



2010

RESEARCH REPORT



Western Health

OUR VISION

Together, caring for the West - our patients, staff, community and environment.

OUR PURPOSE

Working collaboratively to provide quality health and well-being services for the people of the West.

OUR VALUES

Compassion - consistently acting with empathy and integrity

Accountability - empowering our staff to serve our community

Respect - for the rights, beliefs and choice of every individual

Excellence - inspiring and motivating, innovation and achievement

Safety - working in an open, honest and safe environment.

OUR PRIORITIES

Safe and effective patient care

People and culture

Community and partnerships

Research and learning

Self-sufficiency and sustainability

Acknowledgement of traditional owners

Western Health respectfully acknowledges the traditional owners of the land on which its sites stand as the Boon Wurrung and the Wurundjeri people of the greater Kulin Nation.

Cover: Western Centre for Health Research and Education at Sunshine Hospital

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Welcome to Western Health's Research Report 2010. We are delighted to present our second dedicated research report, and once again it highlights the tremendous research efforts being made across a range of academic and clinical disciplines at Western Health.

This report features the research achievements of Western Health researchers over the past two years, 2009 and 2010. In many cases, the research presented in this report is collaborative in nature, involving the close cooperation of Western Health researchers with a range of academic institutions, other hospitals and health networks. This collaboration is likely to intensify in the near future, with the opening of the new Western Centre for Health Research and Education, which is a joint initiative between Western Health, The University of Melbourne and Victoria University. The opening of this facility, and the resultant co-location of researchers and academics, will mark a significant milestone in the ongoing development of Western Health as a clinical research centre of excellence.

It's pleasing to see that Western Health researchers have published more than 200 journal articles in the past 24 months, including publications in the prestigious New England Journal of Medicine by our researchers from the Division of Medicine and Cancer Services and the Division of CCVT, ICU and Emergency and their collaborators.

Western Hospital is a major recruiter to clinical trials and has recruited the highest number of participants of any site in multiple international oncology studies. Our Western Hospital clinicians are lead investigators on international Phase III

studies, with a recent study on the treatment of bone metastases in patients with advanced breast cancer published in the highly ranked Journal of Clinical Oncology. Western Health is also a key collaborator in First-in-Human Phase I clinical trials. Western Health aims to increase the number of patients participating in clinical trials in 2011 ensuring our patients have access to new treatment options.

During 2009 and 2010 our researchers, in collaboration with our partners, were awarded or held 30 research grants of over \$16 million for the duration of the grants (up to 5 years). This is an outstanding achievement and we acknowledge our partners at the end of this report.

Research Week continues to grow each year and with the inaugural Kendall Francis Prize for the best Surgical Registrar Presentation introduced in 2009, the Surgical Forum has become a highlight of the program. We look forward to Research Week in November 2011, which will be held in our new research facility.

The research presented in this report is a result of the vision, hard-work, dedication and commitment of our researchers here at Western Health. Their efforts are to be congratulated.

We look forward to another exciting research year ahead.



K. J. Cook

Kathryn Cook
Chief Executive



David Newman

Dr David Newman
Director, Office for Research

RESEARCH HIGHLIGHTS 2009 & 2010

230

› PUBLISHED JOURNAL ARTICLES

21

› PRESTIGIOUS RESEARCH AWARDS

148

› RESEARCH PROJECTS APPROVED

30

› RESEARCH GRANTS

15

› PUBLISHED BOOK CHAPTERS

\$2,390,504

› INCOME FROM COMMERCIALY SPONSORED CLINICAL TRIALS

165

› SEMINAR & CONFERENCE PRESENTATIONS

\$16,280,355

› AWARDED OR HELD FOR RESEARCH GRANTS DURING 2009 AND 2010*

* Total awarded for the duration of the grants to our researchers and their collaborators



ETHICS
PANEL
REPORT

The Western Health Low Risk Human Research Ethics Panel continues to provide a means of ethical review and facilitation for low risk research projects undertaken at Western Health.

MEMBERSHIP

Chairperson

David Newman, Director, Office for Research (Until October 2009)

Renee Testa, Senior Clinical Neuropsychologist (From November 2009 - April 2010)

Tissa Wijeratne, Consultant Neurologist (From September 2010)

Deputy Chairperson

Edward Janus, Professor/Director, General Internal Medicine (Until July 2009)

Renee Testa, Senior Clinical Neuropsychologist (From July 2009 - October 2009)

Debra Kerr, Senior Lecturer, Faculty of Nursing, Victoria University (From September 2010)

Patient Advocate

Leanne Lade, Manager, Cultural Diversity and Aboriginal Health (Until October 2009)

Religious Advisor

Seikan Čech, Director, Melbourne Zen Hospice (Until March 2009)

Kahn Do, Western Health Pastoral Care Team Leader (From June 2009 to April 2010)

Ethicist

Alison Brookes, School of Population Health, The University of Melbourne (From September 2009 to April 2010)

Lawyer

Katherine Elkin, Privacy Law Expert (From September 2009 to April 2010)

Review Members

Elizabeth Hessian, Consultant Anaesthetist

Debra Kerr, Senior Lecturer, Faculty of Nursing Victoria University

Sathyajith Velandy Koottayi, Intensivist

Tissa Wijeratne, Consultant Neurologist

Kent MacMillan, Director of Pharmacy

Steven Chan, Head, Department of Surgery (From September 2009)

Partick Dewan, Paediatric Urologist/ Surgeon (Until May 2009)

Anne-Maree Kelly, Director, Joseph Epstein Centre for Emergency Medicine Research (Until September 2009)

Michael McDonough, Director of Addiction Medicine Services (Until April 2010)

Jacqui Smith, Senior Consultant Obstetrics and Gynaecology (Until April 2010)

Renee Testa, Senior Clinical Neuropsychologist (Until April 2010)

Martin Wright, Head of Unit, Child and Adolescent Health (Until April 2010)

Ema Pitts, Clinical Trials Coordinator, Neurology (Until June 2009)

Marc Seal, Griffith Research Fellow, Melbourne Neuropsychiatry Centre (Until April 2010)

Dilanka Wanasinghe, Sleep Disorders Scientist (Until April 2010)

Keith Lim, Head, Department of Rheumatology (From September 2009 to April 2010)

Helen Brasier, Oncology Research Nurse (From September 2009 to April 2010)

Angela Mellerick, Oncology Research Nurse (From September 2010)

Anne Marie Southcott, Head, Respiratory and Sleep Medicine (From December 2010)

Manager

Louise Sillar, Manager, Office for Research (Until April 2010)

Michelle Clemson, Manager, Office for Research (From September 2010)



RESEARCH WEEK AWARDS

Early Career Investigator Prize, Best Research Poster 2009 - Dr Forbes McGain

Research essentially began rather late as a registrar in anaesthesia and intensive care for Forbes McGain. He studied the causes of deaths from snakebite in Australia and Papua New Guinea at The Australian Venom Research Unit, The University of Melbourne under the guidance of Dr Ken Winkel.

Forbes was also involved in several research projects at the Austin Hospital Department of Intensive Care under Professor Rinaldo Bellomo particularly studying post-operative patient observation. Since commencing at Western Health four years ago, Forbes has continued research of a more general nature with the team in the Intensive Care Unit. Recently though he has embarked on a Doctorate of Medicine at The University of Melbourne, Nossal Institute for Global Health, studying hospital sustainability. Particular interests include life cycle assessment of commonly used medical items. The first study examined was a financial and environmental comparison between reusable versus single use anaesthetic drug trays for which he received the 2009 Research Prize.

Kendall Francis Prize, Best Surgical Registrar Research Presentation 2009 - Dr Manny Cao

Manny Cao is a local resident of Sunshine North and started his relationship with Western Hospital as a rotating medical student from RMH in 2003-2005. He has been working as a doctor at Western Health since internship in 2006 and commenced surgical training as a registrar in 2007 after being accepted into the General Surgery program of the Royal Australasian College of Surgeons (RACS).

In 2009, he became the inaugural winner of the Kendall Francis Prize for his clinical audit of anastomotic leaks related to right hemicolectomies within the network. This project involved establishing a computerised database system and subsequently reviewing over 250 operative case records. Results of the project showed that Western Health was comparable to international institutions in terms of ileocolic anastomotic leak rates and that stapled and sutured methods were equivalent in outcome. The paper was subsequently presented at the RACS Annual General Scientific and Fellowship Meeting in 2010 and is being prepared for publication.

Early Career Investigator Prize, Best Research Poster 2010 - Dr Kathryn Field



Kathryn Field is a medical oncologist and Research Fellow based at the Royal Melbourne Hospital and Ludwig Institute for Cancer Research. She was awarded her Fellowship of the Royal Australasian College of Physicians in early 2008. She is an honorary medical oncologist at Western Health and was an advanced trainee medical oncology registrar at Western Hospital in 2006.

She is now completing her postgraduate Doctor of Medical Science focusing on colorectal cancer using ACCORD (Australian Comprehensive Cancer Outcomes Research Dataset). This research is based on outcomes in routine clinical care and how these can be improved. In 2008-2009 she was a BioGrid Clinical Research Fellow. She also has an interest in neuro-oncology and is the Australian Principal Investigator for the CABARET clinical trial, a randomised Phase II study for patients with recurrent glioblastoma multiforme.

Kendall Francis Prize, Best Surgical Registrar Research Presentation 2010 - Dr Su Mei Hoh



Su Mei Hoh was awarded the Kendall Francis Prize for her project entitled: Diagnostic yield of prostate cancer staging at Western Health. This was a retrospective audit of 181 patients diagnosed with prostate cancer through prostatic biopsies at Western Health from 2005 to 2009.

The histories were reviewed to determine if CT abdomen/pelvis and bone scan were performed, and the value of the staging studies in the diagnosis of: 1) synchronous tumours; 2) urological pathology that may influence operative planning such as duplex ureters or stones; and 3) lymph node or bony metastasis. The project concluded that CT has a significant impact on management of prostate cancer beyond that of oncological staging. However its diagnostic yield was not improved by the additional use of bone scan in our series.

ALLIED HEALTH



The Western Health Allied Health Departments aim to have an integrated approach to research across the three sites of Western Health and have aligned their research initiatives with the Western Health strategic directions.

OUR RESEARCH - NUTRITION

International Nutrition Survey 2009

Ashley Sandison

To compare the nutritional intake and nutritional requirements of patients admitted to ICU. Results used to optimise patient's nutritional status, thereby reducing length of stay.

Collaborator: Naomi Cahill, Kingston General Hospital, Canada

How Common Is Malnutrition In The Chemotherapy Day Ward Setting Of A Metropolitan Hospital?

Amber Kelaart

The key purpose of this study was to establish the level of malnourishment in the chemotherapy day ward setting and most importantly, improve patient outcomes.

Australasian Nutrition Day Care Survey

Kathryn Pierce, Amber Kelaart and Rachael Evans

The aim of this study is to determine whether poor nutritional status and nutritional intake during hospital admission has an effect on clinical outcomes.

Collaborators: Ekta Agarwal, University of Queensland; Dr Elisabeth Isenring, Dr Maree Ferguson, Princess Alexandra Hospital; and Dr Merrilyn Banks, Royal Brisbane and Womens Hospital

Malnutrition in Western Health Dialysis Patients

Sarah Pitt and Heather Jordan

The aim of this project was to investigate malnutrition in the haemodialysis population and this baseline data will inform a Western Health Malnutrition Strategy.

Guide to the management of nutritional priorities for patients receiving chemotherapy

Amber Kelaart and Kathryn Pierce

Investigating the relationship between malnutrition and the level of plate wastage in an acute and sub-acute hospital setting

Amber Kelaart, Rachael Evans, Sarah Pitt and Caitlin Arnault

Assessing the adequacy of fluid intake in dysphagic patients and identifying the factors impacting on fluid intake at three Melbourne teaching hospitals

Rachael Evans and Alli Lauder

Collaborators: Eliza Jervis Read and Andrea Bramley, Melbourne Health; and Kate Desneves, Austin Health

OUR RESEARCHERS

Kathryn Pierce: Manager of Nutrition

Rachael Evans: Senior Clinical Dietitian/ Clinical Educator

Heather Jordan: Clinical Dietitian

Amber Kelaart: Senior Clinical Dietitian

Sarah Pitt: Senior Clinical Dietitian

Ashley Sandison: Clinical Dietitian

OUR PRESENTATIONS

Amber Kelaart and Kathryn Pierce: Dietitians Association of Australia Annual Conference, Darwin 2009 *Guide to the Management of Nutritional Priorities for Patients Receiving Chemotherapy*

Amber Kelaart: Dietitians Association of Australia Annual Conference Melbourne 2010 *Are Patients Malnourished Before they Start Chemotherapy?*

Amber Kelaart: Clinical Oncology Society of Australia Annual Conference 2010 *How Common Is Malnutrition In The Chemotherapy Dayward Setting Of A Metropolitan Hospital?*

Kim Dennis: Dietitians Association of Australia Annual Conference Melbourne 2010 *Prescription, delivery and consumption of oral nutritional supplements at Western Health*

Amy Gavaghan and Amber Kelaart: Dietitians Association of Australia Annual Conference Melbourne 2010 *Disordered Eating within Obesity - A Case Study*

Sarah Pitt: ANZSN Perth 2010 *Nutrition Service Evaluation in Western Health*

Heather Jordan: ANZSN Perth 2010
Malnutrition in Western Health Dialysis Patients

Sarah Pitt and Heather Jordan: The AMGEN
Chronic Bone Disease Management Day
Launceston *The Role of the Renal Dietitian
in Phosphate Management*

Ashley Sandison: Australian and New Zealand
Head and Neck Society Scientific Meeting
Immunonutrition in Head and Neck

Rachael Evans: Dietitians Association of Australia
Annual Conference Melbourne 2010 *Assessing
the adequacy of fluid intake in dysphagic patients
and identifying the factors impacting on fluid
intake at three Melbourne teaching hospitals*

Ashley Sandison: Dietitians Association of
Australia Annual Conference Melbourne 2010
*The Victorian Dysphagia Screening Project
for the Acute Stroke Population*

OUR RESEARCH - OCCUPATIONAL THERAPY

OUR RESEARCHERS

Susan Giles: Manager Occupational Therapy

Kathryn Cranwell: Grade 3 Occupational Therapist

Neo Damba: Grade 2 Occupational Therapist

Terri Johnston: Grade 3 Occupational Therapist

Helen Nelson: Grade 4 Occupational Therapist

Sally Smart: Grade 2 Occupational Therapist

Gabriella Veliz: Grade 3 Occupational Therapist

Bradley Wilson: Grade 3 Occupational Therapist

OUR PRESENTATIONS

Susan Giles and Helen Nelson: OT Australia Vic
Conference 2010 *Acute Outcome Measures*

Bradley Wilson and Sally Smart: OT Australia
Vic Conference 2010 *Development and
implementation of a wheelchair and seating
learning package*

Neo Damba: OT Australia Vic Conference 2010
A Process Model for Cognitive Rehabilitation in OT

Terri Johnston: OT Australia Vic Conference 2010
Goal Setting Takes a New Form

Helen Nelson (with Adele Mollo): Smart Strokes
2010 *From Chaos to Control: Western Health's
Experience*

Gabriella Veliz: World Federation Occupational
Therapy Conference Chile 2010 *Use of the Person-
Environment-Occupational Model to Work with
Clients from Culturally Diverse Backgrounds in
Melbourne, Australia*

Gabriella Veliz: World Federation Occupational
Therapy Conference Chile 2010 *The Development
of Competencies for New Graduate Therapist
working within community based rehabilitation,
Melbourne, Australia*

OUR AWARDS

Victorian Stroke Clinical Network - Post Graduate
Award 2009: Gaby Veliz. *Award for post graduate
study related to improving care for stroke patients
\$5,000*

Victorian Stroke Clinical Network - Enhancing
Stroke Care Project Funding 2010: Helen Nelson
and Liz Mackay. *Translated Multimedia Patient
Education Model - TIA and Stroke \$41,000*

OUR RESEARCH - PHYSIOTHERAPY

Able and stable falls prevention exercise and education program

Fiona McManus

This project involved the development and
implementation of an exercise and education
program aimed at reducing the occurrence of
falls in a population with increased risk of falls.

Collaborators: Catherine Grant and Katie McClue

Inter- and intra-observer reliability of anatomic parameters of X-rays that are used in classifying distal radius fractures in adults

Narelle Watson

A multi-site research project investigating the
inter- and intra-observer reliability of anatomic
parameters of X-rays that are used in classifying
distal radius fractures in adults. This research is
aimed at improving the management of distal
radius fractures.

Collaborator: Professor Jenny Keating,
Monash University

OUR RESEARCHERS

Alicia Martin: Manager Physiotherapy

Emily Cross: Grade 2 Physiotherapist

Justine Dougherty: Grade 3 Physiotherapist

Catherine Grant: Grade 3 Physiotherapist

Sarah Kenny: Grade 3 Physiotherapist

Kirsty May: Grade 2 Physiotherapist

Katie McClue: Grade 2 Physiotherapist

Fiona McManus: Grade 2 Physiotherapist

Paul Silk: Grade 3 Physiotherapist

Claire Thwaites: Grade 2 Physiotherapist

Narelle Watson: Grade 4 Physiotherapist

OUR PRESENTATIONS

Emily Cross (with Sophie Heywood, Kate Dodds, Alison Logan, Rebecca Bramley): Australian Physiotherapy Association Conference Sydney 2009 *Considerations for discharge planning in aquatic physiotherapy – facilitating self-management and independent aquatic exercise in chronic disease: a pilot trial*

Fiona McManus: ANZ Falls Prevention Society Conference 2010 *Able and Stable: A Community-Based Interdisciplinary Falls Prevention Program*

Narelle Watson: Keynote Speaker for the Inter professional Education Conference at Monash University *Integrating research and clinical practice*

Melanie Zammit: Improving Care for Older People *Domains to Discharge – Development of a Suite of Documentation for Sub-Acute Inpatients*

OUR AWARDS

Victorian Department of Health Prevention and Promotion Award: 2010 Fiona McManus and Rachel McCarthy; and 2009 Fiona McManus and Willeke Walsh *Able and Stable: A Community-Based Interdisciplinary Falls Prevention Program*

OUR RESEARCH - SPEECH PATHOLOGY

OUR RESEARCHERS

Meredith Swaby: Manager of Speech Pathology

Olga Birchall: Speech Pathologist

Sally Howard: Speech Pathologist

Claire Moody: Speech Pathologist

Courtney Pocock: Speech Pathologist

Jane Scholes: Speech Pathologist

Ana Vespucci: Speech Pathologist

Sarah Ward: Speech Pathologist

Lisa Worthington: Speech Pathologist

OUR PRESENTATIONS

Claire Moody: Clinical Education Series: Austin Health, Melbourne Health, Southern Health, Eastern Health and La Trobe University *Increasing Capacity in Clinical Education for Speech Pathology*

Courtney Pocock: Speech Pathology Australia National Conference 2009 *Cultural Key Phrases*

Courtney Pocock: Diversity in Health Conference 2010 *Cultural Key Phrases*

Sally Howard: Diversity in Health Conference 2010 *Visual Menu Project: Ensuring Understand and Choice at Mealtime*

Sally Howard: Speech Pathology Australia National Conference 2010 *Visual Menu Project: Ensuring Understand and Choice at Mealtime*

Olga Birchall and Sarah Ward: Multidisciplinary Tracheostomy Education Day *Dysphagia and Communication in the Tracheostomised Patient*

Ana Vespucci: Department of Health Seminar *Working with Complex Care Infants 0-2 years*

Jane Scholes and Lisa Worthington: Speech Dysphagia Interest Group Melbourne 2010 Western Health *Dysphagia Working Party: Ensuring Excellence, Reliability, Consistency and New Learning*

OUR RESEARCH - PSYCHOLOGY

The Paediatric Neuropsychology Department is currently conducting research within a number of neurodevelopmental disorders in childhood. The Neurodevelopmental Clinic, which is co-ordinated by Dr Renee Testa and involves a multi-disciplinary team of clinicians, offers assessment of children presenting with a wide range of neurodevelopmental disorders. This referral base, in addition to access to other services and research collaborators have allowed us to conduct a number of projects in the areas of Childhood Schizotypal Disorder, Autism Spectrum Disorders, Hoarding Behaviour in Childhood, and Learning Difficulties (including Reading Disorders). We aim to continue to expand our work, particularly in the area of Childhood Psychiatric Disorders and Autism Spectrum Disorders.

An investigation into the cognitive skills underpinning single word decoding in children with reading disorders

Testa R, Lee A and Ross N

Learning to decode single words is a complex, multifaceted ability that relies on the contribution of a number of different, but related cognitive skills in order to succeed. This research contributes towards understanding the development of learning disorders and to also assist to better develop intervention techniques for children with learning difficulties.

Collaborators: Department of Psychology and Psychiatry, Monash University

Hoarding behaviours in children with learning disabilities

Testa R, Pantelis C and Fontenelle L

Our objective was to describe the prevalence, co-morbidity and neuropsychological profiles of children with hoarding and learning disabilities. It is unclear whether underlying cognitive features may play a major role in the development of hoarding behaviours in children with learning disabilities.

Collaborators: Melbourne Neuropsychiatry Centre; Programa de Ansiedade e Depressão e Departamento de Psiquiatria e Medicina Legal, Instituto de Psiquiatria, Universidade Federal do Rio de Janeiro, Brasil; and 4 Departamento de Psiquiatria e Saúde Mental, Instituto de Saúde da Comunidade, Universidade Federal Fluminense, Brasil

Memory functioning in children with Symptomatic Partial Epilepsy

Oguzkaya E, Gonzalez R, Harvey S, Wrenall J, Wood A and Testa R

This study has two aims: attempt to differentiate memory impairments in children with Frontal Lobe Epilepsy (FLE) and Temporal Lobe Epilepsy (TLE); and investigate the associations between memory impairments, academic achievement and everyday functioning, in children with FLE and TLE.

