301 an oral compound (FTY720) that reversibly traps a proportion of lymphocytes in the lymph nodes thereby reducing neuro-inflammation in RRMS. An extension to this study in an open-label format for the next few years is being submitted to Ethics.

Another diverse treatment is Finategrast<sup>1</sup> (GSK-SB-683699) (also oral) an antagonist of  $\alpha$ 4 $\beta$ 1/ $\alpha$ 4 $\beta$ 7 integrin mediated cell adhesion. These integrins have been shown to play an important role in the initiation and perpetuation of localised inflammation. Finategrast has a similar selectivity and pharmacodynamic activity to natalizumab, a monoclonal antibody shown to be effective for treatment of multiple sclerosis. This oral product has a good safety profile so far.

### Genzyme

The CAMMS323 and CAMMS324 protocols trial Alemtuzumab, which is approved for the treatment of B-cell chronic lymphocytic leukaemia in many countries under the names CAMPATH or MabCAMPATH. In a phase II study conducted in patients with RRMS, Alemtuzumab produced a significant reduction in sustained accumulation of disability as well as reductions in relapse rates and lesion formation. CAMMS323 is for treatment-naïve patients and CAMMS324 is for patients who have been on MS treatment.

In the ATAMS Protocol 28063, Atacicept is used for RRMS in a double-blind, placebo-controlled trial, with Rebif as a rescue treatment. Atacicept is a recombinant fusion protein which acts as an antagonist to B-lymphocyte stimulator (BLyS) and A Proliferation-inducing ligand (APRIL) which are important regulators of B cells.

Previous study STARS showed Tysabri to be very effective in RRMS. It is now Therapeutic Goods Association (TGA) listed and is on the Pharmaceutical Benefits Scheme (PBS). Our department has treated 11 patients so far this year without complication.

## Staff

### Director of Neurology

MK Robinson MBBS FRACP

### Senior Visiting Neurologist

GH Purdie MBBS FRACP

KL Boundy MBBS FRACP

H Waddy MBBS FRACP

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

SA Koblar MBBS FRACP PhD

### Senior Consultant Neurologist / Director of Stroke Unit

J Jannes MBBS FRACP PhD

### Consultant Neurologist

C Short BSc MBBS FRACP

### Senior Registrar

J Leyden MBBS

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

MA Hamilton-Bruce BSc MSc MBA PhD AFCHSE

MIBiol CBiol FIBMS CSci

### Medical Scientist

MB Donk BHSc

### Neurology Secretary

JA D'ordoy Cert IV Bus Admin

### Clinical Nurse Manager

KJ Webb RN BN

### Comprehensive Epilepsy Program

S Horn CPC ICU Cert

## Clinical Research Trials

JA Deimel RN BN  
EL Lam RN  
PCK Cheung RN  
P Steventon RN  
S Casey RN BN

## Undergraduate Research Students

### Medical (4th Year MBBS) Students

S Kahawita

## Postgraduate Students

### PhD candidates

King R BA BSW "Hospital hOme Pathways (HOP) – Improving Pre-Hospital Admission and Discharge Planning to Community Services for Home and Community Care (HACC) Eligible Clients in the Western Suburbs of Adelaide"

Lam A B Pharm(Hons) "Endothelial Function in Cerebral Small Vessel Disease (SVD)"

Verma R MBBS "Investigation of Stem Cell Therapy for Stroke"

### MBA candidate

MT Choudry MBBS MHSc

### Academic General Practitioner Registrar (GPET)

E Leung BSc (Med) MBBS DCH

### Honours candidate 2008 - 2009

V Krawczyk BSocSci

## Grants

Australian Research Council Special Research Centre Grant "Centre for the Molecular Genetics of Development" (\$1,000,000 2008) 2000-2009. Koblar SA, Saint R *et al.*

Australian Brain Foundation "Investigations into neural stem cells in the human stroke brain" (\$10,000 2008) Koblar SA *et al.*

Catholic Archdiocese of Sydney "Human dental pulp stem cells for stem cell therapy in stroke" (\$100,000 2008) Koblar SA, Gronthos A.

CMV Equipment Grant (\$3,185 2008) Jannes J, Hamilton-Bruce MA, Koblar SA.

Friends of TQEH (\$4,839 2008) Jannes J, Hamilton-Bruce MA, Koblar SA.  
University of Adelaide/TQEHF Postgraduate Research Scholarship (leave of absence part of 2008) Verma R.

University of Adelaide Faculty of Health Sciences Divisional Postgraduate Research Scholarship (\$20,006 2008). Lam AK.

## Patents

### Mutation associated with strokes (TPA):

- Registered in the name of The Queen Elizabeth Hospital Research Foundation and Adelaide Research and Innovation Pty Ltd (ARI). Licensed to Atherogen Biotechnology Pty Ltd.
- Inventors: Jannes J, Koblar SA, Hamilton-Bruce MA.
- (1) United States application 10/563,360; Status: Notice of Allowance received 22/7/08 for issue on 22/10/08. (2) European application 05706256.4; Status: Awaiting Examination. (3) Canadian application 2,571,325; Status: Awaiting Examination; (4) Japanese application 2006-517900; Status: Awaiting Examination. (5) Australian application 2004254290; Status: Awaiting Examination. Examination of cases 4 and 5 has been requested.

### Mutation associated with lacunar strokes (PON1):

US patent application 10/589,725, filed 17/08/2006.

- Registered in the name of The Queen Elizabeth Hospital Research Foundation and Adelaide Research and Innovation Pty Ltd (ARI). Licensed to Atherogen Biotechnology Pty Ltd.
- Inventors: Jannes J, Koblar SA, Hamilton-Bruce MA.
- Atherogen will not proceed with the prosecution of these applications.

### Brain Repair Following Stroke - Stem Cell

Ikaros Assay: Patent: An assay for determining neuroplasticity effect of stem cells PCT/AU02/01759.

- Applicant: ARI, University of Adelaide and Medvet Science Pty Ltd.
- Inventors: Koblar SA, Gronthos S, Arthur A.
- Australian Provisional Patent Applic. No.2007904700 filed 30/8/07.





## Nuclear Medicine Unit

### Research Focus

- Statistical parametric mapping of regional cerebral blood flow and MRI
- Development of new image processing techniques in brain and lung imaging
- Evaluation of ischaemia and cardiac denervation in heart failure
- Quantitative analysis of myocardial salvage following primary angioplasty



**Dr Steve Unger**

### Overview

Our Department's research continues to focus on the major areas of cardiac and neurological nuclear medicine. Collaborative projects with the Cardiology unit include nuclear imaging of patients with Tako-tsubo cardiomyopathy, and quantitative analysis of myocardial salvage following primary angioplasty for acute myocardial infarction. Collaborative projects with the oncology unit include serial imaging of gall bladder function in patients with advanced solid tumours undergoing therapy with a novel chemotherapeutic agent AMG 706, and the use of SIR-spheres (microspheres labelled with Y-90) administered via the hepatic artery in patients with non-resectable liver metastases from primary colorectal carcinoma.



Neuroimaging Research and Development in 2008 built on the image processing expertise of the department. It involved three clinical brain research projects and the development and application of new imaging software for specialised clinical diagnosis and for correction of gamma camera image artefacts. This was performed by Dr Barnden and two grant-funded scientists.

A 6 month research grant from the ANZ Society of Nuclear Medicine employed a scientist to assess the role of brain SPECT in the early detection of dementia, in particular mild cognitive impairment. The powerful statistical parametric mapping (SPM) package was applied to subjects selected retrospectively from the department's archive of dementia brain scans.

A second scientist was also employed on a 6 month grant to process brain MRI images in a study of Chronic Fatigue Syndrome (CFS) with Dr Richard Burnet of RAH as principal investigator. Our application of SPM to quantitative analysis of T1 and T2-weighted MRI is a world first. This required new software developed at TQEH and in collaboration with Dr David Abbott of the Brain Research Institute (BRI) in Melbourne. Involvement of brain structures not yet reported in the CFS literature was discovered. We presented preliminary results to the BRI in October and advanced results will be presented to an international CFS conference in March.

These brain MRI processing techniques were initiated in a study of fibromyalgia with Dr Richard Kwiatek. Our new techniques have also been applied to this study and have yielded strong new insights which will be submitted for publication in 2009. Three new image processing programs have been developed by Dr Barnden for clinical evaluation. They offer improved detection of firstly pulmonary emboli and secondly cerebral blood flow. A program to accurately correct for sensitivity variations in multi-head gamma cameras has been validated and is now routinely applied in clinical research projects.

Our collaboration continues with Dr Anna Caroli at LENITEM, the Italian National Alzheimer's Disease Research Institution in Brescia, resulting in another publication this year.

## 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 FRACP

### Medical Scientists

L Barnden PhD BSc(Hons)  
D Badger PhD BSc(Hons)  
B Crouch BSc(Hons)  
A Menone PhD BSc(Hons)

## Higher Degree Student

### PhD candidate

TH Nguyen "Cardiac Denervation in Heart Failure".

### Registrar

S Lehman MBBS

### Technologists

P Ong  
G Pandos  
T Smith  
P Sotiropoulos  
N Farnham  
T Piscitelli  
K Eberhard  
L Waran  
R Edwards  
D Maglica

## Grants

ANZ Society of Nuclear Medicine  
"Assessment of the role of brain SPECT in the early detection of dementia, in particular mild cognitive impairment" (\$20,000 2008) Unger S, Barnden L.



## Nursing Research

### Research Focus

- Heart Disease and Cardiac Rehabilitation
- Diabetes Education
- Breast Care Innovations
- "Correct patient /Correct site /Correct procedure" Project in Radiology

### Overview

The Nursing Service at The Queen Elizabeth Hospital comprises a staffing complement in excess of 900 nurses and provides around-the-clock nursing care to our patients in multiple clinical specialties.

The aims of nursing research are focused on improving the health outcomes of our patients by employing evidence based clinical practice and contributing to the evidence base through research and innovation.

Highlights of the research carried out by nurses in 2008 include a focus on ischaemic heart disease and cardiac rehabilitation, diabetes education programs, breast care following breast surgery, and correct identification processes in the Radiology Department.

Through participation in the National Institute of Clinical Studies projects, a key undertaking in 2008 was the "Correct patient / correct site / correct procedure" project in the Radiology Department. The project focused on ensuring that correct identification processes were followed in the Department and has resulted in improvements in these processes and reduced clinical risks for the patients undergoing radiological procedures.

The research related to ischaemic heart disease has contributed to improvements in the overall management of the cardiac patient, the provision of cardiac rehabilitation and secondary prevention of some cardiac events.

The reviews of diabetes education programs in Diabetes Outreach have lead to improvements in patient and practitioner education and clinician credentialing, while the focus on breast care following breast surgery has contributed to innovations in care.





## Otolaryngology Head and Neck Surgery, Department of

### Overview

In 2008 the Department of Otolaryngology (ENT) has concentrated in two areas of research. The first is in manipulating the healing of the nose after sinus surgery. Due to the anatomy of the nose and sinuses, mucosa lining the sinuses is easily stripped off during surgery which leads to exposed bone and significantly delayed healing with an increase in infections and scar tissue formation. This may lead to the failure of the surgery. The ENT Department, in conjunction with the Chemistry Department at the University of Otago in Dunedin, have developed a gel that can be sprayed into the nose and sinuses after surgery. This gel is made of Chitosan and dextran and has been patented by ARI and Otago. Chitosan is a polymer that is found in a large number of natural sources including crustaceans, fungi, insects, annelids, molluscs and coelenterata. It has low toxicity and is inert in the gastrointestinal tract of mammals. By cross linking chitosan and dextran derivatives our team has developed a novel mucoadhesive

gel (CD gel) that is both hemostatic and prevents adhesion formation. We were awarded a commercialization grant by ARI for this product and talks are underway at the moment with a major multinational company in this regard. Rowan Valentine is currently doing his surgeon-scientist PhD on the effects of chitosan on the nose and sinuses after surgery. The other major research direction in our department focuses on understanding the pathogenesis of chronic rhinosinusitis. One of the areas is in understanding the role of bacterial biofilms in chronic sinusitis. There have been a number of studies documenting the presence of biofilms, however there is still much conjecture regarding the causative bacteria forming these biofilms. Andrew Foreman is currently doing a surgeon-scientist PhD in which he is developing Fluorescence in situ Hybridisation (FISH) protocols for detection of biofilms in CRS. We are also developing collaborations with the University of Ghent, Belgium and the Centre for Genomic Sciences, Pittsburgh,



**Professor PJ Wormald**

Philadelphia, USA to assist with our future research direction. We are going to be utilising the skill set in Pittsburgh to allow genomic assessment of the *S. aureus* from our CRS patients. This will provide the gold standard for biofilm detection by identifying the genotypic changes that differentiate biofilm bacteria from their planktonic counterparts. Secondly, we will be looking to identify a link between biofilms and the host immune system, thereby strengthening the argument that biofilms are pathogenic in CRS and not just innocent bystanders. Staphylococcal superantigen analysis will be performed in Ghent and here in Adelaide, we will be investigating the link between biofilms and innate immune system components such as Toll-Like Receptors.

Our Chief Laboratory scientist Dr Lorwai Tan is responsible for overseeing the research into understanding the molecular mechanisms that underlie the pathology of sinus diseases with particular emphasis on understanding the mechanisms and causes of the chronic inflammation seen in this disease. She has had a 3 year Garnett Passe and Rodney Williams Memorial Foundation project grant designed to understand signals that can reduce chronic mucosal inflammation. In this study we investigated the use of Cytosine-p-Guanosine sequences (CpG's) to attenuate the chronic inflammatory response via Toll-like Receptor signalling. Dr Tan was also awarded a 3 year Garnett Passe and Rodney Williams Memorial Foundation Research Scientist Grant for a study into the role of host mucin glycoproteins in bacterial biofilm formation. One of the highlights of this year has been the NHMRC Development Grant awarded to Dr Lorwai Tan (CIA) and Prof Wormald (CIB) for research into commercializing the use of specific sugar moieties in the treatment of chronic inflammatory diseases.

## Staff

### Professor of Otolaryngology and Head of Department

P-J Wormald MD FCS(SA) FRCS(Ed)

### Senior Lecturer

G Rees MBBS FRACS

### Staff Specialist

S Floreani MBBS FRACS

J Ling MBBS FRACS

S Rajapaksa MBBS FRACS

D Wabnitz MBBS FRACS

### Rhinology Fellow

K Seiberling MD

### ENT Hospital Scientist

LW Tan BSc(Hons) PhD

### ENT Research Assistants

L Baker

P Harris

### Postgraduate Students

R Valentine MBBS

A Foreman MBBS

D Singhal MBBS

A Psaltis MBBS

T Athanasiadis MBBS

T Le MBBS

## Completed Theses

A Psaltis 2005-2008. Doctor of Philosophy thesis entitled "The effect of altered mucin gene expression in inducing a chronic inflammatory response in rhinosinusitis and allergic fungal sinusitis".

K Ha 2006. Master of Surgery thesis entitled "The development of an in vivo sheep model for the study of biofilms in chronic rhinosinusitis".

## Awards 2008

A Foreman. Highly Commended Poster Award Postgraduate Research Day, FHS, University of Adelaide, Adelaide July 2008.

A Foreman. 4th Australasian Rhinological Society Best Oral Presentation Award, Auckland New Zealand September 2008.

A Foreman. The Queen Elizabeth Hospital Research Foundation Best Poster Presentation Award, TQEH Research Day, Adelaide October 2008.

R Valentine. The Queen Elizabeth Hospital Research Foundation Award for best presentation, "Higher Degrees Clinical and Registrars" category, The Queen Elizabeth Hospital Research Day, Adelaide October 2008.

## Grants

BioInnovation SA Commercial Development Grant "Novel glycotherapies for bacterial biofilm associated diseases" (\$62,420 2008) Tan LW, Wormald PJ.

Garnett Passe and Rodney Williams Memorial Foundation Research Fellowship "Aberrant host mucin glycosylation patterns increases bacterial biofilm formation in chronic sinus disease" (\$120,000 2008) 2008-2010, Tan LW, Wormald PJ.

Garnett Passe and Rodney Williams Memorial Foundation Project Grant "The localised application of antigen-CpG oligonucleotides to modulate chronic mucosal inflammation. A novel therapy for sinus disease" (\$90,000 2008) 2006-2008, Carney S, Ooi EH, Tan LW, Woods C, Harris P, Wormald P.

