

ANNALS OF THE ACTM

AN INTERNATIONAL JOURNAL OF TROPICAL & TRAVEL MEDICINE

SYMPOSIUM EDITION

TOWNSVILLE HEALTH RESEARCH WEEK

THURSDAY 10 OCTOBER – WEDNESDAY 16 OCTOBER, 2013

ROBERT DOUGLAS AUDITORIUM,
THE TOWNSVILLE HOSPITAL, AUSTRALIA

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Cover photo: The Australian Institute of Tropical Medicine in 1916 (photo courtesy of James Cook University)

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The Townsville Health Research Week

Thursday, 10 October - Wednesday, 16 October, 2013

Robert Douglas Auditorium,

The Townsville Hospital, Australia

EDITORIAL

The Australian Institute for Tropical Health and Medicine (AITHM)

Professor Louis Schofield

Director, AITHM

James Cook University

Australia's first medical research institute, The Australian Institute for Tropical Medicine (AITM), was officially opened in 1913 in Townsville, Queensland. Reflecting the colonial imperatives of the day, the Institute's mission was to promote understanding of how best Europeans might live in and adapt to tropical Australia. In 1921, AITM was incorporated into the Commonwealth Department of Health. It is fitting that exactly 100 years after the founding of AITM that a successor, The Australian Institute for Tropical Health and Medicine (AITHM) has been founded at James Cook University with \$42 million in funding from the Queensland State Government, and matching \$42m funds from the new Federal Government.

AITHM however has a broader and more inclusive mandate than its predecessor. The Institute aims to enhance knowledge and capability in the area of tropical health in the widest sense, applicable to all that might benefit, whether in Australia, our region or the world.

Two key considerations informed the decision to invest in this new initiative: distinctive health risks and high potential social and economic benefits. Northern Queensland is at risk of the same endemic and epidemic tropical and emerging diseases as its Pacific and Asian neighbors. At the same time, the tropics are home to 40% of the world's population, and the economic significance of the tropics is predicted to grow in the 21st Century. Northern Queensland has a strong base of excellence and internationally competitive capacity in both basic and applied research and is therefore in a strong position to contribute to the search for tropical health solutions of local, regional and global relevance.

Health security risks for tropical Australia and Australia as a whole have traditionally emphasized exotic pathogens, including dengue fever, malaria, Japanese encephalitis, multi-drug resistant tuberculosis, bat-borne viruses and newly emerging pathogens. Some are endemic, others arrive on our shores at international airports, and others through the Indo-Papuan corridor via Torres Strait. All of these are a serious concern. Multi-drug resistant tuberculosis is an increasing threat and is contributing to the global resurgence of the disease. Asian tiger mosquitoes (*Aedes albopictus*), aggressive biters able to transmit many viruses such as chikungunya and dengue, have been detected in 13 Torres Strait islands. Should these mosquitoes enter Australia there is little chance of stopping their spread to southern states. The reality of novel disease threat has been demonstrated by several recent outbreaks. Hendra virus, Australian bat lyssavirus and equine influenza have resulted in deaths and substantial public health expenditure. Dengue now occurs throughout the year, no longer limited to the wet months, and its incidence has tripled since the early 1990s.

The ability of Australia's health systems to manage pathogen incursions and new diseases needs to be underpinned by a vigorous and effective national research capacity. Pathogens are always mutating, developing resistance to known interventions, new diseases are emerging, and the solutions to many health problems still remain to be discovered. The critical and best expertise in such diseases is found in academia. Australia can be proud of a distinguished, world-class basic research capacity in

diverse biomedical research institutes and universities, but our record in translating this research into real-world outcomes is less distinguished. A key role for AITHM is in helping to ensure research remains relevant to our specific tropical health risks and the health problems of tropical, regional Australia.

Exotic pathogens are, however, not the only problem. Tropical Health should mean the health of people living in the tropics. Despite the traditional emphasis on infectious diseases in the discipline of 'Tropical Health and Medicine', many other diseases may have a higher prevalence and different behaviour in tropical settings that warrant their inclusion into tropical health research. Moreover, healthy living requires informed choices and appropriate access to health services. For these reasons, the AITHM will also undertake research into infectious diseases, other chronic diseases with high tropical prevalence, health systems and health economics.

Diseases with a comparatively higher prevalence in rural, remote, and Indigenous Australia include diabetes, renal failure, cardiovascular disease and cancer. Access to chronic disease care services is very limited for people living in these communities. These communities also suffer from endemic diseases such as melioidosis, Q fever, drug-resistant *Staphylococcus aureus*, group A *Streptococcus* and pneumonia.

An area of rapidly growing global interest and concern is the intersection between communicable and non-communicable diseases (NCDs). Startling new data show that several chronic diseases can dramatically increase the risk of infections. For example, in India (population 1.3 billion), people with diabetes have ~3 times higher risk of contracting TB than people with no diabetes, while in Pacific island nations, the risk may be up to 10-fold higher. Diabetes can worsen the clinical course of TB, and TB worsens glucose control in people with diabetes. Diabetes also increases the risk of other bacterial diseases. The intersection between tropical infectious diseases and NCDs will be of massive global significance in future years, as tropical and sub-tropical economies move to 'Western' diets and lifestyles. As diabetes soars in India, China, Indonesia and elsewhere, this nexus will assume paramount importance.

Similarly, infectious agents can contribute to the aetiology of neoplasias with high incidence in tropical settings. It is also increasingly recognized that a wide range of classic degenerative diseases reflect an underlying chronic inflammatory state, with raised inflammatory markers and gammaglobulins from childhood to advanced age. Chronic inflammation may therefore drive major chronic diseases in adulthood. Dysregulation of inflammation, and 'lifetime infection burden', are therefore also suitable topics for AITHM tropical health research.

These interdisciplinary areas are comparatively understudied, and are particularly important to rural, remote, Indigenous and tropical Australia. Their investigation will require innovative, translational research, and a coordinated approach across the health system. The recent devolution of the health system into 17 Health and Hospital Services in Queensland represents a significant change in structural governance with important implications for coordination of health research.

In summary, better prevention, diagnosis and treatment of diseases in a tropical setting are areas of significantly increasing global demand. Lifestyle-related diseases are more common in rural, remote, and Indigenous communities, but the demand for diagnosis and treatment options is universal. Current health trends evident in both our near neighbours and Australia's own regions and tropics, highlight where health and medical research undertaken in AITHM and its collaborators can have a real impact, namely:

- Australia is susceptible to many of the same tropical infectious diseases that are highly prevalent in other tropical countries (including our close tropical neighbours), and the threat posed by these diseases to Australian and regional health security and biosecurity is growing.
- The intersection between communicable and NCDs is contributing to the higher disease burden experienced in rural and remote areas and within the Indigenous population, and is also resulting in the 'double

burden' of communicable and NCDs which is seen in most developing countries, including our near neighbours and the growth economies of Asia.

- The patterns of disease in the Australian population represent a continuum related to socio-economic status and other social determinants, meaning a higher disease burden in rural, remote and Indigenous Australia.
- A focus on tropical infectious and NCDs and their intersection is highly relevant to northern Australia, including agribusiness, mining and tourism, and provides an opportunity to leverage our knowledge-intensive academic, research and health systems capacity for engagement with the growth economies of Asia.

James Cook University is fortunate to be embedded into strong networks of collaborating institutions, within Queensland, nationally and around the world. The Queensland Tropical Health Alliance (QTHA) brings together, under the umbrella of one organization, a world-class integrated tropical health and medical research network that incorporates the key nodes of tropical health and medical research expertise in Queensland. AITHM enjoys links to other leading Australian research institutions. Looking abroad, and in partnership with international colleagues and institutions, AITHM research will also be directed towards endemic and emerging disease of our regional Asia-Pacific neighbours such as India, Burma, Vietnam, Thailand, Indonesia, Timor Leste, Papua New Guinea, Vanuatu, Solomon Islands and Samoa. Even this list is not exhaustive, as AITHM researchers are currently engaged in joint research projects with colleagues

in East and southern Africa and South America. Thus, the AITHM remit is simultaneously both local and global.

Acknowledgments

We would like to formally acknowledge all the members of the 2013 Organising Committee who kindly assisted in making this Townsville Health Research Week possible: Robyn Adams, Daryl Brennan, Rebecca Evans, Holger Jansen, Elizabeth LaMont, Sarah Larkins, David Lindsay, Andreas Lopata, Kay Newman, Tilley Pain, David Plummer, Bronia Renison, Lynden Roberts, Shantae Ryle, Linda Shields, Wendy Smyth, Venkat Vangaveti, and Paul Welch. We would also like to thank all those who assisted in reviewing abstracts: Robyn Adams, Daryl Brennan, Amy Brown, Lea Budden, Reinie Cordier, Jeremy Furyk, Jon Golledge, Anne Jones, Liz LaMont, Sarah Larkins, Annemarie Lawrence, David Lindsay, Usman Malabu, Robert Norton, Tilley Pain, David Porter, David Plummer, Ella van Raders, Ajay Rane, Roy Rasalam, Robin Ray, John Reilly, Lynden Roberts, Kelvin Robertson, Sabe Sabesan, Kunwarjit Sangla, Linda Shields, Wendy Smyth, Lee Stewart, Alex Tan, Venkat Vangaveti, Andrew White, Gary Williams, Matthew Yau. A special thanks to Adrian Homisan for all his work on the website. This special supplementary issue of the *Annals of the Australasian College of Tropical Medicine* was compiled and edited by Dr Holger Jansen and Dr Elizabeth G. LaMont from James Cook University, and Associate Professor John Freen, Centre for Opportunistic, Tropical and Hospital Infections, National Institute for Communicable Diseases, Johannesburg, South Africa.

OVERVIEW OF TOWNSVILLE HEALTH RESEARCH WEEK

Thursday, 10 October – Wednesday, 16 October, 2013

Robert Douglas Auditorium, The Townsville Hospital



| | Workshops 9:00am - 11:30am Locations as indicated* | Lunch 12:00pm - 12:30pm Food served in RDA foyer | Afternoon Session 12:30pm - 4:30pm All events held in Robert Douglas Auditorium at The Townsville Hospital | Mingle & drinks 4:30pm - 6:00pm |
|--------------------------------|---|--|---|---|
| THURSDAY 10 OCTOBER | <i>Research in Indigenous Settings</i> Prof Yvonne Cadet-James (TTH 102/103, JCU Clinical School) Concurrent (in RDA): Lectures from JCU's Festival of Life Sciences | Research Week Official Opening with lunch Welcome to Country by Mr Michael Illin Participants: Mr John Bearne, Chair of THHS Board Prof Ian Wronski, JCU Faculty Pro-Vice-Chancellor (TSV) Prof Louis Schofield, Director, AITHM | 12:30pm - 1:30pm The Great Debate: Healthcare is an art not a science. 2:00pm - 4:00pm Lectures from JCU's Festival of Life Sciences | |
| FRIDAY 11 OCTOBER | <i>Effective Literature Searching</i> Ms Bronia Renison (TTH, EG064) | Lunch | Allied Health Research Symposium | |

*(TTH=The Townsville Hospital; RDA=Robert Douglas Auditorium, Townsville Hospital; JCU=James Cook University)

| | Workshops 9:00am - 11:30am Locations as indicated * | Lunch 12:00pm - 12:30pm Food served in RDA foyer | Afternoon Session 12:30pm - 4:30pm All events held in Robert Douglas Auditorium at The Townsville Hospital | Mingle & drinks 4:30pm - 6:00pm |
|---------------------------------------|---|--|---|---|
| SATURDAY 12 OCTOBER | | | 5:30pm - 8:00pm Charity Trivia (046-010, School of Medicine, JCU) | |
| MONDAY 14 OCTOBER | <i>EndNote</i> Ms Bronia Renison and Dr Wendy Smyth (TTH, EG064) Concurrent: <i>Why Do a Cochrane Review</i> Prof Linda Shields (TTH, EG062) | Lunch | Nursing Research Symposium Speaker: Prof Helen Edwards | 5:00pm Official Launch: Centre for Nursing and Midwifery Research (Balcony & Raintree Room, JCU Halls) |
| TUESDAY 15 OCTOBER | <i>Writing for Publication</i> Dr Liz Tynan (TTH, EG062) | 11:00am Lunch and Learn: Prof Patrick McGorry speaking (Padua Theatre, JCU) 12:00pm Lunch (RDA foyer) | Medicine Research Symposium Speaker: Prof Patrick McGorry | 6:30pm - 9:00pm GP Research Evening (TTH, EG062) |
| WEDNESDAY 16 OCTOBER | <i>Researching Your Research Career</i> Panel with Dr Melissa Crowe, Prof Norelle Daly, A/Prof Zoltan Sarnyai and Prof Linda Shields moderated by A/ Prof Andreas Lopata (Cannington Lecture Theatre, Palliative Care building, TTH) | Lunch | Closing Session Best Presentations of the Week – Awarding of the Best Overall Presentation Prize | |

* (TTH=The Townsville Hospital; RDA=Robert Douglas Auditorium, Townsville Hospital; JCU=James Cook University)

THE GREAT DEBATE

Health Care is an Art Not a Science

Debaters for the Affirmative

Ms Robyn Adams

Currently the Director of Allied Health within the Health and Wellbeing Service Group, Robyn has been a long term advocate for rural and regional allied health professionals. A past national President of Services for Australian Rural and Remote Allied Health (SARRAH), Robyn has worked in public, private, aged care and academic sectors and is continuing her doctoral studies at James Cook University. A key achievement relevant to Townsville Health Research Week has been the establishment of the HP research fellows with the resultant increased research capacity of allied health and health practitioners within Townsville Hospital and Health Service.

Dr Carl O'Kane

Carl studied medicine at the Uni of NSW and completed his junior years at Royal North Shore Hospital in Sydney and Port Macquarie Hospital on the mid-NSW coast. He took a year off to complete a diploma in boogie boarding and worked in England for a spell. He fell into emergency medicine training in Gosford and completed it in Townsville where he stayed on in a consultant role. He misses his surfing but enjoys movies and teaching and intends to maybe do further study when his Xbox breaks again.

Mr Evan Player

Evan Player is a registered nurse having nursed in New Zealand, England, the Isle of Man, and Australia. He has been working in Townsville for the past 9

years. He has experience working in a number of medical and mental health settings. He attained his Masters Degree in Mental Health Nursing in 2008, and has been a member of the College of Mental Health Nurses since 2008, becoming a Credential Mental Health Nurse in 2011. Evan has contributed to his local nursing community by acting as secretary and delegate for the Integrated Mental Health Branch of the QNU and acting as captain and organiser of the nurse's soccer team in the Townsville Hospital's H-League.

Debaters for the Negative

Mr Brendan Porter

Brendan Porter was born in Portadown, County Armagh Northern Ireland. He attended Armagh Christian Brothers primary and grammar schools before moving to Armagh College of Further Education. Brendan commenced training as a nurse at Purdysburn hospital in Belfast. Working as a mental health nurse he moved to St Luke's hospital in Armagh and then commenced training as a nurse for people with an intellectual disability. He married Roberta in 1985 and they have one daughter, Victoria. In 1998 they moved to Townsville to work at the Townsville General Hospital. Brendan has been a member of Rotary International for 15 years and in 2009/2010 was District Governor for Rotary District 9550, an area covering 1.5 million sq kilometres. During this time he lead Rotarians to give and do more to the 5 Charities: The Rotary Foundation, Polio Plus, Australian Rotary Health, Rotary Australia World Community Service and Rotary Oceania Medical Aid for Children. In 2012 he headed the International Charity Rotary Australia Medical Aid for Children. He was a member of the Queensland Cancer Fund team that raised \$7 million to build the palliative care unit. He has two commendations from Queensland Health, was the 2006 Queensland Cancer Fund charity Nurse of the Year and was awarded the Fundraising Institute of Australia's award for the largest fundraiser for a non-government project in Queensland.

Dr Ella van Raders

Dr van Raders is a researcher, a pain management specialist, an ethnographer, a project manager, a leader, a lean thinker, and a nurse. She has worked as a nurse since completing her training in Cairns in 1989, where she worked for a year before going to Sydney to learn more about operating room nursing. After two years in NSW she went to Great Britain and worked in the NHS for 20 years before thankfully returning to the tropics in April this year. During her time in England she completed a BSc, then an MSc, and finally at PhD looking at what factors influence nurses when they make pain management decisions in a clinical setting. She is currently very happy indeed as Clinical Director of Clinical Safety, Innovation and Redesign at Townsville Hospital and Health Service where she is utilising all her skills and varied experience in ensuring a patient centre is at the heart of all redesign processes.

Associate Professor Sabe Sabesan

A/Prof Sabe Sabesan, BMBS(Flinders), FRACP is the Director of the Department of Medical Oncology at the Townsville Cancer Centre, Townsville Hospital, Queensland and the Clinical Dean of the Townsville Clinical School, the School of Medicine and Dentistry at the James Cook University, Townsville, Australia. He is a steering committee member of the RACP telehealth working group and Statewide rural and remote clinical network and has contributed to national and statewide guidelines on telehealth. He has recently been appointed as the chair of the Regional and Rural Group of the Clinical Oncology Society of Australia.

Master of Ceremonies

Mr Simon Mitchell

Simon successfully completed his registered nurse training in Queensland in 1986. Since that time he has worked and practiced in an array of tertiary, community and rural clinical settings encompassing public, private and aged

care services. Predominantly Simon's clinical background spans emergency and critical care, perioperative care and mental health. For the past decade Simon has held various nurse manager positions and up to very recently was the Nursing Director Emergency and Medicine at The Townsville Hospital. Simon holds a Bachelor of Arts and a Masters in Public Health and Tropical Medicine, both awarded by JCU. Simon currently holds positions on the Executive of the Queensland Clinical Senate and is on the executive of the governing council of the Queensland Nurses' Union. His professional interests include nursing and complexity theory and nursing history. Simon is married with three teenage daughters which explains his interest in complexity theory. In February 2005, Simon acted as the adjudicator at the Council of Deans of Nursing and Midwifery Australia and New Zealand's 20th Anniversary Gala Debate, celebrating 20 years since the education of all registered nurses was transferred to Higher Education in Australia, an event held at Parliament House, Canberra. In his view debating and nursing go together as a reasoned force advocating good health outcomes.