Collaborators: Royal Children's Hospital; and Department of Psychology and Psychiatry, Monash University

Cognitive effects of age of seizure onset in children with Symptomatic Partial Epilepsy

Embuldeniya U, Gonzalez R, Harvey S, Wrenall J, Wood A and Testa R

Collaborators: Royal Children's Hospital; and Department of Psychology and Psychiatry, Monash University

OUR RESEARCHERS

Renee Testa: Senior Paediatric Neuropsychologist

Emra Oguzkaya: Doctorate of Psychology (Neuro)

Harvey Jones: Doctorate of Psychology (Neuro)

Kimberley Meates: Doctorate of Psychology (Neuro)

Amy Lee: Doctorate of Psychology (Neuro)

Upeka Embuldeniya: Doctorate of Psychology (Neuro)

OUR PUBLICATIONS

Cocchi L, Walterfang M, Testa R, Seal M, et al. Grey and white matter abnormalities are associated with impaired spatial working memory performance in males with schizophrenia. *Schizophrenia Research* 2009, 115 (2-3): 163-72

Pantelis C, Yücel M, Bora E, Fornito A, Testa R, Brewer WJ, Velakoulis D, Wood SJ Neurobiological markers of illness onset in psychosis and schizophrenia: The search for a moving target. *Neuropsychology Review*, 2009, 19 (3): 385-398

Pantelis C, Wood SJ, Proffitt TM, Testa R, Mahony K, Brewer WJ, Buchanan JA, Velakoulis D, McGorry PD Attentional set-shifting ability in first-episode and established schizophrenia: Relationship to working memory. *Schizophrenia Research* 2009, 112(1-3): 104-113

Pantelis C, Wood SJ, Velakoulis D, Testa R, Fontenelle LF, Yucl M Should we redefine the concept of endophenotype in schizophrenia? *Rev Bras Psiquiatr* 2010, 32: 106-107

Perre D, Price SE, Kinsella GJ, Ong B, Mullaly E, Phillips M, Pangnadasa-Fox L, Storey E, Learning and memory in amnesic mild cognitive impairment: Contribution of working memory. *Journal of the International Neuropsychological Society* 2010 Mar: 16(2) 342-351

CHAPTERS

Testa R, Wood SJ, Pantelis C. Schizophrenia. In *The Neuropsychology of Mental Illness*. Wood SJ, Allen N. and Pantelis C [Editors] (pp 378-388) Cambridge University Press. Cambridge, UK (2009)

Testa R, and Pantelis C. The Role of Executive Functions in Psychiatric Disorders. In *The Neuropsychology of Mental Illness*. Wood SJ, Allen N. and Pantelis C [Editors] (pp. 117-137) Cambridge University Press. Cambridge, UK (2009)

OUR PRESENTATIONS

Renee Testa Invited Presenter: Psychiatry Academy (Educational Event for Consultant Psychiatrists) *Mental illness in Childhood*

Renee Testa: Schizophrenia International Research Conference Florence *Identifying the markers of mental illness in primary school-aged children: A series of case studies examining cognitive, motor, language and psychosocial factors*

Renee Testa: NorthWest Mental Health Psychiatry Forum *Schizotypal Disorder in Childhood*

FOV 17 cm
L 0 deg
RAO 17 deg
GRA 30 deg

MultiSync LCD 1980Sxi

BRILLIANCE 1980Sxi

GE MEDICAL SYSTEMS
Western Hospital



ANAESTHETICS

The Department of Anaesthesia and Pain Medicine is participating in recruitment to several national and international multicentre trials.

These trials have been designed to answer clinically relevant questions such as 'what effect does the use of nitrous oxide have on patient outcome?' and 'does acupuncture have a role to play in the management of chronic pain?'

Department researchers have also been responsible for the design of multicentre trials looking at the role of fascial plane blocks in providing post operative analgesia.

OUR RESEARCH

Pilot trial of transversus abdominis plane ropivacaine infusions following abdominal surgery

Dr Elizabeth Hessian, Dr Bronwen Evans, Ms Jill Woods, Ms Ellen Kinkel, Ms Davina Taylor and Dr Andrew Bjorksten

The aims of this study are to evaluate the feasibility and logistics of running post-operative infusion of local anaesthetic into the abdominal wall to assist with analgesia and to evaluate the pharmacokinetics of TAP ropivacaine infusions. TAP local anaesthetic infusions provide an analgesic technique that may improve post-operative recovery following abdominal surgery. This project was a pilot trial in preparation for a randomised controlled trial of the technique that will be conducted in 2011.

Enigma 2: Nitrous oxide anaesthesia and cardiac morbidity after major surgery: a randomised controlled trial

Dr Andrew Jeffreys, Ms Ellen Kinkel and Dr Stephen Hur

This study aims to evaluate the effect of nitrous oxide on the outcome of high risk patients having non cardiac surgery. This large multicentre trial aims to establish whether nitrous oxide increases the rate of cardiac morbidity and mortality in this group of patients.

Effect of electroacupuncture on opioid consumption by patients with chronic musculoskeletal pain: a randomised controlled trial

Dr Andrew Jeffreys, Dr Zamil Karim and Ms Ellen Kinkel

This double-blind trial aims to evaluate whether active treatment provides greater assistance with opiate withdrawal compared to sham treatment. Acupuncture is a relatively simple and safe treatment that has not been assessed in this way before.

OUR RESEARCHERS

Dr Andrew Jeffreys: Director, Anaesthesia and Pain Medicine

Dr David Bramley: Consultant Anaesthetist

Dr Elizabeth Hessian: Staff Specialist Anaesthetist

Dr Zamil Karim: Staff Specialist Anaesthetist/Pain Specialist

Dr Forbes McGain: Staff Specialist Anaesthetist/Intensivist (see publications under ICU)

Ms Ellen Kinkel: Research Nurse

OUR AWARD AND GRANT

Australian Society of Anaesthetists - Jeanne Collison Prize 2009: Dr Elizabeth Hessian, Dr Bronwen Evans, Ms Jill Woods, Ms Davina Taylor and Dr Andrew Bjorksten *The Analgesic Efficacy of Transversus Abdominis Plane Blocks after Abdominal Surgery* \$5000

Australian and New Zealand College of Anaesthetists Project Grant 2010: Dr Elizabeth Hessian (Western Health), Dr Myles Conroy (Barwon Health), Dr James Griffiths (Royal Womens Hospital), Dr Irene Ng (Melbourne Health) Dr Peter Hebbard (NE Health Wangaratta) and Professor Kate Leslie (Melbourne Health) *SUSTAIN for PAIN - Subcostal UltraSound-guided Transversus Abdominis plane Infusions for Pain relief of Abdominal Infusions* \$12,178



CARDIOLOGY

Centre for Cardiovascular Therapeutics (CCVT) has been actively engaged in various clinical research projects in 2009 and 2010 covering all major areas of cardiology.

Our research projects, listed below, in the areas of coronary heart disease (CHD), cardiac imaging and nursing provide valuable information and insight on various clinical conditions of cardiology.

Our future objectives include getting more involved with larger multicentre trials at the same time promoting research activities among the senior and junior medical staff and also our nursing staff. Upcoming research projects in CCVT are exciting. We are currently involved in the Acute Coronary Syndrome Sub-committee Pre-notification of STEMI (PNS) trial which involves all major public hospitals in Victoria, Dr Chiew Wong's NHMRC funded trial will commence in 2011 and we will be participating in a multicentre study called Snapshot ACS (Acute Coronary Syndrome).

OUR RESEARCH

CURRENT-OASIS 7: Randomised, multinational, double-blind study, comparing a high loading dose regimen of clopidogrel versus standard dose in patients with unstable angina or non-ST segment elevation myocardial infarction managed with an early invasive strategy
D Eccleston and Y Lim

This clinical trial investigated the outcomes of different dosing of aspirin and clopidogrel in the treatment of Acute Coronary Syndrome (ACS). The results indicated that in ACS patients treated with PCI, high dose of clopidogrel (600mg loading dose) was the optimal treatment strategy which has now become our current practice.

Collaborators: International OASIS research groups

Postdilatation of stent in Acute Myocardial Infarction Study (PODAMIS)
Si Biswas and K Soon

The aim of this study was to investigate the effects of ballooning the stent after stent deployment in the setting of a heart attack (STEMI). This study helps to clarify if further ballooning of the deployed stent produces worse outcomes.

The Standard vs Atrial Fibrillation Specific Management Study (SAFETY trial)
C Wong, K Soon, M Jolic and Y Lim

This study aims to investigate if protocol driven nurse initiated management of atrial fibrillation helps to improve patients' outcomes. To determine whether community based treatment helps to improve the outcomes of patients with atrial fibrillation.

Collaborators: Professor Simon Stewart, Imaging Research Group, Princess Alexandra Hospital; and Professor John Horowitz, The Queen Elizabeth Hospital.

Non-ST Elevation Myocardial Infarction with Occluded Artery (NSTEMI-OA)

J Du, K Soon and AM Kelly

This study investigated the prevalence of complete blockage in the setting of a heart attack, and the clinical effects of this complete blockage. To determine whether there is any need to treat patients with a complete blockage differently from those with a partial blockage.

Acute Coronary Syndrome Sub-committee Pre notification of STEMI (PNS) trial

K Soon, N Cox and Y Lim

To clarify if the strategy of managing heart attack patients by the ambulance officers faxing in ECG results while en route to hospital helps to improve the patient's outcome.

Collaborators: All other major public hospitals in Victoria

Immediate ST resolution on intracoronary ECG during primary PCI predicts extent of myocardial injury using cardiac MRI

MC Leung, DTL Wong, R Das, K Soon, G Chacko, GWH Liew, MA Brown, MI Worthley, KSL Teo and SG Worthley

Collaborators: Cardiovascular Research Centre, Royal Adelaide Hospital

The usefulness of Coronary CT angiography to prognosticate chest pain

FY Chong, K Soon, F Brown and AM Kelly

Clinical Implications of Myocardial Bridging of Coronary Artery (CIMBOCA)

N Wan Salam, K Soon, AM Kelly and F Brown

Coronary CTA - Radiation Dose Optimisation

O Tumur, F Brown and K Soon

Modified Duke Criteria - Do We Need it?

A Zakariyya and D Haikerwal

Can a Structured Quality Improvement Initiative Reduce Elective Cardioversion Patient Waiting Times?

K Cowie, S Cecchin and K Soon

A retrospective audit of screening practices used to detect abnormal glucose regulation in a cohort of AMI patients - an Australian study.

M Jolic, S Hamlin and Y Lim

OUR RESEARCHERS

Professor Yean L Lim: Director of CCVT

Dr Kean Soon: Consultant Cardiologist

Dr Chiew Wong: Head of Non-invasive Cardiac Investigations

Dr David Chong: Registrar

Dr Sinjini Biswas: Resident

Ms Maria Jolic: Registered Nurse and Masters of Nursing

Mr John Du: AMS Student

Ms Nurulfaiza Wan Salam: AMS Student

OUR PUBLICATIONS

Alfonso F, Dutary J, Rodriguez V, Zakhem B. Intravascular Ultrasound and drug eluting stents. Where are we now? *Minerva Cardioangiol* 2010 Feb; 58(1) 61-78.

CHAPTER

Zakhem B, Dutary J, Hernandez R, Alfonso F. Angiographic evaluation of coronary stenosis. *Coronary Stenosis. Imaging structure and physiology 1st Edition*. Escaned J and Serruys PW (Editors) PCR Publishing 2010, pp. 233-244

PROCEEDINGS

K. Soon, F. Brown, L. Bentley, J. Frank, R. Bashir, D. Chong, L. Smith, Y. Lim Common Extra-Coronary Findings on Coronary CT Angiography *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S170)

K. Soon, D. Chong, F. Brown, Y. Lim Negative Coronary CTA for Chest Pain Assessment Predicts Low Event Rate in Five Years *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S190)

K. Soon, O. Tumor, F. Brown, D. Chong, S. Barr, L. Bentley, Y. Lim Prospective "Step and Shoot" Scanning Mode Markedly Reduced the Radiation Dose of Coronary CTA *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S194)

M.C. Leung, D.T.L. Wong, R. Das, K. Soon, G. Chacko, G.W.H. Liew, M.A. Brown, M.I. Worthley, K.S.L. Teo, S.G. Worthley Immediate ST resolution on intracoronary ECG during primary PCI

predicts extent of myocardial injury using cardiac MRI *Heart, Lung and Circulation* 2009 (Vol. 18 Supplement 3, Pages S214-S215)

C. Wong, M. Carrington, G. Jennings, B. de Courten, G. Lee, S. Stewart Asymptomatic Myocardial Diastolic Dysfunction is prevalent in the Australian Tertiary Hospital Population with Cardiovascular Risk Factors (Experience from the NIL-CHF Study) *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Pages S63-S64)

C. Wong, J. Looi, A. Khan, A. Kerr ECG Characteristics in Apical Ballooning Syndrome Patients with Anterior ST Elevation (ASTE-ABS) Compared to Sex-matched Patients with Anterior ST-Elevation Myocardial Infarction (A-STEMI) *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Pages S214-S215)

Zakhem B, Marcos P, Guerrero F, Canales E, Gonzalo N, Hernandez R, Alfonso F, Jimenez P, Banuelos C, Ibanez B, Garcia E, Macaya C, Escaned J. Assessment of stenosis severity with multi-slice computed tomography coronary angiography - A Bayesian analysis using fractional flow reserve. EuroPCR, Paris 25th-28th May 2010. *EuroIntervention, Volume 6 - Supplement H - May 2010*

C. Wong, J. Looi, A. Khan, A. Kerr The Progression of ECG Changes in Apical Ballooning Syndrome Compared with Non-ST Elevation Myocardial Infarction (NSTEMI) *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S227)

F. Chong, J. Pereira, K. Middleton, M. Worcester, P. Elliott, B. Murphy, A. Goble, R. Newman What Predicts Non-Return to Work after Acute Coronary Syndrome? *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S268)

A. Zakariyya, D. Haikerwal Infective Endocarditis and the Modified Dukes Criteria: Do We Need It? *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S219)

D. Eccleston, T. Rafter, S. Worthley, P. Sage, M. Muhlmann, M. Horrigan, G. Holt Percutaneous Coronary Intervention in Elderly Australians; Initial and 1-Year Results from a National Multi-Centre Registry *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S144)

D. Eccleston, T. Rafter, S. Worthley, G. Holt, M. Muhlmann, P. Sage, M. Horrigan Initial and 1 Year Outcomes After Percutaneous Coronary Intervention in Australian Private Hospitals: Results from a National Multi-Centre Registry *Heart, Lung and Circulation* 2010 (Vol. 19 Supplement 2, Page S134)

OUR GRANT

NHMRC Research Grant: Dr Chiew Wong The Standard vs Atrial Fibrillation Specific Management (SAFETY Trial)



Research

CONTINUING CARE & AGED CARE

The Directorate of Continuing Care and Allied Health (CCAH) comprises a range of services and programs that deliver quality, multidisciplinary care across acute, subacute and community program areas.

The Geriatric Medicine Program (Aged Care) provides acute and sub acute care across all three campuses incorporating inpatient, outpatient and consultative services, with a close interface with the Directorate of Community Care and Allied Health for specialty community based services.

The section includes research undertaken by Ambulatory and Community Services, Drug and Alcohol Service and Aged Care. Allied Health research is featured in an early section of this report.

OUR RESEARCH - AMBULATORY AND COMMUNITY SERVICES

Primary Care Referrals to Hospital Specialist Clinics

Bianca Bell

Collaborators: General Practice Victoria; and the Australian Health Workforce Institute

Improving dementia detection rates in older Asian communities

Michelle Mew and Dr Sook Meng

Collaborator: National Ageing Research Institute

Spasticity Rehabilitation Study

Fiona McManus

Collaborator: The Royal Melbourne Hospital

Use of the de Morton Mobility Index (DEMMI) tool in the TCP population

Ilana Hornung

Collaborators: 14 Victorian and Tasmanian Health Services

OUR PRESENTATIONS

Carolyn Matthews: Alzheimer's Australia 13th National Conference Adelaide 2009 *Evaluation of an Outreach Follow-up Service to Clients/Families Receiving a Diagnosis of Dementia*

Kerry Poole: TACR Conference, Tasmania 2009 *Continence Issues in the cardiac heart failure population*

Kim Garlick: Alzheimer's Australia 13th National Conference Adelaide 2009 *Implementing best practice dementia care in a Transition Care Program*

Kim Garlick: Transitional Care for Older People Conference Sydney 2009 *Providing Bed Based Transition Care in an Acute Care Hospital Environment - the Challenges and Successes*

OUR RESEARCH - DRUG AND ALCOHOL SERVICE

Our research interests include:

- A multicentre NHMRC funded trial evaluating Thiamine dose in Wernicke Encephalopathy;
- A review on Anticoagulation in patients with Substance Use Disorders;

- A study comparing patients with chronic pain on a waiting list for a Pain Clinic with those attending our clinic (i.e. seeing patients with chronic pain and opioid analgesic problems); and
- Evaluating the use of NUCOG, a neuropsychological screening tool, in a population of patients with Substance Use Disorders: the NUCOG was developed at RMH in the Department of Neuropsychiatry.

OUR PRESENTATIONS

Michael McDonough: World Congress of Internal Medicine Melbourne 2010 *Update on Alcohol Withdrawal Management and Opioids, Pain and Addiction*

Michael McDonough: Asia Pacific Association of Medical Toxicology Annual Conference Hanoi 2010 *Analgesic Abuse*

Michael McDonough: Annual Conference of the Australian Professional Society on Alcohol and other Drugs 2010 *GHB Dependence and Withdrawal: A Case Series and Review*

Michael McDonough (co-presenter): Annual Conference of the Australian Professional Society on Alcohol and other Drugs 2010 *Substance Use Disorders and the Assessment of Impairment*

OUR RESEARCH - AGED CARE

OUR PUBLICATION

Lee, SM. Hoarding in older people: the role of the Aged Care Assessment Service. *Australasian Journal on Ageing* 2010; 29: 3:134

OUR PRESENTATIONS

Dr Lee Sook Meng: International Conference of Applied Psychology *Hoarding and squalor: guidelines for field staff*

Dr Lee Sook Meng: National Squalor Conference *Hoarding associated with squalor: working model for field staff*

Dr Lee Sook Meng: Advanced Trainee in Geriatrics, Victoria *Squalor, Hoarding and Self-neglect: Choice or circumstance*

Dr Lee Sook Meng: 13th Asia Pacific Regional Conference of Alzheimer's Disease International *Hoarding and squalor: an Australian perspective and Improving dementia detection in older Asian communities living in Melbourne.*



EMERGENCY MEDICINE

The Joseph Epstein Centre for Emergency Medicine Research aims to perform high quality clinical research in the areas of emergency medicine and prehospital care.

Its research interests are broad with key themes of acute cardiology, blood gases in clinical care, clinical therapeutics and knowledge translation.

The Centre works closely with the three emergency department campuses of Western Health (Footscray, Sunshine and Williamstown), which together treat more than 125,000 patients annually. We also host research students from The University of Melbourne undertaking the Advanced Medical Science component of their medical course.

2009 and 2010 were very busy years for the team. Debra Kerr completed her PhD on the effectiveness of intranasal naloxone for heroin overdose. We undertook 15 research projects, hosted 6 Advanced Medical Science students, published 26 papers in scientific journals and contributed 8 book chapters.

OUR RESEARCH

Intermediate troponin values and short and medium prognosis of patients with chest pain in the Emergency Department

Anne-Maree Kelly and Sharon Klim

Newer troponin assays are more sensitive, resulting in more false positive results. This project explored the impact on clinical outcome of initial troponin levels in the Emergency Department that were in the intermediate range. It also provided a database to investigate other research questions related to acute chest pain management. In order to use our cardiology resources effectively and avoid over-investigation, it is important to accurately identify patients with acute coronary syndromes. This research informs that process.

Collaborators: Kean Soon and Nicholas Cox, CCVT

Development and validation of risk-adjusted outcomes for systems of emergency medical care (DAVROS)

Anne-Maree Kelly (Australian arm)

This research is attempting to identify factors available to ambulance officers and at the Emergency Department arrival that predict outcome and resource needs. Data collection is complete and analysis underway. Accurate identification of patients' resource needs at the Emergency Department arrival could streamline their care.

Collaborators: This project is led by the University of Sheffield and Ambulance Victoria

Comparison of NHF, GRACE, TIMI and GRACE absence of events scores in prediction of in-hospital adverse events for patients admitted to CCU with chest pain

Anne-Maree Kelly, Sharon Klim, Prashant Dabee and Kean Soon

This project aimed to assess the accuracy of risk scores for prediction of complications in patients admitted with chest pain. Data collection is complete and analysis underway. Accurate prediction of the risk of complications will inform future models of care for patients with chest pain.

Collaborator: Professor David Brieger, The University of Sydney

The Relationship Between Troponin Level and Outcome in COAD

Anne-Maree Kelly and Sharon Klim

Troponin levels have been shown to be a marker of illness severity in a number of conditions. This work explores the relationship between troponin level and outcome in patients with COAD. Methods that assess illness severity and risk of poor outcome will assist clinicians to choose the right level of care for patients.