Garnett Passe and Rodney Williams Memorial Foundation Research Scientist Grant "Are aberrant sugar profiles of the mucin glycoprotein MUC7 responsible for bacterial and fungal biofilm formation in chronic rhinosinusitis" (\$120,000 2008) 2008-2011, Tan LW, Wormald PJ.

Garnett Passe and Rodney Williams Memorial Foundation Project Grant "The innate immune response to fungal and staphylococcal challenge: the role of lysozyme" (\$90,000 2008) 2008-2010, Carney AS, Harris P, Woods C, Ooi EH, Tan LW Wormald PJ.

Garnett Passe and Rodney Williams Memorial Foundation Surgeon Scientist Grant (\$75,000 2008) Foreman A.

TQEH Research Foundation/University of Adelaide Postgraduate Research Scholarship (\$20,006 2008) Valentine R.

TQEH Research Foundation/ENT Department Postgraduate Research Scholarship (\$15,000 2008) Singhal D.

## Commercialisation

### Patents

Title: Diagnostic method

- Registered in the name of The Queen Elizabeth Hospital Research Foundation and The Queen Elizabeth Hospital
- Australian Provisional Patent Application 2008902510 Filed 21 May 2008
- Inventor: LW Tan

Title: Method of treatment

- Registered in the name of The Queen Elizabeth Hospital Research Foundation and The Queen Elizabeth Hospital
- Australian Provisional Patent Application 2008903259 Filed 26 June 2008
- Inventor: LW Tan



# Psychiatry, University of Adelaide Discipline of

## Research Focus

- The impact of major common psychiatric disorders, such as depression and anxiety, on cardiovascular disease and its management.



**Dr Geoff Schrader**

### Overview

In 2008, Dr Geoff Schrader, along with Associate Professor John Beltrame from the Discipline of Medicine and Professor Peter Howe from the Centre for Nutritional Physiology at UniSA were successful in obtaining a grant from the National Heart Foundation and beyondblue for a new project which will determine the effect of dietary supplementation with omega 3 fatty acids on depression in cardiac patients. The role of the serotonin transporter gene and endothelial dysfunction in the mechanism of any effect will also be investigated. The project will begin recruiting patients in early 2009.

Dr Schrader continued his collaboration with Professor Simon Stewart, Professor of Preventative Cardiology at the Baker Heart Research Institute and Professor David Wilkinson, of the Department of Primary Care at University of Queensland on the NHMRC funded "TakeHeart" project. This project involves a cluster randomized trial conducted in 24 general practices and is attempting to discover the impact of identifying and treating depression in patients with heart failure and angina. During the year Ms Kerena Eckert, Research Fellow, continued in her role as project manager and 300 patients have now been recruited. Dr Schrader has also continued his collaboration with Dr John Beltrame from the Discipline of Medicine and together they supervise 2 PhD students, Rosanna Tavella and Alexis Wheeler, whose projects focus on various aspects of the association between cardiac disease and depression. Rosanna Tavella continued her investigation into the impact of depression on quality of life in cardiac patients and continued a project examining the association between the serotonin transporter gene and depression in cardiac patients. Alexis Wheeler began 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 is also planning a study to determine the effect of mindfulness based meditation on endothelial

function in depressed outpatients at the Centre for the Treatment of Anxiety and Depression.

Dr Rohan Dhillon and Dr Tarun Bastiampillai, clinical lecturers, continued to develop their interest in the side effects of antipsychotic medication. Dr Maura Kenny, clinical 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 Fellow

K Eckert MPH

#### Research Nurses

E Jansen RN

T Stewart RN

#### Administration

DK Brown

D Alberton

### Postgraduate Students

#### PhD candidates

R Tavella "Quality of life, depression and cardiac disease"

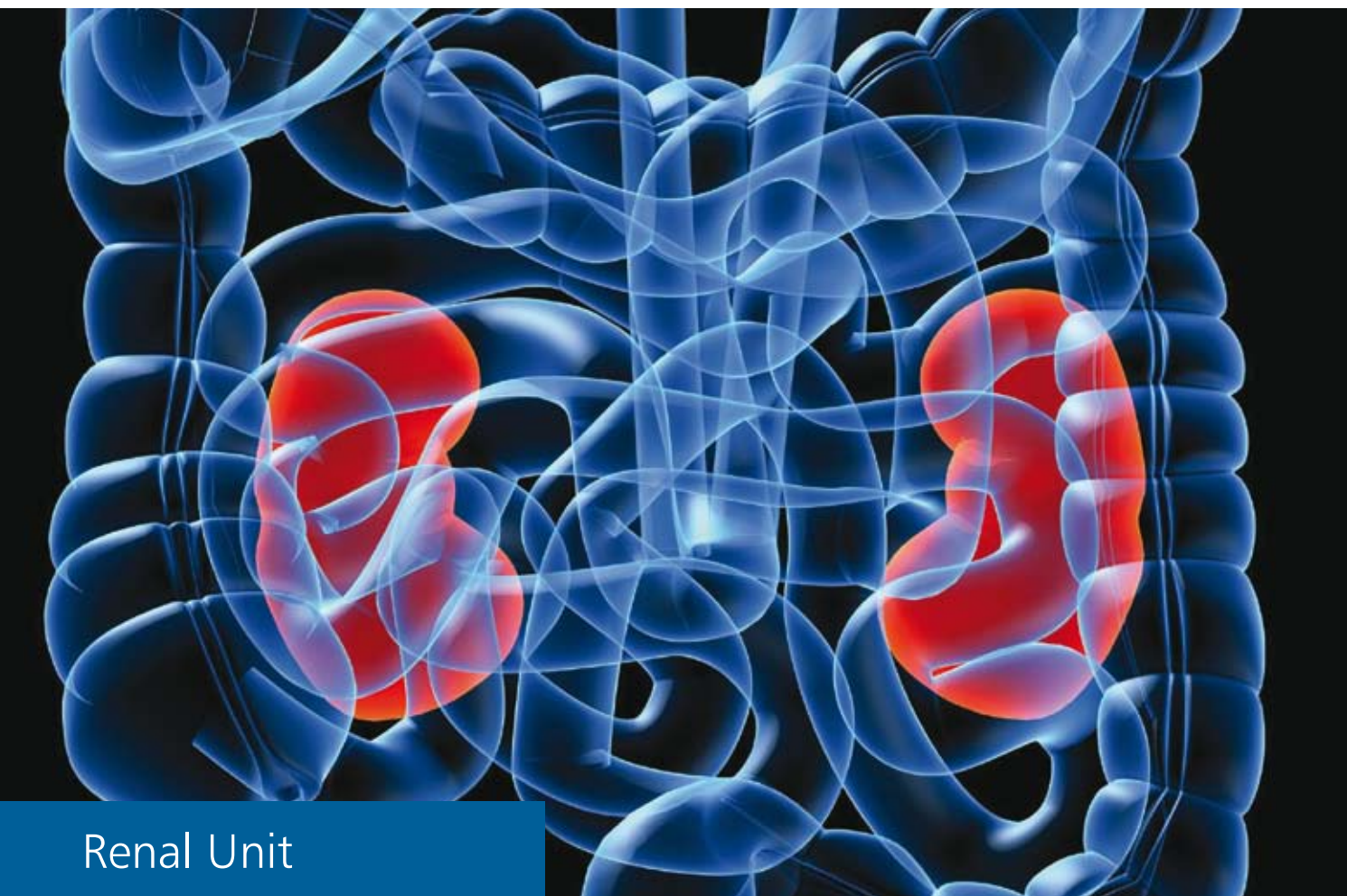
A Wheeler "Associations between depression and cardiac disease"

#### Masters candidate

B Asokan "Measurement of trauma in acutely psychotic patients"

### Grant

National Heart Foundation of Australia/ beyondblue "Omega-3 fatty acid supplementation for symptoms of depression in cardiovascular disease" (\$148,392 2008) 2008-2010, Schrader GD, Beltrame J, Howe P, Berry N, Coates A, Buckley J.



## Renal Unit

### Research Focus

- Many aspects of the care of the patients with renal disease with special emphasis on kidney transplantation at clinical, epidemiological and experimental levels
- A new research initiative began in 2005-6 in the field of pancreatic islet transplantation as treatment for Type-1 diabetes mellitus and has progressed to the point where the first islet transplant is imminent

### Overview

2008 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;
- Research funding to the department exceeding 1 million dollars for the third consecutive year;
- Twenty one publications in peer reviewed international medical journals;
- A record number of post graduate students;
- The appointment of Dr Michael Collins as a Nephrology Fellow, a new position in 2008, to focus on clinical research;
- The return of Dr Claire Jessup, NHMRC CJ Martin Fellow, from Oxford University to join the Transplantation Immunology Laboratory, TQEH;
- Continual growth in contract research between commercial companies and the department;
- Top Ten International Young Investigator Award to Ms Hooi Sian Eng at the XXIIth International Transplantation Society Meeting in Sydney;
- Three Honours students being awarded honours in BSc Honours Degree. (Amanda Kupke 1st class University of Adelaide, Cheng Gong 2A University of Adelaide and Amy Hughes 2A Flinders University);
- Academic promotions for Toby Coates and Stephen McDonald to Associate Professor;
- New 3 year NHMRC Project Grant (funding to commence 2009-2011) to



**Dr GR Russ**

- A/Prof Toby Coates for Renal Dendritic Cell studies, and  
 • TQEH Research Foundation Program Grant for Translation Renal Research Centre to Prof Graeme Russ, A/Prof Toby Coates, A/Prof Stephen McDonald, Dr Ravi Krishnan, A/Prof Ray Morris and Dr Betty Sallustio (funding 2009-2011).

### **TQEH Research Focus**

The research program at the Department of Nephrology and Transplantation Services at The Queen Elizabeth Hospital has three broad aims which cover firstly the epidemiology of kidney disease, cellular therapies for chronic renal disease/organ transplantation and clinical renal transplantation research. The department had a record year for kidney transplantation, passing its 2,000th kidney transplant operation and exceeding 100 kidney transplants for the calendar year for the first time since transplantation began at TQEH in 1965.

### **Epidemiological Research**

The principal focus of Epidemiological Research has continued to be the Australia and New Zealand Dialysis and Transplant Registry, housed within the Department. A/Prof McDonald is the Executive Officer for this, and Prof Russ chairs the Executive Committee. The Registry is funded by an agreement with the Commonwealth Department of Health and Ageing, and is overseen by a steering committee with wide representation from nephrologists and others across Australasia. The ANZ Organ Donor Registry is also conducted in a similar fashion. For both Registries, the core roles are gathering and utilising information about the incidence, prevalence and outcomes of dialysis and transplantation across Australia and New Zealand (for the ANZDATA Registry), and the number and characteristics of deceased organ donors (for ANZOD Registry).

As part of this there is an active research role, with a number of papers produced and a wide network of collaborators in renal units throughout Australia. Dr Sean Chang resigned as epidemiology fellow in February 2008 to continue his career in nephrology at Flinders Medical Centre; the post of epidemiology fellow has been filled by Dr Andrew Brunskill from September 2008. Dr Brunskill comes from a background in public health and Medical Informatics, completing his

PhD examining rates of diabetic complications. In his initial projects he has focused on the predictors of late referral among dialysis patients, and the relationship between dialysis modality and transplant outcomes.

In late 2008, Renee Chambers commenced a PhD in aspects of organ donation. She intends to examine predictors of deceased organ donors, and relationship with outcomes, using material from the ANZOD Registry.

Papers published from the Registry in 2008 have covered a wide variety of material, across both dialysis and transplantation. Presentations were given at the ANZ Society of Nephrology and the American Society of Nephrology conferences.

### **Laboratory Research**

The laboratory research conducted by Dr Ravi Krishnan continues to investigate the role of inhibitory molecules in allograft rejection by the use of gene therapy vectors. The inhibitory molecules studied are FoxP3, HLA-G, PD-L1/2. Another aspect of Dr Krishnan's work examines the role of adult Mesenchymal stem cells as cellular therapeutic agents for modifying the alloimmune response to facilitate the acceptance of transplanted organs with minimal immunosuppression. In addition, new investigations using mesenchymal stem cells by Dr Krishnan have recently been funded by the US-based Adult Stem Cell Therapy Company, Angioblast Systems. The collaborative research project will be examining the role of Adult Stem Cells in a variety of degenerative diseases and opens up a strong link between medical research in the hospital and industry. The funding will allow the employment of experienced researchers Mr Dongqing Yang and Ms Julie Johnston. The data obtained from the studies will facilitate further funding from Industry and also Category 1 type funding. This year Dr Krishnan has supervised two PhD students (Boris Fedoric and Darling Rojas), two honours students (Amy Hughes and Chen Gong). Dr Krishnan has pursued extensive collaborations at an International level with the University of Columbia (Prof Silviu Ietescu) and local collaborators with regard to mesenchymal stem cell therapy.

A highlight of 2008 was the return to Adelaide of Dr Claire Jessup as a CJ Martin Fellow. Dr Jessup completed PhD studies in corneal transplantation at Flinders University



with Professor Doug Coster and Professor Kerry Williams. Dr Jessup spent the last 2 years at Oxford University working on T cell signalling with Professor Simon Davis and returns to increase the expertise of the laboratory in gene therapy and cell signalling.

The Queen Elizabeth Hospital Research Foundation continues to support the laboratory research effort. In 2008 the Foundation provided key funding through the Muriel T Gunn Foundation that enabled a BD FACS Canto to be provided for the Laboratory. This vital piece of equipment has been supervised by Mrs Sijetlana Kireta and is used for research and diagnostic purposes in the department and the institute.

Within the dendritic cell laboratory Dr Natasha Rogers continued her studies on tolerogenic liposomes in association with Prof Chris Parish from the Australian National University. Mr Tyson Matthews commenced studies in Ischaemia Reperfusion Injury in the laboratory under the supervision of A/Prof Toby Coates and A/Prof Richard Kitching (Monash Medical Centre) and Dr Ray Steptoe (University of Queensland). Tyson was successful again in the TQEH Research Day prizes in the early Higher Degrees Basic Research category. Dr Shilpa Prasad finished experimental work on tolerogenic dendritic cells and is currently finalising her thesis dissertation for submission in 2009. Dr Prasad is supervised by A/Prof Toby Coates and Professor Graeme Russ.

Dr Shaundee Sen continues his PhD examining the relationship between risk factors and markers of vascular disease among people with kidney disease. A new co-supervisor, Dr Claudine Bonder from the Hanson Institute joined Dr Sen's supervision with A/Prof Stephen McDonald and A/Prof Toby Coates. In 2008, the bulk of Dr Sen's work has been perfecting assays of endothelial progenitor cell number and function, for application in clinical studies in dialysis and transplant patients from late 2008. He has also examined rates of different types of hospital admissions for cardiovascular causes, comparing rates of myocardial infarction and cardiac failure between dialysis and transplant patients and the general population.

Dr Michael Collins under the supervision of A/Prof Toby Coates and A/Prof Stephen McDonald was successful in being awarded a

Cellcept Australia Research Grant (CARG) for his study on the value of screening colonoscopy in colorectal cancer.

Tissue typing research continued in the laboratory under the supervision of A/Prof Toby Coates and Prof Graeme Russ. Ms Hooi Sian Eng continued her studies on the significance of Luminex detected antibodies in cross matching. Ms Eng was awarded an International Young Investigator prize at the International Transplant Society Meeting which was held in Sydney in August of 2008. Ms Eng was one of the top ten young investigators in the world presenting at this meeting. She also held a research abroad scholarship from the University of Adelaide which enabled her to visit the Tissue Typing Laboratories at the University of Pittsburgh in Pennsylvania, USA and John Hopkins' Hospital in Baltimore. Other members of the Tissue Typing Laboratory presented clinical research at the Australasian South East Asian Tissue Typing Association meeting in Sydney.

### **South Australian and Northern Territory Islet Program**

The South Australian and Northern Territory Islet Program was extremely active this year in sending organs from South Australia and the Northern Territory to St Vincent's Institute in Melbourne for islet isolation. Dr Daisy Mohanasundaram returned from maternity leave and has developed rodent islet isolation in mice and rats. She has initiated a project in Type II diabetes to investigate the role of critical zinc transporters in islet biology. A new islet scientist Ms Clare Mee joined the group from IMVS Gilles Plains with expertise in small animal handling. Mr Chris Drogemuller with A/Prof Toby Coates supervised Ms Amanda Kupke to develop adenoviral gene therapy for insulin-like growth factor II as a novel therapy to prevent apoptosis in transplanted islets. Amanda was awarded first class honours. SANTIP hosted the Australian Islet Consortium at a meeting in December of 2008 with a view towards a first clinical transplant occurring early in 2009. Mr Clyde Milner continues to provide laboratory supervision and management on the Islet Transplantation Program, and Islet Transplant nurse Ms Toni Miller has coordinated the transplant list. Four patients were recruited on to the active waiting list in a new clinic that was set up at the Royal Adelaide Hospital. A



record number of organ donors in South Australia allowed SANTIP to contribute over 20 pancreata for islet isolation and a further 6 organs for whole pancreas transplantation. The program will have a new PhD student starting in 2009 to continue gene therapy studies for islet transplantation.