Adjudicators

Ms Lorna Hempstead, AM

Ms Hempstead spent the first 40 years of her career in the UK and Europe, and later Australia, working in the world of the arts as a manager in theatre and dance, and as a visual arts exhibition co-ordinator and artists' manager. She is also known for service to the community through a range of heritage, tourism, aged care and educational institutions. Four years ago she changed careers to become the leader of the Engagement team at JCU and for 2 of those years her office was situated in the heart of the Medical Faculty. She enjoys excellent health but has cared for several family members over many years and has witnessed both the science and art of care in action.

Ms Bronia Renison

Bronia Renison has managed the Townsville Health Library since 1997. The Library enables informed decision-making in clinical care, teaching and research undertaken by Hospital and Health Service staff and James Cook University students & staff. Bronia is passionate about customer focussed library service, with a multidisciplinary emphasis. She is an evidence-based practice champion, and has a broad knowledge of research and publication processes.

Dr Liz Tynan

Dr Liz Tynan is senior lecturer and co-ordinator research student academic support at the JCU Graduate Research School (GRS) in Townsville, Australia. She teaches academic writing and critical thinking skills to postgraduate students and has particular responsibility for convening the Skills for International Postgraduates (SKIP) program. She is a former journalism academic with a background in both print and electronic media, and a long-standing speciality in science writing and editing. She has worked for the Australian Broadcasting Corporation (ABC) as a reporter and subeditor, and was later Sydney correspondent for New Scientist. Liz first joined academia in 1997 when she began work in the Journalism program at JCU. She also worked for five years at the University of Tasmania, where she helped set up an award winning community radio station. She has carried out extensive freelance and consultative work in science writing, editing and publications. She is co-author of the Oxford University Press textbook *Media and Journalism: New Approaches to Theory and Practice*, soon to go into its third edition. She is also co-author and co-ordinating editor on a new OUP text, *Communication for Business*. Her PhD in science communication from the Australian National University examined aspects of the British nuclear tests in Australia in the 1950s and 1960s.

WORKSHOPS

The Townsville Health Research Week

Thursday, 10 October - Wednesday, 16 October, 2013

Robert Douglas Auditorium,
The Townsville Hospital

Thursday, 10 October, 9-11:30 am, Tutorial Room 3 (JCU Clinical School, First Floor, The Townsville Hospital)

Research in Indigenous Settings

Professor Yvonne Cadet-James

*Chair Indigenous Australian Studies, School of Indigenous Australian Studies,
James Cook University*

The aim of this workshop is to provide participants with an understanding of research protocols which ensure that research undertaken in an Indigenous context is of high quality, ethical, meaningful, and appropriate with a focus on building capacity and contributing to improving outcomes for Aboriginal and Torres Strait Islander Peoples. By participating in this workshop participants will gain: (1) An overview of the history of Indigenous people in Australia and its impact on Indigenous people's perception of research due to previous and ongoing research practice by some researchers. (2) An insight into kinship systems, roles and responsibilities, obligations and commitments and the importance of such information in relation to group and community engagement throughout the research process. (3) An introduction to cross cultural communication issues and key principles of effective communication. (4) Knowledge about existing protocols and the opportunity to examine these as they apply throughout the research process.

Friday, 11 October, 9-11:30 am, Room EG064 (Ground Floor, The Townsville Hospital)

Effective Literature Searching

Ms Bronia Renison

Director Library Services, Townsville Hospital and Health Service

The workshop is conducted in a computer training room so the skills being taught can be practiced in real time. Workshop content: how to correctly frame your question, including PICO, how to choose the right place to start searching, Boolean operators, how to refine the search and how to quickly find a single citation. Databases demonstrated: OVID Medline, PsycInfo, & Embase and Ebsco CINAHL (nursing & allied health) and others.

Monday, 14 October, 9-11:30 am, Room EG064 (Ground floor, The Townsville Hospital)

EndNote

Ms Bronia Renison

Director Library Services, Townsville Hospital and Health Service

Dr Wendy Smyth

Nurse Manager - Research, Townsville Hospital and Health Service

Workshop content: how to create an EndNote library, how to add references (manually and via importation), how to insert citations into a Word document. Also included is how to install the EndNote program, sharing libraries and safe backup practices.

Monday, 14 October, 9-11:30 am, Room EG062 (Ground floor, The Townsville Hospital)

Why Do a Cochrane Review

Professor Linda Shields

*Professor of Nursing - Tropical Health
Tropical Health Research Unit for Nursing and Midwifery Practice
James Cook University & Townsville Health Service District*

The Cochrane Collaboration produces systematic reviews of existing research. Cochrane authors come from all disciplines and walks of life, and being involved in writing a Cochrane review is a great career booster, as well as a contribution to the health literature. In December, experts from the Australasian Cochrane Centre in Melbourne are coming to Townsville to run workshops designed for people who are interested in doing a Cochrane review (and may have begun writing a title).

The workshop, "Why Do a Cochrane Review," is presented by the Tropical Health Research Unit and will aim to help individuals prepare for the full workshop in December. We will take you through how a Cochrane review is produced, the Cochrane handbook, and the Revman software, and, importantly, how to write a question in the required format that could be registered as a title. From that, participants will be able to attend the full workshop in December.

Tuesday, 15 October, 9-11:30 am, Room EG062 (Ground floor, The Townsville Hospital)

Writing for Publication

Dr Liz Tynan

Senior Lecturer and Co-ordinator Research Student Academic Support, JCU Graduate Research School

Scientists and academics do not just 'do' science, they must write science as well. It stands to reason, then, that writing research is not only science-based, it is language-based. Good data are not enough – the language you use must ensure clear and persuasive transmission of ideas. This workshop will provide some guidance and strategies for writing effective academic publications using strong and effective language. We will examine the processes of producing a research article, focusing mainly on the IMRAD (Introduction, Methods, Results and Discussion) structure, and will give some thought to how scientific concepts can be made clear through critical thinking and robust writing skills. We will also think about how to construct an effective article title and abstract.

Wednesday, 16 October, 9-11:30 am, Cannington Lecture Theatre (Palliative Care building, The Townsville Hospital)

Researching Your Research Career

The final workshop this year will be a panel of experienced researchers from a variety of backgrounds. The aim of this workshop will be for the researchers to discuss their research path (how they initially became interested in research, how their interest has evolved, and how they manage research with other career demands) and to answer questions on this topic for early career researchers. Speaking on the panel will be Dr Melissa Crowe, Prof Norelle Daly, A/Prof Zoltan Sarnyai, and Prof Linda Shields. A/Prof Andreas Lopata will be moderating.

WEEKEND EVENTS

The Townsville Health Research Week

Saturday, 12 October, 5:30-8:00 pm

Room 010, Building 46

School of Medicine, James Cook University

Charity Trivia

This entertaining event will provide the opportunity for the community, researchers and health professionals to interact while testing their knowledge – health related and otherwise! All funds raised will go to provide exercise bursaries for children and young people from North Queensland who have been diagnosed with arthritis. Research has found that regular exercise is one of the most effective treatments for arthritis. Generally, people with arthritis need to do a mix of three types of activities to help improve their condition – mobility exercises, strengthening exercises and fitness exercises. Arthritis Queensland will disperse 100% of the funds raised by the trivia night for swimming lessons, gym equipment, sporting programs or similar items which will assist people under 25 to manage their condition.

INVITED SPEAKERS

The Townsville Health Research Week

Nursing Research Symposium

Monday, 14 October, 12:30-4:30 pm

Robert Douglas Auditorium

The Townsville Hospital



Professor Helen Edwards

Professor Helen Edwards, OAM, is Head of the School of Nursing at the Queensland University of Technology (QUT) in Queensland, Australia and a member of the Institute of Health and Biomedical Innovation (IHBI). Helen is also a Program Leader for the Wound Management Innovation Cooperative Research Centre.

Professor Edwards is internationally recognised for her work in ageing, chronic disease and wound management. Her clinical research is focused on evaluating models of care for people with chronic wounds and self-management of chronic disease. She leads the wound management research team in the Faculty of Health at QUT and works with multi-disciplinary teams and in partnership with industry. Her team conducted the first clinical trial in Australia to demonstrate the effectiveness of a chronic disease self-management model of care for people with venous leg ulcers. Following this research several 'Leg Clubs' were set up across Australia including a Wound Healing Community Outreach Service at QUT which is in its fifth year of operation.

In collaboration with Professor Upton, Professor Edwards established the \$110 million Wound Management Innovation Cooperative Research Centre at QUT in 2010. This is the largest wound research initiative glob-

ally and is focused on the development of cost-effective and practical wound therapies, diagnostics and clinical interventions.

Professor Edwards is also involved in several research programs related to aged care and dementia and is the Director of the Queensland Dementia Training and Study Centre (Funded by Commonwealth Government) located at QUT.

Medical Research Symposium

Tuesday, 15 October, 12:30-4:30 pm

Robert Douglas Auditorium

The Townsville Hospital



Professor Patrick McGorry

Patrick D. McGorry is Professor of Youth Mental Health at the University of Melbourne and Director of Orygen Youth Health and Orygen Youth Health Research Centre in Victoria, Australia. Prof McGorry received his medical degree from the University of Sydney and his doctorates from Monash University and the University of Melbourne in Victoria, Australia. He is a world-leading clinician, re-

searcher, and reformer in the areas of early psychosis, early intervention and youth mental health. Prof McGorry's work has played an integral role in the development of safe, effective treatments and innovative research involving the needs of young people with emerging mental disorders, notably psychotic and severe mood disorders. The result has been the creation, evaluation and upscaling of stigma-free, holistic and recovery oriented models of care for young people and their families. The work of Prof McGorry and key research colleagues at EPPIC and Orygen has influenced health policy in Australia and many other countries and he has advised governments and health systems in many jurisdictions.

Prof. McGorry has published over 400 peer-reviewed papers and reviews, over 50 book chapters, and has edited 6 books. He is a Fellow of the Academy of the Social Sciences in Australia and has been the recipient of numerous awards, including the Australian Government Centenary Medal in 2003, the Founders' Medal of the Australian Society for Psychiatric Research in 2001 and he was the 2010 Australian of the Year. Prof McGorry serves as Editor-in-Chief of Early Intervention in Psychiatry and is a founding board member of the Australian National Youth Mental Health Foundation: **headspace**, of Headstrong; the National Youth Mental Health Foundation of Ireland, and past-president and treasurer of the International Early Psychosis Association. He has been a member of the National Advisory Group on Mental Health Reform for the Federal Government and of the Victorian Mental Health Reform Council.

As well as his contributions to the field of early psychosis and youth mental health, Professor McGorry has interests in refugee mental health, youth suicide, youth substance use and the treatment of emerging personality disorder.



ALLIED HEALTH RESEARCH SYMPOSIUM PROGRAM

Friday, 11 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

| TIME | TOPIC | SPEAKERS |
|-------|---|----------------------------------|
| 12:00 | Lunch | |
| 12:30 | Introduction and Overview | Professor David Plummer |
| 12:35 | Identification of Signature Peptides to Quantify the Major Crustacean and Mollusc Allergens in Food Products Using Advanced Mass Spectrometry | Miss Martina Koeberl |
| 12:40 | Complexity and Workload of Cytotoxic Manufacturing at a Regional Hospital: A Comparative Study | Mr Kelvin Robertson |
| 12:45 | Targin and Oxycontin Associated Laxative Use: A Comparative Study | Miss Emily Wentta |
| 12:50 | The Birth of PhROG: The Pharmacy Research Orientated Group | Ms Carla Scuderi |
| 12:55 | Comparison of Research Capacity Building Initiatives | Dr Tilley Pain |
| 1:00 | Model of Care for North Queensland Paediatric Burns Service | Dr Joseph England |
| 1:05 | Classification of Patients with IBS and Their Response to a Novel Online Psychological Intervention: Shifting Approach to Contemporary Gastroenterological Care | Mr Andrew Birtles |
| 1:20 | A Review of the Causes of Pre-Analytical Pathology Problems | Associate Professor David Porter |
| 1:35 | Plantar Pressure in Diabetes Mellitus: Is There a Difference from Peripheral Neuropathy to Foot Ulceration? A Meta-Analysis of Observational Studies | Mr Malindu Fernando |
| 1:50 | AFTERNOON TEA | |
| 1:55 | Occupational Therapy within the North Queensland Paediatric Burns Service | Miss Rebecca Watson-Brown |
| 2:00 | The Threat Of Chronic Hepatitis B and Why GPs Need to Pay More Attention to it | Ms Yvonne Drazic |
| 2:05 | Resilience and its Influence on the Mental Health of Older Australians and Refugees | Dr Wendy Li |
| 2:10 | Taking Care of the Children of Townsville Hospital and Health Service Staff During Severe Tropical Cyclone Yasi | Ms Jenine Lawlor |
| 2:15 | Nano-Titanium Dioxide Reduces Photoprotection by Sunscreen Products | Ms Jutta Kockler |
| 2:30 | A Maternal Reflective Function Scale for Primary Health Services | Ms Caroline Diamond |
| 2:45 | Implementing a New Model of Occupational Therapy Service Delivery on the Medical Wards at The Townsville Hospital | Miss Kym Murphy |
| 3:00 | Wrap-up | |
| 3:05 | WINE AND CHEESE AWARDING OF PRIZES | |

Acknowledgements

A great many people have contributed to the Allied Health Research Symposium, and we would like to thank them all. We would specifically like to thank the judges: Robyn Adams, Fiona Baird, Fiona Barnett, Sue Gordon, Tilley Pain, and David Plummer.

ORAL ABSTRACTS

Allied Health Research Symposium

Friday, 11 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium,
The Townsville Hospital

Identification of Signature peptides to Quantify the Major Crustacean and Mollusc Allergens in Food Products Using Advanced Mass Spectrometry

Martina Koeberl¹, Anas M. Abdel Rahman², Sandip D. Kamath¹, Dean Clark³, and Andreas L. Lopata¹

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Background / Aims: Shellfish consumption can cause food allergies with potential life threatening anaphylaxis. Shellfish include species from the crustacean and mollusc group. The major allergen in shellfish is the protein tropomyosin (TM), comprising 284 amino acids (AA). Crustacean share similar AA sequence, whereas the AA sequence homology in mollusc is low. However, current methods are not able to distinguish between TM in shellfish. This study aims to identify potential signature peptides to differentiate between TM from different shellfish sources using advanced mass spectrometry (MS). **Methods:** Crude protein extracts from seven different shellfish species were digested using in solution trypsin spin column and analysed by Xevo TQ MS mass spectrometer (Waters). Fourteen tryptic peptides were identified and aligned with 84 published TM sequences of various invertebrates to identify crustacean and mollusc specific peptides using Mascot and ClustalW2 software. **Results:** Many detected tryptic peptides from crustaceans are as expected identical within different species when AA sequences are aligned. Only one peptide (IQLLEEDLER) shares 100% identity between most crustaceans and some molluscs species. One mollusc specific peptide (LAITEVDLER) was identified, whereas peptide (LAEASQAADER) was very specific for crustacean. In addition, one peptide (ALSNAEGEVAALNR) could possibly differentiate between close related prawns/lobster and crabs. **Conclusion:** In summary, tryptic peptides derived from TM of different shellfish species could be detected and identified using advanced MS. Two signature peptides were identified to differentiate between crustacean and mollusc TM, enabling the specific and sensitive detection of this major allergen in food products, providing better protection for consumer.

Targin and Oxycontin Associated Laxative Use: A Comparative Study

Kelvin Robertson, Carla Scuderi, Judy Ede, Emily Wenta, Rosie James, Leigh Robertson, Niechole Robinson, Marissa Stelmaschuck, Stephen Perks, Karl Kizur, Matthew Gibbs, and Miranda King

Pharmacy Department, The Townsville Hospital, Townsville, Queensland

Background / Aims: Targin was listed on the Queensland Health formulary in March 2012 on the basis of its effectiveness in reducing opioid-induced constipation, resulting in decreased hospital admission costs. The Pharmacy Research Orientated Group set out to determine laxative usage for inpatients prescribed Targin or Oxycontin and compared results with previous published data. **Methods:** A required sample size of 108 patients was calculated to provide enough power to detect a difference within

our results. A data collection tool and stock reports were collected prospectively on the usage of Targin and Oxycontin on the wards. Microsoft Excel and IBM SPSS version 19 were used to analyse the data. **Results:** Patients administered Targin displayed a 26% ($P = 0.004$) reduction in laxative use. Interestingly, our data highlighted a statistically significant increase in when required immediate release oxycodone usage for the Targin population, in comparison to the Oxycontin population (mean difference = 8.75mg, 95%CI 0.76mg 16.74mg, $P = 0.032$). **Discussion:** Targin is only licensed for chronic, moderate to severe pain and not acute post-surgical pain, which was the majority of our sample population. Furthermore, it is common practice for both Targin and Oxycontin to be used for acute post-surgical pain, despite no official license for this indication. **Conclusion:** The study has provided valuable information on the introduction of Targin and resultant decrease in laxative use. Increase in pain relief was needed for the Targin population, however this has been attributed to off-label use in acute-post surgical patients.

The Birth of PhROG: The Pharmacy Research Orientated Group

Carla Scuderi¹, Kelvin Robertson¹, and David Plummer^{1,2}

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²James Cook University, Townsville, Queensland

Background / Aims: The Pharmacy Research Orientated Group (PhROG) is a group of pharmacists who decided to collaborate and conduct rigorous scientific research at a regional teaching hospital. Formed in October 2012 the group submitted its first paper for publication in Feb 2013. The aim is to understand the motivation of PhROG members and to describe the change in attitudes and expectations on concluding the first research project. **Methods:** Members of PhROG were surveyed at the commencement and completion of the research project and invited to participate in a semi-structured interview. Data and interview transcripts were analysed to ascertain key themes. Comparison was made with data collected from a local Health Practitioner (HP) Research Capacity Survey. **Results:** Comparing results from the HP survey showed that 83% ($n = 25/30$) of pharmacists felt there was not enough time in their work day to conduct research and yet there was a strong interest to participate 73% ($n = 22/30$). Key themes identified from PhROG members included; interest in research, lacking confidence individual research ability, positive benefits of collaborating and excitement and vision this collaboration imbued. All PhROG members felt the project made minimal impact on their workload. **Conclusion:** Collaborating in PhROG demystified research, making it accessible to a largely inexperienced group to produce many positive outcomes. A collaborative research group should be commended to anyone wanting to participate in research. PhROG members are excited to be going ahead with leaps and bounds.