Evaluation of the ABCD, ABCD2 and California Risk Scores in identifying patients with high early risk of stroke after a Transient Ischaemic Attack

Hong Nguyen, Anne-Maree Kelly and Debra Kerr

Occupational Hand Injuries Requiring Treatment at an Australian Emergency Department

Anne-Maree Kelly, Debra Kerr and Darren Vairumutta

Transcutaneous pCO₂ in non-invasive ventilation

Anne-Maree Kelly and Sharon Klim

An evaluation of the Ottawa Ankle Rule for detecting foot fractures in adults and children in the Emergency Department

Debra Kerr, William Lau and Ian Law

Comparison of False Positive Blood cultures taken in the Emergency Department by site of collection

Anne-Maree Kelly and Garry Lane

Characteristics and outcomes of patients brought to the Emergency Department by police under Section 10 of the Mental Health Act

Anne-Maree Kelly, Karim Al-Khafaji and John Loy

Randomised controlled trial of adjuvant antihistamine for the treatment of renal colic pain in the Emergency Department

Anne-Maree Kelly and Sharon Klim

Factors affecting positive blood cultures in pneumonia

Anne-Maree Kelly and Mark Patterson

Non-ST Elevation Myocardial infarction with Occluded Artery (NSTEMI-OA)

Kean Soon, John Du and Anne-Maree Kelly

End Of Life Issues - Withdrawal of Treatment

Anne-Maree Kelly

Collaborator: Phillip Richardson, Queensland

Clinical Implications of Myocardial Bridging of Coronary Arteries (CIMBOCA)

Kean Soon, Anne-Maree Kelly, Wan Nurulfaiza Akmal Wan Salam and Sharon Klim

OUR RESEARCHERS

Professor Anne-Maree Kelly: Director, JECEMR

Dr David Krieser: Honorary Fellow, JECEMR

Sharon Klim: Research Coordinator

Karen Enno: Research Data Collector

Kerrie Russell: Research Assistant

Debra Kerr: Research Coordinator and PhD Student

Hong Nguyen: AMS Student

Darren Vairumutta: AMS Student

Prashant Dabee: AMS Student

Likhui William Lau: AMS Student

Wan Nurulfaiza Akmal Wan Salam: AMS Student

Hao Nan (John) Du: AMS Student

OUR PUBLICATIONS

Richardson D, Kelly AM, Kerr D. Prevalence of access block in Australia 2004-8. *Emerg Med Australas* 2009; 21:472-8

Druda D, Kelly AM. What is the difference in size of spontaneous pneumothorax between inspiratory and expiratory xrays? *Emerg Med J*. 2009; 26:861-3

Meek R, Kelly AM, Hu X. Use of the Visual Analog Scale to rate and monitor severity of nausea in the Emergency Department. *Acad Emerg Med* 2009; 16:1304-10

Kerr D, Kelly AM, Dietze P, Jolley D, Barger B. Randomised controlled trial comparing the effectiveness and safety of intranasal naloxone for treatment of heroin overdose by Ambulance Officers. *Addiction* 2009 ;104:2067-2074

Perry J, Eagles D, Clement CM, Brehaut J, Kelly AM, Mason S, Kellermann A, Stiell IG. International Survey of Emergency Physicians' Current Practice for Acute Headache and the Need for a Clinical Decision Rule. *CJEM*. 2009; 11:516-522

Kelly AM, Walczynski T, Gunn B. The Relative Efficacy Of Phenothiazines For The Treatment Of Acute Migraine: A Meta-analysis. *Headache* 2009; 49:1324-32

Mitchell R, Kelly AM, Kerr D. Does emergency department workload adversely influence timely analgesia? *Emerg Med Australas* 2009; 21:52-8

Le-Kim L, Kerr D, Kelly AM. Are patients on warfarin with high INR being treated according to published guidelines? *Internet Journal Hematology* http://www.ispub.com/journal/the_internet_journal_of_hematology/volume_5_number_1_44/article/are_patients_on_warfarin_with_high_inr_treated_according_to_published_guidelines.html

Lord B, Cui J, Kelly AM. The impact of patient gender on paramedic pain management in the prehospital setting. *Am J Emerg Med* 2009; 27:525-9

Kerr D, Dietze P, Kelly AM, Jolley D. Improved response by peers after witnessed overdose in Melbourne. *Drug Alcohol Rev* 2009; 28:327-30

Kelly AM. Troponin: More questions than answers? *Emerg Med Australas* 2009; 21:433-4

Brieger D, Kelly AM, Aroney C, Tideman P, Freedman SB, Chew D, Ilton M, Carroll G, Jacobs I, Huang N. Acute coronary syndromes: translating evidence into action. *Med J Aust* 2009; 191:334-8

Kelly AM. Treatment of primary spontaneous pneumothorax. *Curr Opin Pulm Med* 2009; 15:376-9

Delaney B, Loy J, Kelly AM. The Relative Efficacy of Adenosine versus Verapamil for Treatment of Stable Paroxysmal SVT in Adults: A Meta-analysis. *Eur J Emerg Med* 2011, 18(3):148-52 (Epub ahead of print 2010 Oct 5)

Bernard SA, Smith K, Cameron P, Masci K, Taylor D, Cooper DJ, Kelly AM for RICH Investigators. Induction of therapeutic hypothermia by paramedics following resuscitation from out-of-hospital ventricular fibrillation cardiac arrest: A randomised, controlled trial. *Circulation* 2010; 122(7):737-42

Nguyen H, Kerr D, Kelly AM. Comparison of prognostic performance of scores to predict risk of stroke in emergency department patients with transient ischaemic attack. *Eur J Emerg Med* 2010; 17(6):346-8

Kelly AM. Initial management of potential occult scaphoid fracture in Australasia. *Int J Emerg Med* 2010; 3:45-7

Lim BL, Kelly AM. How useful is transcutaneous carbon dioxide monitoring in the adult emergency department? *Hong Kong J Emerg Med* 2010; 17:82-4

Hamid S, Bainbridge F, Kelly AM, Kerr D. What Proportion Of Rule Out Acute Coronary Syndrome Patients Are Potentially Suitable For Multi-slice CT Coronary Angiography? *Am J Emerg Med* 2010; 28(4):494-8

Lee HM, Kerr D, O'h Ici D, Kelly AM. Clinical Significance Of Initial Troponin I In The Intermediate Band In Emergency Department Chest Pain Patients: A Pilot Study. *Emerg Med J* 2010; 27(4):302-4

Brehaut J, Graham I, Wood T, Taljaard M, Eagles D, Lott A, Clement C, Kelly AM, Mason S, Kellermann A, Stiell I. Measuring Acceptability of Clinical Decision Rules: Validation of the Ottawa Acceptability of Decision Rules Scale (OADRS) in Four Countries. *Med Decis Making*. 2010; 30(3):398-408

Kelly AM, Clooney M, Kerr D, Ebeling PR. Brief telephone intervention increases testing for osteoporosis in patients treated in emergency departments for wrist fractures. *Intern Med J* 2010; 40(7):527-30

Lim BL, Kelly AM. A meta-analysis on the utility of peripheral venous blood gas analyses in exacerbations of chronic obstructive pulmonary disease in the emergency department. *Eur J Emerg Med* 2010; 17:246-8

Kelly AM. Chest pain research; no more comparing apples with oranges. *Emerg Med Australas* 2010; 22:1-2

Kelly AM. Can venous blood gas analysis replace arterial in emergency medical care: A Review. *Emerg Med Australas* 2010; 22:493-8

Brieger DB, Aroney CN, Chew DP, Kelly AM, Walters DL, Toohey CL, Boyden AN. Acute coronary syndromes: consensus recommendations for translating knowledge into action. *Med J Aust.* 2010; 192:700-1

Kelly AM, Nguyen K, Krieser D. Validation of the Luscombe weight formula for estimating children's weight. *Emerg Med Australas* 2011 Feb; 23(1):59-62. (Epub 2010 Dec 6)

Oakley E, Babl FE, Acworth J, Borland M, Krieser D, Neutze J, Theophilos T, Donath S, South M, Davidson A. The Paediatric Research in Emergency Departments International Collaborative (PREDICT), A prospective randomised trial comparing nasogastric with intravenous hydration in children with bronchiolitis (protocol). The comparative rehydration in bronchiolitis study (CRIB). *BMC Pediatrics* 2010; 10: 37

Herd DW, Babl FE, Gilhotra Y, Huckson S; PREDICT group - Ackworth J, Herd D, Neutze J, Schutz J, Borland M, Gilhotra Y, Cotterell E, Babl F, Krieser D, Bailey P. Pain management practices in paediatric emergency departments in Australia and New Zealand: a clinical and organisational audit by National Health and Medical Research Council's National Institute of Clinical Studies and Paediatric Research in Emergency Departments International Collaborative *Emerg Med Australas* 2009 Jun; 21(3):210-21

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Lee M. Patterns of presentation to the Australian and New Zealand Paediatric Emergency Research Network *Emergency Medicine Australasia* 2009; 21 (1): 59-66

Borland M, Esson A, Babl F E, Krieser D. Procedural sedation in children in the emergency department: A PREDICT study. *Emergency Medicine Australasia* 2009; 21(1): 71-79

Spillane IM, Krieser D, Dalton S, Heinrich L, Babl FE. Limitations to diagnostic coding accuracy in emergency departments: Implications for research and audits of care. *Emerg Med Australas* 2010 Feb; 22(1) 91-2

Babl FE, Krieser D, Belousoff J, Theophilos T. Evaluation of a paediatric procedural sedation training and credentialing programme: sustainability of change. *Emerg Med J* 2010 Aug; 27 (8): 577-81

Buckley MF, O'Connor K. Ludwig's angina in a 76-year-old man. *Emergency Medicine Journal* 2009 Sep; 26(9):679-80

CHAPTERS

Kerr D, Dietze P, Kelly AM. Intranasal Naloxone For Treatment Of Opioid Overdose In *Opioid Receptors And Antagonists: From Bench to Clinic.* Dean R, Bilsky E, Negus S (Editors) Humana Press

Kelly AM. Writing for publication in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Kelly AM. Headache in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Kelly AM, Talbot-Stern J. Pneumothorax in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Kelly AM. Asthma in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Hayes J, Kelly AM. Pericarditis, cardiac tamponade and myocarditis in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Kelly AM. Injuries of the shoulder girdle in myocarditis in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

Goodacre SW, Kelly AM. Acute Coronary Syndromes in *Textbook of Adult Emergency Medicine* 3rd Edition Cameron P, Jelinek G, Kelly AM, Murray L, Heyworth J (Editors) Churchill Livingstone Edinburgh 2009

PROCEEDINGS

Sharples N and Krieser D. Piloting an e-Learning package in acute paediatric orthopaedics in a mixed emergency department. Proceedings of the *World Congress of Internal Medicine Melbourne 2010 and the International Conference for Emergency Medicine Singapore 2010*

Law I, Kerr D and Krieser D. Nurse Practitioners can, independently and accurately, assess and manage ankle injuries presenting to a mixed Adult and Paediatric Emergency Department. Proceedings of *Physicians Week Royal Australasian College of Physicians Sydney 2009 and Australasian College for Emergency Medicine Annual Scientific Meeting Melbourne November 2009*

Beloussoff J, Krieser D and Babl FE. Evaluation of a paediatric procedural sedation program 3 years after implementation. Proceedings of *Physicians Week Royal Australasian College of Physicians Sydney 2009 and Australasian College for Emergency Medicine Annual Scientific Meeting Melbourne 2009*

OUR PRESENTATIONS

Professor Anne-Maree Kelly

27th Annual Scientific Meeting of the Australasian College for Emergency Medicine Canberra 2010 *The 'ideal' Emergency Medicine curriculum for medical undergraduates*

International Conference on Emergency Medicine Singapore 2010 *Chasing Troponin*

International Conference on Emergency Medicine Singapore 2010 *Research without budgets*

International Conference on Emergency Medicine Singapore 2010 *Challenges on Starting Research in Pioneering Emergency Medicine Academic Programmes: An International Perspective*

College of Emergency Medicine Academic Trainees Meeting Sheffield UK 2010 *Academic Emergency Medicine: An International Perspective*

World Congress of Physicians Melbourne 2010 *Chest pain evaluation and cardiac monitoring*

National Clinical Networks Conference Melbourne 2010 *Action research project across a clinical network promotes uptake of evidence-based practice*

4th International Symposium on Blood Gas and Critical Care Belle Ile France 2009 *Can venous blood gas analysis replace arterial in emergency and critical care?*

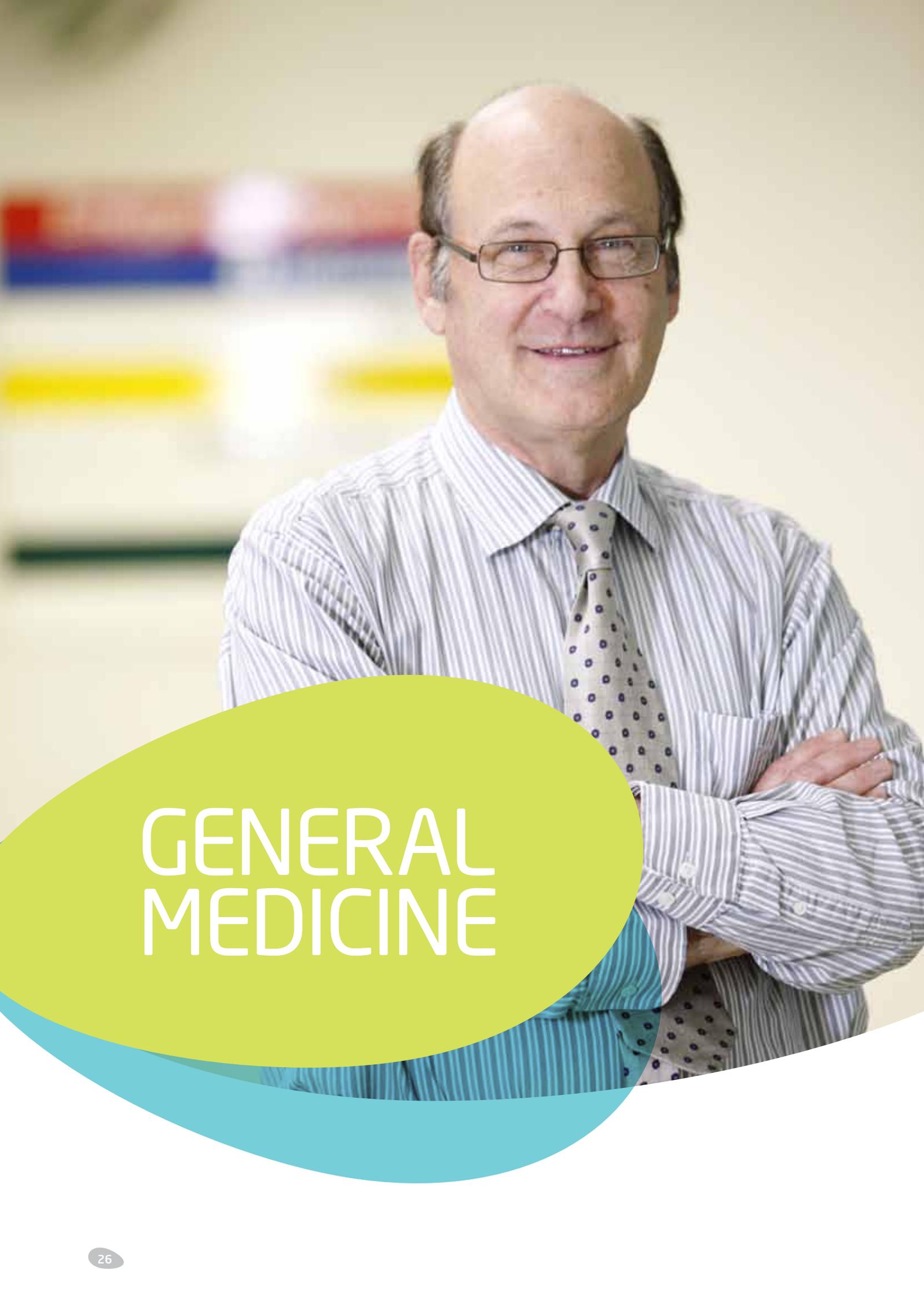
OUR AWARDS

Professor Anne-Maree Kelly

National Institute of Clinical Studies Evidence into Action Prize; 27th Annual Scientific Meeting of the Australasian College for Emergency Medicine 2010 Kelly AM, Pannifex J, Braitberg G: *A Clinical Network Project Improves Efficiency and Reduces Variability in Chest Pain Management in Victorian Emergency Departments*

Sir Richard Stawell Memorial Prize; Australian Medical Association Victoria 2009; Grayson ML, Jarvie LJ, Martin R, Johnson PDR, Jodoin ME, McMullan C, Gregory RHC, Bellis K, Cunningham K, Wilson FL, Quin D, Kelly AM. Significant reductions in methicillin-resistant *Staphylococcus aureus* bacteremia and clinical isolates associated with a multi-site, hand hygiene culture-change program and subsequent successful State-wide rollout. *Med J Aust 2008; 188:633-40*

MJA/Wyeth Award for Excellence in Clinical Research 2008; Grayson ML, Jarvie LJ, Martin R, Johnson PDR, Jodoin ME, McMullan C, Gregory RHC, Bellis K, Cunningham K, Wilson FL, Quin D, Kelly AM. Significant reductions in methicillin-resistant *Staphylococcus aureus* bacteremia and clinical isolates associated with a multi-site, hand hygiene culture-change program and subsequent successful State-wide rollout. *Med J Aust 2008; 188:633-40*



GENERAL
MEDICINE

The Department of General Medicine cares for predominately older patients who commonly have more than one medical problem and socio economic issues.

Most physicians working in General Medicine also have a subspecialty appointment and this enhances the ability of the department to deliver patient care as well as teaching and training.

OUR RESEARCH

Professor Edward Janus and Sofi Milenkovski have participated in a multicentre trial on improving VTE prophylaxis in Western and Sunshine Hospitals. The local rates of appropriate prophylaxis are now amongst the best in Australia.

In an NHMRC Partnership Grant with Deakin, Flinders and Melbourne Universities, the Victorian and South Australian Governments and Diabetes Australia, Western Health (with Professors Janus and Ebeling and Dr Rando) is working on a register for women with gestational diabetes to ensure long term follow up and to trial an intervention to decrease the progression of these mothers to type 2 diabetes.

Professor Janus is also working on the NHMRC Melbourne Diabetes Prevention Project and the Diabetes Australia Life! Program for diabetes prevention in 25,000 Victorians. He continues his work on The Hong Kong Cardiovascular Risk Factor Study, which he set up in 1994-1996. It has now completed its 12 year follow up and resulted in many publications relating baseline characteristics including genes to the development of obesity, hypertension, diabetes and metabolic syndrome. The data set has been combined with those from many other ethnic groups in collaboration with the National Public Health Institute in Helsinki, Finland to show major differences related to ethnicity and economic development.

OUR RESEARCHERS

Professor Edward Janus: Director, General Internal Medicine

Dr M Anpalahan: subspecialty Geriatrics

Dr A Tramontana: subspecialty Infectious Diseases

Dr Thug Le: Consultant General Internal Medicine

Sofi Milenkovski: Research Nurse

The following General Medicine physicians have their research shown in this report under the unit of their subspecialty appointment.

Dr H Karunajeewa: See under Infectious Diseases

Associate Professor V Levidiotis: See under Nephrology

Dr K Nand: See under Nephrology

Dr C Nelson: See under Nephrology

Dr K Lim: See under Rheumatology

Professor P Ebeling: See under Endocrinology

Dr L Rando: See under Endocrinology

OUR PUBLICATIONS

Laatikainen T, Janus ED, Kilkkinen A, Heistaro D, Tideman P, Baird A, Tirimacco R, Whiting M, Franklin L, Chapman A, Kao-Philpot A and Dunbar J. Chronic disease risk factors in rural Australia – results from the Greater Green Triangle Risk Factor Surveys. *Asian Pac J Public Health* 2009; 21: 51-62

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Zhang L, Qiao Q, Tuomilehto J, Hammar N, Janus ED, Soderberg S, Mohan V, Ramachandran A, Dong YH, Lam TH, Pang ZC, for the DECODA Study Group. Blood lipid levels in relation to glucose status in seven populations of Asian origin without a prior history of diabetes: the DECODA Study. *Diabetes/Metabolism Research and Reviews* 2009; 25:549-557

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BOOK

A Montgomerie, P Tideman, A Taylor, E Janus, B Philpot, R Tirimacco, T Laatikainen, S Heistaro, J Grant, E Vartainen and J Dunbar *An epidemiological analysis of risk factors: rural versus metropolitan - are there differences? A comparison between the North West Adelaide Health Study and the Greater Green Triangle Risk Factor Study.* Population Research and Outcome Studies Unit, SA Health, Adelaide and Greater Green Triangle University Department of Rural Health, Flinders and Deakin Universities. 2010. ISBN 9780730898764

CHAPTERS

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Anpalahan M, Hip fracture in Elderly Women: Risk Factors, Management and Prevention in *Women and Aging : New Research* pp.303-318 Benninghouse and Rosset (Editors) Nova Science Publishers 2008. ISBN: 978-1-61728-023-8

OUR PRESENTATIONS

Professor Edward Janus

Invited Presentation: Stawell Area General Practitioners 2009 *Treatment Priorities in Type 2 Diabetes Management*

Invited Presentation: Women's Wellness West Network Seminar Understanding Diabetes: Facts and Management in a Diverse Population Melbourne 2009 *Diabetes - The new world epidemic - What it means for you and me*

Invited Presentation: Asia Pacific Conference on the Metabolic Syndrome Melbourne 2009 *Preventing Diabetes and the Metabolic Syndrome - The Greater Green Triangle Diabetes Prevention Project*

Conference Presentation: Cheung BMY, Wat NWS, Tso AWK, Tam S, Thomas GN, Leung GM, Tse HF, Woo J, Janus ED, Lau CP, Lam TH, Lam KSL. 3rd International Congress on Pre-diabetes and the Metabolic Syndrome Nice France 2009 *Association between raised Blood Pressure and Dysglycaemia in Hong Kong Chinese*

Conference Presentation: Zhang L, Qiao Q, Toumillehto J, Hammar N, Janus ED, Soderberg S, Mohan V, Ramachandran A, Dong Y, Lam TH, Pang Z for the DECODA Group. European Diabetes Epidemiology Group 44th Annual Meeting Wageningen Netherlands 2009 *Blood lipid levels in relation to glucose status in 7 populations of Asian origin without a prior history of diabetes: The DECODA Study*

Conference Presentation: Davis-Lameloise N, Vaughan C, Philpot B, Janus ED, Reddy P, Dunbar JA. General Practice and Primary Health Care Research Conference Melbourne 2009 *Does the dose of telephone support intervention influence health outcomes?*

Conference Presentation: McNamara K, Janus ED, Philpot B, Laatikainen T, Dunbar JA. 69th International Congress of Federation Internationale Pharmaceuticale Istanbul Turkey 2009 *Addressing evidence treatment gaps for cardiovascular disease through primary care collaboration.*

Conference Presentation: McNamara K, Johnson G, Jackson S, Peterson G, Howarth H, Dunbar JA, Janus ED, Finch J, Bunker S, Morabito L, Trinder P, O'Reilly S, Duncan G, Emery J. *Primary Prevention of Cardiovascular Disease in Community Pharmacy: Developing a Framework for Implementation*

Conference Presentation: McNamara K, Peterson G, Johnson G, Jackson S, Howarth H, O'Reilly S, Dunbar JA, Trinder P, Finch J, Bunker S, Janus ED, Morabito L, Emery J, Duncan G. *Clinical Outcomes from a Community Pharmacy Feasibility Study for the Primary Prevention of Cardiovascular Disease.*

Oral Presentation: Dunbar JA, Davis-Lameloise N, Philpot B, Reddy P, Chapman AS, Heistaro S, Janus ED. IDF 20th World Diabetes Congress Montreal Canada 2009 *Sustained gains from a primary care based Diabetes Prevention Program.*

Poster Presentation: Boak R, Philpot B, Dunbar JA, Hernan A, Davis-Lameloise N, Janus ED. *Weight misperceptions in rural Australia: recognising weight status in an environment where overweight and obesity are the norm.*

Dr Adrian Tramontana

Oral Presentation: Australasian Society of Infectious Disease 2009 *Utilisation of Microbiological Investigations provided by Melbourne Health Shared Pathology Service (MHSPS) to Identify a Causative Organism in Patients hospitalised with Community Acquired Pneumonia*

OUR GRANTS

NHMRC Project Grant 2009-11: JA Dunbar, RC Carter, ED Janus, SK Lo, P Reddy, E Vartianen. *Life! vs usual care in diabetes prevention: a critical evaluation.* \$833,125

Sanofi-Aventis Australia Pty Ltd Grant 2009-10: E D Janus *Electronic VTE risk assessment eVis.* \$120,000

NHMRC Partnership Grant 2010-14: Dunbar JA, Best JD, Janus ED, Carter R, Oats J, Reddy P, Carnie J and Phillips P. With Als Ebeling P, Rando L. *Preventing diabetes in Pregnancy from Progressing to Type 2 Diabetes: Macro-level system change in South Australia and Victoria.* \$1,292,000



Western Health

INFECTIOUS DISEASES

Dr. Harin Karunapera
Consultant
Physician
INFECTIOUS DISEASES
GENERAL MEDICINE

Our department contributed to an important research project to analyse the common sources of staphylococcus aureus bacteraemia in patients admitted to Australian hospitals, the treatments given, and the outcomes, including mortality.