### **Clinical Trials**

The Department continues to be an active participant in a number of international clinical trials in transplantation and nephrology. In 2008 recruitment of patients into four trials involving novel agents continued or commenced. A phase 3, multicentre international trial assesses tolvaptan, a vasopressin receptor blocker, in patients with autosomal dominant polycystic kidney disease to assess the effect on the rate of renal volume change over 36 months. The unit was one of the largest international recruiters in this novel new trial which promises the only available treatment for this condition. In 2008 the department completed patient recruitment into two phase 2 transplantation trials, using an inhibitor of Protein Kinase C, AEB 071, and an inhibitor of JAK3 kinase, CP-690,550 to assess the effect on acute rejection and transplant function. Prof Russ is a member of the International Advisory Board for AEB 071 and further phase 3 trials of this agent are expected to be offered to the unit in 2009. A phase 3 trial of a new erythropoiesis stimulating agent, Haematide, also opened for patient recruitment in late 2008.

A number of transplant and nephrology studies are continuing from previous years where patients are still being followed. These include trials examining the efficacy of new Erythropoiesis Stimulating Agents in the treatment of renal anaemia, the use of a new calcimimetic agent, Cinacalcet, to reduce the development of renal bone disease and also a study of its efficacy in the reduction of cardiovascular events in chronic renal failure patient, and ongoing assessment of a new immunosuppressant, belatacept on transplant outcomes.

The "Pride" Study which also commenced in 2008, examines the effect of exercise and diet on the development of post-transplant diabetes in patients receiving the immunosuppressant, tacrolimus, in the first six months after transplantation.

## **Staff**

### **Professor and Director Renal Unit and Renal Transplant Services**

GR Russ MBBS FRACP PhD

### **Senior Staff Nephrologists**

APS Disney MBBS FRACP

SP McDonald MBBS(Hons) FRACP PhD

### **Transplant Surgeons**

MM Rao BSc MS MCh FACS FRACS

CH Russell MB BCH FRACS BA(Hons) MA (Oxon)

FRCS (Edin)

### **Renal Transplant Nephrologist**

PTH Coates MBBS FRACP PhD

### **Senior Medical Scientist**

R Krishnan BSc(Hons) PhD

### **Medical Scientists**

C Milner BAppSc

S Kireta BSc

A Milton BSc (part-time)

C Drogemuller BSc

D Mohanasundaram PhD

C Mee BHLthSc

### **CJ Martin Fellow**

D Jessup PhD

### **Research Assistant**

A Kupke BSc (Hons)

### **Technical Officer**

J Johnston

### **Clinical Trials**

B Hockley RN

C Russ RN

M Hockley RN

K Fisher

L Trowbridge RN

T Miller RN

C Chan RN

### **ANZDATA Registry**

L Excell

B Livingston B Surv

E Steinmetz

C Young

C Leitch

S Chan MBBS MRCP

(Epidemiology Fellow- until Feb 2008)

A Brunskill MBBS MPH

(Epidemiology Fellow – from Sep 2008)

## Postgraduate Students

### PhD candidates

S Prasad MBBS(Hons) FRACP "Plasmacytoid dendritic cell therapy cell for transplantation in marmoset monkeys"

HS Eng BSc(Hons) "Analysis of the specificity and properties of Allo-antibodies associated with rejection of renal transplants"

N Rogers MBBS FRACP "Specific targeting of dendritic cells with tolerogenic liposomes in allotransplantation"

S Sen MBBS FRACP "Investigation of classical and novel risk factors for cardiovascular disease and function in kidney disease"

B Fedoric BSc(Hons) "Studies on the ability of HLA-G transduced dendritic cells to modify allograft survival in an ovine model of transplantation"

D Rojas BSc(Hons) "Studies on the immunomodulatory effects of the inhibitory molecule PDL-2 in dendritic cells"

T Matthews BSc(Hons) "Role of Dendritic Cells in Immune Responses in Ischaemia Reperfusion Injury in the Kidney"

R Chambers "Study to examine predictors of deceased organ donors, and relationship with outcomes, using data from the ANZOD Registry"

### Honours Candidates

A Hughes BSc "Conversion of mesenchymal stem cells to insulin producing cells"

C Gong BSc "Rapamycin inhibits the immunosuppressive capacity and osteogenic differentiation potential of mesenchymal stem cells"

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

## Appointments

Dr Michael Collins MBChB, FRACP Clinical Research Fellow in Nephrology

## Awards

B Fedoric. The Queen Elizabeth Hospital Research Foundation Award for best lay abstract description, The Queen Elizabeth Hospital Research Day, Adelaide October 2008.

T Matthews. The Queen Elizabeth Hospital Research Foundation Award for best presentation, Higher Degrees Basic research Group 1 (Junior) category, The Queen Elizabeth Hospital Research Day, Adelaide October 2008

## Grants

CellCept Australia Research Grant (CARG) 2008 "Colorectal cancer Screening in Renal Transplant Recipients" (\$20,000 2008) Coates PTH Co Investigator.

Endeavour International Postgraduate Research Scholarship "Analysis of the specificity and properties of Allo-antibodies associated with rejection of renal transplants" (\$20,006 2008) Eng HS.

Juvenile Diabetes Research Foundation Program Grant "South Australian and Northern Territory Pancreatic Islet Isolation Program" (\$809,000 2007- 2008) 2006 – 2009, Russ G, Coates PTH *et al*.

Kidney Health Australia Postgraduate Medical Scholarship "Investigation of classical and novel risk factors for cardiovascular disease and function in kidney disease" (\$33,000 2008) Sen S.

NHMRC Postgraduate Medical Research Scholarship "Plasmacytoid dendritic cell based islet cell transplantation in marmoset monkeys" (\$29,172 2008) Prasad S.

NHMRC Postgraduate Medical Research Scholarship "Specific targeting of dendritic cells with tolerogenic liposomes in allotransplantation" (\$29,172 2008) Rogers N.

NHMRC #457281 Capacity Building Grant in Population Health "Improving population health by a multidisciplinary, multi-method focus on kidney disease of the young, the old and of Indigenous Australians" (TQEH \$54,970 2007-08) 2007 – 2010 Craig J, Cass A, Irwig L, Chadban S, McDonald S, Devitt, Macaskill P, Jones M, Howard K.





The Queen Elizabeth Hospital Research Foundation Fotheringham bequest (salary support) Dendritic Laboratory (\$50,000 2007-08) Russ GR.

The Queen Elizabeth Hospital Research Foundation/University of Adelaide Divisional Scholarships (\$40,012 2008) Fedoric B, Rojas DM.

TQEH Research Foundation Small Grant "The ectopic expression of the transcription factor FoxP3 in dendritic cells" (\$20,000 2008-2009) Krishnan R.

The Queen Elizabeth Hospital Research Foundation 2008 Near Miss grant "The role of renal dendritic cells in ischaemia reperfusion injury" (\$98,000 2008) Coates PTH.

New Zealand to visit Johns Hopkins University and University of Pittsburgh and to attend ASHI Meeting in Toronto, Canada.

HS Eng. Oct 2008. Postgraduate Travelling Fellowship (AUD\$2,500) from the Faculty of Health Sciences, University of Adelaide, to visit Johns Hopkins University and University of Pittsburgh and, to attend ASHI Meeting in Toronto, Canada.

MG Collins. Cellcept Australia Research Grant (CARG) 2008 funded by Roche Australia Pty Ltd of \$20,000

A Kupke. Honours Poster Prize, Molecular Biosciences Research Symposium, Adelaide 2008.

## Contract research

Lipotek Pty Ltd "Mechanistic study on the cellular action of Dendritic Cell Targeted Vaccine." This study was performed in the marmoset monkey. (\$135,318, 2007-2008) Coates PTH, Kireta S, Leedham E.

Angioblast Systems Ltd " on the therapeutic use of adult mesenchymal stem cells in degenerative diseases" (\$192,000 2008-2009) Krishnan R.

## Acknowledgements

The Renal Unit especially wishes to thank The Queen Elizabeth Hospital Research Foundation for its continuing project and scholarship support.

We very much appreciate the generous support of the Muriel T Gunn Foundation to enable enhanced work to continue in the Renal Unit.

## Awards

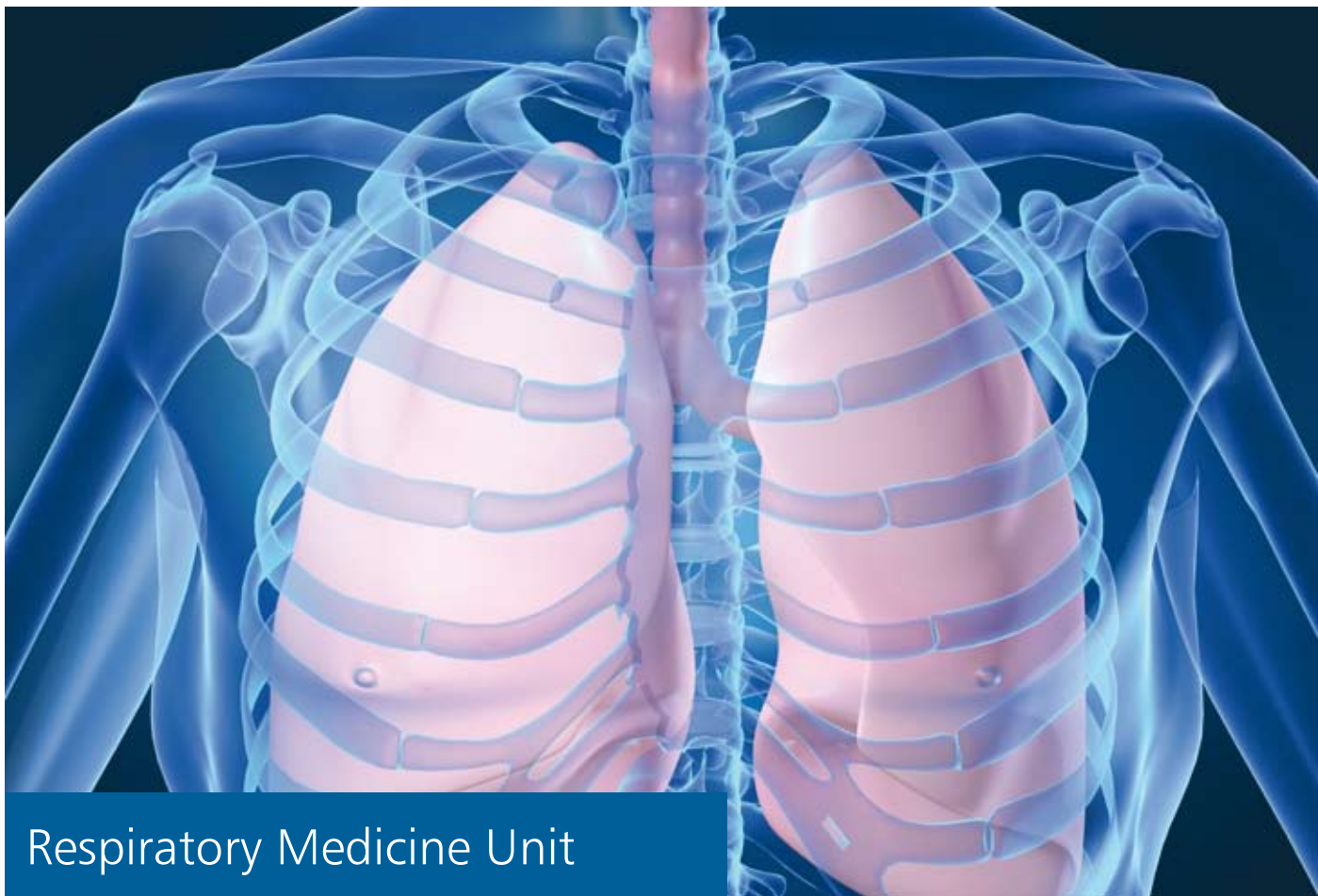
HS Eng. Aug 2008. Amgen Young Investigator Award, Sydney, Australia.

HS Eng. Aug 2008. Young Investigator Award, The Transplantation Society of Australia and New Zealand, Sydney, Australia.

HS Eng. Aug 2008. Top 10 finalist abstracts Young Investigator Award of The XXII International Congress of The Transplantation Society, Sydney, Australia.

HS Eng. Sep 2008. Finalist of Clinical Science Young Investigator Award at The 44th Annual Scientific Meeting of The Australia and New Zealand Society of Nephrology (ANZSN), Newcastle, Australia

HS Eng. Sep 2008. Travel grant from The Transplantation Society of Australia and



## Respiratory Medicine Unit

### Research Focus

- Best Practice/medication/counseling combination intervention for inpatient smoking cessation
- Positional aspects to obstructive sleep apnoea management
- Nitric Oxide
- Innovative forms of portable oxygen delivery

Group network across most states of Australia.

The Respiratory Medicine Unit and Clinical Practice Unit have collaborated across multiple units at TQEH and beyond to evaluate the potential synergistic benefits of commencing smoking cessation, for inpatients, using latest anti smoking medication, and Best Practice counselling. Varenicline, which received PBS approval on the 1st January 2008, is superior to nicotine patches at smoking cessation, although has never been formerly evaluated when commenced in an inpatient setting. The South Australian Quit Line which is based on Greenhill Road, provides a year round service to smokers, in the form of highly supportive professionally trained counsellor support, and in combination with TQEH Project Officers who have undergone SA Quit training via collaborator, John Lit (of Flinders Medical Centre). Other collaborating units at TQEH include the Cardiology Unit (for patients with cardiovascular disease), the Neurology Units (for patients with cerebrovascular disease) and also the Vascular Unit. 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.

### Overview

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

In December, a group of TQEH Registrars, TQEH Project Officer, and a TQEH based medical student underwent a Cochrane training workshop run by Vanessa Pitt, of the Melbourne Cochrane Centre, who came to TQEH as a guest educator for a one day course. Using interactive online methods, the group of Respiratory clinicians/ researcher officer/medical student learnt how to conduct Cochrane reviews, and now these reviews are underway, under the supervision of Brian Smith, and other members of the Australian Cochrane Airway

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 Clinical Trials team of the Respiratory Medicine Unit continue to evaluate a range of new medications for COPD, asthma, interstitial lung disease, and insomnia (led by Dr. A. Southcott).

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), as well as looking at diagnosis and therapy of positional sleep apnoea (led by Dr. A. Veale).

Brian Smith has collaborated with members of the British Thoracic Society to produce the 2008 "British Guideline on the Management of Asthma".

## Staff

### Director

BJ Smith MBBS FRACP Dip Clin Epi PhD

### Senior Consultants

AM Southcott MBBS(Hons) FRACP  
R Ruffin MBBS(Hons) MD BSc(Hons) FRACP  
I Nikitins MBBS FRACP  
A Veale MBBS PhD FRACP  
J Polasek MBBS

### Advanced Trainees

S Mysore  
J D'Costa

### Principal Medical Scientist

S Homan MSc

### Pulmonary Function Laboratory

D Keatley BSc(Biomed)(Hons)  
A Herrero Adv RSC Cert of Science  
N Leonardis BSc

### Clinical Trials Unit Coordinator

K Boath Mgt Cert Adv Cert BHealth Sci

### Research Nurse

P Gluyas RN RM CC Cert

### Sleep Laboratory

M Smith BSc  
T Faulkner BPsych(Hons)  
T Hams (Admin)

### Respiratory Nurses

L Kotal RN RM CC Cert Post Grad Dip Health  
Counselling  
K Lawton BAN

### Unit Pharmacist

T Jones B Pharm Dip Ed PhD

### Secretarial

H Gummow  
M Ashley  
V Daly

## Grants

Commonwealth Dept of Health and Aged Care "Australian Cochrane Airways Group Network" (\$25,000 2008) Smith BJ *et al.*

### Clinical Trials (Dr AM Southcott)

Almirall COPD	\$20,053
Astra Zeneca COPD	\$12,771
Bayer Acute exacerbations	
Chronic bronchitis	\$5,500
Boehringer Ingelheim –	
Pulmonary fibrosis(IPF)	\$23,078
Boehringer Ingelheim COPD	\$3,600
Intermune IPF	\$ 3,500
Novotech Epigenesis Asthma	\$34,024
Sanofi Aventis Insomnia	\$123,058
<b>Total</b>	<b><u>\$225,584</u></b>





## Rheumatology Unit

### Research Focus

- Autoimmunity
- Epidemiology
- Immunogenetics
- Osteoarthritis

### Overview

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

Dr Catherine Hill is chief investigator on a NHMRC funded randomized clinical trial of fish oil in the treatment of knee osteoarthritis. Other current areas of investigation by Dr Hill include the prevalence and burden of musculoskeletal disease in the SA population using data from the North West Adelaide Health Study; cardiovascular disease perception and health literacy in early arthritis patients; systematic reviews of treatment for temporal arteritis and polymyalgia rheumatica and cancer risk in patients with rheumatic diseases.