Comparison of Research Capacity Building Initiatives

Tilley Pain

Allied Health Unit, The Townsville Hospital, Townsville, Queensland

Background / Aims: A key strategy for The Townsville Hospital and Health Service (THHS) is to promote clinical research. Clinical research within a Health Service may be conducted by medical, nursing or allied health staff - the latter collectively known as Health Practitioners (HP). A research capacity building initiative for HPs commenced in 2010 in which two research Fellows were employed in THHS to increase the use of research evidence and production of novel research. Limited studies have been performed to compare different types of research capacity initiative. The results of this study will help inform the successful strategies for teaching allied health staff research in the future. **Methods:** Quantitative data collection will include demographic data on the participants, a survey of their research needs and experience and their research output. Qualitative data will include review of the journal summarising the meetings, and interviews with the allied health staff participating in any of the research strategies. **Results:** Interim results indicate the mentoring model (in which individuals conduct their own research projects but meet to discuss problems and methodology) are comprised of HPs already motivated to con-

duct individual research. Whereas participants in the apprenticeship model (in which the group conducts a research project in collaboration with the Research Fellow to develop hands on skills in research) are interested in learning research but require the extra support of the Fellow. **Conclusion:** Both models of research capacity building increase research participation in using and producing research.

Model of Care for North Queensland Paediatric Burns Service

Joseph England¹, Rebecca Watson-Brown¹, Kym Murphy¹, Nerida Jacobsen¹, Debra Phillips¹, Daniel Carroll^{1,2}, and Harry Stalewski^{1,2}

¹Health and Wellbeing Service Group, The Townsville Hospital, Townsville, Queensland

²School of Medicine, James Cook University, Townsville, Queensland

Background / Aims: The North Queensland Paediatric Burns Service (NQPBS) utilises post-acute nursing services and occupational therapists. All members of the team are part of the paediatric service and no funding is specifically allocated for burns. **Methods:** A retrospective chart audit was conducted on patients referred to the NQPBS in 2012. Information was collected on allied health involvement, length of stay and reviewed the predominantly outpatient model of care. Descriptive statistical analysis was performed. **Results:** 78 patients were referred to NQPBS in 2012. 61% were treated solely in an outpatient capacity. The average length of acute involvement by the NQPBS was 14 days those treated as an outpatient only was 10.5 days and those requiring operative management was 19.6 days. The post-acute nursing service treated all patients. Occupational therapy saw 69%, physiotherapy 32%, social work 17% and dietetics 10%. The majority of patients were managed on an outpatient basis due to the limited capacity of beds at TTH and the NQPBS model of care. This model of care is enabled by the post-acute nursing and allied health services. Referrals to allied health are variable most likely reflective on the lack of dedicated burns funding. The lower rates of referral may also reflect prioritising of more severe burns. **Conclusion:** NQPBS provides a comprehensive multi-disciplinary approach to the management of burns in the NQ region despite dedicated funding of a burns service. Limited inpatient beds have resulted in an outpatient model of care being implemented without the length of acute involvement increasing.

Classification of Patients with IBS and Their Response to a Novel Online Psychological Intervention: Shifting Approach to Contemporary Gastroenterological Care

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Background / Aims: Patients with irritable bowel syndrome (IBS) comprise a heterogeneous population making determinations about treatment provision difficult. Efforts to classify patients guide treatment strategies have been limited. Cognitive behavioural therapy (CBT) has been previously explored. Self-administered novel web-based interventions are predicted to appeal to this group but have not been previously trialled. Patients coping with mild-moderate symptoms are predicted to benefit most; contrary to previous strategies where psychological intervention targeted severe symptoms. This study aims to determine treatment response of coping-stratified groups of IBS patients to a novel, computerised self-administered CBT intervention was assessed. **Methods:** Specialist and community patients with IBS (Rome III criteria) completed a questionnaire battery assessing patient coping and gastrointestinal symptom severity. Responses were cluster analysed. Four groups were classified and characterised as: No worries, Coping ably, Impacted upon coping or Impacted upon distressed. Participants were randomly assigned to either intervention or wait-list conditions. The intervention was a home accessible, self-administered, web-based computerised CBT (CCBT) resource. The intervention group (n=45) was given access to the CCBT resource for eight weeks and wait-list group (n=32) completed a six week wait. The participants completed post-questionnaires (78% completion rate). **Results:** The Coping ably group

(low-moderate symptoms and positive coping) significantly improved with CCBT intervention on patient coping and symptom severity indices (all ps < 0.05) in contrast to limited change in other groups. **Conclusion:** The study offers a means of classifying patients using psychosocial characteristics that can guide their treatment and predict response to psychological interventions. There was significant benefit for patients with milder IBS receiving psychological support (CCBT). The findings raise a need to stratify patients for treatment and to shift perspective as to which IBS patients should be offered early and self-directed psychological intervention.

A Review of the Causes of Pre-Analytical Pathology Problems

Neil Silvester¹, David Porter¹, David Plummer^{2,3}, Jenine Lawlor³, Jan Sadewasser², Lisa Lucas², Jenny Gibney¹, Marita Laurie-Rhodes¹, Elizabeth Kyle², Samantha Hornsby¹, Kaye Watson¹, and Penny Petinos⁴

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Background / Aims: Pre-analytical pathology is that component of the pathology testing continuum occurring prior to the collected sample being analysed in the laboratory. It spans from the initial consultation and selection of pathology investigations, collection and transport of samples to the laboratory, and initial processing prior to analysis. It is estimated that 87% of all errors occur in this pre-analytical phase. This paper aimed to examine pre-analytical problems in pathology requests made by the Townsville Hospital (TTH) Laboratory and the Emergency Department (ED). **Methods:** Analysis of data from information systems including Auslab, Prime CI and QIS2 was conducted on ED pathology requests made between 1 January 2013 to 30 June 2013. No Tests - recorded when requests cannot be processed - were identified, and classified into one of 14 categories. These were also compared with the total number of ED pathology requests. **Results:** A total of 23,016 pathology requests were made of which 1388 (6.0%) recorded a No Test result. Of these, the most common reasons for No Test results were incomplete request forms (30.7%), specimen not received (27.5%), clotting of the specimen (26.5%), incorrect sample volume (16.2%) and mislabelled or unlabelled specimens (14.8%). Reasons least commonly recorded were patient/test unable to be collected (0.2%), laboratory error (0.3%) and other (1.8%). **Conclusion:** The review identified broad areas where pre-analytical problems arise between the initial consultation in ED to the initial laboratory processing prior to analysis. Further studies involving explanatory analysis of the problems are required to develop meaningful interventions.

Occupational Therapy within the North Queensland Paediatric Burns Service

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Background / Aims: Occupational Therapy (OT) forms part of the North Queensland Paediatric Burns Service (NQPBS) at the Townsville Hospital. OT receives general paediatric funding (1 FTE) with no specific provision for the burns service. **Methods:** A retrospective chart audit was conducted on patients referred to the NQPBS in 2012. Information was collected on allied health involvement and reviewed the predominantly outpatient model of care. Descriptive statistical analysis was performed. **Results:** 78 patients were referred to NQPBS in 2012. The OTs saw 69% of the patients referred to NQPBS which consisted of: 100% of facial, back, elbow, pubis and extensive lower limb burns; 80% or more of chest, extensive upper limb burns, thigh / leg burns; 75% of extensive lower limb burns; 53% of hand burns; 50% buttocks, forearm and knee burns; 25% of abdomens. **Discussion:** Provision to NQPBS is part of a general paediatric OT position; services must be prioritised, based on caseload demands. Certain burn injuries, including hand burns, have greater risk of poor functional out-

comes and should be routinely assessed by OT. Only 53% of hand burns were reviewed by OT staff. **Conclusion:** OT is an imperative part of NQPBS and provides intervention to a large percentage of patients referred. Given that there is no allocated funding to provide dedicated FTE to the service, clinical prioritisation will need to continue. Ongoing monitoring needs to ensure that those patients deemed at high risk of poor functional outcomes are prioritised by NQPBS for OT referral.

The Threat of Chronic Hepatitis B and Why GPs Need to Pay More Attention to it

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Background / Aims: Worldwide, 350-400 million people are affected by chronic hepatitis B (CHB) and close to a million die each year from associated liver disease such as cirrhosis and hepatocellular carcinoma. In Australia, an estimated 218,000 people live with CHB and the rate of liver cancer is rising. CHB often progresses without symptoms for decades. Consequently, almost half of all cases are undiagnosed and only one in five patients requiring antiviral therapy is currently receiving treatment. Routine antenatal screening and infant vaccination effectively prevent HBV transmission from mother to child. However, HBsAg-positive mothers are rarely followed up after giving birth, and opportunities to include close contacts are missed. The majority of people with CHB are from CALD or Indigenous backgrounds and may experience increased barriers. The overall aim of the current research is to raise awareness in the highly affected Hmong community in Cairns, and to facilitate communication about CHB with health care providers. **Methods/Results:** A survey of 28 GPs shows that factors related to culture and communication are considered the most hindering factors in optimal hepatitis B care. Also, while GPs have good knowledge of risk factors and initial tests, they do not provide adequate information and care to pregnant women and those most at risk, and are unaware of most resources available to them. **Conclusion:** Liver disease and death caused by CHB are preventable if doctors and other health workers get more involved and educated about who needs testing, what tests to order and how to proceed after diagnosis.

Resilience and its Influence on the Mental Health of Older Australians and Refugees

Wendy Li and Daniel Miller

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Background / Aims: This paper summarises the findings of two studies into the link between resilience and mental health. One of these studies focused on older Australians, while the other examined refugees living in Townsville, a regional city in Queensland. Both refugees and older people are at risk groups for developing psychological disorders, such as depression, anxiety and PTSD. In the literature resilience is conceptualised as a psychological buffer that allows the individual to return to baseline levels of functioning and mental health following life stresses. **Methods:** The Clinical Assessment Scale for the Elderly was employed to measure psychological distress among a sample of just over 300 older Australians. The Hopkins Symptom Checklist-25 was used to measure depression and anxiety among a sample of 69 resettled refugees. The Harvard Trauma Questionnaire was also administered to this sample in order to assess PTSD. The latter two scales were developed to be used with culturally diverse samples. Posttraumatic growth was also measured among the refugee sample. **Results:** The refugee sample had much higher rates of psychological distress as compared to the sample of older people. Resilience was found to be predicated of both depression and anxiety among older people, but not predictive of depression, anxiety or PTSD among the sample of refugees. It was however found to predict posttraumatic growth among the refugee sample. **Conclusion:** It appears that resilience buffers against low levels of

distress but may not be associated with reductions in psychological disorders among those exposed to extreme trauma, such as refugees.

Taking Care of the Children of Townsville Hospital and Health Service Staff During Severe Tropical Cyclone Yasi

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Background / Aims: The Townsville Hospital and Health Service (THHS) activated its mass casualty plan to manage a surge in patients presenting in the immediate aftermath of Tropical Cyclone (TC) Yasi in February 2011. This included the provision of a temporary child minding service for staff to facilitate workplace participation. This study aimed to report the acceptability and utility of the child minding service. **Methods:** Surveys were sent to staff who manned the service (operators), to their allied health managers (managers), and to staff who placed children in the service (consumers). **Results:** The child minding service provided 75 episodes of care to children of THHS staff. Of the 37 consumers invited to complete the survey, 16 responded (43%). Most consumers (75%) reported finding out about the service by word of mouth, with some indicating it could have been advertised more widely. All 16 consumers (100%) agreed the emergency child minding service enabled them to attend work during the immediate post-disaster period and none of the consumers lacked confidence with the child minding service. Fourteen of the eighteen operators completed the survey the majority of whom (64%) volunteered to assist with the service. Only 21% although felt the facilities were adequate. All five managers completed the survey. They unanimously agreed they would support the child minding service in future if it was required. **Conclusion:** The child minding service was crucial in enabling staff to return to work to assist with TC Yasi response efforts. The child minding service was well supported by staff of the health service.

Nano-Titanium Dioxide reduces Photoprotection by Sunscreen Products

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Background / Aims: Chemical and physical UV-filters, the active ingredients of sunscreen products, are often used in combination to achieve broad spectrum photoprotection from the effects of UV-light. The physical UV-filter, titanium dioxide (TiO₂) is available in both nano- and micro-particles. Concern has been raised about the safety of TiO₂ nano-particles and the potential for these particles to penetrate through skin, but has not yet been proven. Photostability of chemical UV-filters is also important to ensure the safety and photoprotection of sunscreen products. TiO₂ can however, promote the photodegradation of chemical UV-filters, reducing their photoprotective character and generating potentially toxic photodegradants. This study investigates the influence of nano- and micro-TiO₂ on the photostability of the chemical UV-filters, butyl methoxy dibenzoylmethane (BMDM) and octocrylene (OC). **Methods:** Both UV-filters, in the presence and absence of nano- and micro-TiO₂, were irradiated with UV-light in methanol and in an aqueous cream base. UV-filter contents were then analysed using a validated HPLC method. **Results:** While the micro-TiO₂ did not significantly affect the degradation of OC, the presence of the nano-TiO₂ resulted in 38% photodegradation. The photodegradation of BMDM in the absence of TiO₂ was 6%, however, the presence of micro- and nano-TiO₂ resulted in 22 and 34% photodegradation, respectively. **Conclusion:** Results highlight the effect of the TiO₂-particle size in influencing the photodegradation of BMDM and OC. This research raises a concern of the potential decreased photoprotection of sunscreen products during use.

A Maternal Reflective Function Scale for Primary Health Services

Caroline Sara Diamond¹, Nerina Jane Caltabiano², Marie Caltabiano²

¹Child Health, Queensland Health, Townsville, Queensland

²Department of Psychology, James Cook University, Cairns, Queensland

Background / Aims: The development of a secure attachment is one of the most crucial milestones in the first 12 months of an infant's life. Furthermore, it is thought that maternal reflective functioning is a key component in the developing attachment relationship. Primary health care providers are well placed to monitor mother-infant relationships within the context of universal child health checks and targeted home visiting programs. The aim of this study was to develop and conduct preliminary validation of a cost effective, brief self-report scale to identify potential difficulties with reflective functioning. **Methods:** A 36-item development scale was constructed with an overinclusive item set generated from a multidisciplinary, intersectorial expert group and a representative, community focus group of mothers. Items were pilot tested with the focus group. 219 mothers of infants under 12 months were recruited from primary health centres in regional North Queensland: Cairns, Townsville and Mackay. Basic demographic information was obtained on the mothers, their infants and partners. Three other scales were administered concurrently to examine convergent and divergent validity. Exploratory Factor Analysis was used to examine the underlying factor structure. **Results:** Principal Components Analysis revealed an 18-item, three-factor solution, explaining 53.93% of the variance. The three subscales, Cue Recognition, Mentalisation of Infant and Own Childhood Experience, have good internal consistency. Preliminary validity was obtained for the final scale. **Conclusion:** It is proposed the new scale be used as a routine screening tool with mothers of very young children attending primary health centres. Further validation within different health care and cultural settings is recommended.

Implementing a New Model of Occupational Therapy Service Delivery on the Medical Wards at The Townsville Hospital

Kym Murphy¹, Michelle Bennette², Michelle Watson¹, Daniel Lowrie³, and Tilley Pain⁴

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²Occupational Therapy, Rehabilitation and Community Care, ACT Health Directorate

³Occupational Therapy, School of Public Health, Medicine Rehabilitation Sciences, James Cook University, Townsville, Queensland

⁴HP Research NQ, Townsville Hospital and Health Service, Townsville Queensland

Background / Aims: A review of occupational therapy (OT) service statistics at The Townsville Hospital revealed that reduced length of stay and high patient turnover on medical wards resulted in a reactive service. The OT role focused on screening and assessment immediately prior to discharge rather than rehabilitation and improving patient function. A project was proposed to address this inefficiency by both redefining the OT role and delegating tasks. **Methods:** A comparative study is being undertaken to evaluate patient, organizational and health economic impacts of a new model of care. Participants are recruited from either an intervention or control ward using the OT Needs Assessment Tool to ensure equal representation between groups. **Results:** The research will inform future practice based on the above outcomes. At a department level, positive feedback has been received from the occupational therapist and AHA on increased work satisfaction. Departmental statistics show an increase in occasions of service, particularly in patients' homes, and time spent with patients with high OT needs. Further departmental benefits were achieved through implementation of consistent and sustainable processes for delegation. **Conclusion:** Positive feedback for the new model has been received from OT and ward staff regarding greater role satisfaction and improved OT services. Structured reflection and analysis of OT service data identified the new model of care enables occupational therapists to work to their full scope of practice with patients with high OT needs, allowing delegable tasks to be completed by an AHA. Formal recommendations are dependent upon findings from the research.

POSTER ABSTRACTS

Allied Health Research Symposium

Friday, 11 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

A Pilot Study to Explore Off-Label Prescribing within a Regional Australian Hospital

Kelvin Robertson

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Background / Aims: Off-label use is common practice as prescribers endeavour to follow evidence-based practice particularly with compelling research emerging from other countries. Despite concerns about patient safety and costs to the health care system, little is known about the frequency of off-label drug use or the degree of scientific evidence supporting this practice. Increased knowledge in this area would provide options for substantial economic savings. The aim of this study are to explore the off-label usage against on-label usage of 5 selected medications within a regional hospital and to determine if further research is required into the suitability of off-label prescribing at the regional hospital. **Methods:** Using Pharmacy Departments medication database, total net cost for 5 high priced medications was retrospectively ascertained for 7 years from 2005. Re-imbursement from Pharmaceutical Benefit Scheme (PBS) and High Cost Drug Scheme (S100) was simultaneously collected for the identical timeframe. **Results:** For the study period the medications analysed accounted for 10.3% of total drug expenditure. The trend of on-label vs. off-label prescribing was consistent for a period of the study with a noticeable difference from the middle of 2010. A Wilcoxon signed rank test confirms there is a statistically significant difference between off-label and on-label prescribing ($Z = -2.37$, $P = 0.016$). Applying the theory of linear models to the data shows that although the two trend lines clearly differ in their starting points, there is no convincing evidence that they are not parallel ($P=0.35$). **Conclusion:** This study provides evidence that further research is necessary in the field of off-label prescribing, including a comparison element to other hospitals, ensuring appropriateness, suitability and cost-effectiveness of prescribed medications that are of high cost.