Staphylococcus aureus bacteraemia has a high incidence of mortality and morbidity. Understanding the epidemiology of the condition will allow new initiatives in improved management.

The trends from the prospective collection of clinical data in patients with community and hospital acquired staphylococcus aureus bacteraemia influence the clinical measures that are fostered to reduce the rate of hospital acquired staphylococcus aureus bacteraemia at Western Health. Including the development of a peripheral IV cannula observation form, revision of the observation form for central intravascular catheters, revision of procedures for IV cannula insertion, and Peripherally Inserted Central Lines, and raising the awareness of the threat to patient safety caused by hospital acquired staphylococcus aureus bacteraemia.

Other research projects conducted related to clinical pharmacology and evaluating new drugs for malaria in Papua New Guinean children and pregnant women and defining the spectrum of severe childhood illness and genetic determinants of susceptibility to severe malaria in hospitalised Papua New Guinean children.

Future research objectives include:

- Epidemiological research on the incidence of resistant gram negative bacteria (particularly extended spectrum beta lactamases) in urine and blood cultures. This will affect the recommended empirical choice of antibiotics for the bacteria;
- The correlation between a severity scoring system for community acquired pneumonia and the appropriateness of antibiotic treatment;
- The time to initiation of appropriate antibiotic therapy in patients with proven bacteraemia;
- The incidence of antiviral resistance in patients admitted to Western Health with influenza; and
- A study of the time taken to diagnose and initiate appropriate treatment for patients with proven pulmonary tuberculosis.

OUR RESEARCH

Prospective collection of clinical data in patients with community and hospital acquired staphylococcus aureus bacteraemia (SAB)

Contribution to the ANZCOSS (Australian and New Zealand Collaborative on Staphylococcal Septicaemia) database

Collaborators: ANZCOSS

Analysis of the incidence of contaminants in blood cultures collected from peripheral intravenous cannulas inserted in the Emergency Department

Garry Lane

Collaborator: Professor Anne-Maree Kelly, Emergency Department

¹⁸F flourodeoxyglucose positron emission tomography / computerised tomography (FDG-PET/CT) scanning in persistent febrile neutropenia: a pilot study

S Guy, A Tramontana, E Lau, R Hicks, J Seymour, K Thursky, L Worth, M Slavin

The aim of this study is to investigate the use of PET scanning in patients with febrile neutropenia. This is a common problem and PET scanning may allow management decision making easier.

Collaborator: Peter McCallum Hospital

OUR PUBLICATIONS

Kaufman M, Duke G, McGain F, French C, Aboltins C, Lane G, Gutteridge G. Life-threatening respiratory failure from H1N1 influenza 09 (human swine influenza). *Med J Aust* 2009; 191 (3):154-15

Denholm JT, Gordon CL, Johnson PD, Hewagama SS, Stuart RL, Aboltins C, Jeremiah C, Knox J, Lane GP, Tramontana AR, Slavin MA, Schulz TR, Richards M, Birch CJ, Cheng AC. Hospitalised adult patients with H1N1 influenza 09 (human swine influenza) in Melbourne, Australia. *Med J Aust* 2010; 192: 84-6

Manning L, Laman M, Edoni H, Mueller I, Karunajeewa HA, Smith D, Hwaiwhanje I, Siba PM, Davis TM. Subacute sclerosing panencephalitis in Papua New Guinean children: the cost of continuing inadequate measles vaccine coverage. *PLoS Negl Trop Dis.* 2011 Jan 4; 5(1):e932.

Wong RP, Karunajeewa H, Mueller I, Siba P, Zimmerman PA, Davis TM. Molecular Assessment of Plasmodium falciparum Resistance to Antimalarial Drugs in Papua New Guinea Using an Extended Ligase Detection Reaction Fluorescent Microsphere Assay. *Antimicrob Agents Chemother.* 2011 Feb; 55(2):798-805. Epub 2010 Nov 15

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Everts RJ, Speers D, George ST, Ansell BJ, Karunajeewa H, Ramos RD. Neisseria lactamica arthritis and septicemia complicating myeloma. *J Clin Microbiol.* 2010 Jun; 48(6):2318

Karunajeewa HA, Salman S, Mueller I, Baiwog F, Gomorrai S, Law I, Page-Sharp M, Rogerson S, Siba P, Ilett KF, Davis TM. Pharmacokinetics of chloroquine and monodesethylchloroquine in pregnancy. *Antimicrob Agents Chemother.* 2010 Mar; 54(3):1186-92

Wong RP, Lautu D, Tavul L, Hackett SL, Siba P, Karunajeewa HA, Ilett KF, Mueller I, Davis TM. In vitro sensitivity of Plasmodium falciparum to conventional and novel antimalarial drugs in Papua New Guinea. *Trop Med Int Health.* 2010 Mar; 15(3):342-9

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Salman S, Rogerson SJ, Kose K, Griffin S, Gomorai S, Baiwog F, Winmai J, Kandai J, Karunajeewa HA, O'Halloran SJ, Siba P, Ilett KF, Mueller I, Davis TM. Pharmacokinetic properties of azithromycin in pregnancy. *Antimicrob Agents Chemother.* 2010 Jan; 54(1):360-6

Karunajeewa HA, Salman S, Mueller I, Baiwog F, Gomorrai S, Law I, Page-Sharp M, Rogerson S, Siba P, Ilett KF, Davis TM. Pharmacokinetic properties of sulfadoxine-pyrimethamine in pregnant women. *Antimicrob Agents Chemother.* 2009 Oct; 53(10):4368-76

Davis TME, Karunajeewa HA, Mueller I. Combination antimalarial therapies in Children from Papua New Guinea. *New England Journal of Medicine.* 2009; 360(12):1255

OUR PRESENTATIONS

Dr Garry Lane: Australasian Society For Infectious Diseases 2009 *Challenging the guidelines regarding the indications for Blood Cultures in the Emergency Department*

Dr Andrew Mahoney: Australasian Society For Infectious Diseases 2009 *Non predictive value of initial temperature in the Emergency Department in predicting blood culture positivity*

Dr Stephen Guy: Australasian Society for Infectious Diseases Annual Meeting Darwin 2010 *Legionella pneumophila cavitory lung disease: the role of immunosuppression associated with corticosteroids*

Dr Garry Lane: Infectious Diseases Seminar Hammersmith Hospital London 2010 *A tool to improve observations on peripheral IV cannulae (developed at Western Health)*

Dr Garry Lane: Infectious Diseases Seminar University Hospitals of Geneva 2010 *A patient infected with mycobacterium abscessus and difficult management issues*

OUR GRANT AND AWARD

NHMRC Grant: Harin Karunajeewa (CIC) *Projects related to clinical pharmacology and evaluating new drugs for malaria in Papua New Guinean children and pregnant women \$1,200,000*

University of Western Australia Higher Degree by Research Initiative Publication Prize: Harin Karunajeewa for the journal article "A trial of combination antimalarial therapies in children from Papua New Guinea" in *The New England Journal of Medicine*, as judged as the best publication by the Clinical Medicine and Dentistry discipline group panel.



INTENSIVE CARE

The Intensive Care Unit located at the Footscray campus, is an integral part of the services provided by Western Health.

The Intensive Care Unit (ICU) is a 14-bed unit, funded for the equivalent of 10 intensive care beds and is the only adult critical care service in Melbourne's West. The ICU admits both surgical and medical patients who are critically ill and provides a range of sophisticated treatments, interventions and technological support for 24 hours a day, seven days a week.

In combination with a strong commitment to the delivery of quality health care, the ICU is actively involved in medical research. Numerous clinical trials have been conducted over the 2009-2010 period. Some of these trials have been clinically significant on a world-wide scale and because of this, our dedication and commitment to ongoing and continual research projects remains unwavering. Currently, Western Health's ICU is involved in trials coordinated by the Australian and New Zealand Intensive Care Society (ANZICS) Clinical Trials Group (CTG) as well as nationally and internationally sponsored multicentre studies.

OUR RESEARCH

A multicentre, open-label, randomised controlled trial of two target ranges for glycaemic control in Intensive Care Unit patients (NICE Study)
Associate Professor Craig French, Dr John Mulder and Dr Sathyajith Velandy Koottayi

This large multicentre study included 6104 patients and was conducted in 42 Intensive Care Units across Australia and New Zealand. 118 patients were recruited at Western Hospital. Patients were assigned to receiving either intensive glucose control (blood sugar level of 4.5 -6.0 mmol/L) or conventional glucose control

(<10 mmol/L). The study found that intensive glucose control increased mortality among adult ICU patients. This was a significant finding and the published paper (in the New England Journal of Medicine) was rated the 11th most important scientific paper for 2009 according to the Thomsons-Reuters Web of Knowledge. This finding has also modified and guided our clinical practice.

Collaborators: ANZICS CTG

Crystalloid versus Hydroxyethyl Starch Trial (C.H.E.S.T) A multicentre, randomised controlled trial of fluid resuscitation with starch (6% hydroxyethyl starch 130/0.4) compared to saline (0.9% sodium chloride) in intensive care patients on mortality

Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi and Dr Forbes McGain

Fluid resuscitation is a fundamental component of the haemodynamic management of critically ill patients and the choice of fluid is a longstanding issue of debate. Currently there is little high quality evidence available to clinicians in order to guide their clinical decision-making. Worldwide, 6% hydroxyethyl starch 130/0.4 (Voluven®) has been administered to more than 18 million patients, and is currently one of the most widely used resuscitation fluids in the world. However, current evidence has left clinicians with uncertainty about its efficacy and safety. This study is randomising 7000 patients in more than 30 Intensive Care Units around Australia and New Zealand to receive either normal saline 0.9% or 6% Hydroxyethyl Starch 130/0.4 for fluid resuscitation. This research is integral to guiding physicians practice and management of resuscitation fluids in the critically ill.

Collaborators: ANZICS CTG and The George Institute

Impact and risk factors associated with INFLUENZA H1N1 IN AUSTRALIAN HOSPITAL system, Epidemic 2009 & 2010 (INFINITE 2009 & 2010)

Associate Professor Craig French

The H1N1 virus presented worldwide in 2009. It was quickly determined that a register of ICU patients admitted with influenza was necessary, as a small proportion of infected individuals appeared to develop severe illness that required hospitalisation, and, in some cases, admission to an Intensive Care Unit. Early data collection would help predict Australian resource requirements in the 2009 winter and to enable modelling for the Northern hemispheric 2009 winter. It was also important to determine the characteristic shedding pattern and clinical significance of increased viraemic burden of the H1N1 virus in hospitalised patients. The establishment of data collection would also allow for early modelling of the impact of the outbreak on health care system utilisation, as well as providing critical data for

subsequent studies (such as case-control studies) that compare patients with severe disease with those with mild disease.

This registry allowed public health authorities to regularly assess in real time the burden of H1N1 infection throughout the Australian ICUs and to rapidly respond to escalation of either number or severity of disease. The study models helped inform future logistic planning during the evolution of the epidemic. The study helped determine the period of infectivity and therefore guide infection control and isolation practices. Ongoing data is still being analysed.

Collaborators: ANZIC Research Centre and School of Public Health and Preventive Medicine (SPHPM), Monash University

A MultiCentre Randomised Controlled Trial of early Goal Directed Therapy in Patients Presenting to the Emergency Department with Severe Sepsis in Australasia

Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi, Dr Forbes McGain, Professor Anne-Maree Kelly and Dr Menon Shymon

Collaborators: ANZICS CTG

BLISS Trial - A randomised, double-blind, placebo-controlled pilot trial of NGAL-directed sodium bicarbonate to protect renal function in patients with the systemic inflammatory response syndrome and oliguria

Dr Forbes McGain, Associate Professor Craig French, Dr John Mulder and Dr Sathyajith Velandy Koottayi

Collaborator: Professor Rinaldo Bellomo, Austin Health

A Multicentre, Randomised, Double-Blind, Placebo-controlled Phase IIb Study to Compare the Efficacy and Safety of Two Dosing Regimens of Intravenous Infusions of CytoFab (AZD9773) in Adult Patients With Severe Sepsis and/or Septic Shock

Dr Forbes McGain, Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi and Dr Zia Ansari

Collaborator: Astra Zeneca

A randomised, double-blind, multi-centre placebo controlled trial of dexmedetomidine for patients with agitation and delirium in the intensive care unit

Dr John Mulder, Associate Professor Craig French, Dr Sathyajith Velandy Koottayi and Dr Forbes McGain

Collaborator: Dr Michael Reade, Austin Health

The Discharge and Readmission Evaluation (DARE) study

Associate Professor Craig French, Heike Raunow and Lyndall Keen

The Early Nasojejunal Tube To Meet Energy Requirements In Intensive Care Study (The ENTERIC Study)

Associate Professor Craig French, Dr John Mulder and Dr Sathyajith Velandy Koottayi

Prolonged Outcome Study - RENAL

Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi and Dr Forbes McGain

Collaborators: ANZICS CTG

A randomised, double-blind, placebo-controlled, multicentre, Phase 3 study of drotrecogin alfa (activated) administered as a continuous 96-hour infusion to adult patients with septic shock (Prowess shock)

Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi and Dr Forbes McGain

Collaborator: Lilly

A Phase 2, Multicentre, Randomised, Double-Blind, Comparative Study of The Safety and Efficacy of 2 Doses of Tigecycline Versus Imipenem/Cilastin for the Treatment of Subjects with Hospital-Acquired Pneumonia

Associate Professor Craig French, Dr John Mulder, Dr Sathyajith Velandy Koottayi, and Dr Forbes McGain

Collaborator: Wyeth

A Randomised Evaluation of Normal vs Augmented level of Renal Replacement Therapy (The RENAL Study)

Associate Professor Craig French, Dr John Mulder and Dr Sathyajith Velandy Koottayi

Collaborators: ANZICS CTG

ANZICS Clinical Trials Group Point Prevalence Program (PPP) - 2009

Associate Professor Craig French

Collaborators: ANZIC Research Centre

OUR RESEARCHERS

Associate Professor Craig French: Director of Intensive Care

Dr John Mulder: Associate Director of Intensive Care

Dr Sathyajith Velandy Koottayi: Intensivist

Dr Forbes McGain: Intensivist

Dr Zia Ansari: Intensivist

Samantha Bates: Research Coordinator

Jenie Butler: Research Coordinator

Heike Raunow: Research Coordinator

Lyndall Keen: Research Assistant

OUR PUBLICATIONS

Westbrook A., Pettila V., Nichol A., Bailey M.J., Syres G., Murray L., Bellomo R., Wood E., Phillips, LE, Street A., French C., Orford N., Santamaria N., Cooper DJ. Transfusion practice and guidelines in Australian and New Zealand intensive care units. *Intensive Care Medicine*, 2010 Jul 36(7): 1138-4

Nichol AD., Egi M., Pettila V., Bellomo R., French C., Hart G., Davies A., Stachowski E., Reade MC., Bailey M., Cooper DJ. Relative hyperlactatemia and hospital mortality in critically ill patients: a retrospective multi-centre study *Critical Care*, 2010 14(1): R25

Egi M., Bellomo R., Stachowski E., French C.J., Hart G., Taori G., Hegarty C., Bailey M. Hypoglycemia and outcome in critically ill patients. *Mayo Clinic Proceedings* 2010 Mar 85(3): 217-24

McGain F., Kayak E. Risk management: where are hospital 'green' committees and officers? *Australian Health Review*, 2010, 34, 523-524

McGain F, McAlister S, McGavin A, Story D. The financial and environmental costs of reusable and single-use plastic anaesthetic drug trays *Anaesth Intens Care* 2010; 38(3): 538-544

Bellomo R., Morimatsu H., Presneill J., French C., Cole L., Story D., Uchino S., Naka T., Finfer S., Cooper DJ., Myburgh J. Effects of saline or albumin resuscitation on standard coagulation tests. *Critical Care & Resuscitation* 2009 Dec 11(4): 250-6

Reade MC., O'Sullivan K., Bates S., Goldsmith D, Ainslie WR, Bellomo R. Dexmedetomidine Versus Haloperidol In Delirious, Agitated, Intubated Patients: A Randomised Open-Label Trial. *Critical Care*, 2009, 13(3): R75 (19 May 2009)

McGain F, Story D, Hendel SA. An Audit of Intensive Care Unit Recyclable Waste. *Anaesthesia* 2009; 64 (12): 1299-1302

Kaufman MA, Duke GJ, McGain F, French C, Aboltins C, Lane G, Gutteridge GA. Life-threatening respiratory failure from H1N1 influenza 09 (human swine influenza). *Med J Aust* 2009 Aug 3; 191(3):154-6

McGain F, Blashki GA, Moon KP, Armstrong FM. Mandating sustainability in Australian hospitals. *Med J Aust* 2009 Jun 15; 190(12):719-20

McGain F, Hendel SA, Story D. An audit of potentially recyclable waste from anaesthetic practice. *Anaesth Intens Care* 2009; 820-823

Bellomo R., Morimatsu H., Presneill J., French C., Cole L., Story D., Uchino S., Naka T., Finfer S., Cooper D.J., Myburgh J., Effects of saline or albumin resuscitation on standard coagulation tests. *Critical care and resuscitation: journal of the Australasian Academy of Critical Care Medicine* 2009; 11(4):250-6

Duke G.J., Buist, M.D., Pilcher, D., Scheinkestel C.D., Santamaria J.D., Gutteridge G.A., Carnswick P.J., Ernest D., French C., Botha J.A. Interventions

to circumvent intensive care access block: a retrospective 2-year study across metropolitan Melbourne. *Medical Journal of Australia* 2009 Apr 6 190(7): 375-8

Collaborative papers:

Finfer S., McEvoy S., Bellomo R., McArthur C., Myburgh J., Norton R., SAFE Study Investigators. The impact of albumin compared to saline on organ function and mortality of patients with severe sepsis. *Intensive Care Medicine* 2010 Oct 37 (1): 86-96

Nichol A.D., Bailey M., Cooper D.J. POLAR EPO Investigators Challenging issues in randomised controlled trials *Injury* 2010 41 (suppl 1): 20-3

Robertson M.S., Nichol A.D., Higgins A.M., Bailey M.J., Presneill J.J. Cooper D.J., Webb S.A., McArthur C., Maclsaac C.M. VTE Point Prevalence Investigators for the Australian and New Zealand Intensive Care Research Centre. Venous thromboembolism prophylaxis in the critically ill: a point prevalence survey of current practice in Australian and New Zealand intensive care units *Critical Care Resuscitation* 2010 Mar 12(1): 9-15

Webb S., Pettila V., Seppelt I., Bellomo R., Bailey M., Cooper D.J., Cretikos M., Davies A.R., Finfer S., Harrigan P.W.J., Hart G.K., Howe B., Iredell J.R., McArthur C., Mitchell I., Morrison S., Nichol A.D., Paterson D.L., Peake S., Richards B., Stephens D., Turner A., Yung M., ANZIC Influenza A Investigators Critical Care Services and 2009 H1N1 influenza in Australia and New Zealand. *New England Journal of Medicine* 2009 361(20): 1925-34

Dellinger R.P., Tomayko J.F., Angus D.C., Opal S., Cupo M.A., McDermott S., Ducher A., Calandra T., Cohen J., Lipid Infusion and Patient Outcomes in Sepsis (LIPOS) Investigators Efficacy and safety of a phospholipid emulsion (GR270773) in Gram-negative severe sepsis: results of a phase II multicenter, randomised, placebo-controlled, dose-finding clinical trial. *Critical Care Medicine* 2009 37(11): 2929-38

Bagshaw S.M., Uchino S., Cruz D., Bellomo R., Morimatsu H., Morgera S., Schetz M., Tan I., Bouman C., Macedo E., Gibney N., Tolwani A., Oudemans-van Straaten H.M., Ronco C., Kellum J., Beginning and Ending Supportive Therapy for the Kidney (BEST Kidney) Investigators A comparison of observed versus estimated baseline creatinine for determination of RIFLE class in patients with acute kidney injury. *Nephrol Dial Transplant* 2009 24(9): 2739-44

Nichol A.D., Cooper D.J., POLAR Study Investigators on behalf of the ANZICS-Clinical Trials Group, EPO Study Investigators on behalf of the ANZICS-Clinical Trials Group. Can we improve neurological outcomes in severe traumatic brain injury? Something old (early prophylactic hypothermia) and something new (erythropoietin). *Injury* 2009 May 40(5): 471-8

Bellomo R., Cass A., Cole L., Finfer S., Gallagher M., Lo S., McArthur C., McGuinness S., Myburgh J., Norton R., Scheinkestel C., Su S., RENAL Replacement Therapy Study Investigators Intensity of continuous renal-replacement therapy in critically ill patients. *New England Journal of Medicine* 2009 361(17): 1627-38

Bagshaw SM., Uchino S., Bellomo R., Morimatsu H., Morgera S., Schetz M., Tan I., Bouman C., Macedo E., Gibney N., Tolwani A., Oudemans-van Straaten H.M., Ronco C., Kellum J.A., Beginning and Ending Supportive Therapy for the Kidney (BEST Kidney) Investigators. Timing of renal replacement therapy and clinical outcomes in critically ill patients with severe acute kidney injury. *Critical Care* 2009 24(1): 129-40

Bellomo R., Cass A., Cole L., Finfer S., Gallagher M., Goldsmith D., Myburgh J., Norton R., Scheinkestel C., RENAL Replacement Therapy Trial Investigators. Screening and study enrolment in the Randomised Evaluation of Normal vs. Augmented Level (RENAL) Replacement Therapy Trial. *Blood Purification* 2009 27(2): 199-205

Finfer S., Chittock D.R., Su S.Y., Blair D., Foster D., Dhingra V., Bellomo R., Cook D., Dodek P., Henderson W.R., Herbert P.C., Heritier S., Heyland D.K., McArthur C., McDonald E., Mitchell I., Myburgh J., Norton R., Potter J., Robinson B.G., Ronco J.J. NICE-SUGAR Study Investigators. Intensive versus conventional glucose control in critically ill patients. *The New England Journal of Medicine*. 2009, 360(13): 1283-1297

OUR PRESENTATIONS

Dr Sathyajith Velandy Koottay: European Society of Intensive Care Medicine 2010 *Comparison of Measured and Estimated Creatinine Clearances in Critically Ill Patients*

Dr Forbes McGain: Australian and New Zealand Intensive Care Society (ANZICS) Annual Scientific Meeting 2010 *The sustainable ICU*

Dr Forbes McGain: Climate Change, Healthcare and Carbon Footprints Conference 2010 *The Power, The Water, The Waste and The Passion*

Dr Forbes McGain: Hospital Waste Management Conference 2010 *Recycle and Reuse: The Western Hospital Case Study*

OUR AWARDS

Australian and New Zealand College of Anaesthetists (ANZCA) Annual Scientific Meeting - Gilbert Brown Prize (Best Presentation) 2010: Dr Forbes McGain *Life Cycle Assessment comparing re-usable versus single use anaesthetic drug trays \$1000*

Sustainability Victoria Awards 2010: Dr Forbes McGain 1) *Pilot trial of PVC recycling*; 2) *A life-cycle assessment of anaesthetic drug trays*; and 3) *A life-cycle assessment comparing reusable versus single use central line insertion trays \$7500*



MEDICAL ONCOLOGY & HAEMATOLOGY

The department undertakes clinical research addressing the questions relating to understanding the biology of cancer, developmental therapeutics (the development and clinical investigation of new medicines for the treatment of cancer) and research into patient care leading to improvements in quality of care.