Dr Maureen Rischmueller's research group, led by Medical Scientist, 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, in collaboration with Drs Simon Burnet, Catherine Hill, and Samuel Whittle, they are continuing to archive DNA and serum samples from a range of other autoimmune diseases, such as systemic lupus erythematosus, myositis and scleroderma. Further, they have commenced archiving DNA from the North West Adelaide Health Study cohort, which will be an important future resource for research at The Queen Elizabeth Hospital. An exciting development this year was their publication demonstrating genetic variation in regulation of B cell survival factor levels in Sjögren's syndrome patients, which may have implications for lymphoma risk in these patients. This is being investigated further in an on-going study requiring data linkage with the South Australian Cancer Registry. Their collaboration with Professor James Wiley, Nepean Hospital, Sydney, pertaining to a potential new autoantibody in Sjögren's syndrome is on-going, and Dr Bac Hai Tran has been employed to pursue this, with promising preliminary results. This autoantibody has great potential to be both specific (and therefore be of use in a diagnostic capacity) and functionally



**Dr Maureen Rischmueller**



important in the dryness symptoms associated with this disease.

Two other exciting developments this year were: firstly, the building of the new research Institute, which will enable Rheumatology to consolidate its research program at The Queen Elizabeth Hospital, and secondly, the opportunity to form strategic collaborations with other groups. Rheumatology is actively involved with the both the Health Observatory and the Centre for Inflammatory Diseases Research, and anticipates major research benefits to follow from these collaborations.

## Staff

### Director/Senior Lecturer

M Rischmueller MBBS FRACP

### Staff Specialists

S Burnet MBBS FRACP

CL Hill MBBS MSc(Epi) FRACP

S Whittle MBBS FRACP

### Registrar

M Wechalekar MBBS

### Medical Scientists

S Lester BSc(Hons)

H Tran BSc PhD

### Technical Officer

J McLean

### Clinical Trials Coordinator

S Downie-Doyle BSc(Hons) PhD

### Study Coordinator

R Battersby BSc Grad Cert Drug Development

### Clinical Trials Assistant/Administrative Support

J Marrett BBus (Mkt)

M Bubicich BSc(Hons)

M Devine

### Rheumatology Clinical Nurse

A Batty

## Acknowledgments

The Rheumatology Unit would like to acknowledge Prof Les Cleland, Director of Rheumatology, RAH, for provision of laboratory space at the Hanson Institute, Arthritis Australia, and C.Y. O'Connor ERADE Village, Western Australia.

## Grants

Arthritis Foundation of Australia Project Grant "Genetic determinants of type I interferon responses in primary Sjogren's syndrome and systemic lupus erythematosus" (\$50,000 2008) Lester S, Rischmueller M.

NHMRC Grant No 451900. "Fish Oil in knee osteoarthritis" (\$162,875 2008) 2007-2009, Hill C, Cleland L, Jones G, March L.

The Queen Elizabeth Hospital Research Foundation Near Miss Grant 2008 "The P2X7 receptor, autoantibodies and Sjogren's syndrome" (\$40,000 2008) Wiley J, Rischmueller M.



## Surgery, University of Adelaide Discipline of

### Research Focus

- Surgery for cancer
- Minimally invasive surgery
- Assessing the evidence
- Understanding the biology of surgical disease

### Overview

The year 2008 has seen steady improvement in the performance of the Division of Surgery with respect to research grant success and publications. During the year in excess of 60 peer reviewed publications were published in a range of topics and journals outlined in the bibliography. Valuable contributions were made in vascular surgery, orthopaedics, colorectal, upper GI and ENT surgery, reflecting the academic strengths within the Division. 2008, in particular, has signified some extraordinary grant successes, with the Garnett Passe and Rodney Williams Memorial Foundation being a very strong supporter of the ENT programme within the Division under the leadership of Professor PJ Wormald. Associate Professor Rob Fitridge was successful in gaining a \$1.1 million NHMRC grant building on his earlier work

of follow-up following endoluminal grafting of patients with aortic aneurysms. This is an important project which has gained collaboration around the country and internationally and will certainly help establish the vascular service at The Queen Elizabeth Hospital as a major centre for high quality research for the foreseeable future.

Within the Upper GI Unit, Professor Maddern in association with Mr Peter Hewett gained support for a major grant from the TQEH Research Foundation over the next five years, in excess of \$1.5 million. This will enable more cohesive collection of data and introduction of new technologies into the public health system within Australia and is drawing on collaborations from other centres within the Central Northern Adelaide Health Service as well as the Royal Australasian College of Surgeons.

A further initiative has been the early work on surgical simulation training and its validity. The work involved in this is complex and difficult, involving medical students, early surgical trainees as well as experienced surgeons, and attempting to document what levels of training are able to be assessed on surgical simulators and whether complex and expensive computer-modelled simulators provide a



**Professor Guy Maddern**





better teaching environment than the more simple box trainers currently available. This will be important in advising Government and training organisations as to what is appropriate for their respective needs for the future. If the simpler training systems are as successful as the more elaborate ones, then substantial savings can be made in an environment which is increasingly being challenged for funds.

On a related topic, the Division has introduced a Master of Minimally Invasive Surgery. This is a higher degree offered by the University of Adelaide which is, in part, course work but also involves a significant research exercise. This is a new program and already considerable interest has been shown in the first year. Once the success of this program has been established it is possible it could be offered on-line to candidates around the country as much of its work can be conducted at a remote site.

As always, the success of the Division of Surgery has been entirely due to the dedication and quality of staff working within it. This is not only at the surgical level but also in administration and research support. 2009 will see us on a strong financial footing with the opportunity to make substantial inroads into a number of areas that have previously been unavailable due to lack of adequate funds.

## Staff

**RP Jepson Professor of Surgery**  
**Director, Division of Surgery**  
**Director of Research,**  
**Basil Hetzel Research Institute**  
 GJ Maddern MBBS PhD MS MD FRACS

### Associate Professors

R Fitridge MBBS MS FRACS  
 N Rieger MBBS MS FRACS  
 WEW Roediger MBBCh MSc DPhil(Oxon) FRACS

### Senior Lecturers

M Bruening MBBS MS FRACS  
 M Goggin MBBCh BAO FRCSI(Ophth) FRCOphth DO  
 J Miller MBBS FRACS  
 D Walsh MBBS FRACS

### Lecturer

D Rodda MBBS FRACS

## Staff Specialists

A Anthony MBBS FRACS  
 M Hamilton FRACS  
 P Hewett MBBS FRACS  
 M Lloyd MBBS FRACS  
 D Walters MBBS FRACS  
 P Subramaniam MBBS FRACS

## Clinical Title Holders

S Ali MBBS FRACS  
 A Anthony MBBS FRACS  
 W Babidge BSc BApplSci(Hons) PhD  
 F Bridgewater MBBS FRACS FRCS  
 G Burfield MBBS FRACS FRCS  
 P Byrne MBBS FRCS FRACS  
 D Close MBBS DCH RCP FRACS  
 A Cowin PhD  
 PA Cowled PhD  
 A De Sousa BSc(Hons) FRCS(Irel) FRACS  
 D Economos MBBS FRACO  
 IA Fletcher MBBS BMedSc(Hons) FRACS MRACMA  
 G Fraenkel BMBS FRACO FRACS  
 N Gehling BMBS FRACO  
 RHC Harries BSc MBBS FRACS  
 P Hewett MBBS FRACS  
 V Humeniuk MBBS FRACS  
 A Hunt MBBS Dobst RCOG FRACGP  
 A Karatassas MBBS FRACS MS  
 M Landy MBBS FRACS  
 B Launois MD FACS  
 M Lloyd MBBS FRACS  
 E Mah BMBS MD FRACS  
 G McCulloch MBBS FRCS(Edin) FRACS  
 B McCusker MBBS FRACS  
 N Minnis MBBS FRCS FRACS  
 K Moretti MBBS FRACS  
 C Pozza MBBS FRANZCR  
 T Proudman MBBS FRACS  
 M Rao MS MCh FACS FRACS  
 S Raptis MBBS FRCS  
 T Rayner PhD  
 D Roach MBBS FRACS  
 C Russell BMBCh FRACS  
 P Stuart MBBS DRACOG FACEM  
 M Texler MBBS  
 M Tie MBBCh BAO(NUI) LRCP LRCSI

## RP Jepson Research Fellow

P Cowled PhD

## Postgraduate Student

S Krishnan BHSc(Hons)

## Technical Officers

N Goreham  
 B Hutchens  
 L Leopardi BSc BEng(Hons)Biomedical  
 S Page BMedSc(Hons)

M Slawinski  
M Smith

### **Clinical Trials Coordinators**

C Chian BSc(Hons) LLB GDLP  
B Ramsey BMedRad(NucMed)

### **Colorectal Research Coordinators**

L Borg BBiotech(Hons)  
J Stephens BSc(Hons) MPH

### **Vacation Student 2008–2009**

A Sokolowsky

## **Completed Theses**

A Khanna "Simvastatin ameliorates the local and remote effects of skeletal muscle ischaemia reperfusion injury by nitric oxide mediated mechanisms" Master of Philosophy, March 2008.

F Court "The development of a porcine model of sublethal hepatic resection" Doctor of Medicine, June 2008.

C Dobbins "The future of radiofrequency ablation is looking BETA short and long term studies of bimodal electric tissue ablation (BETA) in a porcine model" Master of Surgery, June 2008.

## **Grants**

Australian Research Council "Managing and mining evolving ontologies through pattern languages and data mining", ASERNIP-S in collaboration with Flinders University and Australian Computer Society (SA Branch), (\$36,975 2008) 2006–2009, Maddern GJ.

BioGRID / Colorectal Surgical Society of Australia and New Zealand / Royal Australasian College of Surgeons, "Colorectal Cancer Audit", ASERNIP-S (\$41,576 2008) 2006–2008, Maddern GJ.

Cancer Council South Australia "The effect of portal venous pressure on remnant function and regeneration following liver resection in a pig model" (\$82,750 2008) Maddern GJ.

Colorectal Surgical Society of Australasia Foundation, "Trial of laparoscopic resection rectopexy vs laparoscopic rectopexy for the treatment of rectal prolapsed" (\$90,000 2008) 2006–2008, Hewett P.

Commonwealth Department of Health and Aged Care, Medical Services Advisory Committee (MSAC), ASERNIP-S (\$248,104 2008) 2005–2008, Maddern GJ.

Commonwealth Department of Health and Ageing / Royal Australasian College of Surgeons, "Introduction and assessment of surgical simulation in Australia" (\$1,666,666 2008) 2008–2010, Maddern GJ.

Commonwealth Department of Health and Aged Care, Medical Services Advisory Committee (MSAC), ASERNIP-S (\$375,332) 2008–2011, Maddern GJ.

Commonwealth Department of Health and Aged Care "Horizon scanning" ASERNIP-S (\$109,383 2008) 2007–2008, Maddern GJ.  
Cook Australia "Endoluminal audit" continuation grant, ASERNIP-S (\$303,000 2008) 2007–2008, Maddern GJ.

National Breast Cancer Council "National Breast Cancer audit" continuation grant ASERNIP-S (\$264,472 2008) 2007–2008, Maddern GJ.

South Australian Department of Health "Assessment of new technologies" ASERNIP-S, (\$162,000 2008) Maddern GJ.

The Queen Elizabeth Hospital Research Foundation "The effects of neoadjuvant chemotherapy on liver resection for colorectal liver metastases. A prospective study" (\$54,000 2008) Maddern GJ.

The Queen Elizabeth Hospital Research Foundation Small Grant, "Colorectal cancer, adhesions and chitosan gel" (\$7,400 2008) Maddern GJ.

The Queen Elizabeth Hospital Research Foundation Small Grants, "Physiological distress project in breast cancer patients, Redman K, Walsh D, Lai C; "Staging multifocal breast cancer – Is it time for a change?" Redman K, Walsh D, Lai C and " Funding for Breast and Ovarian Clinic Data Manager" Redman K, Walsh D, Lai C. (Total funding \$40,000 2008).

The Queen Elizabeth Hospital Research Foundation Postgraduate Research Scholarship/University of Adelaide Faculty of Health Sciences Divisional Scholarship (\$20,006 2008) Krishnan S.



## Orthopaedics and Trauma, TQEH Department of

### Staff

#### Director

C Butcher MBBS FRACS FAOrthA

#### Deputy Director

G Morrison MBChB FRCS (Ed) FRACS FAOrthA

#### Senior Lecturer

A Fagan MBBS (Adel) FRCS (Glas)

#### Visiting Specialists

ET Mah MD BMBS FRACS FAOrthA  
A Munyard MBBS FRCS FRACS FAOrthA  
P Lewis MBBS FRACS FAOrthA  
N Cullen MD FRCS(C) FRACS FAOrthA  
O Osti MD PhD FRACS FAOrthA  
L Ferris MBBS BSc (Med) FRACS  
R Montgomery MBBS 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

#### Consultant Physician

C Gibb MMBS FRACP

#### Arthroplasty Fellow

H Deo FRCS (Trauma & Orth)

#### Spinal Fellow

J Ooi MBBS Malaya, MMed (Ortho)

#### Hand and Upper Limb Fellow

K Khalid MB BCH BAO NAT UNI OF IRELAND 1993

#### Project Officer (CNAHS)

M Sutton B Physio

#### Arthroplasty Outcomes Officer

G West B Physio

#### Research Officers

T Mayo B Psych(Hon)

#### Executive Secretary

B Stoddard

#### Secretaries

E Smythe  
L Georgeff  
S Jenner

J Whatling  
E Parker  
S Thomson

#### Nursing Staff

L Thomas CNC – Joint Replacement  
J Gould CNM – Joint Replacement

## Current research activities

### TRIALS COMPLETED

Deshai A, Lewis P, Gillespie P, Shirumalla V.  
Clinical Outcome of the AVON Patellofemoral Resurfacing: A Retrospective Review

McGee A, Rickman M, Butcher C, Lewis P, Stevenson T, Morrison G, Brook P. A Comparative Trial between the Nexgen Cruciate Retaining Total Knee Replacement (CR) and the Nexgen High Flexion Total Knee Replacement (CR-Flex).

### RECRUITMENT COMPLETE – FOLLOW UP CONTINUES

Lewis P, Butcher C, West G, Deo H, Rickman M, Chatterji U, Prakash U, Gillespie P, Mount P, Ludbrook G. Cognitive Function following Total Joint Arthroplasty – is there a problem?

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.

### RECRUITMENT CONTINUES

Mah E, Stevenson T, Morrison G, Waters D, Ng E S, Ng Y O, Gupta R, Thomsen N. A Comparative Study on the Clinical Outcome of Bipolar versus CTA Hemiarthroplasty in Rotator Cuff Tear Arthropathy.

Butcher C, Lewis P, Phillips S, Duncan W, Morrison G, van Essen J, Cullen N, West G. Functional and Perceived Outcome Study Comparing Posterior Cruciate Substituting and Cruciate Retaining Inserts in a Multi-axis Radius Knee.



Lewis P, Butcher C, Phillips S, West G. Functional Outcome Study Comparing Single and Multi-axis Femoral Component Designs of Knee Replacements.

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.

Nimon G, Bradshaw A, Sim S. Study of the effectiveness of pain pumps in shoulder surgery.

Ferris L, Cullen N, Wilkinson D, Fintland J. Functional Outcome Study Treating Tendinopathy in and around the foot using Hyperbaric Oxygen (HBO) treatment.