Cinacalcet Use in a Regional Hospital: A Retrospective Study

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²Renal Department, The Townsville Hospital, Douglas, Queensland

Background / Aims: Cinacalcet was introduced onto the Pharmaceutical Benefits Scheme (PBS) and the Queensland Health List of Approved Medicines (LAM) in 2008 with specific restrictions to guide prescribing. Recent evidence from the EVOLVE trial shows little benefit in using Cinacalcet in the majority of patients on renal dialysis. Cinacalcet has become established for use in patients with chronic renal disease undergoing dialysis therapy within our regional hospital. Anecdotal evidence suggests its favourable tolerability; however the efficacy of the medication on this population is unknown. The aim of this study is to review patients prescribed Cinacalcet whilst undergoing dialysis to determine the efficacy of Cinacalcet on corrected blood Ca^{+} level, the effect of Cinacalcet on blood IPPTH levels, explore the effect of frequency of dosing and the effects on indigenous patients. **Methods:** All patients undergoing dialysis and prescribed Cinacalcet at the Townsville Hospital since 2008 were included in the study if their pathology was done at TTH with minimum of 2 results available in the first

six months of treatment. **Results:** Preliminary results indicate that 87 patients have been identified for inclusion in the study. Further investigation indicates that Cinacalcet may not be as efficacious as originally anticipated. **Conclusion:** It is not known whether patients prescribed Cinacalcet have displayed similar efficacy results to published literature. By determining the outcome for patients within the regional hospital of Townsville, we will better understand if Cinacalcet has shown any real benefit for the majority of patients on renal dialysis.

Assessing Dynamic Behaviour of External and Middle Ear in Newborns

Venkatesh Aithal^{1,2}, Joseph Kei², and Carlie Driscolle²

¹Audiology Department, Townsville Hospital and Health Service, Douglas, Queensland

²Hearing Research Unit for Children, School of Health and Rehabilitation Sciences, University of Queensland, Queensland

Background / Aims: The objective of this study was to investigate the dynamic behaviour of external and middle ear in newborns using sweep frequency impedance (SFI) meter. **Methods:** SFI test was performed on newborns who passed all the tests in a test battery that included automated auditory brainstem response, transient evoked otoacoustic emissions test and 1000 Hz high frequency tympanometry. **Results:** Ninety nine newborns (56 males and 43 females) with mean age of 44.4 hours (SD =18.8) participated in this study. Results revealed two regions of resonance frequency, with lower resonance frequency (RF1) possibly related to ear canal wall movements and higher resonance frequency (RF2) related to middle ear resonance. When positive static ear canal pressure of +50 daPa and +200 daPa was applied both the resonance frequencies significantly increased indicating greater stiffness of the outer and middle ear respectively. When static ear canal pressure of -50 daPa was applied, lower resonance frequency (RF1) significantly increased where as higher resonance frequency (RF2) did not show any significant change indicating greater influence of negative static pressure on ear canal walls. With the further introduction of negative static pressure in the ear canal, newborn ear canal showed evidence of collapse starting at -50 daPa static pressure. **Conclusion:** SFI test can be used to assess the dynamic behaviour of newborn external and middle ear objectively. Results suggest that ear canal characteristics change under extreme static pressure conditions affecting dynamic behaviour of both external and middle ear, thus influencing results of middle ear testing in newborns.

Implications for the Older Hospitalised Patient in a Tertiary North Queensland Hospital -Waiting for GEM and Physiotherapy Input

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Background / Aims: Geriatric Evaluation and Management (GEM) provides comprehensive interdisciplinary assessment giving an opportunity for older patients to recover premorbid function following acute illness. Physiotherapy is integral to this process. The aim of this study is to measure physiotherapy input and patient discharge outcomes with waiting times for GEM. **Methods:** Discharge destination and the mobility functional independence measure (mFIM) were recorded and correlated with waiting times for GEM and physiotherapy time input. **Results:** One hundred and six patients were admitted with an average mFIM of 9/21 (hands on assistance to transfer and mobilise). Average GEM physiotherapy input was 21 x 70 minute sessions during an average length of stay of 21 days. Eighty-six % returned home, 24% lived alone in whom the mFIM was 15/21 (no assistance to transfer, mobilise and negotiate stairs). A negative mFIM or discharge outcome resulted in residential care (5%); death or re-transferred to acute wards (9%) with an average waiting period for GEM (24 days) compared to those who had positive outcomes (15 days). Waiting greater than 20 days (21%) had a threefold risk of being discharged into residential care and eightfold risk of dying. On acute wards, a patient receives on aver-

age 20 x 22 minute physiotherapy sessions per month. This is less than half the time provided by the GEM physiotherapist. **Conclusion:** The GEM unit achieved a high rate of discharge home. GEM Physiotherapy input is greater than in acute wards possibly resulting in positive outcomes. Waiting for GEM either disadvantages the patient or represents more significant illness.

EDITT- Extended Duration Infusion Temperatures in the Tropics

Stephen Perks¹ and Niechole Robinson^{1,2}

¹Department of Pharmacy, The Townsville Hospital, Townsville, Queensland

²School of Pharmacy, James Cook University, Townsville, Queensland

Background / Aims: The current use of extended duration antibiotic infusions is becoming more common in the Home-IV setting in order to reduce the cost of patient care and reduce the length of hospital admissions. Concerns have been raised regarding the stability of these medications in these circumstances. Most stability data for the medicines used is acquired at room temperature. This usually refers to 25°C (ICH zone-2). However, in Townsville the mean maximum temperature is 31.7°C during the summer months. The aim of this study is to investigate and develop a temperature profile that reflects the Home- IV environment in tropical areas thus allowing the proper investigation of the stability of medicines used in this service. **Methods:** Volunteers duplicated the Home-IV procedure by wearing an elastomeric infusion device around their waist. Elastomerics, filled with saline, were fitted with Thermocron temperature recording devices that logged temperatures every 30 minutes for 24 hours. Data was downloaded from the recorders using e-Temperature software. **Results:** From 14 sets of data, it was found that 75% of the time the temperature was between 29°C and 36°C, well above the assumed reference for room temperature. Average temperature was 29.6°C, median temperature was 30.5°C, and maximum temperature was 37°C. **Conclusion:** For medications to be considered stable for Home-IV use in a tropical area, they must be stable for 7 days at 4°C and then a further 24 hours at 35°C. This pilot will be the basis of further studies to optimize medication stability for use in the home IV setting in tropical regions.

The Power of Teamwork: Evaluating a New Model of Service Delivery by a Pharmacy Team

Leigh Robertson, Karen Perks, and Julia Peever

Pharmacy Department, The Townsville Hospital, Townsville, Queensland

Background / Aims: To assess the impact of weekly team ward visits on service delivery and team moral within a clinical pharmacy team. **Methods:** Weekly team visits to wards serviced by the pharmacy team were introduced. During these scheduled visits the team worked together on each target ward for one hour per week, with a focus on medication histories, clinical reviews and other high priority activities. An audit tool was used by team members to collect data pre and post-implementation. Variables included numbers of medication histories taken by a pharmacist and the number of clinical reviews performed within the last 24 hours. A pre and post-implementation survey was completed by pharmacy staff involved to assess moral and provide opportunity for staff feedback. Ward stakeholders were also surveyed pre and post-implementation. **Results:** The intervention did not result in a change to the number of clinical reviews completed by a pharmacist. However, a statistically significant increase in the number of medication histories completed was observed (12%, p=0.01). A survey of pharmacy team members found that all staff surveyed believed the team ward visits improved moral and job satisfaction. All ward stakeholders surveyed felt the implementation promoted efficiency on their ward/s. **Conclusion:** There is power in teamwork. The introduction of team ward visits has potential to increase the number of medication histories achieved and improve staff moral and job satisfaction.

Fish Allergy: Molecular and Diagnostic Challenges

Michael F Sharp, Juan N Stephen, and Andreas L Lopata

Molecular Immunology Group, Center of Biodiscovery and Molecular Development of Therapeutics, School of Pharmacy and Molecular Sciences, James Cook University, Townsville, Queensland

Background / Aims: While fish allergy prevalence rates can range from 0.2 to 2.29%, this can extend up to 8% among fish processing workers. Fish species express different isoforms of major allergen, parvalbumin, as well as oligomeric forms which can be significantly different in amino acid sequence and molecular weight. Patient reactivity to these different isoforms can vary leading to increasing complexity of diagnosing fish allergy. This study aims to better understand the molecular differences between these isoforms as diagnostic tools towards confirmation of fish allergy. **Methods:** Heated fish protein extracts were resolved by SDS-PAGE gel electrophoresis and immunoblotting was conducted using specific monoclonal antibodies. Amino acid sequences were determined by mass spectrometry and phylogenetic analyses were performed to generate a molecular phylogenetic tree of the major fish allergen in Australia. **Results:** Distinct bands of allergenic #946;1 and #946;2 isoforms were visualized by SDS-PAGE and immunoblotting. While the secondary and tertiary structures of parvalbumin from different fish were found to be highly conserved, amino acid sequences of #946;1 and #946;2, along with IgE binding epitopes, were demonstrated to vary significantly. **Conclusion:** Bioinformatic analyses of parvalbumin amino acid sequences allow us to place the different isoforms on a molecular phylogenetic tree to better visualize the differences among parvalbumin from different fish species. Antibody epitopes appear to be dependent on the reactivity of the Ca²⁺ and Mg²⁺ binding sites. Epitope alignment of fish parvalbumins allows for the identification of highly antigenic and species-specific allergen regions, assisting patients to better diagnose and manage their fish allergy.

Development of an Occupational Therapy Needs Assessment Tool

Kym Murphy¹, Michelle Bennette², Michelle Watson¹, Daniel Lowrie³, and Tilley Pain⁴

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³Occupational Therapy, School of Public Health, Medicine Rehabilitation Sciences, James Cook University, Townsville, Queensland

⁴HP Research NQ, Townsville Hospital and Health Service, Townsville, Queensland

Background / Aims: During the development of a comparative research study, researchers found the use of diagnostic related groups (DRGs) was limited in determining the level of occupational therapy intervention required on an acute medical ward. In the absence of any formal method to identify the level of occupational therapy required by patients, the Occupational Therapy Needs Assessment Tool was developed. The aim of this study is to develop a tool to support the classification of occupational therapy service need for clinical research and prioritisation. **Methods:** Senior clinicians identified variables they believed influenced the need for occupational therapy involvement. Each variable was assigned a weighting score. In a pilot study, clinicians administered the tool with all patients which determined projected occupational therapy service need. Following admission, each patient's actual level of service need was established, using statistics and clinical opinion. Cross-referencing analysis of the projected and actual levels was completed to determine accuracy of the tool. Further trials and the revision of variables and weightings improved accuracy of the tool. **Results:** Seventy percent of patients were accurately categorised into their actual level of service need in the pilot phase. The tool is being used prospectively to determine a patients required level of occupational therapy service and enable recruitment stratification into each arm of the comparative research study. **Conclusion:** The Needs Assessment Tool has the capacity to improve the robustness of clinically driven occupational therapy research. Furthermore, it has the ability to assist with improved workload planning for occupational therapists in acute medical services.

The Impact of Pharmacy Interventions on the National Emergency Access Target at the Townsville Hospital

Kathryn Laspina¹, Meghan Fitzpatrick¹, Kirsty Sibley¹, Jenine Lawlor², and Kathryn Rutherford¹

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²James Cook University, Townsville, Queensland

Background / Aims: Emergency departments (ED) must obtain nationally accepted targets, namely, the National Emergency Access Target (NEAT). This is defined simply as ensuring patients presenting to ED have had their treatment or service completed within four hours from the time of presentation. Decreased ED length of stay has been associated with improved outcomes and improved patient safety. **Aim:** To determine the impact that pharmacists working within a regional emergency department have on attainment of NEAT. **Methods:** A retrospective study of patients seen by pharmacists in Emergency Department from 1 January 2013 to 30 June 2013 was conducted. Demographic information was collected, including diagnosis and age. **Results:** Pharmacy attended 1003 patients in ED over the 6 month period. The most common ICD 10 diagnoses were: possible cardiac chest pain, non-cardiac chest pain, abdominal pain localised to lower abdomen, viral infection and urinary tract infection. Patients seen by pharmacy were older (M=70.4 years, SD=14.5) than those not seen by pharmacy (M=39.1 years, SD=22.2). They were also higher acuity patients, with 58.4% attended by pharmacy rated as triage categories 1 and 2 compared to 39.5% of those who did not see a pharmacist. Significantly fewer pharmacy patients met NEAT (30.8% vs 67.6%, p<0.005). **Conclusion:** NEAT was less likely to have been achieved in patients seen by pharmacy in the ED. Reasons are multifactorial, including a sicker and older population seen by pharmacists, as well as the more intensive interventions offered by the profession.

Impact of a Multi-Staged Educational Quality Assurance Activity on Haemolysis Rates in the Emergency Department

David Porter¹, Neil Silvester¹, Jenine Lawlor³, David Plummer^{2,3}, Jeremy Furyk², Jenny Gibney¹, Jan Sadewasser², Lisa Lucas², Marita Laurie-Rhodes¹, Elizabeth Kyle², Samantha Hornsby¹, Kaye Watson¹, and Penny Petinos⁴

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Background / Aims: Haemolysis occurs when red blood cells disintegrate and release haemoglobin and other analytes into the plasma. The extent of haemolysis can be measured through a haemolytic index. As this increases, more analytes become compromised leading to inaccurate results and the necessity for patients to have blood samples recollected. This study assessed the impact of a series of educational interventions on phlebotomy techniques to reduce haemolysis in blood samples taken in the Emergency Department (ED) of the Townsville Hospital. **Methods:** From August 2009 to March 2010 a series of educational interventions were delivered to medical and nursing staff in the ED. The first intervention involved regular feedback and discussion of monthly haemolysis rates with senior nursing staff. This was followed by inservices to nursing staff on strategies to prevent haemolysis. The final step was observation and immediate feedback to both medical and nursing staff on adapting current ED practices to minimise haemolysis caused by blood draws from cannulas. Data was extracted from Auslab to compare the proportion of haemolysed samples for the April to July period of each year from 2009 to 2013. **Results:** In 2009 there were 8,373 samples tested for haemolysis, of which 1,172 (14.0%) were haemolysed. Following education, the proportion of haemolysed samples in 2010 reduced to 732/9349 (7.8%, p<0.005). This reduction has also been sustained, with only 752/9050 (8.3%) in 2011, 827/10759 (7.7%) in 2012, and 705/9886 (7.1%) in 2013 returning as haemolysed samples (p<0.005). **Conclusion:** The multi-staged intervention across disciplines ensured investment by ED clinicians and resulted in a sustainable reduction in haemolysis.

NURSING RESEARCH SYMPOSIUM PROGRAM

Monday, 14 October, 2013 12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

| TIME | TOPIC | SPEAKERS |
|-------|--|-----------------------------|
| 12:00 | LUNCH | |
| 12:30 | Introduction and Overview | Professor Linda Shields |
| 12:35 | The Knowledge, Attitudes and Skills of Pacific Island Nurses and Health Workers After Attending a 4-Week Mental Health Workshop | Professor Kim Usher |
| 12:40 | Diagnosis and Management of Obstructive Sleep Apnoea in Indigenous People in Central and Northern Australia | Dr Cindy Woods |
| 12:45 | Best Practice for Management of Respiratory Secretions at Life's End | Ms Sandra Dash |
| 12:50 | The Ideal of Family Centred Care: What the Evidence Tells Us | Ms Ryley Molloy |
| 12:55 | Improving Chronic Condition Management for People Living with Mental Illness – An Evaluation of a Mental Health Collaborative | Ms Rhonda Fleming |
| 1:00 | Nurses' Involvement in the Development of the Nuremberg Code for Research Ethics | Professor Linda Shields |
| 1:15 | Final Year Student Nurses Readiness for Practice | Dr Tanya Park |
| 1:30 | Keynote address: Wound Management Innovation Research: Programs, Partnerships, Practices | Professor Helen Edwards OAM |
| 2:20 | AFTERNOON TEA | |
| 2:50 | Symbolic Interactionism as a Lens Through Which to View Nursing Education | Mrs Adele Baldwin |
| 2:55 | Do Patients Receiving Radiation Treatment for Breast Cancer in a Tropical Setting Prefer to Use a Barrier Cream or a Moisturising Cream as Part of Their Skin Care Regimen? Results from a Randomised Controlled Trial | Mrs Elizabeth Heyer |
| 3:00 | An Intensive Care Unit Admission During Pregnancy or in the Postnatal Period: an Integrative Review of the Literature | Ms Marie McAuliffe |
| 3:15 | Is a Barrier Cream More Effective than a Moisturiser in Preventing Moist Desquamation in Patients Receiving Radiation Treatment for Breast Cancer? Results of a Randomised Controlled Trial | Ms Nadine Laffin |
| 3:30 | Pain Is What the Patient Says it Is, But...: An Ethnographic Study of the Factors Which Influence Nurses When They Make Pain Management Decisions in a Clinical Setting | Dr Ella van Raders |
| 3:45 | Central Venous Catheter Exit Site Dressing Protocols in Patients Receiving Haemodialysis in the Tropics: Results from a Randomised Controlled Trial | Mrs Joleen McArdle |
| 4:00 | Concluding Remarks and Invitation to the Launch of the Centre for Nursing and Midwifery Research | Dr Wendy Smyth |
| 4:15 | WINE AND CHEESE / AWARDING OF PRIZES | |

Acknowledgements

A great many people have contributed to the Nursing Research Symposium, and we thank them all. We specifically thank Liz LaMont for all her hard work overseeing the organisation of the week. We would thank our Keynote Speaker, Professor Helen Edwards, for giving of her time to participate in our Symposium. We would also like to thank the judges: Melanie Birks, Lynore Geia, David Lindsay, Jane Mills, Ella van Raders, and Kristin Wicking.