Currently there are 25 active clinical trials investigating all the different types of cancers affecting our patients. Clinical initiatives implemented from research activities include the improvement of antiemetic treatments, the introduction of new agents for management of breast, colorectal, renal, prostate and lung cancers as well as haemopoietic malignancies.

Future research objectives include implementation of clinical trials reporting system, taking leadership roles in National and International collaborative trial groups, continuation of the development of strong links with research partners including BioGrid, Ludwig Institute for Cancer Research, The University of Melbourne, The Cancer Council of Victoria and Clinical Trials Australia.

OUR RESEARCH

A Phase 1b study of AMG 386 in combination with either Pegylated Liposomal Doxorubicin or Topotecan in subjects with Advanced Recurrent Epithelial Ovarian Cancer

Shirley Wong

AMG 386 is a peptibody that binds to and inhibits angiopoietin 1 and 2. It is being investigated as a new cancer treatment. Ovarian Cancer is one of the commonest causes of female death and new treatments are desperately needed.

Collaborator: Amgen Australia Pty Ltd

A Randomised, Multicentre, Open-label, Phase 3 study to compare the efficacy and safety of Panitumumab and Cetuximab in subjects with previously treated, Wild-type KRAS, Metastatic Colorectal Cancer

Peter Gibbs

Panitumumab significantly improves progression-free survival and disease control (response rate and stable disease) compared to best supportive care (BSC) in metastatic colorectal cancer (CRC). This trial tests its effect in KRAS mutated CRC. Colorectal cancer is the commonest causes of death in our community. Understanding the mechanism of its growth will help in treating the disease.

Collaborator: Amgen Australia Pty Ltd

A Randomised comparative study of FOLFOX6m Plus SIR-SPHERES verses FOLFOX6m alone as first line treatment in patients with non-resectable liver metastases from Primary Colorectal Carcinoma

Peter Gibbs

Selective Internal Radiation Therapy (SIRT) is a therapy targeting the liver which harbours the cancer. It uses SIR-Spheres, an Australian innovation which combine radioactive isotope (Y-90) with tiny particles (approximately 1/3

diameter of hair). These particles are lodged in the small blood vessels of the liver inside the tumour. The isotope delivers localised radiotherapy to kill the cancer cells. Sir-SPHERES have been used as second line or salvage treatment for colorectal cancer. This trial is testing its effectiveness in first line colorectal cancer.

Collaborator: SIRTeX Medical Ltd

A Randomised, Double-Blind, Placebo-Controlled, Multi-Centre Phase 3 Study of Denosumab as adjuvant treatment for women with Early-Stage Breast Cancer at high risk of recurrence

Richard de Boer

This randomised phase 3 trial is studying the effect of denosumab to see if it can prevent disease recurrence in the bone or in any other part of the body, when it is given as adjuvant therapy for women with early-stage breast cancer, who are at high risk of disease recurrence. Denosumab, a monoclonal antibody that specifically inhibits RANK ligand, may have the potential to interrupt tumor cell expansion through the bone. If so it may prevent cancer recurrence in women with early-stage breast cancer.

Collaborator: Amgen Australia Pty Ltd

A phase III, randomised, open-label, 3-arm study to determine the efficacy and safety of Lenalidomide (Revlimid) plus low dose Dexamethasone when given until progressive disease or for 18 four-week cycles versus the combination of melphalan, prednisolone and thalidomide given for 12 six-week cycles in patients with previously untreated multiple myeloma who are either 65 years of age or older or not candidates for stem cell transplantation

William Renwick

Combining a new drug called lenalidomide with a standard drug, dexamethasone, delayed the progression of advanced multiple myeloma for more than twice as long as did dexamethasone alone. The addition of melphalan, prednisolone and thalidomide to lenalidomide in multiple myeloma may improve these patients survival.

Collaborator: Celgene Pty Ltd

Randomised trial of letrozole plus usual care versus usual care without letrozole to prevent new breast cancer events in postmenopausal women who have completed a minimum of 4 years of adjuvant endocrine therapy for early, hormone responsive breast cancer more than one year previous, and who are disease-free at trial entry.

Michael Green

Collaborator: ANZ Breast Cancer Trials Group

A Randomised Double Blind Placebo Controlled Trial of Neratinib (HKI 272) after Trastuzumab in women with Early Stage HER 2/neu Overexpressed/Amplified Breast Cancer.

Richard de Boer

Collaborator: Wyeth Australia Pty Ltd

A Phase 3, Randomised, Open Label, Two Arm Study of Neratinib plus Paclitaxel versus Trastuzumab plus Paclitaxel as first line treatment for ErbB 2 Positive Locally Recurrent or Metastatic Breast Cancer

Richard de Boer

Collaborator: Wyeth Australia Pty Ltd

A Phase 3, Randomised, Double-blind, Placebo-controlled Study of Pegfilgrastim Administered to Subjects With Newly Diagnosed, Locally-advanced or Metastatic Colorectal Cancer Treated With Bevacizumab and Either 5-fluorouracil, Oxaliplatin, Leucovorin (FOLFOX) or 5-fluorouracil, Irinotecan, Leucovorin (FOLFIRI)

Peter Gibbs

Collaborator: Amgen Australia Pty Ltd

Short Course Oncology Therapy (SCOT), a study of adjuvant chemotherapy in Colorectal Cancer

Suzanne Kosmider

Collaborator: Australian Gastrointestinal Tumour Group

A Randomised, Double-Blind, Placebo-Controlled Phase III study of Regorafenib plus BSC versus Placebo plus BSC in patients with Metastatic Colorectal Cancer (CRC) who have progressed after standard therapy

Peter Gibbs

Collaborator: Bayer Australia Ltd

A feasibility study of accelerated BEP as first line chemotherapy for advanced germ cell tumours

Shirley Wong

Collaborator: ANZ Germ Cell Trials Group

A Phase 3, Multicentre, Randomised, Open-Label, Parallel-Group study of the efficacy and safety of Lenalidomide (Revlimid®) Versus Chlorambucil as first-line therapy for previously untreated elderly patients with B-Cell Chronic Lymphocytic Leukemia

William Renwick

Collaborator: Celgene Pty Ltd

A Phase 3, Multicentre, Randomised, Open-Label study of Azacitidine (Vidaza) versus conventional care regimens for the treatment of older subjects with newly diagnosed Acute Myeloid Leukemia

William Renwick

Collaborator: Celgene Pty Ltd

A Phase 2 Open-Label Single Arm, Multicentre study to evaluate the efficacy and safety of AMG386 and Sorafenib as first line therapy for subjects with Advanced and Inoperable Hepatocellular Carcinoma

Lara Lipton

Collaborator: Amgen Australia Pty Ltd

A Double-Blind Randomised trial of Cediranib versus placebo in patients receiving Paclitaxel/ Carboplatin chemotherapy for the treatment of Advanced or Metastatic Non-Small Cell Lung Cancer

Dishan Gunawardana

Collaborator: Australian Lung Trials Group

Phase I Multiple Ascending Dose Study of BMS-754807 in Subjects with Advanced or Metastatic Solid Tumors

Lara Lipton

Collaborator: Bristol Myers Squibb Australia Pty Ltd

A safety and efficacy trial evaluating the use of Apixaban for the extended treatment of Deep Vein Thrombosis and Pulmonary Embolism

William Renwick

Collaborator: PPD Development

A Phase 1b Open-Label Multicentre study of AMG386 in combination with Paclitaxel and Carboplatin in subjects with High-Risk Stage I and Stages II-IV Epithelial Ovarian, Primary Peritoneal or Fallopian Tube Malignancies

Shirley Wong

Collaborator: Amgen Australia Pty Ltd

A Randomised Phase 3 study of weekly ABI-007 plus Gemcitabine versus Gemcitabine alone in patients with Metastatic Adenocarcinoma of the Pancreas

Lara Lipton

Collaborator: Abraxis BioScience

LAP07 Study: Randomised Multicentre Phase 3 study in patients with Locally Advanced Adenocarcinoma of the Pancreas: Gemcitabine with or without Chemoradiotherapy and with or without Erlotinib.

Lara Lipton

Collaborator: Australian Gastrointestinal Tumour Group

Phase 2 Open-Label Single-Arm, Multicentre Study to evaluate the safety and efficacy of Sunitinib Malate in combination with AMG 386 as first line or second line therapy for subjects with Metastatic Renal Cell Carcinoma

Shirley Wong

Collaborator: Amgen Australia Pty Ltd

OUR RESEARCHERS

Professor Michael Green: Director Cancer Services

Associate Professor Peter Gibbs: Leader Colorectal Oncology

Dr Dishan Gunawardana: Leader Lung Oncology

Dr Shirley Wong: Leader Gynaecologic and Urogenital Oncology

Dr William Renwick: Leader Haematological Oncology

Dr Duncan Carradice: Haematological Oncology Clinical Researcher

Dr Sumitra Ananda: Upper GI and Gynaecologic Oncology Clinical Researcher

Dr Richard de Boer: Leader Breast Oncology

Dr Suzanne Kosmider: Colorectal Oncology Clinical Researcher

Associate Professor Lara Lipton: Leader Upper GI Oncology and Colorectal Oncology Clinical Researcher

Dr Jayesh Desai: Leader Phase I and Sarcoma Oncology

Dr Jeanne Tie: Colorectal Oncology Clinical Researcher

Helen Brasier: Research Nurse Coordinator

Angela Baugh: Research Nurse

Lisa Wilkinson: Research Data Manager

Rio Brooks: Research Nurse

Siobhan Rainford: Research Nurse

Georgina Akers: Research Nurse

Angela Mellerick: Research Nurse

Catherine Morton: Research Nurse

Dr Cuong Do: FRACP (oncology)

Dr Muslim Asadi: FRACP (oncology)

OUR PUBLICATIONS

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OUR GRANTS

Victorian Cancer Agency Grant: Gibbs P, Sieber O, Lipton L, Field K, Jones I, McKendrick J, McLaughlin S, Woods R, Desai J, Haydon A, Bui A, Heriot A, Hibbert M. *Improving treatment selection for colon cancer using epidemiological and molecular markers* \$1,000,000

NHMRC Grant: Sieber O, Gibbs P. *GWAS in colorectal cancer*. \$500,000

Victorian Cancer Agency Grant: Gibbs P. *Validating and moving promising blood biomarkers for colorectal cancer from the laboratory to the clinic* \$1,500,000

NHMRC Development Grant: Cosgrove L, Gibbs P. *Colon cancer screening biomarkers* \$542,260



MEDICINE & ENDOCRINOLOGY

The Departments of Medicine and Endocrinology are committed to conducting innovative, high-quality scientific research aimed at the prevention and treatment of common chronic diseases.

Our research is specifically focused on understanding the role of a healthy lifestyle to reduce the burden of osteoporosis and fractures, type 2 diabetes mellitus, sarcopaenia (or age-related muscle wasting) and cardiovascular disease.

We aim to conduct high-quality research that provides the evidential basis to underpin the development and implementation of preventative measures, practice guidelines and to influence health policy in order to manage and prevent common chronic diseases of the 21st century, and to educate health professionals and the public about preventative medicine to improve both health outcomes, and to promote healthy ageing and an improved quality of life.

Our research group is strategically positioned at Western Health in a geographic area, which is a hot spot for chronic diseases such as type 2 diabetes mellitus and osteoporosis in Melbourne. We are a multidisciplinary group comprising endocrinologists, metabolic physicians, exercise scientists and allied health professionals that has extensive experience in the design and conduct of large-scale clinical randomised controlled trials, and public health and translational research.

OUR RESEARCH

The major focus of the group has been in the prevention and treatment of osteoporosis, with group members having an international profile in this area and two publications in the *New England Journal of Medicine* in 2009. The role of calcium and vitamin D in the prevention of type 2 diabetes mellitus, sarcopenia, as well as osteoporosis, is a major new area of research, including a randomised controlled trial funded by the Diabetes Australia Research Trust. We are also examining the role of long-term low and high diet calcium intakes on vascular events and vascular calcification, measured in the aorta, in the Health 2000 cohort in collaboration with the School of Population Health, The University of Melbourne in research funded by the Heart Foundation and an Osteoporosis Australia/Myer Foundation grant. Another new study is examining the effects of anti-retroviral therapy on bone metabolism in patients with AIDS and is funded by a NCAIDS Grant. A new randomised controlled trial funded by NHMRC commenced in 2010 examining the effects of two different monthly doses of vitamin D or placebo on mortality.

Translational research involving the translation of medical evidence into practice is an active area of research within the Centre. The Osteocise: Strong Bones for Life study, funded by the ANZ Wicking Trust and Osteoporosis Australia, is a community-based intervention examining the effects of a multi-component exercise and osteoporosis education program on bone strength and muscle function in older adults living in north-western Melbourne. A recently awarded NHMRC Partnership Grant, also funded by the Victorian and South Australian Governments, aims to prevent the development of type 2 diabetes mellitus in women with a past history of gestational diabetes. Professor Ebeling is also co-investigator in a prestigious Clinical Centre of Research Excellence "Sun and Health", which is primarily based at the Queensland University of Technology.

The use of new techniques in bone imaging is a novel area of research and collaborations have been established with researchers in this field at The University of California San Francisco and Queensland University of Technology to help develop this area.

RESEARCH HIGHLIGHTS

2009 and 2010 have been very productive years for our research group, with over 59 new publications in a number of high impact journals within our field, including the prestigious *New England Journal of Medicine*, and *Journal of Bone and Mineral Research*. Several members of our group were also listed as chief investigators on successful NHMRC Project Grants, a NHMRC Centre for Clinical Research Excellence and an inaugural NHMRC Partnership Grant. Our group was also awarded grants from Diabetes Australia, Heart Foundation and NCAIDS to consolidate our program of research into the role of vitamin D and calcium to prevent the progression of pre-diabetes to diabetes, and the effects of high and low dietary calcium intakes on vascular calcification, fractures and bone density in middle aged and older adults, and bone health in patients with AIDS, respectively.

Our research group has produced a number of novel research findings of both clinical and practical significance. In collaboration with Professor Rachelle Buchbinder from Monash University, we showed vertebroplasty was not an effective treatment for painful vertebral fractures. This paper received wide press coverage and was quoted by the former Prime minister, Kevin Rudd. Our other New England Journal article showed six-monthly subcutaneous injections of denosumab, an antibody to a bone cytokine, RANK-Ligand, is an effective treatment for reducing fractures in women with postmenopausal osteoporosis. In collaboration with colleagues from the Baker-IDI Institute, Dr Claudia Gagnon from our group using data collected from the large AUSDiab study showed that elevated plasma glucose levels and pre-diabetes were inversely associated with fractures in non-diabetic women, independent of body mass index and fasting insulin levels.

Associate Professor Robin Daly was awarded an oral presentation at the American Society for Bone and Mineral Research Annual Meeting to present the findings from a 2-year randomised controlled trial which showed that supplementation with calcium-vitamin D fortified milk was associated increased abdominal aortic calcification in overweight older men with pre-existing calcification. He was also awarded the Best Paper Award at the Australian Conference of Science and Medicine in Sport for his research which showed that an 18-month community-based targeted bone loading program was effective for improving bone structure, strength and bone mass distribution in older men. These findings are important because they will contribute to the evidence-base on which to develop more precise exercise prescription guidelines to prevent osteoporosis.

The group was strengthened by the addition of Dr Claudia Gagnon, an endocrinology Research Fellow from Quebec in Canada and Dr Riku Nikander, a post-doctoral research fellow, from the UKK Institute in Finland.

OUR RESEARCHERS

Professor Peter Ebeling: Professor of Medicine, The University of Melbourne and Head of Endocrinology

Associate Professor Robin Daly: Director of Research, Department of Medicine, The University of Melbourne

Professor Edward Janus: See under General Medicine

Dr Riku Nikander: Research Fellow

Dr Christine Bailey: Research Fellow

Dr Claudia Gagnon: Research Fellow

Ms Jenny Gianoudis: PhD Student

Mr Belal Khan: PhD Student

Mr John Sheedy: PhD Student

Mr Khoa Truong: PhD Student

Ms Claudine Tsao: PhD Student

OUR PUBLICATIONS

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Souberbielle JC, Body JJ, Lappe JM, Plebani M, Shoenfeld Y, Wang TJ, Bischoff-Ferrari HA, Cavalier E, Ebeling PR, Fardellone P, Gandini S, Gruson D, Guérin AP, Heickendorff L, Hollis BW, Ish-Shalom S, Jean G, von Landenberg P, Largura A, Olsson T, Pierrot-Deseilligny C, Pilz S, Tincani A, Valcour A, Zittermann A. Vitamin D and musculoskeletal health, cardiovascular disease, autoimmunity and cancer: Recommendations for clinical practice. *Autoimmun Rev.* 2010 Sep; 9(11):709-15

Rosengren BE, Ahlborg HG, Gärdzell P, Sernbo I, Daly RM, Nilsson JA, Karlsson MK. Bone mineral density and incidence of hip fracture in Swedish urban and rural women 1987-2002. *Acta Orthop.* 2010 Aug; 81(4):453-9

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Yates CJ, Bartlett MJ, Ebeling PR. An atypical subtrochanteric femoral fracture from pycnodysostosis - a lesson from nature. *J Bone Miner Res.* 2010 Dec 7[epub ahead of print]

Yeap BB, Chubb SAP, Flicker L, McCaul KA, Ebeling PR, Beilby JP, Norman PE. Association of reduced serum total osteocalcin with metabolic syndrome in older men via hyperglycemia, waist circumference and serum triglycerides. *Eur J Endocrinol.* 2010; 163(2):265-72

OUR PRESENTATIONS

Professor Peter Ebeling

Invited Presentation (Plenary speaker): 32nd Annual Scientific Meeting, American Society for Bone and Mineral Research Toronto Canada 2009 *Atypical Femoral Fractures. Medical Aspects: The Known and Unknown*

Invited Presentation (Plenary speaker): VIII International Meeting on Cancer Induced Bone Disease Sydney 2009 *Skeletal Effects of Anti-Cancer Therapies and their Treatment*

Chair, Clinical Debate: 31st Annual Scientific Meeting, American Society for Bone and Mineral Research Denver USA 2009 *Is the Measles Virus a Trigger for Paget's Disease in Bone?*

Conference Presentation: Osteoporosis update. Osteoporosis Australia Perth *Osteoporosis in Men*

Conference Presentation: Womens' Health Update, The University of Melbourne and University of South Australia Adelaide Osteoporosis Update.