#### **NEW TRIALS**

Deshaies A, Lewis P, Butcher C, Gillespie P. Evaluation of Blood Flow in the Proximal Tibia during Unicompartmental 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.

Funding for research in this department has been obtained totally from industry contributions to the Orthopaedic and Trauma Research Fund. In 2008 contributions have come from Stryker (\$25,468) and Biomet (\$24,300).





The Institute

basil hetzel institute for medical research

## Publications



# Publications

## ANAESTHESIA

### Papers

Cornish PB, Deacon A. Painless transabdominal preperitoneal inguinal hernia repair using laparoscopic-assisted inguinal block. *ANZ J Surg.* 2008;78(4):319.

Cornish PB. Another alternative to interscalene block? *Anaesth Int Care.* 2008;1:121-2.

Cornish PB. The sheath of the brachial plexus - A matter of life and death? *Reg Anesth & Pain Med.* 2008;Jul-Aug;33(4):385-6.

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## **Books**

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# Invited Presentations at International and National Meetings

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Clinical Pharmacology Unit</b>		
St Vincent's Hospital, Sydney, Feb 2008	An old dog revisited - digoxin assay issues.	RG Morris
Applied Biosystems industry mass-spectrometry user-group meeting, Adelaide, June 2008	Immunosuppressant drug monitoring. Immunoassay versus mass spectrometry.	RG Morris
<b>Dermatology Unit</b>		
International Transplant and Skin Cancer Collaborative workshop in Boston, September 2008	PDT for Difficult to Treat Basal Cell Carcinoma Presentation.	W Weightman
<b>Endocrinology Unit</b>		
European League Against Rheumatism (EULAR), Paris, France. June 2008	The Association Between Shoulder Pain and Diabetes Mellitus: A Population Based Study.	A Cole, T Gill, E Shanahan, PJ Phillips, AW Taylor, CL Hill
ADEA Symposium ADS/ADEA Annual Scientific Meeting, Melbourne VIC, August 2008	Working the Swingshift: Assisting people with diabetes to manage diabetes during shiftwork Invited speaker.	T Willson
ADS/ADEA Annual Scientific Meeting, Melbourne VIC, August 2008	Assessing value of a Diabetes Information Program (DIP).	J Giles, T Willson, PJ Phillips, D Kralik
ADS/ADEA Annual Scientific Meeting, Melbourne VIC, August 2008	Incidence of Diabetes in the North West Adelaide Health Study: Socioeconomic and Biomedical Risk Factors.	KL Baldock, CR Chittleborough, PJ Phillips, AW Taylor
International Diabetes Federation – Western Pacific Region Congress, Wellington NZ, March 2008	Credentialing Programme: Standards of Practice.	S Cornelius, J Giles
International Diabetes Federation – Western Pacific Region Congress, Wellington NZ, March 2008	The Multiplier effect: A model for health professional development.	J Giles, PJ Phillips
29th Annual Meeting of the Endocrine Society and the Diabetes Association of the R.O.C. March 2008	Satellite Symposium 4: Initiating Basal Insulin Therapy in Patients with Type 2 Diabetes: from evidence to practice.	PJ Phillips
European League Against Rheumatism (EULAR) Paris France, June 2008	Medications and Osteoporosis in the Community – Some Missing and Some Inappropriate.	T Gill, PJ Phillips, D Rowett, C Hill, A Taylor
European Congress of Endocrinology, Berlin Germany, May 2008	Development of Metabolic Syndrome is associated with impaired quality of life: longitudinal data from the North West Adelaide Health Study.	PJ Phillips, K Baldock, CR Chittleborough, AW Taylor
ADS/ADEA Annual Scientific Meeting, Melbourne Vic, August 2008	Evaluation of Healthy Eating and Diabetes - a guide for Aged Care Facilities.	M Carapetis, C Strongylos, PJ Phillips, L Roberts
ADS/ADEA Annual Scientific Meeting, Melbourne Vic, August 2008	What is the value of diabetes education?	PJ Phillips, M Ross, W Martin
European Association for the Study of Diabetes, Rome Italy, September 2008	Hypertension and dyslipidemia: Missing Medications and missing targets.	TK Gill, K Baldock, CR Chittleborough, AW Taylor, PJ Phillips

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Gastroenterology Unit</b>		
Asia Pacific Digestive Week, New Delhi, India, September 2008	Obscure gastrointestinal bleeding: definitions and epidemiology.	IC Roberts-Thomson
<b>Gynaecology, TQEH Department of</b>		
Everybody's Business, Symposium of Pelvic Health, Darwin NT, October 2008	A symposium for the multi-disciplinary current best practice in male and female pelvic floor dysfunction.	C Barry
<b>Haematology &amp; Medical Oncology, combined Departments of</b>		
Australasian Gastrointestinal Trials Group Annual Scientific Meeting, Sydney NSW, September 2008	Pre operative chem/radiotherapy for Rectal cancer	T Price
ACTG Consensus meeting, Stockholm, Sweden, September 2008	Optimal Therapy for Advanced Colorectal Cancer in the modern era	T Price
New Directions in Leukaemia Conference (NDLR 2008), Sunshine Coast Queensland, April 2008,	Translocation-specific gene expression changes in AML: Potential leads for therapy	R D'Andrea
HSANZ / TIGSA, Conjoint Scientific Meeting, Clare, South Australia, October 2008	Regulators of normal and malignant myelopoiesis	R D'Andrea
Walter and Eliza Hall Institute for Medical Research, Melbourne, Victoria, October 2008	Regulators of normal and malignant myelopoiesis.	R D'Andrea
Keystone Symposium Biomarker Discovery, Validation and Clinical Applications, Lake Tahoe, USA, February 2008	Discovery of colon cancer biomarkers using 2D DIGE.	G Arentz, TK Chataway, JE Hardingham (presenter)
Sydney Cancer Conference, Sydney, NSW, July 2008	Immunobead capture of circulating tumour cells: cell surface 2D DIGE to identify target antigens.	JE Hardingham, G Arentz, Z Deng, T Chataway
Lorne Cancer Conference, Lorne Victoria, February 2008	Identification of colorectal cancer biomarkers.	G Arentz, T Chataway, JE Hardingham
Lorne Cancer Conference, Lorne Victoria, February 2008	Identification of candidate biomarkers for colorectal cancer using rt2 profiler arrays.	A Gysbers, JE Hardingham
Asia Oceania Human Proteome Organisation, Cairns Qld, June 2008	Identification of colorectal cancer biomarkers using laser micro-dissection and 2d DIGE.	G Arentz, T Chataway, JE Hardingham

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Intensive Care Unit</b>		
28th International Symposium in Critical Care and Emergency Medicine, Brussels 2008	Australasian Resuscitation in Sepsis Evaluation: a prospective, observational study.	SL Peake for the ARISE Investigators
28th International Symposium in Critical Care and Emergency Medicine, Brussels 2008	Severe sepsis: between-country and between-specialty differences in reported management.	MC Reade, DT Huang, D Bell, TJ Coats, AM Cross, SL Peake, M Singer, DM Yealy, DC Angus, for the ARISE, ProCESS and ProMISE investigators
International Conference of the American Thoracic Society, Toronto Canada 2008 (S Peake Chair, ARISE Investigators)	Self-reported vs. observed resuscitation practices in early severe sepsis in Australasia.	MC Reade for the ARISE and ProCess Investigators
Joint Faculty of Intensive Care Medicine (SA) and Australian and New Zealand Intensive Care Society (SA), Continuing education meeting, Adelaide, South Australia 2008	Contrast induced nephropathy.	C Nottage, H Tewari, J Moran, SL Peake
Joint Faculty of Intensive Care Medicine (SA) and Australian and New Zealand Intensive care Society (SA), Continuing education meeting, Adelaide, South Australia 2008	Metformin-associated lactic acidosis.	V Biradar, SL Peake, J Moran
10th Annual Australian and New Zealand Intensive Care Society Clinical Trials Group Scientific Meeting. Noosa, Qld Australia, March 2008	Australasian Resuscitation in Sepsis Evaluation.	SL Peake for the ARISE Investigators
10th Annual Australian and New Zealand Intensive Care Society Clinical Trials Group Scientific Meeting. Noosa, Australia, March, 2008	Intensive Care Foundation.	SL Peake
Department of Critical Care Medicine Grand Rounds University of Pittsburgh, Pittsburgh, United States, June 2008	Intensive care research in Australia and New Zealand: A potted history.	SL Peake
Intensive Care and Emergency Medicine Department meeting, St Vincent's Hospital, Melbourne, Vic Australia, August 2008	Early goal-directed therapy.	SL Peake
Intensive Care and Emergency Medicine Department meeting, , Geelong Hospital, Melbourne, Vic Australia, October 2008	Early goal-directed therapy.	SL Peake
Annual Australian and New Zealand Intensive Care Society Clinical Trials Group Scientific Meeting. Sydney, NSW Australia, November, 2008	Implementation of Early goal-directed therapy.	SL Peake
2nd International Conference on Safety, Quality, Audit & Outcomes Research in Intensive Care. Christchurch New Zealand, August 2008	Intensive Care Nursing Key Performance Indicators.	B Grealy



CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Medicine, University of Adelaide Discipline of</b>		
The 6th European Respiratory Lung Science Meeting, Estoril Portugal, March 2008	Apical localization of apoptosis regulators in mouse and human airway epithelium	P Zalewski, C Murgia, D Grosser, J Hallett, C Lang, R Ruffin
TSANZ Meeting, Melbourne Vic, 30th Mar-2nd April 2008	Localization and regulation of apoptosis regulators in the epithelium of human and mouse airways	P Zalewski, C Murgia, D Grosser, J Hallett, C Lang, R Ruffin
Thoracic Society of Australia & New Zealand Annual Scientific Meeting, Melbourne, March 2008	"Association of cough with psychological disease and obesity Awarded Best Presentation on Environmental & Occupational Health	R Adams
13th Congress of the Asian-Pacific Society of Respiriology, Plenary 2, Bangkok 2008	"Initiation or aggravation – Psychosocial status and asthma 2008"	R Adams
13th Congress of the Asian-Pacific Society of Respiriology, Bangkok 2008	"Asthma and Obesity. Meet the Expert Session"	R Adams
<b>Neurology Department</b>		
GP (General Practitioner) Weekend, Novotel Barossa Valley, South Australia. 24th May 2008.	Dementia in Neurological Disorders. PRIME (Prospective Research In Memory Clinics)	Boundy KL
World Parkinson's Day Seminar, Fullarton Park Centre, Fullarton. 10th April 2008.	Managing Parkinson's Disease – Medication, Research and Other Strategies.	Boundy KL
<b>Poster/Platform Presentations</b>		
6th World Stroke Congress, Vienna, Austria, September 2008	Human Dental Pulp Stem Cells – Putative Source of Adult Stem Cells for Neural Repair	A Arthur, G Rychkov, S Gronthos, SA Koblar
30th Annual ANTA Conference, Newcastle NSW, September 2008	Intellectual Property – Issues, Risk Scenario Analysis and Management Strategies	MA Hamilton-Bruce, T Choudry, V Krawczyk, SA Koblar
The 3rd Frontier Technologies in Nervous System Function & Repair Workshop. Adelaide South Australia, December 2008	Inflammatory Mechanisms and Therapies in Chronic Disease	MA Hamilton-Bruce, MD Lewis, SA Koblar
The 13th Ottawa International Conference on Clinical Competence. Melbourne Victoria, March 2008	A Seizure' – The Patient's Perspective Through Art	JN Hudson, MA Hamilton-Bruce, H Smith
State Public Health Conference. Adelaide, South Australia, October 2008	Understanding and Improving Care Transition Outcomes from Hospital to Home for Vulnerable People	R King, J Moss, MA Hamilton-Bruce, A Mahmood
6th World Stroke Congress, Vienna, Austria, September 2008	Managing Risk for the Stroke Research Programme (SRP)	VJ Krawczyk, MA Hamilton-Bruce, SA Koblar
6th World Stroke Congress, Vienna, Austria, September 2008	Endothelial function in cerebral small vessel disease (CSVD): A pilot study	AK Lam, MA Hamilton-Bruce, SA Koblar, E Khoo, S Patel, J Jannes
6th World Stroke Congress. Vienna, Austria, September 2008	A Proposed Model of Community-Based Rapid Access Transient Ischaemic Attack (TIA) Clinics – Review	ES Leung, MA Hamilton-Bruce, C Price, SA Koblar
Stroke Society of Australasia Annual Scientific Meeting, Sydney NSW, August 2008	Association between PDE4D and Ischaemic Stroke – a Multivariate Analysis	AG Milton, VM Aykanat, MA Hamilton-Bruce, M Nezc, SA Koblar, J Jannes

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Neurology Department (Continued)</b>		
Stroke Society of Australasia Annual Scientific Meeting, Sydney NSW, August 2008	Deviation from Hardy-Weinberg Equilibrium (HWE) detects an error in PCR – determined allele assignment	AG Milton, MA Hamilton-Bruce, SA Koblar, J Jannes
<b>Nuclear Medicine Unit</b>		
Engineering and Physical Sciences in Medicine, Christchurch NZ 2008	Different sensitivities of heads in multi-head gamma cameras: consequences, detection and correction in quantitative SPECT	L Barnden, B Crouch, D Badger
Engineering and Physical Sciences in Medicine, Christchurch NZ 2008	Histogram-based global scaling of T1- and T2-weighted brain MR for voxel-based quantification.	L Barnden, R Kwiatek, D Badger, A Mernone
<b>Nursing</b>		
Australasian Cardiovascular Nursing College Annual Conference, Sydney NSW, January 2008	The Long road to Nurse Practitioner	L Birchmore
Nurse Ambassador Program, Adelaide SA, May 2008	Managing Heart Failure	L Birchmore
10th National Breast Care Nurses Conference, Perth Australia, May, 2008	It's all about the women, city to country breast care, an innovative model of care	K Redman
Australian Diabetes Society / Australian Diabetes Educators Association, Annual Scientific Meeting, Melbourne, Victoria, August 2008	Assessing value of a diabetes information program (DIP)	J Giles, T Willson, P Phillips, D Kralik
56th Annual Scientific meeting of the Cardiac Society of Australia and New Zealand Adelaide, SA, August 2008	2008 Cardiovascular Nursing lecture	L Birchmore
Change Champions Conference Adelaide SA, October 2008	Radiology: Correct patient / correct site / correct procedure project	P Selim, K Stead and J Martin
International Breast Cancer Conference, Riyadh, Saudi Arabia, October 2008,	Genetics of Breast Cancer, Fungating Wounds, Reconstruction and you, The role of the breast care nurse	K Redman
6th Australasian Conference on Safety and Quality in Health Care, Christchurch New Zealand	Radiology: 'Correct patient / correct site / correct procedure' project	P Selim, K Stead and J Martin
Bridging the Gap Conference, Adelaide South Australia, December 2008	Prevention and Patient Education	L Birchmore
International Diabetes Federation – Western Pacific Region Congress, Wellington, New Zealand, March 2008	Credentialling Program: Standards of Practice	S Cornelius, J Giles
International Diabetes Federation – Western Pacific Region Congress, Wellington, New Zealand, March 2008	The multiplier effect: A model for health professional development	J Giles, P Phillips