ORAL ABSTRACTS

Nursing Research Symposium

Monday, 14 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

Diagnosis and Management of Obstructive Sleep Apnoea in Indigenous People in Central and Northern Australia

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Background / Aims: There is currently no literature regarding diagnosis and management of sleep-related breathing disorders, such as obstructive sleep apnoea (OSA), in Australian Aboriginal and Torres Strait Islander peoples. Anecdotal experience suggests sleep-related breathing disorders are under diagnosed and variably managed in Central and Northern Australia. This study aimed to investigate the nature, risk factors and outcomes of people with sleep-related breathing disorders, and to compare and contrast severity, risk factors and management in Indigenous and non-Indigenous Australian patients. **Methods:** A retrospective cohort study of 200 patients. Subjects were 50 consecutive Aboriginal and Torres Strait Islander patients and 50 consecutive non-Indigenous patients who attended a Northern Queensland and Central Australian sleep clinic and were diagnosed with a sleep disorder. Retrospective data collected from patients' medical records included demographics, co-morbidities, BMI, fatigue score, referral source, diagnosis and severity, and management details for 12 months following diagnosis. **Results:** Aboriginal Australians in Central Australia were 2.3 times less likely to have a sleep disorder diagnosed compared with non-Indigenous Australians and Indigenous patients in Northern Australia were 2.9 times less likely to have a sleep disorder diagnosed compared with non-Indigenous patients. Indigenous patients were also twice as likely not to attend follow-up appointments in the 12 months following their diagnostic study (38%, 95% CI 27-49 compared with 19%, 11-30, $p = 0.014$). **Conclusion:** sleep-related breathing disorders are a significant issue for regional and remote Aboriginal and Torres Strait Islander patients. Potential barriers and enablers to care in this setting will be discussed.

The Ideal of Family-Centred Care: What the Evidence Tells Us

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Background / Aims: Family-centred care is an ideal espoused widely in paediatrics. In family-centred care, when a child comes into hospital, care is planned around the whole family instead of restricting it to the individual child. This presentation explores the evidence about family-centred care for children in hospital. **Methods:** Three systematic reviews were undertaken and we summarise and present their findings. **Results:** The two reviews of quantitative studies (Cochrane and Johanna Briggs Institute) found only one quasi-experimental study for inclusion. That study provides insufficient evidence about the effectiveness of family-centred care within a hospital setting. A review of qualitative studies (Johanna Briggs Insti-

tute) included 14 studies which showed that family-centred care is poorly implemented around the world. **Conclusion:** Whilst family-centred care is regarded as the ideal, it remains difficult to articulate exactly what that means in practice. Further research is required to explore the complexities of implementing family-centred care.

Improving Chronic Condition Management for People Living with Mental Illness - An Evaluation of a Mental Health Collaborative

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Background / Aims: Townsville-Mackay Medicare Local (TMML) employs mental health nurses to work with GPs to support patients with mental health conditions. A new resource was developed to assist them in assessing physical and oral health problems in people living with mental illness (co-morbidities). Collaboratives are quality improvement programs for general practice teams to develop better systems for patient care. The collaborative process was identified as an appropriate way to disseminate the new mental health resource and improve GP management of co-morbidities. **Methods:** The collaborative program was delivered to four practices in Townsville over a six month period. Medical record extraction software was used to create a register of patients with co-morbidities for each practice. A maximum of 20 patients per practice were randomly selected and screened to exclude any at psychological risk from participation. SF12 and Patient Assessment of Chronic Illness Care surveys were done at baseline and repeated during the month following the collaborative. The practice team also completed an Organisational Skills Analysis Tool - Chronic Disease Care to measure the effectiveness of their care before and after the program. Clinical data were collected from medical records before and after to measure the impact of the collaborative. **Results:** Improvements were made in the proportion of diabetic patients with HbA1C measured, the proportion with HbA1C <7, and the rate of smoking amongst people with diabetes. The proportion of people reporting their health as fair or poor on the SF12 remained unchanged. **Conclusion:** The mental health collaborative resulted in some improvements in the health outcome measures of people with diabetes. The results of the complete evaluation will inform future quality improvement programs at TMML.

Nurses' Involvement in the Development of the Nuremberg Code for Research Ethics

Linda Shields¹ and Susan Benedict²

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²Center for Medicine after the Holocaust, University of Texas, Houston, Texas, USA

Background / Aims: The Nuremberg Code for Research Ethics was developed after the egregious crimes committed by health personnel in experiments in the concentration camps of Nazi Germany. While doctors' roles in these crimes have been widely studied, nurses have been ignored. However, they were equally culpable. This study aims to examine the role of nurses at Ravensbrück Concentration Camp. **Methods:** Using primary and secondary sources, including survivor testimonies, the mention of nurses and descriptions of their involvement were found. **Results:** Situated close to one of the main hospitals in Germany, Ravensbrück prisoners were used as subjects for medical experiments. They had no choice, and were killed if they refused; 74 women were used in experiments of surgical techniques such as bone and nerve transplants, and drugs, in particular sulphonamides. Five women were executed following the experiments, and five died. However, many lived and gave testimony at the Nuremberg Doctors Trials. As a direct result of the trials, the Nuremberg Code for Research Ethics was developed. Many more doctors than nurses were tried, but the experiments occurred in the camp hospital, where nurses constituted the major proportion of the workforce. **Conclusion:** This paper explains the experiments, how nurses were involved, and the subsequent development of

the Nuremberg Code with its emphasis on informed consent. Nurses today need an understanding of how nurses were drawn into the abrogation of their code of ethics.

Final Year Student Nurses' Readiness for Practice

Cindy Woods¹, Kim Usher¹, Jane Mills¹, Caryn West¹, and Tanya Park¹

¹School of Nursing, Midwifery and Nutrition, James Cook University, Cairns Queensland

Background / Aims: Nursing students require access to relevant, quality clinical education and clinical placements to feel prepared, confident and ready to competently care for patients in a practice environment. This study aimed to examine factors that influence nursing students' perceptions of preparedness for practice and to ascertain their level of confidence performing key practice skills independently. **Methods:** A cross-sectional study design. All third-year nursing students at a regional Australian university were emailed a link to an online version of the Casey-Fink Readiness for Practice Survey following their final practicum. Demographic data and survey items were summarised using descriptive statistics. Analysis of variance was performed to compare results with demographic data. Correlation analysis was performed to test relationships between continuous variables. **Results:** Overall, students reported a high level of confidence and preparedness for clinical practice. The areas in which students lacked confidence were: managing multiple patient care assignments, independently performing venepuncture and assisting with intubation. The students did not feel simulation experiences adequately prepared them for clinical practice. The areas identified to enhance confidence and readiness for practice include: expanded practicum placements, more simulation or clinical skills practice, smaller clinical skills class sizes and the use of up-to-date equipment during training. **Conclusion:** The results highlighted that students perceive placements and clinical skills practice as keys for enhancing readiness for practice and to facilitate a successful transition into professional nursing practice. The marked difference in hours of clinical practicum between Australian students and US students may explain differences in confidence levels upon graduation.

Do Patients Receiving Radiation Treatment for Breast Cancer in a Tropical Setting Prefer to Use a Barrier Cream or a Moisturising Cream as Part of Their Skin Care Regimen? Results from a Randomised Controlled Trial

Elizabeth Heyer^{1,2}, Nadine Laffin^{2,3}, Wendy Smyth², Anne Gardner⁴, Gail Abernethy², and Oyebola Fasugba⁴

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³Radiation Therapy Unit, Townsville Cancer Centre, Townsville, Queensland

⁴School of Nursing, Midwifery and Paramedicine (Signadou Campus) Australian Catholic University, Watson, Australian Capital Territory

Background / Aims: Radiation oncology nurses routinely recommend preventative skin care products to patients receiving treatment. Despite many trials related to acute radiation skin reactions, few have explored the patients' acceptability of recommended products. A nurse-led randomised controlled trial comparing two products in patients receiving radiation treatment for breast cancer sought this perspective. The aim of this study was to ascertain if a barrier cream is more acceptable than a moisturising cream to patients receiving radiation treatment. **Methods:** Patients recruited to the Radiation Therapy Skin Care Trial (N=255) were randomised to receive either the moisturising cream or a barrier cream. Participants completed an Acceptability Survey each week during treatment, and one month after treatment ended. Acceptability was operationally defined as a score of at least 4 on five specific questions on the Acceptability Survey (ease of application, smell, whether the cream felt comfortable, built up on the skin or affected clothing). The patients' perspective on additional attributes of the creams was also ascertained. **Results:** Participants preferred the barrier cream over the moisturiser (p=0.02); both creams were equally

comfortable on the skin. Whilst the moisturiser was more likely to build up, it was better at relieving skin dryness. **Conclusion:** Although the barrier cream was preferred overall by the participants, both creams were highly acceptable and on this basis either product could be offered to patients. Future patients may need to consider other factors, such as the product cost, availability, and effectiveness in reducing the severity of acute radiation skin reactions when choosing skin care products.

An Intensive Care Unit Admission During Pregnancy or in the Postnatal Period: an Integrative Review of the Literature

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Background / Aims: While the need for critical care support in an intensive care unit during pregnancy or in the postnatal period is relatively uncommon in the developed world, recent epidemiological studies have reported rising rates of maternal morbidity. This morbidity is associated with obstetric complications of postpartum haemorrhage and pre-eclampsia along with other causes such as respiratory failure, cardiac disease and trauma. The aim of the integrative review is to explore the reasons for admission to an intensive care unit during pregnancy or in the postnatal period and the outcomes of the admission. **Methods:** An integrative literature review using the words antenatal, postnatal, perinatal, obstetric, intensive care unit, critical care unit, outcomes and quality of life in combination to search the data bases CINAHL, Medline, OvidSP, ProQuest and PsychINFO. **Results:** Fifteen journal articles met the review criteria: one systematic review, two population based cohort studies, seven case series reviews, two retrospective cohort studies, one comparative study, one metasynthesis and one literature review. **Conclusion:** Maternal outcomes are primarily described by morbidity and mortality rates. There is limited published research on outcomes other than biomedical outcomes. There is paucity of literature relating to critically ill women during the antenatal, intrapartum or postnatal period. More research is needed to explore and describe the outcomes of these women.

Is a Barrier Cream More Effective than a Moisturiser in Preventing Moist Desquamation in Patients Receiving Radiation Treatment for Breast Cancer? Results of a Randomised Controlled Trial

Nadine Laffin^{1,2}, Wendy Smyth², Elizabeth Heyer^{2,3}, Anne Gardner⁴, Gail Abernethy², and Oyebola Fasugba⁴

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³Cancer Clinical Trials, Townsville Cancer Centre, Townsville, Queensland

⁴School of Nursing, Midwifery and Paramedicine (Signadou Campus) Australian Catholic University, Watson, Australian Capital Territory

Background / Aims: Patients receiving radiation for breast cancer potentially develop severe radiation dermatitis, most frequently manifested as moist desquamation. Internationally, there is inconsistency about what products patients are advised to use to prevent this. Additionally, there is no literature about skin care products and the development of moist desquamation in tropical climates. The aim of this study is to compare the effectiveness of two creams at minimising the incidence of moist desquamation in a tropical setting. **Methods:** A nurse-led randomised controlled trial recruited participants from the Townsville Radiation Therapy Unit between June 2010 and July 2012 (N=255). Participants were stratified according to breast or chest wall radiation treatment areas and randomly allocated to use a moisturising or barrier cream. Nursing staff scored radiation dermatitis weekly by using a standardised grading system, and patients were phoned one month after completing treatment for a final skin assessment. **Results:** At treatment completion, 15% of participants had moist

desquamation. An additional 22% self-reported this at one-month follow up. Risk factors for moist desquamation included increased breast size and body mass index. The barrier cream significantly reduced the incidence of moist desquamation in patients receiving radiation to the chest wall but not in patients receiving radiation to the breast treatment area. **Conclusion:** The incidence of moist desquamation following radiation treatment has important implications for radiation oncology nurses' clinical practice. These findings highlight the need for structured discharge planning and education incorporating identified risk factors. Patients undergoing radiation treatment to the chest wall may benefit from using a barrier cream.

Pain is What the Patient Says It Is, But...: An Ethnographic Study of the Factors Which Influence Nurses When They Make Pain Management Decisions in a Clinical Setting

Petronella van Raders

Clinical Safety, Innovation and Redesign Unit, Townsville Hospital and Health Service, Townsville, Queensland

Background / Aims: Barriers to effective postoperative pain management mean patients suffer needless pain. Few studies have observed nurses as they manage postoperative pain in a clinical setting; those who used observation have demonstrated the importance of context to pain management practice. **Methods:** This ethnographic study aimed to examine what factors influenced nurses when they made pain management decisions. One hundred and fifty seven hours of observation, semistructured interviews with thirty-six staff, field-notes, and document analysis were used to investigate the culture of pain management in one postoperative ward. **Results:** Analysis identified three themes with sub-themes. First, the revealing of a pain management culture, and a new finding of a silence of routine pain management communication. Second, nurses' decision-making responses to pain management opportunities including a new finding of a single pain management action. Finally, the nurses' expectations of patient behaviours, including how patients should look, what they should say and know, and nurses' responses to patients who do not conform to expectations. **Conclusion:** The findings suggest culturally mediated pain management behaviours, linked to a ward culture where pain was not a priority. Using Social Identity Theory these behaviours are presented as in-group pain management social norms; part of the culture of how pain management is done around here. These pain management in-group behaviours are submitted as the critical factors influencing nurses pain management decision-making in a clinical setting. These behaviours are not targeted through traditional education and their explication may indicate pain management education should be directed more towards cultural change.

POSTER ABSTRACTS

Nursing Research Symposium

Monday, 14 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

Women's treatment decision-making and psychological distress related to early breast cancer

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² School of Public Health, Tropical Medicine and Rehabilitation Sciences, James Cook University, Townsville, Queensland

Background / Aims: Shared-decision making for medical treatment of cancer is now an accepted practice in western countries. Women following a diagnosis of early breast cancer often require decision support and usually experience severe psychological distress. If this psychological distress remains undetected and untreated in these women it may develop into more serious affective disorders such as anxiety and depression. **Methods:** This prospective cross-sectional study investigated Queensland women's (N=132, M=58 years) treatment decision-making and psychological distress related to early breast cancer. Women were surveyed following diagnosis, with the Decision Treatment Process questionnaire and the Brief Symptom Inventory-18 (BSI-18). The Decision Treatment Process questionnaire consisted of 23 items and the BSI-18 instrument included 18 items, which both were scored on a 5-point Likert scale. The data were analysed using descriptive and inferential statistics. **Results:** Most women (94.7%) rated to follow the doctor's advice as important when making treatment decisions. The majority (87.8%) of women indicated information and 98% control as other important factors in the treatment decision-making process. Over a third (28.8%) of women were identified as positives cases for Anxiety and 23.5% for Depression. Women who were positive cases for Anxiety were more likely to be younger ($p=0.006$). Also, younger women ($p=0.04$) and those who lived alone ($p=0.04$) were more likely to have higher Depression scores. **Conclusion:** Women after diagnosis often require decision support when choosing early breast cancer treatment. Screening for psychological distress is required so these women can be supported and referred for specialist assessment and treatment if needed.

MEDICAL RESEARCH SYMPOSIUM PROGRAM

Tuesday, 15 October, 2013 12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

| TIME | TOPIC | SPEAKERS |
|-------|--|------------------------------------|
| 12:00 | LUNCH | |
| 12:30 | Introduction and Overview | Associate Professor Lynden Roberts |
| 12:35 | Rural Doctor Training In Emergent Care: What They Want and What They Need | Dr Carl O'Kane |
| 12:40 | Audit of Unplanned Admissions after Elective Day Case Surgery | Dr Alistair Hustig |

| TIME | TOPIC | SPEAKERS |
|-------|--|------------------------------|
| 12:45 | Travel-Related Barriers to Rural and Remote Patients Accessing Specialist Care | Dr Tracy Cheffins |
| 12:50 | Comparison of Peak Wall Stress in Ruptured and Intact Abdominal Aortic Aneurysms: A Systematic Review and Meta-Analysis | Ms Surabhi Khosla |
| 12:55 | The Impact of Geriatric Functional Syndromes on the Outcome after Admission for an Acute Cardiac Condition | Dr Olayiwola Otaiku |
| 1:00 | Does the Surface Area:Volume Ratio Determine Chronic Subdural Haematoma Growth? | Dr Appukutty Manickam |
| 1:15 | The Impact of CYP2C19 Polymorphisms on the Efficacy, Toxicity and Metabolism of Clobazam | Dr Prathibha Jose |
| 1:30 | Keynote address: Translational Research: Real World Outcomes in Our Lifetimes | Professor Patrick McGorry AO |
| 2:15 | AFTERNOON TEA | |
| 2:45 | Staff Perceptions and Utilisation of the Indigenous Health Liaison Officer Service in the Townsville Emergency Department | Dr Rajesh Sehdev |
| 2:50 | Early Evidence of Ethnic Differences in Middle Ear Function: Comparison of Aboriginal and Non-Aboriginal Neonates | Mrs Sreedevi Aithal |
| 2:55 | Who Paints the Picture? | Dr Susan Gorton |
| 3:00 | The Effect of an Education Program Targeting Intern Learning on Patient Management in the Emergency Department | Dr Andrew McLean |
| 3:05 | Non-Adherence to Management Guidelines for Acute Skin and Soft Tissue Infections | Dr Maxim Hatton |
| 3:20 | Sexuality in the Geripause | Dr Althea Askern |
| 3:35 | Management of Acutely Intoxicated Patients with Regard to Thiamine and Vitamin Replacement in an Emergency Department in North Queensland, Australia | Dr Jeremy Er |
| 3:40 | Enhancing Medical Student Professionalism Through Peer Physical Examination | Mrs Poornima Roche |
| 3:45 | Sterile Versus Non-Sterile Clean Boxed Gloves for Minor Skin Excisions in General Practice | Dr Shampavi Sriharan |
| 4:00 | Does the Gender of Medical Practitioners Influence Analgesia Provided for Testicular Pain in the Emergency Department? | Dr Stephanie Moore |
| 4:15 | Wrap- up | |
| 4:20 | WINE AND CHEESE / AWARDING OF PRIZES | |

Acknowledgements

A great many people have contributed to the Medical Research Symposium, and we would like to thank them all. We would specifically like to thank the judges: Rebecca Evans, Sarah Larkins, Usman Malabu, Robert Norton, Ralph Pinnock, Juergen Reichardt and Sabe Sabesan.