Several other conference presentations in Victoria and interstate

Associate Professor Robin Daly

Invited Presentation: 7th International Symposium on Nutrition and Bone Health Lausanne Switzerland *Calcium and exercise in adults: Effects of bone structure and strength*

Invited Presentation: American Society of Bone and Mineral Research, Working Group for Musculoskeletal Rehabilitation in Patients with Osteoporosis Denver USA *Effects of exercise on appendicular bone marrow fat and its relationship to changes in bone density, structure and strength in older men*

Invited Presentation: National Stroke Research Institute Melbourne Physical activity: Benefits and mechanisms *Exercise medicine for optimising musculoskeletal health and function during ageing*

Invited Presentation: AstraZeneca - CV Care in General Practice Melbourne *Beyond the GP: Integrated CV health care - the role of exercise physiologist*

Invited Presentation: Deakin University Centre for Physical Activity and Nutrition Research Seminar Series Melbourne *Exercise, nutrition and ageing - how advanced imaging technology has improved our view of the elderly!*

Invited Presentation: Research in Progress Geelong Osteoporosis Study Group Geelong *Using novel imaging techniques to explore the effects of exercise and nutrition on musculoskeletal and cardiovascular health in older adults*

Invited Presentation: Osteoporosis Victoria / Arthritis Victoria Melbourne *Exercise prescription for the prevention of fragility fractures*

Invited Presentation: Victorian Conference of Science and Medicine in Sport and Exercise Melbourne *Optimising health in older men*

Invited Presentation: Educational Training Meeting for Rural General Physicians Merck Sharp and Dohme Melbourne *Exercise is medicine... so why not prescribe it?*

Invited Presentation: Victorian General Practitioners Educational Meeting – Care of the Elderly Melbourne *Keep 'em moving! Exercise prescription of the elderly*

Invited Chair: Sports Trainers Annual Conference Melbourne 2009 Invited to officially open the Annual Sports Trainers Conference

Invited Chair and Keynote Address: Victorian Conference of Science and Medicine in Sport and Exercise Melbourne 2009 *Behavioural Approaches to Promoting Physical Activity*

American Society of Bone and Mineral Research, 31st Annual Scientific Meeting Denver USA

2009: **Oral Presentation** - Daly R, Ebeling P, Khan B, Nowson C. *Effects of Calcium-Vitamin D3 Fortified Milk on Abdominal Aortic Calcification in Older Men: Retrospective Analysis of a 2-year Randomised Controlled Trial*; and **Plenary Poster Presentation** - Daly R, Ebeling P, Kukuljan S, Harvey S, Nowson C. *Effects of Exercise on Appendicular Bone Marrow Fat and Its Relationship to Changes in Bone Density, Structure, and Strength in Older Men*

Poster Presentation: 5th International Conference on Children's Bone Health Cambridge UK 2009. Ducher G, Daly R, Eser P, Naughton G, English R, Patchett A, Gravenmaker K, Seibel M, Javaid A, McGrath M, Haynes W, Telford R, Bass S. *A high proportion of fat relative to muscle mass is associated with poor bone strength and balance in pre-pubertal boys and girls: implications for fracture risk*

Oral Presentation: American College of Sports Medicine (ACSM) Seattle 2009 Daly R, Kukuljan S, Nowson C, Peake J, Sanders K, Bass, S, Nicholson G. *Exercise effects on inflammatory cytokines and their influence on changes in muscle in older men*

2nd Joint Meeting of the International Bone and Mineral Society and the Australian and New Zealand Bone and Mineral Society Sydney 2009:

Oral Presentation - Gagnon C, Magliano DJ, Ebeling PR, Dunstan DW, Zimmet PZ, Shaw JE, Daly R. *Association between hyperglycemia and fracture risk in non-diabetic middle-aged and older Australians: A national, population based prospective study (AusDiab)*; **Poster Presentation** - Bailey C, Kukuljan K, Daly R. *Lifetime loading enhances cortical bone geometry and bone mass distribution in older men*; and **Poster Presentation** - Kukuljan S, Ducher G, Nowson C, Ebeling P, Daly R. *Long-term effects of exercise and calcium-vitamin D3 supplementation on biochemical markers of bone turnover and their association with changes in BMD in older men*

Be Active '09' Australian Conference of Science and Medicine in Sport 2009: **Oral Presentation** - Daly R, Kukuljan S, Nowson C, Sanders K. *Changes in bone structure, strength and bone mass distribution following an 18 month targeted bone loading program in older men*; **Poster Presentation** - Arundell L, Jorna M, Dunstan D, Ball K, Salmon J, Crawford D, Daly R. *Community-based strength training in adults with or at risk of type 2 diabetes – The strength training ongoing (STRONG) study: Outline of methods*; **Oral Presentation** - Ducher G, Bass S, Saxon L, Daly R. *Can exercise-induced benefits in bone strength be further improved after menarche if training is maintained? and* **Poster Presentation** - Salmon J, Hume C, Arundell L, Brown H, Hesketh K, Daly R, Dunstan D, Cerin E, Ball K, Crawford D. *Reducing children's sedentary time at school and at home*

Dr Claudia Gagnon

Invited Speaker: Osteoporosis Victoria 2009 *Update on the Management of Osteoporosis*

Invited Speaker: General Practitioner Conference and Exhibition Melbourne Convention Centre Melbourne 2009 *Screening and Reducing Fracture Risk*

Oral Presentation: 2nd Joint Meeting of the International Bone and Mineral Society and Australian New Zealand Bone and Mineral Society Sydney 2009 Gagnon C, Magliano DJ, Ebeling PR, Dunstan DW, Zimmet PZ, Shaw JE, Daly RM. *Association between hyperglycemia and fracture risk in non-diabetic middle-aged and older Australians: a national population-based prospective study (AusDiab)*

Poster Presentation: Annual Endocrine Society Meeting Washington DC USA 2009 Kong W, Langlois MF, Kamga-Ngande C, Gagnon C, Brown C, Baillargeon JP. *Predictors of success in a weight-loss intervention program for overweight or obese patients with pre-diabetes and metabolic syndrome*

Dr Christine Bailey

Invited Presentation: Falls Prevention Network Meeting Department of Human Services Aged Care Branch Melbourne 2009 *Osteo-cise: Stronger Bones for Life*

Poster Presentation: 2nd Joint Meeting of the International Bone and Mineral Society and the Australian and New Zealand Bone and Mineral Society Sydney 2009 Bailey C, Kukuljan K, Daly R. *Lifetime loading enhances cortical bone geometry and bone mass distribution in older men*.

OUR GRANTS AND AWARDS

NHMRC Career Development Award 2007-12: Daly R. *Lifestyle prescription for improving musculoskeletal health and function throughout the lifespan*. \$452,500

NHMRC Project Grant 2007-10. Dunstan D, Ball K, Salmon J, Crawford D, Daly R. *A behavioral intervention for the adoption and maintenance of physical activity in type 2 diabetes*. \$321,875

JR & JO Wicking Trust (ANZ Trustees) 2008-11: Daly R, Nowson C, Ebeling P, Sanders K, Hill K. *'Osteo-cise': Strong Bones for Life. An Inclusive Evidence-based Multi-component Exercise, Falls Prevention and Osteoporosis Education/Awareness Program*. \$450,000

Meat & Livestock Australia 2008-11: Daly R, Nowson C, Dunstan D. *Does increased consumption of lean red meat with regular exercise reduce inflammation and enhance the effects on muscle health and functional performance in elderly women*. \$370,000

Commonwealth Institute 2006-10. Bass S, Daly R, Siebel M, Naughton G. *Lifestyle of our Kids (LOOK): A longitudinal investigation of the influence of lifestyle on health*. \$257,000

NHMRC 5-year Project Grant 2009-14: Salmon J, Hume C, Hesketh K, Dunstan D, Daly R, Cerin E. *A multi-setting intervention to reduce sedentary behaviour, promote physical activity and improve children's health*. \$815,025

NHMRC 3-year Project Grant 2009-12: Neale R, Kimlin M, Van Der Pols J, Armstrong B, Ebeling P, English D, Venn A. *Does vitamin D supplementation reduce mortality for older adults? - A pilot trial*. \$427,700

NHMRC 5-year Centre of Research Excellence Grant 2011-2015: "Sun and Health" Kimlin M, Whiteman D, Lucas R, Sinclair C, Neale R, Ebeling PR, Youl P, Gordon L, Janda M. \$2,379,750

NHMRC 3-year Project Grant 2009-2012: English D, Eyles D, Baglietto L. Ebeling P (AI). *Vitamin D and risk of cancer and mortality in the Melbourne Collaborative Cohort Study*. \$502,672

NHMRC 3-year Project Grant 2009-12: Sanders K, Watts J, Nicholson G, Duque G, Winzenberg T, Ebeling P (AI). *The Australian Study of Cost and Utilities Related to Osteoporotic Fractures*. \$400,528

NHMRC Partnership Grant 2010-14: Dunbar JA, Best JD, Janus ED, Carter R, Oats J, Reddy P, Carnie J and Phillips P. With Als Ebeling P, Rando L. *Preventing diabetes in Pregnancy from Progressing to Type 2 Diabetes: Macro-level system change in South Australia and Victoria*. \$1,292,000

Melbourne University Research Grant Scheme 2009: Ebeling P, Daly R, Khan B. *Effect of dietary calcium intake on bone and vascular events in a longitudinal cohort*. \$35,600

Diabetes Australia Research Trust 2009-10: Ebeling P, Gagnon C, Lu Z, Daly R, Carpentier A. *Can calcium and vitamin D reduce diabetes and cardiovascular risk in overweight people?* \$59,997

UNSW and NCAIDS Collaborative Grant 2009-10. Ebeling PR. *Bone turnover in HIV/antiretroviral therapy*. \$250,000

Heart Foundation Grant-in-Aid 2010-11. Ebeling PR, Nowson C, Daly R, Desmond P. *Dietary calcium intakes and vascular events and aortic calcification*. \$169,000

Associate Professor Robin Daly: Lorin Prentice Memorial Award. *Arthritis Victoria. For outstanding contribution in raising public awareness of musculoskeletal disease*.

Associate Professor Robin Daly: Best Paper, Performance Enhancement and Basic Science 'Be active 09' Australian Conference of Science and Medicine in Sport. *Changes in Bone Structure, Strength and Bone Mass Distribution Following a Targeted Bone Loading Program in Older Men: An 18 month RCT*.

Associate Professor Robin Daly: Plenary Poster Award. American Society of Bone and Mineral Research. *Effects of Exercise on Appendicular Bone Marrow Fat and Its Relationship to Changes in Bone Density, Structure, and Strength in Older Men*.

Dr Claudia Gagnon: International Bone and Mineral Society Travel Grant 2009



NEPHROLOGY

The Department of Nephrology at Western Health was established as an independent dialysis hub in July 2008. During 2009 and 2010, a dedicated research nurse was appointed to participate in collaborative trials with the Australian Kidney Trials Network and the pharmaceutical industry.

Dr Vicki Levidiotis, as the physician in charge of clinical trials in the department, has worked to participate in four such clinical trials as outlined below.

The Department of Nephrology at Western Health has also commenced its own investigator driven trials and some in collaboration with Victoria University, other Melbourne based health services, the Department of Health and GP Victoria which are presently in the establishment phase and should commence recruitment in 2011.

OUR RESEARCH

Kidney Health Australia: Patient Survey

John Katsoulis

Collaborator: Kidney Health Australia

A Randomised, Controlled trial of exit site application of Medihoney™ Antibacterial Wound Gel for the prevention of catheter-associated infections in peritoneal dialysis patients

Vicki Levidiotis

This is an investigator-initiated clinical trial. This study aims to establish if medicinal honey prevents infections in peritoneal dialysis patients.

Collaborator: Australian Kidney Trials Network

A Multicentre, Randomised, Double-Blind study comparing De Novo once monthly and once every 2 week Darbepoetin alfa Dosing for the Correction of Anaemia in Subjects With Chronic Kidney Disease Not Receiving Dialysis

Vicki Levidiotis

Collaborator: AMGEN Industries

Efficacy of SBR759 in Lowering Serum Phosphate Levels in Chronic Kidney Disease Patients on Hemodialysis

Vicki Levidiotis

Collaborator: NOVARTIS

The FAVOURED Trial: Fish oil and Aspirin in Vascular access Outcomes in Renal Disease

Vicki Levidiotis

Collaborator: Australian Kidney Trials Network

CERA in CKD; Meta-analysis

Kushma Nand

Collaborator: Cochrane Renal Group

EMAN-Anaemia Pilot Project: An Open-Labelled Randomised control trial of the synchronized Electronic Management of Anaemia in Chronic Kidney Disease (CKD) compared to usual care Anaemia management

Craig Nelson

This project aims to improve CKD anaemia targets by a synchronised electronic process to enable people to be cared for in their community rather than hospital outpatients. This project aims to prove that better care can be delivered and be more cost-effective if we monitor our patients by efficient processes in the community.

Collaborator: Roche

Health Benefits of Long Term Strength Training in patients with CKD

Craig Nelson

Collaborator: Victoria University

Effects of type and dose of phosphate binders on metabolic acidosis in patients with End Stage Kidney Disease on maintenance haemodialysis: A retrospective observational study

Craig Nelson

Collaborator: Department of Nephrology, Melbourne Health

A randomised controlled trial of 2% chlorhexidine body washes and the incidence of vascular access and access related blood stream infections (BSI) compared with placebo in HD patients

Craig Nelson

Collaborators: Melbourne Health and Monash Medical Centre Departments of Nephrology and Infectious Diseases

EMAP-CKD VIC: Electronic Mapping and Assistance to Primary Care in CKD Detection and Management in Victoria - A Pilot project

Craig Nelson

This project aims to detect unrecognised CKD in the community and provide management strategies via outreach from the health service to primary care using electronic processes, to improve CKD care in primary care. Western Health has a large burden of Chronic Disease in its catchment, this project aims at establishing processes to reduce the burden and late presentation of kidney disease to our health service, and to establish a WH catchment CKD data repository.

Collaborators: Department of Health Victoria, Kidney Health Australia and General Practice Victoria

OUR RESEARCHERS

Donna Soraghan: Clinical Research Nurse

Debra Broomfield: Clinical Research Nurse

OUR PUBLICATIONS

Crikis S, Lu B, Murray-Segal LM, Selan C, Robson SC, D'Apice AJ, Nandurkar HH, Cowan PJ, Dwyer KM. Transgenic overexpression of CD39 protects against renal ischemia-reperfusion and transplant vascular injury. *Am J Transplant.* 2010 Dec;10(12):2586-95

Rajakumar SV, Lu B, Crikis S, Robson SC, d'Apice AJ, Cowan PJ, Dwyer KM. Deficiency or inhibition of CD73 protects in mild kidney ischemia-reperfusion injury. Immunology Research Centre, St Vincent's Hospital, Melbourne, *Transplantation* 2010 Dec 27, 90(12) 1260-4

Crikis S, Zhang XM, Dezfouli S, Dwyer KM, Murray-Segal LM, Salvaris E, Selan C, Robson SC, Nandurkar HH, Cowan PJ, d'Apice AJ. Anti-inflammatory and anticoagulant effects of transgenic expression of human thrombomodulin in mice. *Am J Transplant.* 2010 Feb;10(2):242-50.

Mudge SJ, Paizis K, Auwardt RB, Levidiotis V, Fraser SA, Power DA. Corticosteroids worsen proteinuria and increase intraglomerular signaling by NF- κ B in a model of membranous glomerulonephritis. *Nephron Exp Nephrol.* 2010; 116(2):e23-31.

Velkoska E, Dean RG, Burchill L, Levidiotis V, Burrell LM. Reduction in renal ACE2 expression in subtotal nephrectomy in rats is ameliorated with ACE inhibition. *Clin Sci (Lond).* 2010 Feb; 118(4):269-79

Jenkins AJ, McBride JD, Januszewski AS, Karschikus CS, Zhang B, O'Neal DN, Nelson CL, Chung JS, Harper CA, Lyons TJ and Ma J. Increased Serum Kallistatin Levels in Patients with Type 1 Diabetes and its Vascular Complications *J Angiogenesis Res.* 2010 Sep 22; 2:19

Toussaint ND, Lau KK, Strauss BJ, Polkinghorne KP, Kerr PG. Using vertebral bone densitometry to determine aortic calcification in patients with chronic kidney disease. *Nephrology* 2010; 15: 575-583

Toussaint ND, Lau KK, Strauss BJ, Polkinghorne KP, Kerr PG. Alendronate to reduce vascular calcification in patients with chronic kidney disease - a randomised placebo-controlled trial. *American Journal of kidney Diseases* 2010; 56: 57-68

Toussaint ND, Elder GJ, Kerr PG. A rational guide to reducing fracture risk in dialysis patients. *Seminars in Dialysis* 2010; 23: 45-54

Toussaint ND. Differences in prescription between conventional and alternative haemodialysis. *Nephrology* 2010; 15: 399-405

Levidiotis V, Chang S, McDonald S. Pregnancy and maternal outcomes among kidney transplant recipients. *J Am Soc Nephrol.* 2009 Nov; 20(11):2433-40

Levidiotis V. Live kidney donors - assessment and follow up. *Aust Fam Physician.* 2009 May; 38(5):316-20

Cook N, Fraser SA, Katerelos M, Katsis F, Gleich K, Mount PF, Steinberg GR, Levidiotis V, Kemp BE, Power DA. Low salt concentrations activate AMP-activated protein kinase in mouse macula densa cells. *Am J Physiol Renal Physiol.* 2009 Apr; 296(4):F801-9

Toussaint ND, Elder GJ, Kerr PG. Bisphosphonates in Chronic Kidney Disease; Balancing Potential Benefits and Adverse Effects on Bone and Soft Tissue. *Clinical Journal of American Society of Nephrology* 2009; 4: 221-233

Toussaint ND, Lau KK, Strauss BJ, Polkinghorne KP, Kerr PG. Relationship between vascular calcification, arterial stiffness and bone mineral density in a cross-sectional study of prevalent Australian haemodialysis patients. *Nephrology* 2009; 14: 105-112

Toussaint ND, Lau KK, Strauss BJ, Polkinghorne KP, Kerr PG. Determination and validation of aortic calcification measurement from lateral bone densitometry imaging in dialysis patients. *Clinical Journal of American Society of Nephrology* 2009; 4: 119-127

Lee D, Levin A, Roger SD, McMahon LP. Longitudinal analysis of performance of estimated glomerular filtration rate as renal function declines in chronic kidney disease. *European Renal Association [Nephrol Dial Transplant]* 2009 Jan; 24 (1) 109-16

OUR PRESENTATIONS

Dr Nigel Toussaint: Amgen Nephrology Advanced Trainee Conference Gold Coast 2009 CKD-MBD workshop

Dr Nigel Toussaint: ANZSN Meeting Hobart 2009 *Randomised placebo-controlled trial of alendronate on vascular calcification in patients with chronic kidney disease and Determination and validation of aortic calcification from lateral bone densitometry in CKD patients*

Dr Nigel Toussaint: ASN Meeting San Diego 2009 *Randomised placebo-controlled trial of alendronate on vascular calcification in patients with chronic kidney disease; Determination and validation of aortic calcification from lateral bone densitometry in CKD patients; and Nocturnal haemodialysis and protein-bound uremic retention solute kinetics*

Dr Craig Nelson: GPCE Melbourne 2009 KHA: *CKD Early Detection and Diagnosis in General Practice*

Dr Sandra Crikis: GPCE Melbourne 2009 KHA: *Resistant Hypertension*

Dr Nigel Toussaint: ANZSN Meeting Perth 2010 *Reduction of aortic calcification with lanthanum carbonate vs calcium-based phosphate binders in haemodialysis – a randomised controlled trial; Lateral lumbar radiography to assess abdominal aortic calcification in haemodialysis patients; and Improving CKD-MBD management in haemodialysis patients: barrier analysis for an implementation project*

Dr Nigel Toussaint: World Congress of Internal Medicine 2010 Melbourne *Reducing cardiovascular risk in chronic kidney disease by improving management of mineral and bone disorders: an update on vascular calcification and CKD-MBD*

Dr John Katsoulis: GPCE Melbourne 2010 *KHA: Complications of Kidney Disease*

Dr Kushma Nand: GPCE Melbourne 2010 *KHA: Resistant Hypertension – management in general practice, and its association with CKD*

Dr Craig Nelson: RNTS Sydney 2010 *CKD Detection and Management: The Victorian Perspective*

Dr Craig Nelson: GPCE Melbourne 2010 *KHA: Complications of Kidney Disease*

Dr Nigel Toussaint: Nephrology at the Limits II Cape Town 2010 *Vascular calcification in CKD: What interventions make a difference?*

Dr Nigel Toussaint: Amgen Nephrology Scientific Meeting Melbourne 2010 *CKD-MBD: Streamlining management for vascular health*

Dr Nigel Toussaint: Shire Nephrology CKD-MBD Workshop Sydney 2010 *Measuring outcomes of vascular calcification in CKD in clinical practice*

Dr John Katsoulis: ISOM/SOMANZ Melbourne 2010 *A case of Hypokalaemic Paralysis in Pregnancy*

Dr Nigel Toussaint: Amgen Annual Renal Nurses Symposium Melbourne 2010 *Vitamin D in CKD: What do we know?*

Dr Craig Nelson: Amgen Annual Renal Nurses Symposium Melbourne 2010 *CKD Management in the Electronic World*

OUR AWARDS AND GRANTS

RACP Jacquot Fellowship 2009: Sandra Crikis *Role of CD39 in Ischaemia Reperfusion Injury* \$90,000

NHMRC Project Grant 2009-2011: Professor Barbara Fazekas de St Groth, Dr Stephen Alexander and Dr Vicki Levidiotis *The role of primed T cells in graft rejection* \$560,000

Roche Pharmaceuticals Research Grant 2010-2012: Craig Nelson *EMAN-Anaemia Pilot Project: An Open Labelled Randomised Control trial of the synchronized Electronic MANagement of Anaemia in Chronic Kidney Disease (CKD) compared to Usual Care Anaemia Management* \$350,000

NHMRC National Institute of Clinical Studies Fellowship 2009-2011: Nigel Toussaint *Reducing cardiovascular risk in CKD by better management of mineral and bone disorder*

Shire Pharmaceuticals Research Grant 2010: Nigel Toussaint *Investigator initiated multi-centre randomised controlled trial of lanthanum carbonate in chronic kidney disease patients* \$1,500,000

Roche Pharmaceuticals CARG 2010: Nigel Toussaint and Rosemary Masterson *Post-Transplant Bone Disease (RMH)* \$20,000



NEUROLOGY

Western Health Neuroscience Research Unit has been active in clinical research in stroke, multiple sclerosis and epilepsy during 2009 and 2010.

We have been busy recruiting patients for many international, randomised, double blind trials during this period, including five acute stroke clinical trials and three clinical trials in multiple sclerosis. We have established strong collaborations in the Asia Pacific region, Sri Lanka and India in particular. Our research unit was visited by distinguished scientists from Harvard Medical School Stroke Unit, Yale University, USA; University of Colombo, Sri Lanka; and two visiting Professors of Neurology from India during 2009 and 2010. There are several collaborative projects which will be undertaken in the future as a result of these visits.