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Otolaryngology, Head and Neck Surgery</b>		
Advanced Endoscopic Sinus Surgery Course, Los Angeles USA, January 2008	Class with the Master – Skull Base Dissection/Advanced Techniques	P-J Wormald
Ear and Sinus Surgery Workshop – 2008, Nashik, India 29 Feb-3 Mar 2008	Sinus lectures and demonstrations, Live surgical demonstration	P-J Wormald
4th Amsterdam Advanced sinus surgery course, Amsterdam, 13-14 March 2008	Teacher of Honour	P-J Wormald
Rhinology 2008 Meeting – III World Congress for Endoscopic Surgery of the Brain and Skull Base, Sao Paulo, Brazil 22-24 May 2008	Transnasal endoscopic approaches to the skull base and brain – Infratemporal Fossa Mini seminar – Endonasal Dacryocystorhinostomy: 'How I do it' Frontal sinus and Frontal recess surgery: The Last Frontier – Tri-dimensional Concepts of Frontal Recess Surgery Application of Powered Instrumentation in Rhinology	P-J Wormald
3rd Advanced Wessex FESS Course, Winchester UK – June 2008	Frontal Sinus Anatomy, Surgical approaches DCR & anatomy & technique DCR "Mucosal Flap Technique" SF Leak Closure 'Bathplug Technique' Modified Endoscopic Lothrop (MEL) Principles Clivus, sphenoid, ITF Extended Endoscopic Approaches Panel Discussion & Interesting Cases"	P-J Wormald
The 22nd Congress of the European Rhinologic Society & 27th International Symposium of Infection & Allergy of the Nose (ERS & ISIAN 2008). Crete June 2008	Nose & Paranasal sinuses surgical anatomy: Radiological Endoscopic & Cadaveric Correlations Inverted Papillomatosis of the Nose: How I do it The Anatomy and Surgical Approaches to the frontal sinus recess Endoscopic surgery for benign conditions of the nose and sinus area	Moderator P-J Wormald
2nd Asia Pacific Rhinology Forum on Advanced FESS & Endo Skull Base Surgery Singapore, August 2008	Fungus versus Bacteria Debate Modified Lothrop: How I Do It Key Note Lecture: Anterior Skullbase Transnasal Intracranial Surgery Key Note Lecture: "My Most Fascinating or Challenging Case"	P-J Wormald
American Rhinologic Society, Chicago USA, September 2008	The efficacy of a Novel Chitosan Gel on Haemostasis following Endoscopic Sinus Surgery in a sheep model of chronic rhinosinusitis	R Valentine P-J Wormald
American Academy of Otolaryngology Head & Neck Surgery, Chicago USA, September 2008	Powered Endoscopic Dacryocystorhinostomy Endoscopic Frontal Sinus Surgery Improving Outcomes in FESS - Tips from Revision Surgeons Modified Endoscopic Lothrop Procedure An Endoscopic approach to Tumors of the Intra-Temporal Fossa with Medial Maxillectomy	P-J Wormald
American Academy of Otolaryngology Head & Neck Surgery, Chicago USA, September 2008	Biofilms in Chronic Sinusitis	P-J Wormald A Psaltis
4th Australasian Rhinology Society Conference, Auckland, New Zealand, September 2008	Future of Endoscopic Sinus Surgery Frontal sinus drillouts – when do you do them?	P-J Wormald

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Otolaryngology, Head and Neck Surgery (Continued)</b>		
11th Advanced Functional Endoscopic Sinus Surgery Conference, Adelaide, November 2008	The anatomy and endoscopic approaches to the frontal recess Review of CT scans with reconstruction of the anatomy of the frontal recess Frontal recess dissection Endoscopic Dacryocystorhinostomy and septoplasty Middle meatal antrostomy, frontal recess, posterior ethmoidectomy and sphenoidectomy SPA Ligation & Vidian Neurectomy dissection Vidian Nerve Neurectomy Dacryocystorhinostomy Dissection Bath Plug Closure CSF Leak dissection Modified Endoscopic Lothrop dissection Anatomy of the infratemporal fossa Skull Base dissection Surgical field	P-J Wormald
The Garnett Passe and Rodney Williams Memorial Foundation Scientific Meeting. Noosa Queensland, Australia July 2008	The role of bacterial biofilms in chronic rhinosinusitis	A Psaltis
American Academy Of Otolaryngology, Head and Neck Surgery. Annual Scientific Meeting, Chicago USA, September 2008	An instructional course on the role of bacterial biofilms in chronic rhinosinusitis	A Psaltis
Australasian Rhinologic Society Meeting. Auckland, New Zealand, September 2008	"Topical Antibiotics and chronic rhinosinusitis	A Psaltis
11th Advanced Functional Endoscopic Sinus Surgery Conference, Adelaide, November 2008	Manipulation of Wound Healing	R Valentine
American Rhinologic Society, Chicago USA, September 2008	The efficacy of a novel chitosan gel on hemostasis following endoscopic sinus surgery in a sheep model of chronic rhinosinusitis	R Valentine
Australasian Rhinologic Society Meeting. Auckland, New Zealand, September 2008	A prospective controlled trial of pulsed nasal nebulizer in maximally dissected cadavers. The efficacy of a novel chitosan gel on hemostasis following endoscopic sinus surgery in a sheep model of chronic rhinosinusitis	R Valentine
Australasian Rhinologic Society Meeting New Zealand, September 2008	Biofilms in Chronic Rhinosinusitis: A Fluorescence in situ Hybridisation Study	A Foreman
11th Advanced Functional Endoscopic Sinus Surgery Conference, Adelaide, November 2008	The role of biofilms in chronic rhinosinusitis	A Foreman
6th European Congress of Oto-Rhino-Laryngology Head and Neck Surgery Congress Center Hofburg Vienna, Austria, July 2008	Therapeutic use of CpG deoxynucleotides on TLR9: reducing inflammation in chronic sinusitis	LW Tan



CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Psychiatry, University of Adelaide Discipline of</b>		
Mental Health Research Forum, Adelaide, March 2008	Cardiovascular disease and depression: research into practice	GD Schrader
Cardiac Society of Australia and New Zealand Annual Scientific Meeting, Adelaide, August 2008	Cardiovascular disease and depression: recent work from Adelaide	GD Schrader
Cardiac Research Forum, Adelaide, December, 2008	Cardiovascular disease and depression	GD Schrader
<b>Renal Unit</b>		
The Australian and NZ Society of Vascular Surgery Annual Scientific Meeting, Adelaide SA, September 2008	Vascular Imaging in Chronic Renal Insufficiency	MG Collins
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Zinc Transporter Expression in Isolated Human Islets: High Variability in $\beta$ -cell specific ZnT8 Expression	CJ Drogemuller
The XXII International Congress of The Transplantation Society, On behalf of the Renal Transplant Advisory Committee (RTAC) Sydney NSW, August 2008	Clinical significance of B-cell positive crossmatches and Luminex® defined donor-specific antibodies in well-matched highly sensitized patients from the AUSTRALIAN interstate exchange	HS Eng
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Risk factors and associations with alloantibodies in transplant glomerulopathy	HS Eng
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Detection of complement fixing antibodies by Luminex in highly sensitized patients Australasia and South East Asia Tissue Typing Association	HS Eng
The 44th Annual Scientific Meeting of Australia and New Zealand Society of Nephrology (ANZSN), on behalf of the Renal Transplant Advisory Committee (RTAC), Newcastle NSW, September 2008	A retrospective study of B-cell crossmatch with Luminex® technology in well-matched highly sensitized patients from the AUSTRALIAN interstate exchange	HS Eng
The 44th Annual Scientific Meeting of Australia and New Zealand Society of Nephrology (ANZSN), Newcastle NSW, September 2008	Alloantibody involvement and risk factors in transplant glomerulopathy	HS Eng
The 34th Annual Meeting of American Society For Histocompatibility and Immunogenetics (ASHI), on behalf of the Renal Transplant Advisory Committee (RTAC), Toronto, Canada, October 2008	Predictive value of B-cell crossmatch and Luminex® antibody analysis in well-matched highly sensitized patients from the Australian National Interstate Exchange (ANIE)	HS Eng
The 34th Annual Meeting of American Society For Histocompatibility and Immunogenetics (ASHI), Toronto, Canada, October 2008	Donor specific anti-HLA antibodies in transplant glomerulopathy	HS Eng
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	T Cells Acquire Hla-G Via Trogocytosis From Genetically Modified Human Dendritic Cells During Alloimmune Activation	B Fedoric

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Renal Unit (Continued)</b>		
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Propagation Of Common Marmoset Monkey (Callithrix Jacchus) Dendritic Cells (Dc) Using Growth Factor Mobilised Dc Precursors And Identification Of Stably Immature Dc For Pretransplant Cellular Immuno-therapy	S Kireta
Royal Australasian College of Surgeons. Annual Scientific Meeting, Adelaide SA, August 2008	Looking Towards the Future: A role for Cell-based therapy for the Management of Organ Transplant Rejection	R Krishnan
International transplant Society Meeting, Sydney, August 2008	CTLA4-Ig inhibits the induction of adaptive FOXP3+ T regulatory cells in cocultures of naive CD4+T cells in an allogeneic MLR	R Krishnan
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Endothelial Progenitor Cells (Epc) Home To Ischemic Kidneys Following Ischemia Reperfusion Injury (Iri)	T Matthews
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Successful Shipping Of Human Pancreata And Isolation Of Pancreatic Islets By Remote Isolation Centers — An Australian Perspective	CR Milner
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Monocytes Primed With Interferon- $\gamma$ Differentiate Into Maturation-Arrested Regulatory Dendritic Cells That Induce T Cell Hyporesponsiveness	D Rojas
Wyeth Asia Pacific Advisory Board, Bangkok Thailand, July 2008	The Basic Science and Pharmacology of the mammalian target of Rapamycin inhibitors (MTOR)	
The 8th International Wyeth Transplantation Symposium, Rome Italy, July 2008	Stratifying risks and targeting immunosuppressive strategies	GR Russ
Asian Pacific Colloquium, Hong Kong, January 2008	Organ transplantation	GR Russ
Australian Clinical Nephrology Symposium, Sydney NSW, March 2008	The conversion of patients from CNI inhibitors to MTOR inhibitors	GR Russ
Rapamune Tablet Launch Meeting; The International Transplant Symposium, Beijing China, March 2008	The conversion of patients from CNI inhibitors to MTOR inhibitors	GR Russ
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Cardiovascular Risk Profile Of Renal Transplant Recipients Enrolled In An Openlabel, Randomized Study Comparing 2 Sirolimus (Srl) Regimens With A Tacrolimus (Tac) + Mycophenolate Regimen (Mmf): Preliminary Results From The Orion Trial	GR Russ
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Multi-Organ Donation After Cardiac Death– Australian Perspective	CH Russell
The XXII International Congress of The Transplantation Society, Sydney NSW, August 2008	Serum From Renal Transplant Recipients Improves Markers Of In Vitro Endothelial Cell Activation Compared To Dialysis Recipients, But Not To Baseline Levels	S Sen

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Respiratory Medicine Unit</b>		
Australasian Sleep Association ASM October 2008	Excessive sleepiness	AM Southcott (Symposium Chair)
Australasian Sleep Association ASM October 2008	Respiratory/sleep oral presentations	AM Southcott (Panel Chair)
TSANZ ASM, Melbourne Vic, March 2008	Development of the British Thoracic Guidelines for the management of asthma	B Smith
RACP Congress, Adelaide May 2008 RACP and Australasian Sleep Association	Acute and Chronic non-invasive Ventilation	B Smith (Chairperson: Conjoint session)
<b>Surgery, University of Adelaide Discipline of</b>		
National Public Sector & Aged Care Podiatry Conference, Adelaide, June 2008	An Overview of the Vascular Journey of the High Risk Foot	R Fitridge
European Society for Vascular Surgery Annual Scientific Meeting, Nice, France, September 2008	Plenary Lecture: A model to predict outcomes for endovascular aneurysm repair using preoperative variables	R Fitridge
ANZ Society for Vascular Surgery Annual Scientific Meeting, Adelaide, September 2008	Sac volumetric measurement – post EVAR	R Fitridge
ANZ Society for Vascular Surgery Annual Scientific Meeting, Adelaide, September 2008	A model to predict outcomes for endovascular aneurysm repair using preoperative variables	R Fitridge
ANZ Society for Vascular Surgery Annual Scientific Meeting, Adelaide, September 2008	Setting a multidisciplinary team to manage the diabetic foot – ANZ perspective	R Fitridge
Surgical Leaders' Forum Royal Austral- asian College of Surgeons, Melbourne Vic, February 2008	Mortality audits – update and involvement of all specialties and regions	G Maddern
International Conference on Surgical Education & Training, Royal Australa- sian College of Surgeons, Melbourne Vic, March 2008	Research challenges and opportunities in simulation	G Maddern
Younger Fellows Forum, Royal Austral- asian College of Surgeons Combined Annual Scientific Congress, Hong Kong, May 2008	Audit/Credentialling	G Maddern
Meeting of Councillors, Specialist Society Presidents, National and Regional Board Chairs, Royal Australa- sian College of Surgeons Combined Annual Scientific Congress, Hong Kong, May 2008	National registration and accreditation	G Maddern
Meeting of Councillors, Specialist Society Presidents, National and Regional Board Chairs, Royal Australa- sian College of Surgeons Combined Annual Scientific Congress, Hong Kong, May 2008	Board in Post Fellowship Education and Training	G Maddern

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Surgery, University of Adelaide Discipline of (Continued)</b>		
HPB & UGI Session: Optimising treatment of colorectal cancer metastases, Royal Australasian College of Surgeons Combined Annual Scientific Congress, Hong Kong, May 2008	Focal ablative techniques for CRC metastases	G Maddern
Plenary Session: Credentialling the surgeon for new technology, Royal Australasian College of Surgeons Combined Annual Scientific Congress, Hong Kong, May 2008	Who should be responsible for this – government, industry, the College?	G Maddern
Parallel Panel Session: HTA products – Roles and functions, Fifth Annual HTAi Meeting, Montreal, Canada, July 2008	Rapid reviews or full health technology assessments – what are the needs in decision making	G Maddern
Plenary Session: HTA in Hospitals, Fifth Annual HTAi Meeting, Montreal, Canada, July 2008	South Australian Health Technology Advisory Group (HTAG): Policy and procedural guidelines for the introduction of new health technology into the South Australian public hospital system	G Maddern
Credentialling and Health Care Seminar, Adelaide South Australia, August 2008	Surgeons – Is procedural credentialling enough	G Maddern
SimTecT Health 2008, Brisbane, September 2008	Surgical Simulation: do we have the evidence?	G Maddern
Vascular 2008 Conference, Adelaide, South Australia, September 2008	New technology in surgery: how do we know it works?	G Maddern
Vascular 2008 Conference, Adelaide, South Australia, September 2008	Surgical simulation – or clinical trial and error	G Maddern
National Health Technology Assessment Seminar: From Evidence to Policy, Malaysia, October 2008	Adapting health technology assessment to changing health care and social context	G Maddern
National Health Technology Assessment Seminar: From Evidence to Policy, Malaysia, October 2008	Developing assessment system for new health technologies	G Maddern
National Health Technology Assessment Seminar: From Evidence to Policy, Malaysia, October 2008	Health Technology Assessment agencies: the Australian experience	G Maddern
National Health Technology Assessment Seminar: From Evidence to Policy, Malaysia, October 2008	HTA – strategy for the future	G Maddern
Asia-Pacific Health Policy Summit, J&J Medical Asia-Pacific, China, October 2008	Australian experience with HTA for medical devices	G Maddern
Asia-Pacific Health Policy Summit, J&J Medical Asia-Pacific, China, October 2008	Public-private partnerships/Stakeholder-Industry participation in reimbursement decision making and risk-sharing” – Break out session	G Maddern



CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Surgery, University of Adelaide Discipline of (Continued)</b>		
ANZHPBA, Coolumb, Queensland, October 2008	Evidence for RFA and microwave ablation in CRLM	G Maddern
GJ Royal Lecture, Royal Australasian College of Surgeons Victorian Annual General Scientific & Fellowship meeting, Traralgon, Victoria, October 2008	Academic surgery: whither or wither?	G Maddern
Revitalising Academic Surgical Departments, Section of Academic Surgery, Royal Australasian College of Surgeons, Adelaide, South Australia, November 2008	Funding surgical research	G Maddern
Revitalising Academic Surgical Departments, Section of Academic Surgery, Royal Australasian College of Surgeons, Adelaide, South Australia, November 2008	Raising the profile	G Maddern
Flinders University Surgical Society, Adelaide, South Australia, November 2008	Robotics in surgery: will we learn from the past	G Maddern
Christian Medical College, Vellore, India, February 2008	Complex anal fistulae	N Rieger
Christian Medical College, Vellore, India, February 2008	Haemorrhoids: Role of MIPH and Complications	N Rieger
Christian Medical College, Vellore, India, February 2008	Neo-Adjuvant chemoradiation and surgery for advanced cancer. Is operation necessary	N Rieger
Royal Adelaide Hospital Stomal Therapy Course, Adelaide, February 2008	Surgical principles for rectal resection and sexual function	N Rieger
Calvary Hospital, Adelaide, June 2008	Laparoscopy for colon and rectal cancer	N Rieger
Continence in the Country Symposium, Port Lincoln Hospital, South Australia, August 2008	Faecal incontinence	N Rieger
East Coast Surgical Symposium, Malaysia, August 2008	Anorectal Physiology Tests. Pelvic Floor Disorders. "Towards Optimal Management"	N Rieger
East Coast Surgical Symposium. Malaysia. August 2008	Preoperative staging of rectal cancer. Pelvic floor disorders. "Towards Optimal Management"	N Rieger
East Coast Surgical Symposium. Malaysia. August 2008	Role of ARM in pelvic floor disorders. Pelvic floor Disorders. "Towards optimal management"	N Rieger
East Coast Surgical Symposium, Malaysia, August 2008	Transit Marker Study. Pelvic floor disorders. "Towards optimal management"	N Rieger
East Coast Surgical Symposium, Malaysia, August 2008	Faecal incontinence. When to operate? Pelvic Floor Disorders. "Towards Optimal Management"	N Rieger