ORAL ABSTRACTS

Medical Research Symposium

Tuesday, 15 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

Rural Doctor Training in Emergent Care: What They Want and What They Need

Carl O'Kane¹ and Jenine Lawlor²

¹The Townsville Hospital, Townsville, Queensland

²James Cook University, Townsville, Queensland

Background / Aims: To compare the self-reported learning needs of rural doctors to deliver sound emergent care, with their learning needs as perceived by emergency department (ED) clinicians. **Methods:** Doctors working in rural and remote hospitals of the Townsville Hospital and Health Service were invited to complete a questionnaire. This was designed to elicit their perceived competence and need for education across diagnostic, procedural and other clinical skills areas in emergency care. This questionnaire was also sent to 22 emergency physicians of the Townsville Hospital who are familiar with the work of the rural doctors through the receipt of patients from these rural locations. **Results:** Eight rural doctors and eighteen emergency physicians completed the survey. Rural doctors tended to be younger than ED physicians (50.0% vs 94.1% over 35 years) and less experienced (50.0% vs 70.6% practising for over 10 years) than their ED counterparts. There was also a greater percentage of female rural doctors than ED physicians (62.5% vs 27.8%). Rural doctors rated their perceived competence in 27 of 33 areas of clinical and procedural skills more highly than the receiving ED physicians. This was also observed in the perceived learning needs of rural doctors, with ED physicians reporting training in 25 of 33 skills was more often needed. **Conclusion:** Rural doctors self-perceived educational needs differ from what emergency physicians feel these rural doctors should be taught. This could be affected in part, to disparity in the years practicing medicine.

Audit of Unplanned Admissions after Elective Day Case Surgery

Alistair Hustig, Sarika Sharma, and Rishabh Verma

The Townsville Hospital, Townsville, Queensland

Background / Aims: Admissions after day case surgery occur due to a number of causes, predominantly surgical, anaesthetic and social with differing proportions for different patient groups (surgical department and patient demographics). The aim of this study is to identify the causes of unplanned admission after day case surgery in the Townsville Hospital. **Methods:** We performed a retrospective clinical audit of all 2650 day-case surgery patients at the Townsville Hospital between 1st July 2012 and 31st January 2013. From these, 210 cases were manually identified as unplanned day case admissions. Furthermore, 143 matched inclusion criteria of unplanned admission after surgery. Twenty-eight records were unattainable but electronic records reviewed and 115 charts manually analysed. The remainder were unavailable (missing or destroyed) or excluded from further analysis on the basis they were inpatients, planned post-procedural admissions, or discharged on their day of surgery. **Results:** During our 7-month audit period, 5.4% (n=143/2650) of day-case surgery resulted in unplanned admission. Of this, 43.5% (n=50/115) of patients were admitted for surgical reasons, 29.5% (34) for anaesthetic reasons, 14.8% (17) social/distance, and 8.7% (10) for both timing or reasons not documented. Anaesthetic reasons were primarily pain (12.2%;n=14/115) and nausea/vomiting (5.2%,6) with 2 patients having complications leading to overnight ICU stay. Surgical complications accounted for 7.8%(9) of cases and led to 2.6% returning to theatre. Other surgical reasons included successful trial-of-void pre-discharge (9.6%;n=11/115), post-procedural monitor-

ing (8.7%,10), post-op bleeding/drain issues (7.0%,8), and day-1 clinic review (5.2%,6). **Conclusion:** Unplanned admissions occurred following 5.4% of day-case surgeries with an average length of stay of 1.1 days. This is consistent with current literature estimates. Post-surgical issues impact on bed management and hospital flow but are an essential element of post-surgical care for patient safety and clinical care.

Travel-Related Barriers to Rural and Remote Patients Accessing Specialist Care

Tracy Cheffins and Smita Gupta

Townsville-Mackay Medicare Local, Townsville, Queensland

Background / Aims: The study was undertaken by the Townsville-Mackay Medicare Local (TMML) to explore the needs of people referred by their rural GP to a specialist in a larger regional centre. **Methods:** Rural practices at least one hour by road from either Mackay or Townsville compiled a list of ten patients recently referred for non-emergency specialist care. The practice distributed a semi-structured questionnaire with questions about type of specialist, travel and accommodation, costs incurred, reasons for non-attendance, and their attitude to telemedicine. The questionnaires were analysed using frequencies and thematic analysis of comments. **Results:** Eight practices distributed 80 questionnaires, and 53 were returned. The most common specialists referred to were radiologist, cardiologist, renal physician and ophthalmologist. Most people drove their own car, and the average cost of travel was \$200 (range \$20-\$1800). The average subsidy received was \$55. When asked to rate overall difficulty in seeing their specialist, the most frequent response was 7 out of 10. The majority said they would not prefer video-conferencing their specialist. Comments showed that financial issues were not as important as the time and inconvenience in travelling and trying to coordinate multiple appointments. There was support for having specialists provide outreach services in some of the larger rural centres. **Conclusion:** The study has enabled TMML to address barriers to specialist access, and advocate for better support for rural and remote communities. It has informed TMMLs telehealth initiative, with evidence that we need to educate people more about telehealth.

Comparison of Peak Wall Stress in Ruptured and Intact Abdominal Aortic Aneurysms: A Systematic Review and Meta-Analysis

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Background / Aims: Diameter alone is not sufficient to predict AAA rupture. Biomechanical properties, mainly the peak wall stress (PWS), within the aneurysmal wall can be measured using fine element analysis (FEA) methods from computed tomography (CT) scans of patients to predict the likelihood of rupture. Whether AAA PWS is suitable to predict human AAA rupture is however yet to be established. The aim of this study was to combine the results of previous studies to investigate if PWS is significantly different in ruptured AAAs when compared to intact AAAs. **Methods:** We performed a search of MEDLINE database on the 25th May 2013. Case-control studies assessing the PWS in intact and acutely symptomatic or ruptured AAAs from CT scans using FEA were included. A random effects model was used to calculate standardized mean differences (MDs) for PWS measurements of the intact and ruptured AAAs. **Results:** Meta-analysis on 174 intact and 124 ruptured AAAs showed that PWS was significantly greater in the ruptured group compared to the intact AAAs (random-effect MD, 2.13; 95% CI: 1.14-3.12 ; p = 0.0001). The findings remained significant even after adjustment for the mean systolic blood pressure, standardised at 120 mmHg (random-effect MD, 1.92, 95% CI: 0.71-3.13, p = 0.002). **Conclusion:** This study suggests that PWS is greater in ruptured AAAs than intact AAAs. Our findings support a role for PWS in AAA rupture prediction.

The Impact of Geriatric Functional Syndromes on the Outcome after Admission for an Acute Cardiac Condition

Theresa Chion, Ruvinka Jayalath, Paul Goldstraw, and Olayiwola Otaiku

Department of Gerontology Services, The Townsville Hospital, Douglas, Queensland

Background / Aims: An increasing number of older people admitted to hospitals with acute cardiac presentations have one or more geriatric functional syndromes (GFS). The presence of GFS and a cardiac condition in these patients are associated with worse prognosis and longer recovery times. Comprehensive geriatric assessment has shown to be beneficial in improving physical, cognitive and reduce risk of institutionalisation. This study was undertaken to explore the possible association between GFS and adverse outcomes in elderly with acute cardiac admissions, this has not been researched before. **Methods:** Prospective study of non-elective cardiac patients over 75, were screened for presence of GFS over the period of 3 months. **Results:** The GFS defined by Anpalahan, as presence of impaired cognition MMSE 75 years admitted under cardiology ($n=54$), 31 patients (57%) had at least one GFS, 20% had GFS #8805;3. The relationship between GFS and length of stay (LOS) >10days was linear (coefficient 1.18). The relative risk (RR) is 1.5 times greater compared to control. **Conclusions:** The presence of GFS #8805;3 is associated with increase LOS and no evidence to support increase institutionalisation. The 3-month data will shed more light on the long term outcome for these patients.

The Impact of CYP2C19 Polymorphisms on the Efficacy, Toxicity and Metabolism of Clobazam

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¹Clinical skills unit, School of medicine and dentistry, James Cook University, Townsville, Queensland

²Department of Pharmacology and Therapeutics, The University of Liverpool, Liverpool, UK

Background / Aims: The aims of this prospective study were to explore the effect of CYP2C19 genotype on the efficacy, tolerance, adverse effects and metabolism of clobazam (CLB) and its active metabolite (N-desmethyl clobazam (NCLB)), in a Caucasian population. **Methods:** This multicentre (United Kingdom) study included 120 Caucasian patients with epilepsy. Putative functional SNPs of CYP2C19 were identified and genotyped. The efficacy, tolerance, adverse effects, NCLB concentration, concentration/dose (C/D) ratio of NCLB and the NCLB /CLB concentration ratio were correlated to CYP2C19 genotypes. **Results:** Of the hundreds of single nucleotide polymorphisms (SNPs) of CYP2C19, rs4244285, rs11568732 and rs12248560 were selected using various strategies. The efficacy (seizure freedom (p value=0.014) and 50% reduction in seizure frequency (p value < 0.005)) was greater in the poor metabolizers (PM: 2/*2, *3/*3, or *2/*3) than in intermediate metabolizers (IM: *1/*2 or *1/*3) who demonstrated better efficacy than extensive metabolizers (EM: *1/*1). SNPs- rs12248560 and rs11568732 did not affect the efficacy of CLB. The incidence of tolerance did not differ among the genotypes of any of the SNPs tested. Only SNP rs11568732 was associated with adverse effects (dizziness (p value < 0.04)). rs4244285 genotype was significantly (p value < 0.00) associated with the NCLB concentration, C/D ratio of NCLB, and NCLB/CLB concentration ratio, however, there was no association with the CLB daily dose. Patients who were homozygous for the minor allele of rs12248560 were on higher CLB dose than heterozygous or homozygous major allele patients (p value = 0.086 and 0.012, respectively). The NCLB concentration of patients with homozygous major allele of rs11568732 was significantly (p value < 0.017) higher than in patients with heterozygous alleles. **Conclusion:** Polymorphisms of CYP2C19 affect the metabolism, efficacy, tolerance and adverse effects of CLB.

Staff Perceptions and Utilisation of the Indigenous Health Liaison Officer Service in the Townsville Emergency Department

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²James Cook University, Townsville, Queensland

Background / Aims: In 2012 an Indigenous Health Liaison Officer (IHLO) service was established at the Emergency Department (ED) of the Townsville Hospital. This study aimed to assess staff knowledge and utilisation of the service, and to gain an insight into staff understanding of Indigenous issues. **Methods:** A survey was distributed to nursing, medical and allied health staff attending routine education sessions in the ED. Survey questions were devised by an ED Indigenous reference group. Questions targeted clinicians familiarity with the IHLO service, as well as their knowledge and beliefs about issues affecting Indigenous health. **Results:** One-hundred and three ED clinicians completed the survey including 56 nurses, 42 doctors and 5 allied health clinicians. The majority of respondents were under 35 years (63.7%) and most (73.1%) were female. Respondents reported they had seen a total of 81 Indigenous patients in their last 3 shifts, and 53 of these (65.4%) were referred to the IHLO service. The issues most frequently identified by staff as having a major effect on Indigenous patient health were the health literacy of patients (68.3%), how highly the patient ranks their own health issues (63.0%), and current family circumstances (62.6%). In contrast ED staff rated patient self-control (34.3%), the physical environment of the ED (22.8%) and the cultural capabilities of staff (34.7%) as being of relatively low importance. **Conclusion:** In the majority of cases ED clinicians are referring Indigenous patients to the IHLO service. There were contradictory findings concerning what staff felt influenced the health outcomes of Indigenous patients in the ED.

Early Evidence of Ethnic Differences in Middle Ear Function: Comparison of Aboriginal and non-Aboriginal neonates

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²Hearing research unit for children; Division of Audiology, School of Rehabilitation and Health Sciences, University of Queensland, Brisbane, Queensland

Background / Aims: A high prevalence of otitis media in Aboriginal infants and children when compared to non-Aboriginal infants and children has been well documented. However, there are no studies that have systematically investigated the differences in outer/middle ear function between Aboriginal and non-Aboriginal infants at birth. The aim of this study was to compare ethnic differences in wideband energy reflectance (WBR) in Australian Aboriginal and non-Aboriginal neonates who passed or failed a battery of tests. **Methods:** A total of 60 ears from 31 Aboriginal neonates and 281 ears from 163 non-Aboriginal neonates who passed a test battery including 1000 Hz tympanometry and distortion product otoacoustic emissions were included in the study. WBR obtained from Aboriginal neonates who passed or failed the test battery was compared with that of non-Aboriginal neonates. WBR was analysed over the frequency range of 0.25 to 8 kHz. **Results:** Median WBR and 10th and 90th percentiles of Aboriginal neonates who either passed or failed the test battery were significantly higher than that of their non-Aboriginal counterparts. The average difference in median WBR between Aboriginal and non-Aboriginal neonates was 0.07 for the test battery pass condition and 0.24 for test battery fail condition. **Conclusion:** Outer/middle ear function of Aboriginal neonates is significantly different to that of non-Aboriginal neonates. It is therefore necessary to develop ethnic specific normative data for each group. Future research need to include radiological evidence and pressurised WBR to further explore the differences in outer/middle status between the two groups.

Non-Adherence to Management Guidelines for Acute Skin and Soft Tissue Infections

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²Department of Surgery, Cairns Base Hospital, Cairns, Queensland

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Background / Aims: Skin and soft tissue infections (SSTI) provide a substantial workload for hospital emergency departments and inpatient services. All Australian state and territory health departments endorse the evidence-based Therapeutic Guidelines (Antibiotic) for treatment of SSTI, although local enthusiasm and guideline adherence are not entirely uniform. We aimed to assess adherence to guidelines in the management of acute SSTI in a regional hospital. **Methods:** A retrospective cohort survey of the hospital electronic records of three hundred and forty treatment episodes of acute SSTI was conducted. The primary outcome measure was the documentation of adherence to Therapeutic Guidelines (Antibiotic) in Emergency Department (ED) and inpatient management of acute SSTI. **Results:** A guideline recommended antimicrobial was chosen in just over 80% (231 of 284) of occasions with 41% (116 of 284) matching dosage guidelines. No details of antimicrobial treatment were documented on 56 occasions (16%). Inpatient antimicrobial treatment for SSTI was more in line with guidelines than the ED. Supplementary measures, including education, and preventative measures for recurrent SSTI were poorly documented. **Conclusion:** In this survey, doctors' adherence to treatment guidelines for SSTI was comparable to similar Australian hospitals over the last 30 years. Increasing awareness of emerging antimicrobial resistance should prompt better antimicrobial stewardship through adherence to evidence based prescribing guidelines. Built-in processes for continuous audit and feedback may bring improvement. Hospital-in-the-home (HITH) programs are also assuming the acute care of an increasing proportion of Australians with SSTI. HITH programs are typically protocol-driven.

Sexuality in the Geripause

Sally Aubrey^{1,2}, Althea Askern^{1,2}, and Ajay Rane^{1,2,3}

¹James Cook University, Townsville, Queensland

²Queensland Health, Queensland

³The Mater Hospital, Townsville, Queensland

Background / Aims: Little is known about the prevalence of sexual activity or what factors influence sexual activity in women aged over 65 years. The aim of this study was to determine whether women aged over 65 years are sexually active, and what factors might influence these women's sexual activity. This study particularly focussed on the role of urogynaecological conditions in limiting sexual activity. **Methods:** This project was a cross-sectional study completed in two clinical spheres: urogynaecology outpatient services (both public and private) and private general practice. A self-administered survey based on the short form Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire (PISQ-12) was offered to 266 women aged over 65 years on presentation to the study sites. **Results:** The mean age of respondents was 73.7 years \pm 6.5 (range: 65-91). Prevalence of sexual activity was significantly higher in the general practice group compared to the urogynaecology group (42.2% vs. 32.1%). Prevalence of sexual activity decreased with age. Partner-related factors were the most frequently reported limitation to sexual activity. The PISQ-12 scores were not significantly different between the two groups. Fear of incontinence or prolapse was a more frequently reported barrier to sexual activity than actual incontinence or prolapse. **Conclusion:** This study suggests a high prevalence of sexual activity among community-dwelling North Queensland women aged over 65 years. Partner-related factors were the major limiting factor to sexual activity. Although many women experienced urogynaecological disorders, it did not appear to be a major barrier to sexual activity.

Management of Acutely Intoxicated Patients with Regard to Thiamine and Vitamin Replacement in an Emergency Department in North Queensland, Australia

Jeremy Er¹, Jeremy Furyk¹, and Jenine Lawlor²

¹The Townsville Hospital and Health Service, Townsville, Queensland

²James Cook University, Townsville, Queensland

Background / Aims: Chronic alcohol usage is associated with malnutrition and vitamin deficiency syndromes. Research has failed to identify significant vitamin deficiencies in acutely intoxicated emergency department (ED) patients, yet thiamine and multivitamin supplements are routinely given. Among chronic alcohol users a high dose of thiamine is still recommended. This study aimed to identify current practices for vitamin supplementation in acutely intoxicated patients presenting to The Townsville Hospital (TTH) ED. **Methods:** Intoxicated patients presenting to TTH ED between May 2011 and April 2012 were identified by an alcohol-related diagnosis recorded on the ED Information System, or a blood alcohol level above 22mmol/L recorded on Auslab. The records of a random selection of these patients were reviewed. Information collected included patient demographics, alcohol use history and supplementation received while in the ED. **Results:** In total the records of 167 intoxicated patients were reviewed. The median age of patients was 29 years (IQR=20-44 years), 96 (57.5%) were male and the majority identified as non-Indigenous (n=117, 70.1%). Of the total sample 55 patients (32.9%) received thiamine and 49 received multivitamin supplementation. Those patients with a history of alcohol abuse documented were both more likely to receive thiamine ($p<0.005$) and multivitamin supplementation ($p<0.005$). Nevertheless 48% of patients with a history did not receive thiamine. Further, 17% of those without any alcohol abuse history did receive thiamine. **Conclusion:** Vitamin supplementation is frequently given to patients who may not be deficient. Further studies are warranted to identify high risk ED patients requiring targeted supplementation.

Enhancing Medical Student Professionalism through Peer Physical Examination

Poornima Roche and Torres Woolley

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Background / Aims: Empathy and clinical skills (CS) are important domains of medical professionalism. Empathy lies at the heart of patient-doctor relationships and is a key attribute in providing quality health care. However, student empathy often declines over the medical course. Peer Physical Examination (PPE) is employed by medical schools worldwide to improve CS, but anecdotal evidence suggests PPE also develops student empathy. In 2011, the James Cook University medical school introduced a non-compulsory PPE policy for CS sessions. This study evaluated if participation in PPE improved students CS and empathy levels. **Methods:** A quasi-experimental design measured CS and changes in empathy levels of 213 Year 2 students in those who participated in PPE in 2011, compared with those who did not. Empathy was measured using the validated Jefferson Patient Empathy tool while CS competency was measured by end-of-year exam performance. Data on students participation in PPE was obtained after each systems-based examination. **Results:** Compared to students who did not participate in PPE: Students who regularly examined peers during CS sessions over the year had higher MSAT exam scores. Students who performed at least 3 examinations on peers out of hours for the system tested in the MSAT exam were significantly more likely to have passed the exam ($p=0.039$). Students regularly examined by peers throughout the year during CS sessions had a significantly higher empathy score ($p=0.016$). **Conclusion:** CS competency and empathy were higher in Year 2 medical students who participated in PPE. Active participation of medical students in PPE enhances their professionalism.