We plan to embark on several research projects in the western region in 2011:

- Western Stroke Awareness Study (WESTAS);
- A study on neurophobia among students and junior doctors;
- A study on TIA and minor strokes;
- The feasibility of shared management in the primary care setting;
- Western Young Stroke Survey;
- A study on central neuropathic pain;
- A study on peripheral neuropathic pain;

- A study on seizures in the elderly;
- A study on neurologic deterioration after stroke; and
- A study on sleep disorders and stroke.

We will continue to foster local collaborations with the leading academic institutions to facilitate state of the art clinical research in neurosciences in the western region. These include The University of Melbourne, Victoria University and Monash University.

OUR RESEARCH

Clinical epidemiology and neurophysiological characteristics of Central Post Stroke Pain

Tissa Wijeratne and Ashwini Chandra

We have established the prevalence of Central Post Stroke Pain (CPSP) in the Western Health stroke population. We are currently studying the potential neurophysiological methods which may predict CPSP among stroke patients. Western Health admits 700-900 stroke patients per year. CPSP is a debilitating adverse outcome of 6-8% of stroke patients. There are only a limited number of studies available on the subject. Early detection may help us to commence pain modulating therapy earlier on. This may prevent some patients developing CPSP in the future.

Collaborator: Professor Robert D Helme, The University of Melbourne

Insulin Resistance Intervention after Stroke (IRIS) Trial

Tissa Wijeratne, Zelko Matkovic, Grant Scott, Victor Chong and Sandra Petty

This study involves treating insulin resistance with a view to prevent stroke and other vascular events occurring. Insulin resistance is common among stroke patients and hopefully IRIS will provide valuable insights which will help us to prevent further strokes.

Collaborators: Yale University, USA; Harvard Medical School Stroke Centre, USA; and Neuroscience Trials Australia.

STroke imAging pRevention and Treatment (START) - EXTEND: Extending the time for Thrombolysis in Emergency Neurological Deficits

Tissa Wijeratne, Zelko Matkovic, Grant Scott, Victor Chong and Sandra Petty

This study is investigating the MRI based selection of ischemic penumbra with a view to extend the time window from 4.5 hours to 9 hours in clot buster therapy in acute ischemic stroke. Only 15.6% of our stroke patients present to the Emergency Department after an acute ischemic stroke (lowest published figure in the developed world). START-EXTEND will allow us to treat more patients while we test this landmark hypothesis on MRI based penumbra selection.

Collaborators: Neuroscience Trials Australia; Florey Institute, Melbourne; National Stroke Research Institute, Australia; and other leading Stroke Centres in Australia and New Zealand.

A phase 3, multicentre, randomised, controlled trial of very early rehabilitation after stroke (AVERT)

Tissa Wijeratne, Elizabeth Mackey and Justine Mizen

Stroke is a leading cause of adult disability in Australia and early rehabilitation is probably the key towards recovery. AVERT aims to test the hypothesis of acute very early rehabilitation after a stroke.

Collaborators: Florey Institute, Melbourne; National Stroke Research Institute, Australia; and other leading Stroke Centres in Australia and New Zealand.

A Prospective, Randomised, Double-Blind, Double-Dummy, Parallel-Group, Multicentre, Event-Driven, Non-inferiority Study Comparing the Efficacy and Safety of Once-Daily Oral Rivaroxaban (BAY 59-7939) with Adjusted-Dose Oral Warfarin for the Prevention of Stroke and Non-Central Nervous System Systemic Embolism in Subjects with Non-Valvular Atrial Fibrillation (ROCKET-AF)

Tissa Wijeratne, Zelko Matkovic, Robert D Helme and Grant Scott

Collaborator: Neuroscience Trials Australia

The Second INTensive blood pressure Reduction in Acute Cerebral haemorrhage Trial - a prospective, randomised, landmark trial on blood pressure management in acute haemorrhagic stroke (INTERACT_2)

Tissa Wijeratne, Zelko Matkovic, Robert D Helme and Grant Scott

Collaborator: Neuroscience Trials Australia

PERFROM study - A prospective randomised trial on a new anti platelet drug comparing with aspirin in acute ischemic stroke and TIA

Tissa Wijeratne, Zelko Matkovic, Robert D Helme and Grant Scott

Collaborator: Neuroscience Trials Australia

WESTSAS (Western Stroke Symptoms and Awareness Survey)

Tissa Wijeratne, Piyumi Wijesundera, Leena Van Raay, Sherisse Celestino, Lyndy Pascoe and Natalie Teasdale

To understand the awareness of stroke symptoms, risk factors and treatment among the Western Health population.

Collaborator: Professor Amanda Thrift, Head, Stroke Epidemiology, Monash University

COPERNICUS; A Prospective, Parallel Group, Non-Randomised Open-Label Observational Study Comparing Copaxone® With Interferons In Patients With Confirmed Multiple Sclerosis

Tissa Wijeratne, Victor Chong, Zelko Matkovic and Grant Scott

Collaborators: Several major Multiple Sclerosis Centres in Australian public hospital setting

ReNew Post marketing surveillance study to evaluate the tolerability of Rebif® New Formulation in patients with Relapsing Multiple Sclerosis in an Australian clinical setting

Tissa Wijeratne, Victor Chong, Zelko Matkovic and Grant Scott

Collaborators: Several major Multiple Sclerosis Centres in Australian public hospital setting

OUR RESEARCHERS

Dr Tissa Wijeratne: Director and Principal Investigator, Neuroscience Research Unit (NRU)

Dr Zelko Matkovic: Director, Department of Neurology and Co- Investigator, NRU

Dr Grant Scott: Neurologist and Co-investigator, NRU

Dr Sandra Petty: Neurologist and Co-investigator, NRU

Dr Simon Li: Neurologist and Co-investigator, NRU

Dr Victor Chong: Neurologist and Co-investigator, NRU

Dr Darmesh Zonigra: Advanced Trainee in Neurology and Associate Researcher

Dr Manoji Pathirage: Stroke Rehabilitation Fellow and Associate Researcher

Dr Hemal Horadagoda: Neurology Fellow and Associated Researcher

Dr D.S. Jayaratne: Neurology Fellow and Associated Researcher

Ms Lyndy Pascoe: Research Coordinator

Ms Sherisse Celestino: Research Coordinator

Ms Natalie Teasdale: Research Coordinator

Ms Leena Van Raay: Research Coordinator

Piyumi Wijesundera: AMS Student

OUR PUBLICATIONS

Mehndiratta MM, Wasay M, Finkel M, Bergen D, Wijeratne T, Palatucci fellows pass on Leadership, Advocacy message *World Neurology 2010; 6:14*

CHAPTER

Tissa Wijeratne and Robert D Helme, Neuropathic pain, a review; *Current concepts in Pain Management* 1st Edition SLASP (IASP Chapter, Sri Lanka) Dr R. Pallegama and Dr T. Jayalath (Editors), Kandy 2010 Pages 21-33

OUR PRESENTATIONS

Dr Tissa Wijeratne: Asia Pacific Stroke Conference 2009 How to be an effective stroke advocate? and *Stroke Rehabilitation; is there an enriched environment in the developing world?*

Dr Tissa Wijeratne: 33rd Annual Scientific Meeting Kandy Society of Medicine Sri Lanka 2010 *Dementia in Parkinson's disease*

Dr Tissa Wijeratne: 4th Annual Scientific Conference Association of Sri Lankan Neurologists 2010 *Young Stroke*

Dr Tissa Wijeratne: 7th National Stroke Unit Heads Meeting Melbourne 2010 *Stroke advocacy; lessons from Western Health-Sri Lanka stroke collaboration*

Dr Tissa Wijeratne: Donald M Palatucci Advocacy Leadership Forum *Development of stroke services in Sri Lanka*

OUR GRANT

Allergan Movement Disorders Fellowship 2010: *To establish a stroke rehabilitation fellowship to study and manage post stroke spasticity in the Western Region \$45,000*



NURSING

At Western Health we have a very active research community within our nursing staff. Over the last two years we have produced research in the areas of intensive care, emergency medicine, women's health and transforming nursing care at the bedside.

OUR RESEARCH

Is there a role for remote ischaemic conditioning (RIC) in the prevention of reperfusion injury associated with trauma? A systematic review

Russell Bayliss, Simon Black, Alice Bartlett, Travis Minns, Matthew Stewart, Stephen Weatherington and Jerildene Smith

The aim of this study was to describe the effectiveness of ischaemic conditioning in preventing reperfusion injury. Reperfusion injury (RI) accounts for the majority of cell death in stroke and acute coronary syndrome. A PRISMA-based systematic review was undertaken exploring the outcomes of remote ischaemic conditioning (RIC) in health problems associated with reperfusion injury. The clinical initiatives that followed from this research included a greater awareness of the role of non-invasive blood pressure monitoring. Future research includes conducting a feasibility study on introducing RIC in the Emergency Department.

Collaborators: Dr Michael Bryant, Professor Anne-Maree Kelly and Dr Simon Edwards

HRT – Safe Patient Care Project

Anna Green, Michelle McDade, Mark Garwood, John Mulder and Ann Williams

This project examined the early recognition and response to the deteriorating patient. The results led to an educational CD being made available for all clinicians on e-learn, development of clinical scenarios that include ISBAR communication on deteriorating patients, development of a quiz and introduction of a colour coded evidence based observation chart. These changes have improved patient outcomes.

Collaborators: Janet Beer, Michelle Kreusel and Grace Campbell

VMIA – ISBAR Communication Project

Anna Green, Louise McKinlay, Michelle McDade and Mark Garwood

This project saw the development and introduction of a referral form for inclusion in the progress notes as a means of improving documentation for the patient that is deteriorating. The ISBAR project has been incorporated into orientation programs for medical and nursing staff leading to improved patient outcomes.

Collaborators: Janet Beer, Janet Monohan, Michelle Kreusel and Grace Campbell

ICU Liaison uptake and review rate study

Anna Green, Tammy McIntyre, Carmel Taylor, Wendy Chaboyer and Daryl Jones

ICU Liaison Practice Variation Study

Anna Green, Tammy McIntyre, Carmel Taylor, Wendy Chaboyer and Daryl Jones

Call 4 Help Project

Anna Green

Improving nursing handover as a tool to enhance patient care and safety

Debra Kerr, Sai Lu, Louise McKinlay and Sharon Klim

It is well recognised that clinical nursing handover is time consuming, inconsistent and may have a negative impact on clinical outcomes. Preliminary work at Western Health has revealed that handover is problematic (lengthy and inconsistent) and there is general staff dissatisfaction with this important nursing task. This research project involved the development of a bedside handover policy that was piloted in 3 focus wards at Western Health. Improvements were observed in nursing care and documentation after the implementation of bedside handover. Further work, involving development of an alternative handover model for the ED at Sunshine Hospital is currently in progress. Standards of patient care and enhanced patient satisfaction will be measured.

Collaborators: Carla McCarthy, Justine Mizen, Jenny Tenne, Karen Burdett, Leanne Rhodes and Caroline Barker

The practicality and tolerability of patient-controlled intranasal fentanyl for relieving pain in birthing women

Debra Kerr, Davina Taylor, Bronwen Evans and Patrice Hickey

Women may experience the most severe type of pain during childbirth. Self-administered intranasal fentanyl is an alternative, non-invasive route of opioid administration that is currently being trialled for women during childbirth at Sunshine Hospital. This study is still in progress however, preliminary findings have been positive. Behaviours that encourage involvement and participation in decision-making during birth promote feelings of control, coping and feeling supported, which ultimately are needed for women to assess their birth experience as positive. The administration of self-administered intranasal fentanyl may positively affect the birthing experience by virtue of being less invasive and being portable, and effectively relieving childbirth pain.

Collaborators: Ngaire McLean and Christine Kerr

Facilitators and barriers to physical and mental wellbeing after breast cancer treatment

Debra Kerr, Susan Cipolla, Leanne Storer and Terence McCann

Breast cancer treatment can have a range of side effects ranging from depression, low self-esteem, reduced levels of fitness, elevated body weight, fatigue, nausea and vomiting. Studies have shown that interventions such as exercise and diet can improve health and well-being for women after breast cancer treatment. However there is a lack of evidence regarding whether women have knowledge of how to achieve well-being. This study seeks to identify the knowledge and understanding of women who have recovered from breast cancer treatment regarding how to achieve physical and mental wellbeing. The study will increase our understanding of current knowledge and facilitators and barriers to physical and mental wellbeing after treatment for breast cancer patients. In the future strategies may be developed to enhance recovery for women after breast cancer treatment.

Collaborator: Meron Pitcher

Knowledge of pregnant women about lifestyle and diet to prevent gestational diabetes (GDM)

Debra Kerr, Mary Carolan and Megan Poth

High blood sugar levels in pregnancy are known as gestational diabetes mellitus (GDM). Unlike other types of diabetes, GDM usually goes away once the woman has given birth. This is treated by restructuring what the woman eats, exercising, and occasionally with insulin injections. The purpose of this project is explore the 'knowledge' of pregnant women about lifestyle and diet to prevent GDM. This study may identify barriers to or gaps in knowledge of pregnant women regarding how to prevent development of gestational diabetes.

Collaborator: Christine Kerr

OUR RESEARCHERS

Dr Debra Kerr: Research Associate, Centre for Education (See publications under Emergency Medicine)

Russell Bayliss: Bank Nurse, Emergency Department

Simon Black: Nurse, Emergency Department

Alice Bartlett: Nurse, Emergency Department

Travis Minns: Nurse, Emergency Department

Stephen Weatherington: Nurse, Emergency Department

Jerildene Smith: Nurse, Emergency Department

Anna Green: ICU Liaison Nurse

Michelle Noronha: Resuscitation Coordinator, Centre for Education

Ian Law: Nurse Practitioner, Emergency Department

OUR PUBLICATIONS

Steele C, Margetts H, Carolan M. Attitudes towards gestational diabetes among a multiethnic cohort in Australia. *Journal of Clinical Nursing* 2010; 19 (17-18): 2446-2453

Sinnott H, Noronha M, Bird S. An integrated care facilitation model improves quality of life and reduces use of hospital resources by patients with chronic obstructive pulmonary disease and chronic heart failure. *Australian Journal Of Primary Health*, 2010; Vol. 16 (4), pp. 326-33

Aylen T, Noronha M. HARP - addressing chronic disease management and complex care needs in Western Melbourne *Aust Nurs J*. 2009 Nov; 17(5):39, 41

PROCEEDING

Law I, Kerr D, Krieser D. Nurse Practitioners can, independently and accurately, assess and manage ankle injuries presenting to a mixed Adult and Paediatric Emergency Department. *Proceedings of Physicians Week Royal Australasian College of Physicians Sydney 2009 and Australasian College for Emergency Medicine Annual Scientific Meeting Melbourne 2009*

OUR PRESENTATIONS

Simon Black: Emergency Nurses Association San Antonio Texas 2010 *Post-remote ischaemic conditioning for emergency management of acute coronary syndrome and stroke?*

Simon Black: Trauma Melbourne 2010 *Is there a role for remote ischaemic conditioning (RIC) in the prevention of reperfusion injury: a systematic review*

Invited speaker Green A, Jones D, Leary K: Recognising and responding to clinical deterioration, Adelaide *Implementing and maintaining a rapid response system: Two different models for providing emergency assistance (Part 1 and Part 2)*

Invited speaker Green A: Program Workshop Health Roundtable Ltd Melbourne 2010 *SAFE Reducing harm from deterioration*

Oral paper presented Green A: ICN INP/APNN Conference Melbourne 2010 *Nurse led rapid response teams - Why are they not prescribing?*

Invited speaker Green A: ACCCN - Prince Alfred Hospital, Townsville Hospital, Rockhampton Hospital 2010 *Critical care nurse practitioner role tour*

Oral paper presented Green A: WFCCN Conference Florence Italy 2009 *An evaluation of the outreach teams in the UK and the ICU liaison teams in Australia*

Invited speaker Green A: ACSQHC/CEC Sydney 2009 *Recognising and responding to clinical deterioration: Solutions for safer care - Rapid response systems in metropolitan areas*

Oral paper presented Green A, Williams A, Mulder J, Garwood M: Change Champions Conference Sydney 2009 *Saving lives - Rescuing the deteriorating patient*

Invited speaker Green A: Critical care nursing continuing education (ICE) Hobart 2009 *ICU Liaison Nurse Practitioner*

Invited speaker Green A: SingHealth-NUHS APN Conference Singapore 2009 *Development of sustainable strategies for the implementation of advanced practice nurse roles within health organisations*

Invited speaker Green A: Healthcare Innovations in Victoria Melbourne 2009 *ICU liaison nurse: what difference do they make?*

OUR AWARDS AND GRANTS

Intensive Care Foundation Major Research Grant 2011: Anna Green *ICU Liaison Practice Variation Study* \$12,000

The Australian Council on Healthcare Standards Certificate of Acknowledgement 2010: Anna Green, Ann Williams, Janet Beer, John Mulder, Michelle Mc Dade and Mark Garwood *A retrospective, point prevalence study on the documentation of vital signs*





OTOLARYNGOLOGY HEAD & NECK SURGERY

Professor Robert Berkowitz, Head, Otolaryngology Head and Neck Surgery, has a long standing collaboration with Professor Paul Pilowsky at the Australian School of Advanced Medicine, Macquarie University, studying laryngeal motoneurons and their central connections in an animal model.

This study has yielded novel information regarding the neurochemical factors responsible for control of laryngeal motoneuron activity and formed the basis for the development of neuropharmacological strategies for management of life-threatening laryngeal disorders such as congenital vocal fold paralysis.

Currently, we are studying the effect of afferent stimulation of laryngeal motoneurons and have, for the first time, described the central neural components responsible for the early and late components of the laryngeal adductor reflex, which is responsible for laryngeal closure and protecting the larynx from aspiration. Further work will contribute to understanding the pathophysiology and possible treatment of conditions characterised by either delayed laryngeal closure responsible for aspiration or excessive laryngeal closure characterised by laryngospasm.

The department also encourages our trainees to undertake clinically based research. Dr Swan Yeong, a former resident, is undertaking two retrospective studies looking at adult adenoidectomy, and the underlying causes responsible for adult onset otitis media.

OUR RESEARCH

Neuronal mechanisms underlying the laryngeal adductor reflex

Berkowitz RG, Chum JM

Collaborators: Sun Q-J, Bautista TG, Pilowsky PM

Adult adenoidectomy

Yeong S, Berkowitz RG

Underlying causes of adult onset otitis media

Yeong S, Berkowitz RG

OUR PUBLICATIONS

Wynne D, Kong K, Berkowitz RG. Unplanned tracheostomy following pediatric cardiac surgery *Otolaryngology Head and Neck Surgery* 2009; 140:933-935

Hay I, Oates J, Giannini A, Rotenberg BW, Berkowitz RG. Pain perception of children undergoing nasopharyngoscopy for investigation of voice and resonance disorders *Journal of Voice* 2009; 23; 380-388

Berkowitz RG, Ryan MM, Pilowsky PM. Respiration-related laryngeal electromyography in children with bilateral vocal fold paralysis *Annals of Otolaryngology Rhinology and Laryngology* 2009; 118; 791-795

Chang AB, Berkowitz RG. Cough in the pediatric population *Otolaryngologic Clinics of North America* 2010; 43; 181-198

OUR PRESENTATIONS

Berkowitz RG: American Broncho-Esophagological Association Annual Meeting Phoenix Arizona 2009 *Respiration related laryngeal electromyography in pediatric bilateral vocal fold paralysis*

Tassone P: Australian Association of Otolaryngologists and Head and Neck Surgeons Sydney 2010 *To core or not to core that is the question*

OUR GRANTS

NHMRC Research Grant 2007-09: Pilowsky P, Berkowitz RG, Sun Q-J. *Neurons and neurotransmitters that control phasic laryngeal motoneuron activity* \$267,750

Garnett Passe and Rodney Williams Memorial Foundation Research Grant 2007-09: Berkowitz RG, Pilowsky P. *Origin of synaptic inputs to dilator and constrictor laryngeal motoneurons* \$90,895

PAEDIATRICS

Paediatric Services are based at Sunshine Hospital with a high percentage of our patients being seen in our Emergency Department. Our inpatient paediatric services provide both medical and surgical support encompassing a multidisciplinary approach.

OUR RESEARCHERS

Dr David Krieser: Paediatric Emergency Physician
(See publications under Emergency Medicine)

Dr Martin Wright: Head, Child and Adolescent Health Unit, Sunshine Hospital

OUR PUBLICATION

Wright M, Mathers M and Keyes M. A review of the evidence on the effectiveness of children's vision screening. *Child: Care, Health and Development* 2010 Nov; Vol. 36(6), pp. 756-80



RADIOLOGY

Radiology with Nuclear Medicine provides support for research in multiple research studies in Oncology, Gastroenterology, Neurology and Bone Mineral Density research disciplines. Several international trials have patients imaged at Western Health sites.

Our departments have modern and integrated imaging systems – 4 CT scanners; 2 MRI scanners (1.5 and 3 Tesla), 7 ultrasound units and 3 gamma cameras. Collaborating with the Centre for Cardiovascular Therapy (CCVT), there are multiple potential research opportunities with the new GE HD 750 CT scanner. The development of training and research in CT Coronary angiography will be a key focus.

Registrars and fellows will be encouraged to perform a research project each year and future research topics will include: reduction in radiation dose from advanced CT reconstruction techniques; CT angiography in acute gastrointestinal bleeding to guide therapy; interventional radiology therapy for liver tumours; MRI brain perfusion; and CT spectral imaging with focus on CTPA.

OUR RESEARCH

CT Coronary Angiography

Dr K Soon and Dr F Brown

This study is evaluating the efficacy of CTCA in assessment of acute chest pain.

Collaborators: Radiology and CCVT staff

CT in acute gastrointestinal bleeding

Dr M Mykytowycz

This project involves CTA guides therapy of acute GI bleeding. This is an innovative use of CTA to speed up therapy.

Collaborators: Interventional and CT Radiology staff

Radiation dose reduction with ASIR

Dr M Master

This study is investigating the new CT scanner radiation dose reduction, using a new reconstruction algorithm, to minimise dose and thus reduce the cancer risk to patients.