CONFERENCE TITLE & DATE	TITLE OF TALK/POSTER	ATTENDEE NAME
<b>Surgery, University of Adelaide Discipline of (Continued)</b>		
East Coast Surgical Symposium, Malaysia. August 2008	Inflammatory bowel diseases. Pelvic floor disorders. "Towards optimal management"	N Rieger
Australian Gastrointestinal Trials Group, Sydney, NSW, September 2008	Laparoscopy for colon cancer. Surgical workshop. Future trials of techniques and technology	N Rieger
Continence Foundation of Australia National Meeting, Hobart, Tasmania, November 2008	Management of constipation	N Rieger
Continence Foundation of Australia National Meeting, Hobart, Tasmania, November 2008	Injectables for faecal incontinence	N Rieger
Christian Medical College, Vellore, India, February 2008	Breast Conserving Surgery in 2008	D Walsh
Adelaide Breast Endocrine Surgical Journal Club, May 2008	EBCC 2008 highlights	D Walsh
Royal Australasian College of Surgeons/General Surgeons Australia General Surgery Paper Day	Chair	D Walsh
Australian Medical Association Seminar, Adelaide, September 2008	Preparing a surgical resumé	D Walsh
International Surgical Congress, Association of Surgeons of Great Britain and Ireland, Bournemouth, UK, May 2008	Open posterior rectal resection with colo-anal anastomosis after ultra low anterior mobilization	WEW Roediger
Fifth International Conference, Biology Chemistry and Therapeutic Application of Nitric Oxide, Austria, August 2008	Tissue nitrosothiol levels in acute ulcerative colitis – a step in disease induction	WEW Roediger
2008 Annual Meeting of the Society of Colon and Rectal Surgeons, Taiwan, December 2008	Perspective on surgical and treatment strategies in colorectal cancer	P Hewett
CSSANZ Spring Meeting. Sydney, November 2008	Long term survival after laparoscopic assisted resection for colon cancer	P Hewett
Tripartite Colorectal Surgery Meeting. Boston, USA, June 2008	How to safely implement a fast track program in your hospital	P Hewett
Tripartite Colorectal Surgery Meeting. Boston, USA, June 2008	How to transect the rectum in a laparoscopic low anterior resection. Video presentation	P Hewett
Medical and Surgical Models of Care Planning, Adelaide, March 2008	Flexibility in the use of operating theatres.	P Hewett
<b>Orthopaedics and Trauma</b>		
Malaysian Orthopaedic Association, Ipoh Malaysia, April 2008	Managing DIUG instability Invited Guest Speaker	E Mah
Australian Orthopaedic Association and New Zealand Orthopaedic Association Combined Scientific Meeting, Hobart Tasmania, October 2008	A Comparative Study of Cognitive Decline Following THR, TKR and Navigated TKR	H Deo, P Lewis, C. Butcher
Spine Society of Australia, Adelaide South Australia, May 2008	Epidural Steroid Injection: Interlaminar or transforaminal	C Chia, A Fagan, <i>et al</i>

## Research Support Structures



## The Basil Hetzel Institute Policy Committee

Established in 1996, the Clinical Development Research Centre, now the Basil Hetzel Institute (BHI) Policy Committee's role is to provide strategic advice for the running of the BHI and to optimise 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, Adelaide University 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 February 2005 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, in awarding a range of scholarships funded by TQEH Research Foundation.
- BHI Management Committee, chaired in 2008 by A/Professor Ray Morris, Clinical Pharmacology Unit, in managing the existing BHI facility, to work with the architects and redevelopment team to develop the planned new facility and to manage the move into it and in due course to manage the new facility.

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 providing a number of scholarships at postgraduate, Honours and vacation levels.

### Research training promotion

In 2008 research training opportunities and Scholarship support were actively promoted through the hospital's research Internet site with links from key university research training sites.

### Strategy for 2008

The goals of the research support strategy were to provide up to:

- 7 TQEH Research Foundation Postgraduate Research Scholarships
- 7 TQEH Research Foundation Honours Scholarships
- 8 TQEH Research Foundation Vacation Scholarships

### TQEH Research Foundation Vacation Research Scholarships

10 placements offered in TQEH research settings over the 2007/2008 vacation were generously funded through the Research Foundation and provided scholars with the opportunity to gain valuable research experience in a clinical/laboratory environment. The excellent quality of the oral presentations given by students at the end of their placement clearly reflects the collaborative effort of both the students and their supervisors.

### TQEH Research Foundation Honours Research Scholarships

Honours Scholarships continued to be offered at TQEH in 2008. 11 Scholarships were offered to accommodate the excellent group of applicants, and recipients undertook projects across a range of Departments, including Clinical Pharmacology, Haematology-Oncology, Transplantation-Immunology, Gastroenterology and Cardiology.







**Kathryn Hudson,**  
BHI Facility Manager

### Higher Degrees

In the year 2008 over 70 scholars were undertaking research towards Higher Degrees at TQEH. A continuing generous level of funding from the TQEH Research Foundation has allowed ten continuing higher degree candidates as well as 2 new students to be supported in 2008. TQEH Research Foundation Scholarships provide for stipends which match the Australian Postgraduate Award (APA) rate, as well as a maintenance allowance for each student to assist the Department in which they are undertaking the research work. Sources of financial support for our other higher degree students at TQEH include the NHMRC, the University (APA, and Faculty 'Divisional' scholarships) and the non-profit sector (for example, Kidney Health Australia).

### Research Day 2008

Research Day is an annual event in the research calendar at TQEH, and with the generous sponsorship support of the Research Foundation, provides a significant and useful training opportunity for research scholars "in training" from medical, scientific, nursing and allied health backgrounds. The purpose of the day is to further enhance the communication skills of those presenting, under conditions that are typical of most professional society congresses. With this opportunity and experience, it is hoped the research quality

from TQEH will benefit as researchers move on to deliver their work to national and international congresses. This year the Day was once again very successful and our winners are identified in the Award section of the report.

### Statistical Support Service

The Statistical Support Service, jointly funded through the Basil Hetzel Institute and the Faculty of Health Sciences at the University of Adelaide, provides 10 hours per week statistical consultancy to staff and students at the BHI and TQEH more generally.

The service is well used by staff and students, with over 50 reports being produced during the year, plus many other shorter consultations requiring lesser assistance.

The range of services has included

- Assisting with the design of health-related research;
- Power and sample size calculations;
- Advising research staff and students on statistical aspects of research programs;
- Providing advice about cleaning and maintaining datasets and preparing data for analysis;
- Providing advice about data analysis and manuscript preparation;
- Undertaking analysis of data as part of research projects and programs.

### Staff

JBF Field BSc(Hons) PhD AStat

# Basil Hetzel Institute (BHI) Policy Committee

## Current Members, December 2008

Prof Guy Maddern  
 Prof Richard Ruffin  
 Prof Justin Beilby  
 (proxy - Prof Andrew Somogyi)  
 Mrs Jackie Woods  
 A/Prof Peter Bardy  
 Prof Pat Buckley  
 Ms Diana Brown  
 A/Prof Jenny Kennedy  
 Dr Prue Cowled  
 Dr Ravi Krishnan  
 A/Prof R D'Andrea  
 A/Prof Ray Morris  
 Mr John Michell  
 Mr Maurice Henderson

## Ex-officio

A/Prof Robert Adams

## Executive Support

Ms Gwenda Graves

# Basil Hetzel Management Committee

## Current Departments represented/appointed members, December 2008

Department/Unit	Representative	Proxy
Cardiology	Prof John Horowitz	A/Prof Jenny Kennedy
Clinical Pharmacology	A/Prof Ray Morris	
Gastroenterology	Dr Adrian Cummins	Ms Wendy Uylaki
Haematology-Oncology	A/Prof Richard D'Andrea	Dr Jenny Hardingham
Medicine	Dr Peter Zalewski	Dr Carol Lang
Neurology	Dr Anne Hamilton-Bruce	Mr Austin Milton
Renal	Dr Ravi Krishnan	Mr Clyde Milner
Rheumatology	Ms Sue Lester	
Surgery	Dr Prue Cowled	
Surgery (ENT)	Dr Lor Wai Tan	
Surgery (Surgical Suite)	Mr Matthew Smith	
Postgraduate Representatives for 2008	Ms Victoria Kopetz and Mr John Licari	
Facility Manager	Ms Kathryn Hudson	
Executive Support	Ms Gwenda Graves	

A/Prof Ray Morris Chairs the Committee.



## 2008 Awards

# Awards

## Research Day 2008 Award Winners



Krishna Jeyaraman

Hayley Vasileff

Kanchani  
Rajopadhyaya

Boris Fedoric

Tyson Matthews

Christine Ball

Victoria Kopetz

Honours Students Group 1 Supervisor: Dr A Cummins	<b>Krishna V. Jeyaraman</b> , Rino Donato, Jane K. Fauser, Adrian G. Cummins <i>"Investigation of notch signalling on postnatal growth of the mammalian small intestine"</i>
Honours Students Group 2 Supervisor: A/Prof J Beltrame, Dr DP Wilson.	<b>Kanchani Rajopadhyaya</b> , Scott Copley, Jessica Dunn, <i>"Statins attenuate rat caudal artery tension at high concentration of endothelin-1, whereas pravastatin potentiates contraction at low endothelin-1 concentrations"</i>
Higher Degrees Basic Research Group 1 Junior Supervisor: Dr P Coates	<b>Tyson Matthews</b> , Natasha Rogers, Shaundee Sen, Claudine Bonder, Toby Coates <i>"Endothelial progenitor cells (epc) home to ischaemic kidneys following ischaemia reperfusion injury"</i>
Higher Degrees Basic Research Group 1 Senior Supervisor: A/Prof J Beltrame, Dr D Saint	<b>Christine Ball</b> , David Wilson, Stuart Turner, David Saint, John Beltrame <i>"t-type ca<sup>2+</sup> channels: a new therapeutic target for the management of microvascular dysfunction"</i>
Higher Degrees Basic Research Group 2 Senior Supervisor: A/Prof J Beltrame,	<b>Victoria Kopetz</b> , Megan Penno, Peter Hoffmann, John Beltrame <i>"Plasma proteomic investigations in the coronary slow flow phenomenon: exploring mechanisms for the acute coronary syndrome presentation"</i>
Higher Degrees Clinical and Registrars Supervisors: Prof PJ Wormald, Dr LW Tan	<b>Rowan Valentine</b> , Theo Athanasiadis, Peter-John Wormald <i>"The efficacy of a novel chitosan gel on hemostasis following endoscopic sinus surgery in a sheep model of chronic rhinosinusitis"</i>
Allied Health Supervisor: Ms S Goldsworthy	<b>Hayley Vasileff</b> , Sharon Goldsworthy, Kathryn Ridgwell <i>"Implementation and evaluation of a pathway to improve the timeliness of ordering medications for patients admitted via dosa"</i>
Poster Supervisors: Prof PJ Wormald, Dr LW Tan	<b>Andrew Foreman</b> , Lor Wai Tan, PJ Wormald <i>"Defining the role of biofilms in chronic rhinosinusitis: A fluorescence in situ hybridisation study"</i>
Best Lay Description Supervisor: Dr R Krishnan, Prof G Russ	<b>Boris Fedoric</b> , Ravi Krishnan <i>"Allogeneic T Cells acquire HLA-G from genetically modified dendritic cells by trogocytosis: Implications for immune regulation during transplantation"</i>



## Other 2008 Award Winners



### CARDIOLOGY UNIT

C Ball	Cardiac Society of Australia and New Zealand 2008 Young Investigators Prize
N Ghaffari	- De La Lande Award (joint Cardiology & Clinical Pharmacology) \$3000

### GASTROENTEROLOGY UNIT

K Jeyaraman	First class Honour's, Physiology, University of Adelaide 2008.
S Mashtoub	First class Honour's, Prize for highest Honour's assessment, Physiology, University of Adelaide 2008.
I Roberts-Thomson (Professor).	Elected Fellow of the American Gastroenterological Association (AGAF) 2008.

### HAEMATOLOGY-ONCOLOGY, Combined Departments of

C Kok	8th Australasian Microarray & Associated Technologies Association (AMATA) Meeting, Dunedin, New Zealand 2008 (AUD \$500 2008) AMATA student travel bursary and oral presentation.
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### OTOLARYNGOLOGY, HEAD & NECK SURGERY

A Foreman	Highly Commended Poster Award Postgraduate Research Day, FHS, University of Adelaide, Adelaide July 2008.
A Foreman	4th Australasian Rhinological Society Best Oral Presentation Award, Auckland New Zealand, September 2008.



Christine Ball



Professor  
Roberts-Thomson



Chung Kok



Susan Mashtoub



Andrew Foreman



Rowan Valentine



Hooi Sien Eng

RENAL UNIT	
HS Eng	Amgen Young Investigator Award, Sydney, Australia, August 2008.
HS Eng	Young Investigator Award, The Transplantation Society of Australia and New Zealand, Sydney, Australia, August 2008.
HS Eng	Top 10 finalist abstracts Young Investigator Award of The XXII International Congress of The Transplantation Society, Sydney, Australia, August 2008.
HS Eng	Finalist of Clinical Science Young Investigator Award at The 44th Annual Scientific Meeting of The Australia and New Zealand Society of Nephrology (ANZSN), Newcastle, Australia, September 2008.
HS Eng	Travel grant from The Transplantation Society of Australia and New Zealand to visit Johns Hopkins University and University of Pittsburgh and to attend ASHI Meeting in Toronto, Canada, September 2008.
HS Eng.	Postgraduate Travelling Fellowship (AUD\$2,500) from the Faculty of Health Sciences, University of Adelaide, to visit Johns Hopkins University and University of Pittsburgh and, to attend ASHI Meeting in Toronto, Canada, October 2008.
MG Collins	Cellcept Australia Research Grant (CARG) funded by Roche Australia Pty Ltd of \$20,000 2008.
A Kupke	Honours Poster Prize, Molecular Biosciences Research Symposium, Adelaide 2008.