Sterile Versus Non-Sterile Clean Boxed Gloves for Minor Skin Excisions in General Practice

Shampavi Sriharan^{1,2}, and Clare Heal²

¹The Townsville Hospital, Townsville, Queensland

²James Cook University, Townsville, Queensland

Background / Aims: The perceived benefit of sterile gloves over non-sterile gloves during minor surgical procedures in general practice has become controversial over the last few decades. With skin cancer incidence rising in Australia the role of general practitioners in management of skin cancer through surgical excision is growing. There are currently no trials to suggest that use of sterile gloves is better than use of non-sterile gloves for minor skin procedures in a general practice setting. The aim of this study is to determine if the use of non-sterile clean gloves will result in a statistically non-inferior incidence of surgical site infection (SSI) compared to sterile gloves. **Methods:** Single centered randomised controlled non-inferiority trial conducted in a Mackay general practice between June 7th 2012- March 31st 2013 involving sterile glove group and non-sterile clean boxed glove group. **Results:** There were a total of 493 patients who were randomised. The overall infection rate was 8.9%. The infection rate in the sterile glove group was 9.3% and 8.7% in non-sterile glove group. The difference between the two groups was 0.6% (95%CI -0.044 to 0.057). Use of non-sterile gloves was non-inferior to use of sterile gloves by pre-determined margin of less than 7%. **Conclusion:** Use of non-sterile gloves is non-inferior to use of sterile gloves in regards to SSI for minor surgical procedures in a general practice setting. This has the potential for large cost saving benefits to general practice without compromising patient care and outcomes.

Does the Gender of Medical Practitioners Influence Analgesia Provided for Testicular Pain in the Emergency Department?

Stephanie Moore¹, Jeremy Furyk¹, Jenine Lawlor², and Amanda Carson²

¹The Townsville Hospital, Townsville, Queensland

²James Cook University, Townsville, Queensland

Background / Aims: Patient factors such as age, ethnicity and level of education have previously been shown to influence prescription of analgesia. Biases associated with prescription remain poorly understood. This study sought to explore whether the gender of the treating physician was associated with prescription of analgesia in the emergency department (ED). **Methods:** A retrospective search was conducted of Emergency Department Information System data to identify all presentations to The Townsville Hospital (TTH) ED of testicular torsion and epididymo-orchitis between late 2004 and early 2013. Patient records were randomly selected from this group and information was collected on medical practitioner gender, patient pain score and type of analgesia prescribed. **Results:** Records were reviewed for 105 patients presenting with testicular pain, with ages ranging from 0-82 years and a mean age of 28.4 years. Patients reported a median pain score of 7/10 (IQR 4.5-8). Of the 105 treating doctors, 73 were male (69.5%) and 32 were female (30.5%). Female doctors were more likely to prescribe analgesia ($n=28$, $p=0.02$ chi square). There was also a non-significant trend for female doctors to prescribe more opiates ($n=16$, $p=0.12$ chi-square). **Conclusion:** Female medical practitioners in the ED are more likely to prescribe analgesia for testicular pain than their male counterparts. These results are useful for creating awareness of gender disparities in pain management and clinical presentations.

POSTER ABSTRACTS

Medical Research Symposium

Tuesday, 15 October, 2013

12:30-4.30 pm (lunch from 12 pm)

Robert Douglas Auditorium, The Townsville Hospital

Response Rates of HPV Associated Oropharyngeal Squamous Cell Carcinomas (OPSCC), Treated with Low-Dose, Weekly Cisplatin Concurrent with Radiation

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²Department of Radiation Oncology, Townsville Cancer Centre, Townsville, Queensland

³Department of Dietetics and Speech Pathology, Townsville Hospital, Townsville, Queensland

Background / Aims: Patients with HPV-associated OPSCC, who are treated with concurrent chemo radiation with high-dose Cisplatin have better survival compared with patients with HPV-negative OPSCC. Recent focus of research has been to deintensify treatment in the hope of minimising treatment-related morbidity, without compromising the current cure rate. Weekly, low-dose Cisplatin, which is relatively well-tolerated, is an option in these patients as radio-sensitiser. **Methods:** Records of patients with OPSCC, treated in Townsville cancer centre in 2011 and 2012 were retrospectively reviewed. Cisplatin was administered at 40mg/m² weekly, concurrent with radiation. Response rate was assessed 3 months after completion of treatment with PET scan, clinical examination and nasal endoscopy. **Results:** A total of 54 patients with oropharyngeal SCC were treated. 31 cases were p16 -positive, 15 were negative and 8 unknown. Out of the 31 cases of HPV-associated OPSCC, 17 were smokers or ex-smokers (55%). 24 of the p16 positive patients were treated with radical chemo radiation with weekly Cisplatin. Out of this, 23 patients had complete response at 3 months (95.8%), 1 patient had progressive disease. Of the 10 p16-negative patients treated with radical chemo-radiation with weekly Cisplatin, 7 patients had complete response at 3 months (70%), while 3 had partial response. **Conclusion:** HPV-associated OPSCC, treated with low-dose weekly Cisplatin has very high response rate, comparable to those reported.

An Observational Study of Sub-Protective Behaviour at an Outdoor Spectator Sporting Event in Tropical Queensland, Australia

Jane Nikles and Simone Lee Harrison

Skin Cancer Research Group, The Anton Breinl Centre, School of Public Health, Tropical Medicine and Rehabilitation Sciences, James Cook University, Townsville, Queensland

Background / Aims: Queensland has the highest rate of skin cancer in the world. Aims To describe the prevalence of observed sun-protection behaviours of a high-risk population in tropical Queensland engaged in outdoor leisure activity. **Methods:** Unobtrusive observations of clothing worn by 457 attendees at the Supercar Championship in Townsville, Queensland, Australia were conducted in an unshaded area around solar noon, in July 2009. **Results:** Caps were the most popular hat choice. More children (45.1%) than adults (27.1%) wore wide-brimmed/legionnaires/ bucket hats ($p=0.007$). Many women (35.3%), girls (26.3%), men (24.5%) and boys (18.8%) wore no hat. More females than males wore no hat ($p=0.016$). More women (17.4%) than men (6.6%) wore full-length sleeves ($p=0.001$). Short-sleeve shirts were worn by 90% of men and 55% of women. A further 28% of women wore sleeveless/cap-sleeved shirts ($p<0.0005$). More girls (27.7%) than boys (3%) wore sleeveless/cap-sleeved shirts. More boys (87.9%) than girls (61.1%) wore short-sleeves ($p=0.037$). Full-length

sleeves were equally uncommon among boys (9.1%) and girls (11.1%; $p=1$). **Conclusion:** Observed sun protection behaviours were inadequate to protect spectators from over-exposure to ultraviolet radiation and risk of skin cancer.

Do music and dance improve recall?

Deanne Johnstone and Darlene Wallace

Clinical Skills Unit, School of Medicine and Dentistry, James Cook University, Townsville, Queensland

Background / Aims: Since 2008, the Gait Arms Legs and Spine (GALS) Screening Tool is taught to Year One medicine students at James Cook University (JCU), as part of the musculoskeletal (MSK) examination. GALS is a sequence of concise movements that assesses the range of motion of major joints in the body. Strategies including small group teaching, instructional video, practical demonstration and simulated volunteer patients are utilised in the two hour workshops, to teach GALS. Written and audio visual resources are available to students on JCUs online learning platform. Post-workshops, students are assessed on the application of the GALS Screening Tool. With the dual intentions to enhance student learning and to improve short/long term recall, educators created a GALS music and dance video. This intervention applies both neuroscience and learning principles, by linking the GALS sequence to the rhythm and melody of a popular song. **Methods:** A pilot longitudinal study will evaluate this initiative, comparing the control group (Year One cohort 2010) with the intervention group (Year One cohort 2012). **Results:** Interim results show: Watching either video, the instructional or the GALS music and dance, increased the likelihood of passing the Year One OSCE assessment. On average, the control group documented half of the GALS sequence, two years post-workshop. 58% of students of the control group reported less confidence in their knowledge regarding the GALS sequence, two years post-workshops. **Conclusion:** This presentation will illustrate the teaching perspectives, interim results and future directions of this research.

An Evaluation of the research capacity of Emergency Department Clinicians at The Townsville Hospital

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Background / Aims: This study aimed to assess the baseline research capabilities of emergency department (ED) clinicians at The Townsville Hospital (TTH). **Methods:** A survey was sent to clinicians working in the ED of TTH over a one month period in 2012. Participants were asked to provide information on demographics, interest in participating in future research, research experience and support needs, and attitudes and beliefs about research. **Results:** Of the 13 allied health, 109 medical and 223 nursing staff working in the ED at the time of the survey, 212 clinicians (13 allied health, 88 medical and 111 nursing) responded yielding an overall response rate of 61.5%. A minority of clinicians reported participating in research activities such as publications (11.8%) and conference presentations (12.3%) in the preceding 3 years, however the majority of clinicians (68.3%) were interested in getting involved in future research. In general clinicians had more experience and required less support with earlier stages of the research process such as searching and critically reviewing literature. The four barriers that were identified as most influential on research involvement were insufficient time (71.2%), lack of support such as training or supervision (61.8%), not having a relevant or interesting (42.0%), and being unable access to adequate funding or resources (23.6%). **Conclusion:** Research involvement of TTH ED clinicians was only small, with more sup-

port required for more complex research tasks. Attitudes towards research were generally positive with reported interest in future involvement likely to facilitate research capacity building efforts in the ED.

Impact of Transformational Change in the Medical Admission Process in Townsville Hospital

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Background / Aims: A new admitting module was introduced in the Medical Emergency Department (ED). A senior registrar was posted in the ED during the maximum rush hours 2 pm to 10 pm from Monday to Friday for 3 months to accept all referrals and allocate the patients to other registrars and RMO depending upon the severity of the problem. The aim of this study is to determine the efficacy of implementing a new medical admission module at the Townsville hospital. **Methods:** February to May 2013 data of all the medical admissions through the ED was compared with the corresponding 3 months of 2012 to analyse the difference in the number of patients admitted time taken from referral to admission. Data was analysed using SPSS 20, for normality; non-parametric Mann-Whitney U tests to determine the difference in means. A $p<0.05$ was considered statistically significant. **Results:** The number of patients admitted during 2013(1225) was significantly higher than the corresponding period of 2012 (1166); $p=0.009$. There was a significant increase in the day time (8 am to 10 pm) admissions in 2013 (970) as compared to 2012 (941) $p=0.01$. However in the night (10 pm to 8 am) no significant difference was observed (255 in 2013 versus 225 in 2012, $p=0.5$). In both years, the number of admissions were significantly more on Mondays (22% in 2013, 25% in 2012). In spite of the increase in the number of admissions, the mean time taken from referral to admission was significantly less (89 minutes) in 2013 than in 2012 (212 minutes) $p<0.0001$. **Conclusion:** The new medical admitting module significantly reduced the admitting time in spite of the increased number of admissions.

Incidence of Normal Modified Allens Test in Newborn Babies

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Background: Radial artery cannulation, a common procedure in the NICU, can be associated with complications which include ischemia. The Modified Allens test (MAT), assessing the collateral circulation in the hand, is recommended before the radial artery cannulation. The incidence of normal MAT in adults is 73% and 11% in neonates. **Aim:** The aim of our 6 month prospective study is to determine whether there are any difference in the incidence of normal MAT based on the babies gender, birth weight and gestation. We also studied the inter-observer variation. **Methods:** All babies admitted to the unit were eligible for the study. Two examiners independently performed the MAT on the first day of admission. A normal Allens is when reperfusion time is under 10 seconds. **Results:** A total of 151 babies were recruited: mean gestation 36.7 weeks (range 23 to 41.3 weeks); 37% of babies <37 weeks gestation, 63% term; 55.6% male, 44.4% female; 37% were <2500g and 67% were >2500g. The incidence of normal MAT was 26.5% for examiner A, and 19.2% for examiner B (p value 0.7). The incidence of normal MAT was: 47.4% for term and 21.4% for preterm babies ($p=0.001$), 21.4% in low birth weight group babies compared to 47.4% for >2500g babies ($p=0.001$). There was no difference between male and female, right and left hands. **Conclusion:** The incidence of normal MAT in newborn babies is lower than adult population and is lower in babies who are preterm and low birth weight.

Telehealth Going the Distance for NQPBS

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Background / Aims: The North Queensland Paediatric Burns Service (NQPBS) utilises telehealth services to enable follow-up for patients unable to access services locally. Acute management advice is also provided via Telehealth. **Methods:** A retrospective chart audit was conducted on patients referred to the NQPBS in 2012. Information was collected on discharge location, post-acute management plan and Telehealth utilisation. Descriptive statistical analysis was performed. **Results:** 78 patients were referred to NQPBS in 2012. 27% of patients were not from THHS. 13% returned to a regional centre with visiting surgical care and local nursing and allied health support. 5% were from a regional centre without paediatric surgical follow-up but with allied health and nursing follow-up. 9% returned to a rural centre without any surgical or allied health follow-up. 33% of patients not from THHS received Telehealth follow-up. Discussion Telehealth is used to provide comprehensive follow-up to patients in rural and regional areas without access to visiting or specialised services. Education and support was provided to regional health professionals managing paediatric burn injuries via telehealth. No data is available on numbers of patients and outcomes where Telehealth was used to provide advice without a referral to TTH. **Conclusion:** In conclusion further research is needed to establish if Telehealth has a significant impact on reducing length of stay or improving outcomes for rural, regional and remote NQ paediatric burns cases. Further utilisation of Telehealth services may reduce the number of patients required to return to TTH for their post-acute care.

A Prospective Observational Audit of The Prevalence and Influence of Geriatric Functional Syndromes on Individual and Provider Outcomes

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Background / Aims: Geriatric functional syndromes (GFS) represent frailty affecting patient outcome and provider efficiency with increased risk of queuing for institutional care. Geriatric evaluation management (GEM) providing a comprehensive geriatric assessment reduces these risks. An audit was undertaken to evaluate prevalence and outcomes of old people with GFS and review the use of subacute codes and services. **Methods:** Charts of patients aged 75 over admitted to acute medical wards during January February 2013, were audited for the presence of GFS, outcomes of discharge destination, provider use of sub-acute coding and length of stay (LOS). **Results:** Ninety-eight patients were admitted. Only 4% had no GFS, 24% had three or more. The prevalence of individual GFS was >5 drugs 95%, reduction in personal ADL 20%, incontinence - 19%, MMSE <23 - 12% and falls- 11%. A GFS score of >3 or more had a two-fold increase in risk of a LOS ten or more days ($p=0.03$) and a two-fold increase in risk of residential care ($p=0.16$). The use of sub-acute treatment services was negligible at 1% and sub-acute coding in 13% was primarily to maintenance care. Of the latter, 58% were within 10 days LOS. The mortality rate for the whole cohort was 10%, generally higher than expected. **Conclusion:** GFS are common in people aged 75plus presenting acutely. There are significant risks of increased length of stay and likelihood of entering residential care. Sub-acute services such as GEM are underutilised with ramifications for the individual and provider administrative outcomes.

Can the Human Papillomavirus Vaccine Be Used in the Treatment of Cervical Cancer?

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Background / Aims: Human papillomavirus (HPV) contributes to significant mortality and psychosocial morbidity. There is increased interest in the administration of the cervical cancer vaccine to women with cervical cancer and anogenital cancer. **Methods:** The aim of this review was to provide an overview of HPV oncopathology focussing on those studies in which the cervical cancer vaccine has been used as a therapeutic adjunct. A literature search was undertaken using the terms papillomavirus vaccine, therapeutic and anogenital cancer. **Results:** There are over 120 different HPVs, of which HPV-16 and -18 have the greatest oncogenic potential. Current evidence suggests that (1) the quadrivalent HPV vaccine may be useful in preventing disease recurrence in those with previous genital lesions and (2) there has been some success in reducing lesion size when using therapeutic HPV vaccines with immunomodulators. **Conclusion:** Large randomised control trials are required to investigate immunologically driven treatments. Vaccination against the oncogenic HPVs may provide a cost-effective treatment option in patients with HPV-related anogenital cancer. This may ultimately decrease psychological morbidity associated with disease as well as improve surgical treatment failure rates.

Incidence of Triple Vessel Disease (Balanced Ischaemia) Resulting in a Negative Myocardial Perfusion Study: Local Experience

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Background / Aims: It is well recognised that balanced ischaemia/ three vessel coronary artery disease with near equivalent degree of stenosis may result in a negative SPECT myocardial perfusion imaging. We attempted to look at incidence of false negative myocardial perfusion studies in the presence of balanced ischaemia identified on invasive coronary angiography. **Methods:** We reviewed all the Tc99m Tetrofosmin/ sestamibi SPECT myocardial perfusion studies performed over a period of 12 months in our institute. **Results:** Between the period of April 2011 to April 2012, 1025 myocardial perfusion studies have been performed. Of which 201 patients also underwent a coronary angiography as well within this period. The subset of patients ($n=177$) who underwent an invasive coronary angiography after a myocardial perfusion study was then identified. 5 patients were found to have critical three vessel disease on the coronary angiography (defined as luminal diameter of 50% or less in three major coronary epicardial arteries). 3 of the studies were reported positive for inducible ischaemia and 2 studies were reported as negative. 4 of the 5 patients underwent a pharmacological stress test (Dipyridamole) whilst one patient underwent a treadmill test. **Conclusion:** Balanced ischaemia appears to be of relatively low occurrence in the population that were referred for an MPS study in our institute. The actual incidence of this is likely to be greater since patients with negative MPS who had no further anatomic imaging have not been assessed in this study. However an important finding is that not all balanced ischaemia in our study resulted in a negative perfusion study.