Collaborator: Dr J Wong



RESPIRATORY & SLEEP DISORDERS MEDICINE

Respiratory and Sleep Disorders Medicine offers inpatient and outpatient investigation and management of patients with respiratory and sleep disorders.

The most common respiratory conditions dealt with are Chronic Obstructive Pulmonary Disease (COPD), Asthma, Lung Cancer, Pulmonary venous thrombo-embolic disease and pneumonia. The most common sleep disorders are obstructive sleep apnea syndrome and insomnia.

The Respiratory Function Laboratory is accredited by the Thoracic Society of Australia and New Zealand as a category 4 (complex test) laboratory. The Sleep Disorders Laboratory is accredited by the Australasian Sleep Association to perform complex sleep studies. The Migrant Screening Clinic coordinates tuberculosis health undertakings for new arrivals and visa applicants for all of Victoria.

The research conducted within the department relates to the following clinical activities:

- Pulmonary function laboratory normative values for subjects of Vietnamese origin;
- Audit of Inferior vena cava filter management for pulmonary venous thrombo-embolic disease;
- Clinical trial of long acting anti-muscarinic bronchodilator in COPD;
- Clinical trial of inhaled mannitol in bronchiectasis;
- Clinical trial of orexin receptor antagonist in chronic primary insomnia; and
- Evaluation of tuberculosis screening assessment methods and outcomes including rates of development of active tuberculosis.

OUR RESEARCH

Normative data for spirometry and carbon monoxide gas transfer factor (DLCO) in Australians of Vietnamese ethnicity

David Cunnington

Predicted measurements of lung function are largely determined by age height and gender but ethnicity may also play a part. The effect of adopting a more Westernised lifestyle may influence the degree to which ethnicity affects lung function in second generation Vietnamese Australians and beyond. Western Hospital serves a large Vietnamese community within our multicultural patient population. Better understanding of what is lung function in these groups will aid more accurate interpretation of lung function tests.

Collaborators: James Ward, Rachel McConnell, Tracey Leong and Alex Dyson

Comparison of tiotropium dry powder inhaler vs pressurised metered dose inhaler in COPD (TioSpir)

Anne Marie Southcott

Long acting bronchodilators are the mainstay of treatment in moderate to severe COPD. This pharmaceutical company sponsored project is comparing 2 formulations of the same agent: tiotropium- Spiriva vs repsimat. Pharmaceutical trials may aid the registration and availability of improved medication for the treatment of COPD which is common in our patient group.

Audit of IVC filter in DVT/PE

Mark Kubicki

IVC filters are frequently inserted in patients with significant pulmonary embolism to reduce future PE events. A better understanding of the risks and benefits of IVC filters may help to improve or refine our practice.

Collaborator: Anne Marie Southcott

Restora1-Restore physiological sleep with the Orexin Receptor antagonist

David Cunnington

Chronic insomnia is a common sleep disorder with a large direct and indirect cost to our community. Traditional sleeping tablets only work for a brief period and may be addictive and have other unwanted effects. This trial tests a new class of medication for the treatment of chronic primary insomnia. New and effective agents are required for better treatment of patients with chronic insomnia.

Does the chest radiograph improve agreement between the tuberculin skin test and an interferon gamma release assay in a migrant screening program for tuberculosis?

Michael Flynn

People applying for visas who have an abnormal chest Xray are given a TB Health Undertaking and in Victoria are referred to Western Health for further assessment as to the nature of the Xray

abnormality and present and future risk of active tuberculosis. Traditional methods to assess this have been the characteristics of the XRay changes and the Tuberculin Skin test (TST) (also known as a Mantoux test). A new blood test (Interferon gamma release assay, IGRA) is increasingly used to assess previous TB exposure and is being assessed to help refine our service. The use of the IGRA in conjunction with the chest XRay and TST may give a more accurate prediction of past and future TB risk and may reduce the need for preventive therapy and potential side effects.

Collaborator: Ayesha Saqib

Inhaled mannitol in non-CF bronchiectasis

Anne Marie Southcott

OUR RESEARCHERS

Dr Anne Marie Southcott: Head of Unit, Respiratory and Sleep Disorders Medicine

Dr David Cunnington: Former Acting Director, Respiratory and Sleep Disorders Medicine

Ms Sue Casanelia: Respiratory outreach nurse/ research coordinator

Lynnette Reid-Price: Sleep Scientist in Charge

Dr James Ward: Registrar

Dr Mark Kubicki: Registrar

Dr Tracey Leong: Registrar

Dr Michael Flynn: Senior respiratory physician, in charge of Migrant Screening Clinic

Dr Ayesha Saqib: Respiratory Fellow

Rachel McConnell: Trainee scientist

Alex Dyson: Trainee scientist

OUR PUBLICATIONS

PROCEEDINGS

Ward J, Nguyen H, Leong T, Cunnington D, Teichtahl. Normative data for spirometry and carbon monoxide gas transfer factor (DLCO) in Australians of Vietnamese ethnicity. *Respirology Special Issue: Abstracts of the Thoracic Society of Australia and New Zealand (TSANZ) and the Australian and New Zealand Society of Respiratory Science (ANZSRS) 2010 Annual Scientific Meetings, Brisbane Convention Centre and Exhibition Centre, Brisbane Volume 15, Issue Supplement s1, page A52, March 2010*

Jones TE, Southcott AM, Homan S. Pulmonary function testing often affected by drugs. *Respirology Special issue: Abstracts of the Abstracts of the Thoracic Society of Australia and New Zealand (TSANZ) and the Australian and New Zealand Society of Respiratory Science (ANZSRS) 2010 Annual Scientific Meetings, Brisbane Convention Centre and Exhibition Centre, Brisbane 2010 Volume 15, Issue Supplement s1, page A 57, March 2010*

RHEUMATOLOGY

The Department of Rheumatology's main focus is clinical research in osteoarthritis.

Current collaborative research projects include: the ongoing longitudinal cohort study; the OARSI-OMERACT international study on joint arthroplasty; a pilot study to help individualise therapeutic options; and two studies with Professor Peter Choong's group at St Vincent's Hospital, one on patellar resurfacing at arthroplasty and another on ligament balancing in knee osteoarthritis.

Future initiatives include a larger study on knee effusions and joint injections, back pain and epidural injections, and the role of biologics in inflammatory arthritis.

OUR RESEARCH

Longitudinal study of osteoarthritis (OA)

Keith Lim, Janis Lim, Veronique Sayag Boukris, Carolyn Page and Laurie Clemens

This study aims to understand the patterns of and stratify different types of OA, optimising the role of conservative therapy, and triaging patients for surgery. We have shown that it is worthwhile aspirating and injecting knee joints. It has helped us improve the way we manage OA patients, helping them get the right treatment by the right people early and by stratifying patients we can work towards predicting outcomes.

Collaborators: Peter Choong, Michelle Dowsey, St Vincent's Hospital; Lyn March, University of Sydney; and Paul Dieppe, University of Oxford and Bristol

Using intra-articular local anaesthetic injections to help understand pain in people with osteoarthritis of the knee, and to help individualise therapeutic options - a pilot study

Keith Lim, Albert Leung, Janis Lim, Jessica Luong and Veronique Sayag Boukris

Comparing the different pain response of patients with knee OA using Quantitative sensory testing and questionnaires This may help us identify those

who have abnormal pain responses, and therefore predict that they may need a different approach in their treatment.

Collaborator: Paul Dieppe, University of Oxford and Bristol

OUR RESEARCHERS

Janis Lim: Research Coordinator

Dr Albert Leung: Investigator

Dr Jessica Leung: Investigator

Dr Veronique Boukris Sayag: Investigator

Dr Talib Tahir: Chief Investigator

S Babazadeh: Doctor of Medicine

J Swan: Masters of Medicine

OUR PUBLICATIONS

Gossec L, Paternotte S, Maillefert JF, Combescurre C, Conaghan PG, Davis AM, Gunther KP, Hawker G, Hochberg M, Katz JN, Kloppenburg M, Lim K, Lohmander LS, Mahomed NN, March L, Pavelka K, Punzi L, Roos EM, Sanchez-Riera L, Singh JA, Suarez-Almazor ME, Dougados M; for the OARSI-OMERACT Task Force "total articular replacement as outcome measure in OA". The role of pain and functional impairment in the decision to recommend total joint replacement in hip and knee osteoarthritis: an international

cross-sectional study of 1909 patients. Report of the OARSI-OMERACT Task Force on total joint replacement. *Osteoarthritis Cartilage*. 2011 Feb; 19(2):147-154. Epub 2010 Oct 31

Babazadeh S, Stoney J.D, Lim K, Choong P.F.M Arthroplasty of a Charcot joint. *Orthop rev 2010 Vol 2:2, 235*

Swan J.D, Stoney J.D, Lim K, Dowsey M.M, Choong P.F.M. The Need for Patellar Resurfacing in Total Knee Arthroplasty, A Review of the Literature. *ANZ J of Surg 2010, April; 80(4), 223-233*

Healy M.L., Lim K KT., Travers R., Historical vignette: Jacques Forestier (1890-1978) and gold therapy, *International J Rheumatic Dis Pub. 2009 Jul; 12(2):145-148*

Bhattacharjee S. A brief history of gout. *International Journal of Rheumatic Diseases. 2009 April 12(1):61-3*

PROCEEDINGS

Healy ML, Lim J, Clemens L, Choong PFM, Lim KKT. Reducing the burden of patients with hip and knee osteoarthritis: The Rheumatologist led Osteoarthritis service - results after one year of follow up. *Ann Rheum Dis EULAR (abstract S) June 2009*

Mageswaren E, Clemens LE, Choong PFM, Lim KKT. Reducing the burden of patients waiting for orthopaedic appointments with hip and knee OA: The rheumatologist led St Vincents OA Service. EULAR, Paris 2008, Oral presentation, *Ann Rheum Dis EULAR abstract 2009*

Healy ML, Lim J., Clemens L, Choong PFM, Lim KKT. Reducing the burden of patients with hip and knee osteoarthritis: The Rheumatologist led Osteoarthritis service - results after one year of follow up EULAR, Copenhagen 2009 *Ann Rheum Dis, EULAR Sppl 2009*

OUR PRESENTATIONS

Dr Albert Leung and Dr Talib Tahir: 14th APLAR Scientific Meeting Hong Kong 2010 *Better letter writing required. An audit of outpatient referrals at Western Hospital, Melbourne*

Associate Professor Keith Lim: Singapore National Arthritis Foundation 20th Anniversary Singapore 2009 *Plenary lecture on Management pathway for OA*

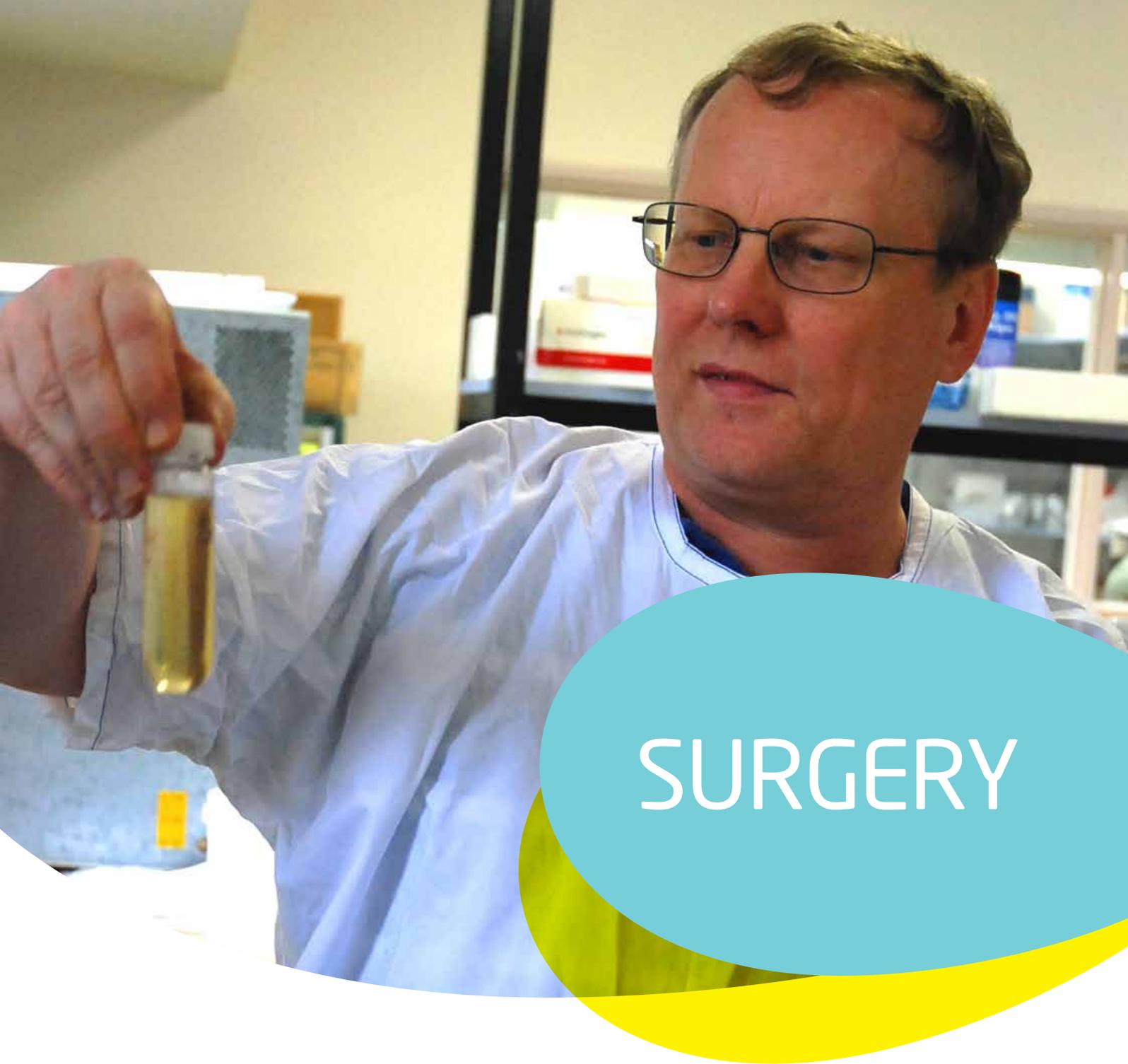
Associate Professor Keith Lim: Ten topics in Rheumatology (Asia) Philippines Rheumatology Association Manila, 2009 *Plenary lecture on Osteoarthritis*

Associate Professor Keith Lim: 14th APLAR Scientific Meeting Hong Kong 2010 *A clinical model for the management of OA*

Associate Professor Keith Lim: Convener and Chairperson *Forum on Osteoarthritis St Vincent's Hospital Melbourne 2009*

Associate Professor Keith Lim: Ten Topics in Rheumatology (Asia) Singapore Society of Immunology and Rheumatology 2010 *OA of the knee injections, aspirations and surgery, when and why*





SURGERY

Surgical treatment of cancer of the colon and other tumours of the gut are a major clinical focus of the Department of Surgery.

Cancers of the colon and rectum are the second most common type of tumour occurring in the Victorian population. Spread of the tumour to other organs, particularly liver (metastasis) is the major cause of death in this disease. Understanding the mechanisms by which cancer cells are able to spread through the body will ultimately lead to improved treatment and survival. We were initially interested in a number of genes with diverse functions which were all important players in the metastatic process.

We are continuing our studies on a cell-surface signalling receptor called EphB2, an important regulator of the normal colonic epithelium, which is turned off in most colon cancers. We have shown that re-activating EphB2 slows the growth of tumours and reduces the invasive and migratory behaviour of tumour cells (Senior et al. 2010). We are investigating the role of other Eph genes (EphB4 and EphB3) in colonic cancer to determine if they have similar effects. In addition we are interested in elucidating the intracellular signalling pathways EphB2 activates; such pathways are seen as targets for new therapeutic approaches to treating cancer.

In 2004 a Tissue Bank was set up at Western Health to bank colon cancer specimens. This has been highly successful with expansion allowing the banking of other tumour types to be undertaken. Since 2004 our Tissue Bank has collected tissue from around 1000 consented patients, which has been distributed to researchers across Victoria. The Western Hospital continues to be one of the main sources of annotated colorectal and metastatic tissue for cancer researchers.

OUR RESEARCH

Visual macroscopic hematuria scale – Can it reduce delay in catheter removal and increase nursing confidence?

L Lam

EphB2/ephrinB interaction as a regulator of colon cancer

P Senior

Collaborators: The University of Melbourne and The Royal Melbourne Hospital

The role of trafficking proteins in macrophage activation

P Senior, L Crouch and J Hamilton

Collaborators: The University of Melbourne and The Royal Melbourne Hospital

Closed fracture management: a lost skill?

A Straub

Video laryngoscopy vs conventional Macintosh blade laryngoscopy in predicting difficult intubation – a meta analysis

M Allen

Retrospective comparison of laparoscopic and open repair with mesh for the treatment of ventral incisional hernia at the Western Hospital

N Ramdwar, O Onasanya, G Thompson, S Chan

The infusion method trial of void vs standard catheter removal in the outpatient setting

M Boccola, A Sharma, C Taylor, L-M Wong, D Travis, S Chan

Laryngeal Mask Airway (LMA) Audit: comparing the incidence of sore throat using Classic LMA vs Cuff Pilot LMA

A Chew

The accuracy of parathyroid localisation and its role in minimally invasive parathyroidectomy

M Read, A Sidhu, W Fleming

Outcomes of super-selective mesenteric angiography and embolisation in the management of acute lower gastrointestinal bleeding: a local experience at Western Health

T Pham, B Tran, K Ooi, M Mykytowycz, I Faragher, I Skinner, M Croxford, S McLaughlin

Billroth vs Roux-en-Y reconstruction for distal gastrectomy: a meta-analysis

MK-L Ng, S Chan

Single versus multiple-dose antibiotic prophylaxis in the surgical treatment of low energy closed fractures: A meta-analysis

S Morrison, N White, S Asadollahi, J Lade

Urinary catheter balloons should only be filled with water: fact or fiction?

J Huang, L-M Wong, S Chan, D Travis

Does the operative approach used in total hip replacement surgery influence patient discharge timing?

L Halliday, D Hannan

Neuronal mechanism underlying the laryngeal adductor reflex

QJ Sun, JM Chum, PM Pilowsky, RG Berkowitz

Diagnostic yield of prostate cancer staging at Western Health

SM Hoh, J Chum, J Huang, J Ooi, D Travis

Laparoscopic staging in gastric cancer

S Tourani, S Chan, C Duong

OUR RESEARCHERS

Professor Steven Chan: Head of Department, Surgeon

Associate Professor Trevor Jones: Surgeon

Associate Professor Graeme Thompson: Surgeon

Dr Paul Senior: Senior Research Fellow

Matthew Chapman: Tissue Bank Manager

Lawrence Lam: AMS Student

Associate Professor Stephen McLaughlin: Colorectal Surgeon

Ian Faragher: Colorectal Surgeon

Iain Skinner: Colorectal Surgeon

Matthew Croxford: Colorectal Surgeon

Miklos Poh: Plastic Surgeon

Felix Behan: Plastic Surgeon

Andrew Sizeland: Head and Neck Surgeon

Arun Chandu: Oral and Maxillofacial Surgeon

OUR PUBLICATIONS

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OUR PRESENTATION

Behan F, Sizeland A, Findlay M, Berry S, Cheng Lo, Hall C, Hui A, Seel M, Pham T, Kleid SK, Ramsey K and Chan S. 13th British Academic Conference in Otolaryngology Liverpool UK 2009 *Keystone Island Flap: Another Solution to Reconstructive Problems*

MELBOURNE NEUROPSYCHIATRY CENTRE

The Melbourne Neuropsychiatry Centre (MMC) is a joint centre of The University of Melbourne and Melbourne Health, which includes a clinical and research facility based at Sunshine Hospital.

The centre also includes an imaging analysis laboratory at the National Neuroscience Facility (NNF) in Parkville, as well as the Neuropsychiatry Unit at Royal Melbourne Hospital (headed by Dr Dennis Velakoulis). This report focuses on the work at Sunshine Hospital, but includes some of the work based in Parkville.

The MNC is a clinical-research centre that conducts research investigating the biological basis of severe psychiatric disorders. The clinical and research work at Sunshine Hospital focuses on schizophrenia and other psychotic disorders, particularly in patients with chronic illness. The work over the last two years has explored: (i) the neurodevelopmental basis of these disorders, including understanding brain structural and functional deficits within a brain maturational perspective. In this context, recent work together with Dr Renee Testa, Senior Child Neuropsychologist at Sunshine Hospital, examines childhood disorders that may precede psychotic illness in adolescence and early adulthood.

Further work on neurodevelopmental disorders includes research on the genetic basis of autism, in collaboration with Professor Stan Skafidas (Professor of Nanoelectronics); (ii) understanding brain abnormalities in a study of twins with psychoses, in collaboration with Professor Bryan Mowry, University of Queensland; (iii) Australian

Schizophrenia Research Bank - a nation-wide collaborative study that includes clinical, neuroimaging, neuropsychological and genetic data of schizophrenia across major centres in Australia - the Melbourne node of this study is based at Sunshine Hospital and has recruited over 300 subjects; (iv) Psychopharmacology studies - studies investigating the effects of antipsychotics. This includes a study of physiological effects of clozapine, in collaboration with Professor Bill Blessing, Flinders University, Dr Esther Blessing, Dr Linda Kader and AMS student, Reza Arpandy; a recent initiative is a collaborative study with European Centres funded by NHMRC and EU that will investigate treatment in early schizophrenia to prevent chronicity and treatment-resistance; and (v) NHMRC Program Grant - together with Orygen Research Centre (with Professor Patrick McGorry and colleagues) and Brain Research Institute in Sydney (with Professor Ian Hickie and colleagues) focuses on neurobiological markers relevant to the earliest stages of psychiatric illnesses.

Collaborative publications between MNC and Dr Renee Testa are listed under Allied Health.

Further descriptions of the work of MNC, including a full list of publications can be found at: <http://www.psychiatry.unimelb.edu.au/centres-units/mnc/>

Our Partners

We gratefully acknowledge our partners for their collaboration and support of our research.

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- › Australian Lung Trials Group
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