# Acknowledgements

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Adelaide Integrated Biosciences (AIB) Laboratories  
Adelaide Microscopy  
Ann-Marie Trimboli Trust Fund  
ASERNIPS  
Arthritis Australia  
Australasian Microarray & Associated Technologies Association (AMATA)  
Australian and New Zealand Intensive Care Research Centre  
Australian and New Zealand Society of Nuclear Medicine (ANZSNM)  
Australian Crohn's and Colitis Association  
Australian Brain Foundation  
Australian Red Cross Blood Service  
Australian Research Council (ARC)  
Australian Rheumatology Association  
Australian Society of Otolaryngology Head and Neck Surgery (ASOHNS)  
Baker Heart Research Institute Melbourne  
Bernie Lewis Foundation  
BioGRID / Colorectal Surgical Society of Australia and New Zealand / Royal Australasian College of Surgeons  
BioInnovationSA  
Breast Cancer Research Association  
Cancer Australia  
Cancer and Bowel Research Association  
Cancer Council of South Australia  
Catholic Archdiocese of Sydney  
CellCept Australia Research Grant (CARG)  
Channel 7 Children's Medical Research Foundation of SA  
Child Health Research Institute  
Children, Youth & Women's Health Service Research Foundation  
Children, Youth & Women's Health Service– Familial Cancer Unit  
Clive and Vera Ramaciotti Foundation  
Colorectal Surgical Society of Australasia Foundation  
Colin Matthews, Professor  
Commonwealth Department of Health and Aged Care  
Cook Australia  
CY O'Connor ERADE Village WA  
Department of Health SA  
Diabetes Australia  
Divisions of General Practice  
Endeavour International  
Flinders University of South Australia – Proteomic Facility  
Garnett Passe and Rodney Williams Memorial Foundation  
Genome Institute Singapore  
Given Imaging

Government of South Australia, Premier's Science and Research Fund  
Hanson Institute  
Inner Wheel Australia  
Institute of Medical & Veterinary Science (IMVS)  
Intensive Care Foundation  
Juvenile Diabetes Research Foundation  
Kidney Health Australia  
Les Cleland, Professor (Director of Rheumatology, Royal Adelaide Hospital)  
Merck Sorono Pharma  
Monash University Melbourne  
Muriel T Gunn Foundation  
National Breast Cancer Council  
National Health & Medical Research Council (NHMRC)  
National Heart Foundation of Australia  
Novo Nordisk  
Osteoporosis Australia  
Perpetual Trustees  
Pfizer Australia (CVL)  
Peter MacCallum Institute  
Research Australia  
Royal Adelaide Hospital  
Royal Adelaide Hospital Intensive Care Unit  
Royal Australian College of General Practitioners  
Royal Australasian College of Physicians  
Royal Australasian College of Surgeons  
Royal Children's Hospital Melbourne  
Royal Prince Alfred Hospital Intensive Care Unit  
South Australian Department of Health  
Stem Cell Healthcare and Tech Inc  
Stroke SA  
St Jude's Research Institute, Memphis USA  
St Vincent's Hospital Melbourne  
Surgical Synergies  
Sydney Children's Hospital  
The Queen Elizabeth Hospital Friends  
The Queen Elizabeth Hospital Research Foundation  
University of Adelaide  
University of Adelaide – Department of Paediatrics  
University of Adelaide – Faculty of Health Sciences  
University of Adelaide – Discipline of Agriculture  
Roseworthy Campus  
University of Melbourne - Departments of Pharmacology and Medicine  
University of Queensland - Immunology and Metabolic Medicine  
Walter & Eliza Hall Institute  
Women's and Children's Hospital Adelaide





## The Queen Elizabeth Hospital Research Foundation

Photography courtesy of Ben Searcy Photography



# The Queen Elizabeth Hospital Research Foundation

The Queen Elizabeth Hospital Research Foundation has been working for the benefit of the South Australian community for 43 years, raising funds to support world class medical and health research at The Queen Elizabeth Hospital.

Over the past 15 years, the Research Foundation has donated more than \$14 million to help TQEH researchers conduct valuable work in the fields of cancer research, heart and kidney disease, diabetes, asthma and other serious conditions.

A highlight of 2008 was the completion of the new \$19m research facility on Woodville Road which has provided TQEH researchers with a state-of-the art facility for their important work. The building was funded by State Government and will house more than 120 researchers.

## BOARD DETAILS

### Chairman

Mr John Michell – Chairman, Michell Pty Ltd

### Deputy Chairman

Mr Ray McGrath – Managing Director, McGrath Real Estate Group

### Board members

Mr Harold Anderson AM JP – Mayor, City of Charles Sturt

Mr John Hender – State Manager –SA. Private Wealth – Private Clients, Perpetual Pty Ltd.

Professor Richard Ruffin – Director – Division of Medicine, The Queen Elizabeth Hospital

Mr John MacPhail – Partner, Finlaysons Lawyers

Mr Peter Wylie – Chairman, Advertiser Newspapers Pty Ltd

Mr Ken Milne – Architect, Milne Architects Pty Ltd.

A/Prof John Beltrame – Senior Lecturer and Cardiologist, Cardiology Unit, The Queen Elizabeth Hospital

Ms Caroline Eastwood – Corporate Sales Manager, Optus.

Ms Lee Jameson – State Manager of SGIC Insurance.



THE QUEEN ELIZABETH HOSPITAL  
RESEARCH FOUNDATION INC.



Mr John Michell



Mr Ray McGrath



Mr Harold Anderson



Mr John Hender



Prof Richard Ruffin



Mr John MacPhail



Mr Peter Wylie



Mr Ken Milne



A/Prof John Beltrame



Ms Caroline Eastwood



Ms Lee Jameson

Photography courtesy  
of Ben Searcy  
Photography

## Chairman's Report



**John Michell**  
**CHAIRMAN**

It has been said that the only constant is change. It seems that sometimes change happens so slowly that we don't even notice it happening until we look back and see where we have come from. Other times it seems like everything changes overnight.

The Queen Elizabeth Hospital Research Foundation is a continually changing and developing organisation. Strangely, the larger it gets, the faster the change. This is because the Research Foundation has now achieved the critical mass required to actually make a difference and have an impact on the research community both at the hospital and in South Australia.

For many years the Foundation has been planning and investing in programs that generate both income for the Research Foundation and positive promotion for the work that our researchers are doing.

Last year we formulated the Research Advisory Committee and gave to researchers approximately \$500,000 in grants for those that had just missed out on NHMRC grants. This year we changed our funding direction. The Research Advisory Committee suggested that the Research Foundation funded, to a much larger level, four major grants and pledge the funds over five years with a success review after five years. It is anticipated that these grants will be worth approximately \$1.2 million each.

These research projects that the Foundation is funding will take place in the brand new research facility that is being constructed as I write and is due to be fully functional in December 2008. The State Government has agreed in principle to lease this facility to the Research Foundation for a peppercorn rent which will ensure that our funding is supporting researchers that are working in our State's most up-to-date research facility. The Board of the Research Foundation has done an outstanding job in allowing the management to have enthusiastic, ambitious projects whilst managing the risk associated. From an outsider's point of view, it may seem at times that the Research

Foundation is too forthright in its plans and actions in the marketplace. I must say that as the need is so great for the funds that we generate we are constantly hastening with caution.

Financially, the past year, whilst being our eighth year in a row of an increased surplus, we have been affected by the economic downturn and have had to write down the value of our investments. The Research Foundation has a very secure financial footing as it receives support from a wide range of individuals and businesses through a number of different sources.

As a number of our goals have been achieved, i.e. the new research building and \$2m per annum to research and mature fundraising programs, it is time for The Queen Elizabeth Hospital Research Foundation to look to the next fifteen years and plan for this time.

I would expect to see an expansion in the Governance of the Research Foundation. The Board have given excellent direction and the new members have wasted no time in assimilating and making an impact. We will be looking for more senior business people to take a role in the support of our work.

Our fundraising base must increase and we should not be limited by historical boundaries both in geography and traditional sources of funding.

**John Michell**  
**CHAIRMAN**







## Fundraising Initiatives

Photography courtesy of Ben Searcy Photography

The Queen Elizabeth Hospital Research Foundation has a proud history of excellence in fundraising. We have established a number of innovative programs to continue our fundraising work.

### **Life Guardian – Planned Giving**

Our planned giving program, Life Guardians, offers our donors the opportunity to leave a lasting legacy to research by making a gift in their will. A strong base for future funding has been created through this program, as over 700 supporters have made a generous commitment.

### **Basil Hetzel Society**

The Basil Hetzel Society acknowledges donors who have left significant gifts of \$10,000 or more in their wills. Over 200 donors have already made this commitment and have been acknowledged as members of this special group.

### **Tribute Funds**

Tribute Funds are a positive and simple way for family and friends to remember a loved one. A Tribute Fund carries the name of your loved one and is a living tribute. In their name, we can continue to ensure that vital medical research takes place to improve the health of our community.

Family and friends can support the Fund through numerous ways, including making contributions on significant dates such as anniversaries and birthdays, by making monthly gifts or by choosing to fundraise through dinners, auctions or quiz nights.

### **In Memory Gifts**

This program provides a meaningful way for bereaved families to invite mourners to give a gift to medical research to express their sympathy. Making a gift in memory of a loved one is a thoughtful and generous gesture which represents a valuable contribution towards healthier solutions for our community.

### **Lotteries**

The 2008 Home Lottery was our most successful to date. All 51,000 tickets were sold five days before the early bird deadline. The Home Lottery concept was introduced as a major fundraising initiative by the Research Foundation five years ago. It offers the highest value prize pool of any fundraising lottery South Australia has ever experienced. This year there were more than 3,400 prizes ranging from a magnificent Scott Salisbury home, luxury vehicles, worldwide holidays, entertainment and electrical prizes.





## Events

**Left to right Byron and Kally Egan, Pam and Ian Wall**

The Queen Elizabeth Hospital Research Foundation holds numerous innovative events throughout the year to raise vital funds for medical research into illness and disease that can touch us all.

The 2008 URS Tour de Heart was a tough journey stretching more than 1600km from the highest point in Australia - Mt Kosciuszko – to the lowest point - Lake Eyre. The ride began in Thredbo Village on Saturday 21st June and finished in Roxby Downs on Thursday 3rd July. Redbacks' wicket keeper Graham Manou was joined by team mate Andrew Eime, with fellow sporting and Adelaide celebrities taking up the challenge along the way. They endured snow in the early stages of the ride, wind, rain and highway traffic, stopping at various towns for well deserved breaks and to meet the locals.

The climax of the URS Tour de Heart was the ride into Roxby Downs where, in conjunction with BHP Billiton Olympic Dam, Roxby Downs Area School and St Barbara

Parish School, Graham Manou and his celebrity friends joined in several Bicycle Safety Training sessions with local school children. The fun did not stop there with a cocktail party, supported by Systembuilt Homes/EMAC, held in the team's honour on Thursday night to celebrate the achievement of the riders and to raise much needed funds for cardiology research at TQEH. The team met their target, raising \$50,000. Well done to all involved!

One of the major fundraising activities of The South Australian Medical Research Trust is the Annual Black Tie Dinner. Through the generous support of the corporate and wider South Australian community, this event raises a significant amount of money each year. It has made a name for itself through the city and has become one of the most anticipated dinners of the year.

The 2008 One Night in New York Dinner was no exception raising more than \$90,000 net for SAMRT, funding research into breast, prostate and other cancers



**Left to right Andrew Eime and Graham Manou**





**The Queen Elizabeth Hospital Research Foundation Home Lottery 2008 winner Christina Woods and family**

conducted at The Queen Elizabeth Hospital. The dinner was a huge success with many of our sponsors and supporters believing it was the best one ever!

The outstanding amount raised was the result of hard work and planning by the events team and our outstanding volunteer SAMMRT committee. They worked tirelessly to help make the night a great success. AMP and MBA Financial Strategists were once again our naming sponsors for the evening. Their on-going support is greatly appreciated.

A major highlight of the night was the \$100 a ticket raffle, which gave the opportunity for two lucky people to win a trip to New York, valued at more than \$10,000. This was kindly donated by Malaysia Airlines and Venture Holidays. The lucky winner, Tiffany Young from Malvern, was drawn by Mr Mark Borg from AMP.

Special thanks must go to our major sponsors Australian Construction Surveys, Channel 9, DMA Events, Finlaysons, Kendacraft Jewellery, McGrath Real Estate, Optus, Scott Salisbury Homes and SGIC. Thank you also to our silver sponsors Charterhouse, Bank SA, Common-

wealth Private, SeaRay Sales, SO Asher Consultants and the many generous auction item donors, in-kind supporters and guests.

The inaugural Lord Mayor's 'Heart of Adelaide' Ball was held on Friday 28 November at the Adelaide Town Hall. Community and business leaders joined forces to raise vital funds for heart research at TQEH. Guests enjoyed the High Society theme and danced the night away to the fantastic music performed by the Adelaide Conservatorium Big Band. A highlight from the night was the \$100 raffle ticket, which gave one guest the chance to win a white gold 18ct diamond bracelet valued at \$7,000 donated by Kendacraft Jewellery. Maria Kenda drew the lucky ticket and Francis Wong from Adelaide was the winner! The night was a success raising \$25,000.

The Queen Elizabeth Hospital Research Foundation was the beneficiary of several other major events throughout 2008 including The Advertiser/Sunday Mail Foundation Male Famous Faces Luncheon, The Asia Pacific Business Council for Women Gala Dinner, and the American Chamber of Commerce (AMCHAM) Internode Lunches held throughout the year.



## Development

### Direct Marketing

Our Direct Marketing program is one of the Research Foundation's major sources of income. This includes our direct mail program and our telemarketing operations. The direct mail program is used to communicate with our existing donors as well as making contact with potential donors. We send our quarterly appeals to our donors informing them of specific research projects happening at the Basil Hetzel Institute and stories about people who have benefited directly from the research happening there. This program generates a steady income source for the Foundation.

The telemarketing program is used for the acquisition of new donors as well as keeping in touch with existing donors. Our telemarketing program generates money from our Key Medallion program and Australian Breast Cancer Research Brand.

We also have a 'regular giving' program where donors pledge an amount to be given at regular intervals. Regular giving allows the Research Foundation to raise money with a guaranteed minimum level of income each month, making it one of the best ways to fundraise or give.



## Fit2play



For three years, The Queen Elizabeth Hospital Research Foundation has been financially supporting the Fit2play program. This is an evidence-based health and wellbeing program for primary school children designed to prevent obesity-related diseases such as heart disease, diabetes and other chronic illnesses.

Studies have shown that banning access to unhealthy food items actually makes them more desirable. Therefore, the Fit2play program is based on the self determination theory and encourages children to eat more fruit and vegetables, do more exercise, watch less TV and drink more water rather than banning certain foods or behaviours.

Fit2play educates children about the importance of good health choices. This approach results in children developing behaviours which can be sustained for life. Late in 2007, The Queen Elizabeth Hospital Research Foundation received notification it had been selected to receive funding under the Federal Government's Healthy Active Australia Community and School Grant Program to offer the Fit2play program in 2008 to the 24 schools involved in the 2006 trial.

In late 2008, the Research Foundation was formally advised that, as one of the three preferred tenderers, it would receive further funding of up to \$400,000 over three years to provide Fit2play to specified primary schools in SA.





Photography courtesy of Ben Searcy Photography

## Supporting Students at TQEH

Nurturing and supporting talented students is a high priority for The Queen Elizabeth Hospital Research Foundation. Each year, the Research Foundation supports students by granting scholarships.

In 2008, the Research Foundation supported 16 Postgraduate students, 11 Honours students and five vacation scholarships.

## Research Day

The Research Foundation was also the major supporter of The Queen Elizabeth Hospital Research Day. This is an annual event aimed at providing an opportunity for young student researchers to present their data before an audience under conditions which are typical of most national and international scientific conferences. Students receive awards in various categories, with most of the awards being sponsored by The Queen Elizabeth Hospital Research Foundation.

# Allocation of Funding

## Research Advisory Committee

To increase the accountability of money spent and to ensure a transparent transfer of funds from The Queen Elizabeth Hospital Research Foundation to researchers at The Queen Elizabeth Hospital, Research Foundation funding will now be gifted on a competitive application basis. To ensure this application and review process is fair and equitable The Queen Elizabeth Hospital Research Foundation has established a Research Advisory Committee (RAC). This committee is comprised of esteemed South Australian researchers and has representation from The Queen Elizabeth Hospital, Children's Health Research Institute, Women's and Children's

Hospital and the three South Australian Universities. The Committee will determine the best way to allocate the money donated by The Queen Elizabeth Hospital Research Foundation to the Hospital. The chair of this committee is required to be a member of The Queen Elizabeth Hospital Research Foundation board and in the inaugural year is Professor Richard Ruffin. This Research Advisory Committee system is vital as it now allows money to be allocated on strong scientific plan and capability, and is an important step towards creating an impartial system that demonstrates consistency across all major funding.

## Funding research projects

The following table outlines where money has been allocated to research at The Queen Elizabeth Hospital by the Research Foundation.

<b>The Queen Elizabeth Hospital Research Foundation Inc. Distribution of Funds to Research in 2007/08</b>	
BHI	\$400,000
Research Advisory Committee Grants Provision	\$212,000
Renal Research Equipment	\$200,250
Commercialisation	\$281,833
Targeted Funds:	
- Scientific Microscope TE2000-U-EPI	\$91,126
- Breast Cancer	\$30,921
- Cancer Research	\$19,445
- Cardiology	\$11,483
- Dr J Hardingham project	\$5,716
- Colorectal Cancer	\$21,320
- Department of Medicine	\$15,216
- Dr S Stephenson	\$6,025
- Mental Health / psychiatry	\$8,000
- Neurology	\$5,740
- Eye Research	\$16,790
- Oncology / Haematology	\$62,999
- Renal Research	\$23,712
- Capital campaign for BHI equipment	\$91,126
- Dr LW Tan	\$5,000
- Research Day Prizes	\$4,000
Other research distribution	\$50,398
Total funds provided towards research	\$1,563,100

## CREDITS

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Ben Searcy Photography  
Ashley Turner

Compilation:  
Gwenda Graves and Bronwyn Lenton



**Government of South Australia**

Central Northern Adelaide  
Health Service

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

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W: <http://tqeh.sa.gov.au/public/content/default.asp?xcid=1823>