An Analysis of Clinician Opinion on the Optimal Investigation of Suspected Subarachnoid Haemorrhage in the Emergency Department

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Background / Aims: The optimal emergency department (ED) investigation of suspected atraumatic subarachnoid haemorrhage (SAH) is a controversial topic. The objective of this study is to evaluate current ED clinician opinion on the optimal investigation of suspected SAH. **Methods:** An electronic survey was distributed to ED registrars and consultants via the

Australasian College of Emergency Medicine. Responses were analysed according to level of experience, access to a neurosurgical service, state and department setting (metropolitan versus rural). **Results:** There were 878 survey respondents (response rate 24%). A total of 383 respondents (44%) agreed or strongly agreed with the statement, A normal non-contrast computed tomography scan (CT - 3rd generation or later) reliably excludes SAH if performed within 6 hours of headache onset, compared to 341 (39%) who disagreed or strongly disagreed. 116 clinicians (13%) agreed or strongly agreed that non-contrast CT was able to exclude SAH if performed within 12 hours of headache onset. A narrow majority of respondents (n=444, 51%) disagreed or strongly disagreed that CT angiography can reliably replace lumbar puncture for diagnosis of SAH, with 185 clinicians (21%) who were unsure. 467 respondents (53%) agreed that spectrophotometry is necessary for detection of xanthochromia versus visual inspection alone. **Conclusion:** Higher resolution CT technology has increased the sensitivity for detecting a bleed on non-contrast CT head. This study demonstrates a high level of disagreement concerning the preferred investigation of suspected SAH, particularly on the reliability of non-contrast CT for excluding a bleed, and highlighting the need to work towards a consensus approach.

Post-Injury Cervical Spine X-Ray Guidelines - Are They Appropriate For Older People

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Background / Aims: Older people have a greater likelihood of significant cervical spine injury with minimal trauma falls. It is important to have an assessment tool that is appropriate to this group. The National Emergency X-Radiography Utilisation Study (NEXUS) protocol is commonly used by Emergency Departments. The alternative, the Canadian Cervical Spine Rule (CCSR) requires the cervical spine x-ray (CSXR) of all patients aged over 65 years and results in large numbers of CSXRs. NEXUS reduces required CSXR by 12.6%. A case study data review is described that suggests deficiencies in NEXUS. **Case/Data Review:** An 80-year-old fell with no apparent injury. CSXR was not performed according to the NEXUS protocol. Intermittent complaints of neck and shoulder pain responded to simple strategies, only once requiring opioids. Independent ADL and mobility were maintained. Four days post injury development of paraesthesia and weakness was compatible with a C6 lesion. CSXR showed a subluxation and canal stenosis confirmed by MRI. Surgical intervention was performed. ED data showed the young(<65 yrs) were more likely to have CXSRs and that only 24% of the SCXRs were in those >75yrs of age. **Discussion:** NEXUS was validated with a cohort of 34,609 but only 2976 (8.6%) were older than 65 years, without any further age breakdown available. Age consideration is needed if using NEXUS alone. A previous cautionary report has not resulted in a change of practice. Further study is required to determine whether NEXUS or CCSR is the appropriate tool for this age group.

Pattern of Major Lower Limb Amputations at The Townsville Hospital- A Retrospective Review

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Background / Aims: North Queensland has a high prevalence of diabetes and vascular disease, particularly amongst the Indigenous population. Both are believed to contribute to lower limb amputations (LLAs), yet no local study has been conducted looking into possible contributing factors and clinical features leading to amputation. This study aimed to determine the prevalence of major LLAs and their associated risk factors at the Townsville

Hospital between the years 2009 to 2012. **Methods:** All major amputations done under vascular surgery at Townsville Hospital from 1/1/2009 to 31/12/2012 were retrospectively audited. Non-parametric analysis and Chi-Square tests were performed using SPSS 20 to identify strongly associated variables with amputation. **Results:** A total of 83 subjects had major LLAs during the period of the study, with a male: female ratio of 1.8:1. Diabetes was identified as the likely cause of LLA in 53% of patients, with the ATSI subgroup comprising 34% of the cohort. The mean age of amputation was significantly lower amongst the ATSI population (49.95 + 4.0 years), compared with non-ATSI (69.27 + 1.7 years) [P < 0.001]. The ATSI population with diabetes had a higher risk of getting amputated (RR 4.97 [95% CI 1.2-20.5] P = 0.01). When comparing previous endovascular intervention prior to amputation amongst patients, 38.5% of ATSI patients had previous intervention compared with 73% in the non-ATSI [P = 0.03]. **Conclusion:** Younger ATSI subjects with diabetes were at higher risk of LLA compared to their Caucasian counterparts, however further prospective studies are needed to confirm our findings.

Quantification of Circulating DNA in Healthy Volunteers

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Background / Aims: Circulating nucleic acids (CNAs) in plasma/serum have been known as a promising biomarker in a number of pathologies. This is a preliminary study to optimize sample preparation for subsequent study looking for pathogens nucleic acids amongst the abundance of humans nucleic acids background. The aims of present study were to quantify the level of circulating DNA and to investigate whether different methods of blood collection have an impact on DNA concentrations. **Methods:** Samples were obtained from six healthy volunteers. A microplate fluorescence assay (MFA) was performed for DNA quantification using SYBRGreen I dye. The fluorescence intensity was measured in a spectrofluorometer and the concentration of sample DNA was calculated based on the standard curve produced from a series of known DNA concentrations. The Wilcoxon Signed Ranks test was used to compare DNA concentration on: (1) plasma and serum collected using same procedures, (2) specimens collected with and without the application of cuff, (3) specimens collected by using vacuum system and those collected by using standard needle and syringe. **Results:** We found higher levels of DNA in serum compared to plasma samples (p<0.05). There was no significant difference in DNA concentrations between specimens obtained with and without cuff. Also, the use of vacuum system or standard syringe and needle did not significantly alter the levels of DNA. **Conclusion:** Quantification of circulating DNA by MFA is a simple and inexpensive method. Plasma represents the best specimen to use if one is seeking to minimize the quantity of host nucleic acids.

Review of Amputations in Patients with End-Stage Renal Failure on Haemodialysis at The Townsville Hospital

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Background / Aims: High rates of end stage renal failure (ESRF) have been reported in North Queensland. Furthermore haemodialysis has recently been identified as a risk factor for lower limb amputations. In spite of these no study has been published that analyses the magnitude and risk factors for amputation amongst haemodialysis patients. This study aims to document trends in prevalence and identify risk factors of non-traumatic lower limb amputations in subjects treated with haemodialysis in North Queens-

land. **Methods:** 102 current haemodialysis patients attending the Townsville Dialysis Centre were included in the study. Odds ratio and #967;2 tests were performed to identify variables most strongly associated with amputation. **Results:** We identified a 6.9% prevalence of lower limb amputation in 102 subjects on haemodialysis at our centre. The major risk factors of amputations in the cohort were history of ulceration (RR 4.57 [95%CI 2.4-8.8] $p=0.001$) and the presence of diabetes (RR 2.5 [95%CI 1.6-3.9] $p=0.008$). Other variables were tested but fell short of statistical significance, these included: Indigenous background, smoking history, gender and type of ulceration. **Conclusion:** Patients with ESRF on haemodialysis who have a past history of ulceration and have diabetes mellitus are at risk of having lower limb amputations. Primary prevention of diabetes in the sub-population may help in reducing the limb loss. Further prospective studies on a larger population are needed to confirm our findings.

An Evaluation of Body Surface Area Covered by School Uniforms in Queensland Primary Schools

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Background / Aims: To conduct a baseline assessment of body surface area coverage of school uniforms in primary schools in five Queensland regions. **Methods:** In 2012/2013, the surface area (SA) of the body covered by the most prominent regulation summer school uniform was assessed using body maps, allocating a percentage for each section of the body, excluding the head. **Results:** 482 uniforms (243 boys and 239 girls uniforms) from 244 primary schools (Mackay 40, Rockhampton 37, Mt Isa 21, Toowoomba 60 and Sunshine Coast 86) were assessed. 222 (91.0%) schools were metropolitan/urban and 22 (9.0%) were rural/remote. Ninety-nine (20.5%) private and 383 (79.1%) state school uniforms were assessed. The total SA ranged from 58.3% to 65%, with 91.5% covering a SA of 61.9%. The majority of dresses (81.8%) covered 50.9% of the body. Skorts, shorts, culottes, ruggers and skirts covered around 20%, shirts around 30%, and shoes/socks around 12%. The proportion of uniforms covering 62.4-65% of body SA was very low, and there were significant differences between locations: Toowoomba (12%), Rockhampton (9.6%); Mackay (6.2%), Sunshine Coast (3.5%) and Mt Isa (0%) ($p=0.014$). There were no significant differences in SA between boys and girls uniforms ($p=0.273$). 19.2% of private schools had a SA of 62.4-65%, compared to 3.4% of public schools. ($p=0.000$). **Conclusion:** The body surface area covered by summer school uniforms did not provide children with adequate protection from ultraviolet radiation and skin cancer risk. Further work with primary schools in Queensland is needed to improve sun protection afforded by school uniforms.

An Evaluation of Sun Protection Policies in Queensland Primary Schools

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Background / Aims: To conduct a baseline assessment of sun-protection policies in primary schools in seven Queensland regions. **Methods:** Sun protection policies were obtained from primary schools in Queensland's 7 largest population centres. They were evaluated according to criteria developed from The Cancer Councils guide to being SunSmart. Points were awarded for each criterion up to a maximum total score of 12. **Results:** In 2012/2013, sun protection policies were obtained from 533 primary schools (Brisbane 230, Sunshine Coast 84, Gold Coast 72, Toowoomba 51, Mackay 41, Rockhampton 36, Mt Isa 19). 512 (96.1%) schools were metropolitan/urban; 21 (4.0%) were rural/remote; 528 (99.1%) were co-educational; 485 (91%) were primary only; and 335 (62.9%) were public. Sun protection policy scores ranged from 0-12 (with 12 the highest score); median score was 2.0. 69.8% of policies scored 0, 1 or 2. SunSmart hats and clothing were mentioned in the majority (87.8% and 95.1%) but all 10 other elements suggested by The Cancer Council were mentioned in less

than 23%. The worst performing element was the sun protection policy is used when planning all outdoor events at 4.3%. 26 of 35 policies that scored 11 or 12 (74.3%) were from public schools, 31 (88.6%) from primary only, 32 (91.4%) from co-educational, and 33 (94.2%) from urban schools. **Conclusion:** Generally, quality of sun protection policies was poor. Further work with Education Queensland and Queensland primary schools is needed to improve the quality of sun protection policies, and better protect school children from risk of skin cancer.

Pattern of Diabetes Limb Amputations: Review of Two Regional Centres in Queensland

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Background / Aims: Diabetes limb amputation (DLA) is common in Australia's Queensland with notable regional variations in clinical features. Despite this, there is no comparative study of DLA in the 2 regions -north and south Queensland. The aim of the study was to determine clinical characteristics of DLA at The Townsville Hospital (TTH) compared with South Queensland's Gold Coast Hospital (GCH). **Methods:** Clinical data for all DLAs from the 2 tertiary hospitals were retrospectively reviewed for a 3 year-period from 2009 to 2011. **Results:** Fifty DLAs were recorded at GCH and 31 for TTH. 35% of the subjects at TTH who had DLAs were Aboriginal and Torres Strait Islanders (ATSI) compared to 2% in GCH $X^2 = 17.3$, $P<0.001$. The mean age, number of previous amputations and male-female ratio were similar in both centres. **Conclusion:** We reported high proportion of DLAs in the ATSI's North Queensland. Primary prevention of diabetes foot ulcer in the Indigenous Australian diabetic population may reduce DLA in the region. Further studies on larger population are suggested to confirm our findings.

Prevalence of Limited Joint Mobility in Elderly Diabetics at The Townsville Hospital

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Background / Aims: Limited joint mobility is a form of musculoskeletal complication affecting system well described in young diabetics (DM). Its prevalence in the elderly DM is not extensively investigated. Identifying LJM by simple clinical examination is likely to help as a screening tool for further assessment of other complications of DM in the geriatric population who are at a higher risk of co-morbidities. The aim of the study was to evaluate whether presence of diabetes increase the risk of LJM in the elderly subjects. **Methods:** A total of 88 subjects aged >70 years were prospectively assessed at the Townsville Hospital diabetes and gerontology departments. Of this number 47 were diabetics while 42 non-DM subjects served as control group. Clinical prayer sign examination and quantitative goniometric assessment of DM and non-DM controls were done. **Results:** Prevalence of LJM among DM patients was higher 19/47 (40.4%) compared to 7/41 (17%) in non-DM controls $X^2=5.72$, $P<0.05$. Mean age for DM was lower 76 ± 0.8 (SE) vs 81 ± 1 years; $P = 0.027$. Duration of DM was higher 23.8 ± 3.4 years compared with 12 ± 2 in non-DM, $p<0.05$. Retinopathy was commoner in DM with LJM 42% vs 11% in DM without LJM $X^2 = 6.2$, $P<0.05$. **Conclusion:** We report high prevalence of LJM in the elderly. The musculoskeletal complication correlates with occurrence of DM eye disease. Further prospective studies are required to confirm our findings.

Exenatide for Treatment of Obese Type 2 Diabetes- The Townsville Hospital Experience

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Background / Aims: Exenatide is a glucagon-like peptide-type 1 (GLP-1) approved for treatment of diabetes. Unlike insulin it has an added advantage of lowering body weight in obese type 2 diabetics. Literature for its therapeutic usefulness in Australian population is scanty and in North Queensland is lacking despite reportedly high prevalence of diabetes, obesity in the region. The aim of the study was to document metabolic effects of exenatide in our local diabetes population. **Methods:** We conducted a retrospective review of 221 patients with type 2 diabetes mellitus treated with exenatide for 24 months at the Townsville Hospital Diabetes Clinic. **Results:** These are the preliminary results. Range (Mean) HbA1c(%) at start 7.3-13 (10.15). Latest HbA1c 6.5-10.8 (8.65). Change in HbA1c +0.7 till -3.5 (-1.4). Weight(Kg) at start 94-184 (139). Change in weight -20 till +2 (-9). **Conclusion:** The preliminary results are favourable with fall in HbA1c by 1.4% and 9 kg weight loss. These results are from a small sample of the total patients and are comparable to the studies published.

Obesity in the Elderly Diabetic Patients: Townsville Hospital Experience

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Background / Aims: Although the increase in the prevalence of obesity among Australian diabetics (DM) generally is well documented, little information has been published specifically about the situation among older Australians living in North Queensland. This is despite the reportedly growing geriatric population in the region. The main aim of the study is to determine prevalence of obesity in the elderly subjects with DM. **Methods:** Hospital-based cross sectional study was prospectively conducted on patients admitted at the Townsville Hospital aged >70 years. Questionnaire was administered and anthropometric measurements were recorded in subjects with DM (study group) and non-DM (control group). **Results:** Data of 68 subjects were analysed comprising of 31 DM and 37 non-DM. Prevalence of obesity (BMI>25 kg/m²) was 74.7% compared with 45.9% in non-DM $\chi^2 = 5.6$, $P = 0.018$. The mean BMI and body weight were higher in DM than in non-DM, 28.2 ± 6.7 vs 25.2 ± 5.3 kg/m² and 78.5 ± 18 vs 68.6 ± 17 kg, both $P < 0.05$. Gender, mean age, and prevalence of other co-morbidities were similar in both groups. **Conclusion:** We report high prevalence of obesity in diabetes elderly population. Prevention of DM may likely reduce rate of over weight in our geriatric subjects. This being pilot project further prospective studies on a larger population are needed to confirm our findings.

An Investigation into Water Fluoridation Opinions and Knowledge of Patients Attending the JCU Dental Clinic, Cairns, Far North Queensland

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Background / Aims: Although water fluoridation has been referred to as one of the top 10 public health achievements of the 20th Century, considerable public opposition surrounds the issue. The recent change to Queensland's water fluoridation laws allowing local councils the right to decide on the use of fluoride has resulted in many areas of Queensland removing fluoride from their water supplies or remaining non-fluoridated. It is unclear if these decisions truly reflect public opinions. The aim of this study is to explore the views of the residents of the Cairns region on the issue of water fluoridation in order to gain an understanding of the opinions of people

living in a rural region of Australia. The study assesses the current level of support and opposition and identifies and documents the most common reasons for support and opposition, impact of socio-economic and socio-demographic variables and most commonly used methods of acquiring information. **Methods:** Data was collected by a ticked response survey from a cross-sectional sample of new and existing patients attending the JCU Dental Clinic, Cairns. **Results:** Information gathered in this study provides valuable data and specific information to authorities engaged in the fluoride issue, assists in improving oral health services and education in the Cairns region and fills the gap that currently exists in the literature surrounding water fluoridation in rural and remote regions of Far North Queensland. **Conclusions:** The research team is currently collecting data, so results and conclusions have not yet been formally constructed.

The Prevalence of *Entamoeba gingivalis* and *Trichomonas tenax* in Tropical North Queensland

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Background / Aims: *Entamoeba gingivalis* and *Trichomonas tenax* are commensal protozoa inhabiting the oral cavity shown to be in association with the presence of gingivitis and periodontitis. Previous studies have reported prevalences of *T. tenax* ranging from 12% to 32%, with *E. gingivalis* twice as common. Previous studies implementing conventional or real-time PCR have isolated the DNA of these organisms from plaque, periodontal pockets and saliva samples. This study aims to investigate the prevalence of *E. gingivalis* and *T. tenax* in populations of Northern Queensland and the association between the prevalence of these organisms and geographical distribution of participants between regions including Cairns (outer regional), rural and very rural areas. **Methods:** Following informed consent, saliva samples were collected from patients attending the JCU Dental Clinic. These were analysed using conventional PCR for *E. gingivalis* and *T. tenax* ribosomal subunits, SSU rDNA and 18S rRNA respectively. Primer sets for both protozoa were based on previous studies, EGO-1 and EGO-2 for *E. gingivalis* and TGBK-R and TGBK-F for *T. tenax*. A preliminary study utilizing probability sampling was conducted with 25 patients from the JCU Dental clinic to test validity and accuracy of method. A sample size of 400 participants was used for a confidence interval of $p=0.05$. Point prevalence will be measured for prevalence findings, and for the association between these prevalences and geographical distribution, the chi-squared test will be used. **Results / Conclusion:** Findings and analyses will be presented following assessment of 400 saliva samples.

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