Princess Alexandra Hospital
Centres for Health Research

‘translating science into better health’
Annual Research Report 2009
Leaders in Translational Research

clinical problem

basic science &/or clinical research

evaluation of efficacy of research results on clinical problem (including clinical trials)

health service research (can the solution be applied to routine practice?)

clinical solution

Improved Medical Care


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# Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>Group Reports</td>
</tr>
<tr>
<td>2</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>3</td>
<td>Group Reports</td>
</tr>
<tr>
<td>19</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>17</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>15</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>10</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>6</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>4</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>2</td>
<td>Committee Reports</td>
</tr>
<tr>
<td>2</td>
<td>Message from the District CEO and PAH Executive Director</td>
</tr>
</tbody>
</table>

## Group Reports

| 26 | Acquired Brain Injury Outreach Service |
| 28 | Alcohol and Drug Research |
| 29 | Anaesthetic Department |
| 30 | Australasian Kidney Trials Network |
| 32 | Australian Prostate Cancer Research Centre - Queensland |
| 36 | Brain Injury Rehabilitation Unit |
| 37 | Breast and Endocrine |
| 39 | Cardiology |
| 41 | Cardiovascular Imaging Research Centre |
| 43 | Centre for Integrative Clinical and Molecular Medicine |
| 45 | Centre for Kidney Disease Research |
| 48 | Centre for Liver Disease Research |
| 50 | Centre for Research in Geriatric Medicine |
| 52 | Clinical Pharmacology |
| 53 | Dermatology |
| 55 | Diamantina Institute for Cancer, Immunology and Metabolic Medicine |
| 60 | Emergency |
| 63 | Haematology |
| 67 | Hypertension |
| 70 | Infection Management |
| 71 | Intensive Care |
| 74 | Internal Medicine and Clinical Epidemiology |
| 76 | Medical Oncology |
| 80 | Mental Health |
| 82 | Nephrology |
| 88 | Nursing Practice Development |
| 90 | Nutrition and Dietetics |
| 92 | Occupational Therapy |
| 95 | Ophthalmology |
| 96 | Older Persons Mental Health Service |
| 98 | Pathology Queensland |
| 100 | Pharmacy |
| 102 | Physiotherapy |
| 103 | Queensland Clinical Trials and Biostatistics Centre |
| 105 | Queensland Melanoma Project |
| 107 | Queensland Spinal Cord Injuries Service |
| 110 | Radiation Oncology Centre - PAH |
| 114 | Radiation Oncology Mater Centre |
| 116 | Respiratory and Sleep Medicine |
| 118 | Rheumatology |
| 119 | Speech Pathology Research |
| 121 | Therapeutics Research Centre |
| 123 | Trauma Service |
| 126 | Upper Gastro-intestinal and Soft Tissue |
| 128 | Vascular Medicine Research |
| 131 | Journal Articles |
| 150 | Books & Book Chapters |
| 152 | Abstracts & Conference Proceedings |
| 160 | Accepted for Publication (in press) |
| 164 | Summary of Publications and Postgraduate Students |
| 165 | Major Grants |
| 170 | Committees |
| 171 | Research Staff by Department |
| 179 | Postgraduate Students |
Message from the District CEO and PAH Executive Director

It is with great pleasure that we present the Princess Alexandra Hospital Annual Research Report for 2009. A vibrant research program is a distinguishing feature of great hospitals. We believe that our research effort is continuing to grow not only in size, but in effectiveness. The work of our researchers is reflected in new biological discoveries, clinical techniques and facilities, and in policy and practice development. The Metro South Health Service District and the Princess Alexandra Hospital are committed to reinforcing this important function of our organisation.

PAH is an academic health centre, which, in partnership with our close Universities and collaborators, reinforces our efforts in research and education.

The year was highlighted by several remarkable successes. Professor Ian Frazer, Director of the Diamantina Institute, was awarded the 2009 Honda Prize for his contribution to the development of the world’s first cervical cancer vaccines. He was also awarded the Australian Medical Association Gold Medal, for his work on cervical cancer vaccines.

Professor Ranjeny Thomas was awarded Australian Research Council’s prestigious Future Fellowship. Professor Thomas and her team were awarded a $10.13 million National Health and Medical Research Program Grant.

These successes are a reflection of the many less prestigious but nevertheless important achievements of our research community. Our researchers continued their success in attracting major competitive research grants and prestigious awards as highlighted throughout this report.

We want to congratulate all researchers and their staff for another year of great achievement.

During the year, several new research Centres were created by The University of Queensland School of Medicine. We are pleased that several will be located at PAH, thus strengthening our research profile.

As part of the hospital’s three yearly accreditation process, administered by the Australian Council on HealthCare Standards, the research function at PAH was awarded “Outstanding” status, which is a rare
achievement. I would like to commend the staff of the Centres for Health Research for leading the work that resulted in this recognition.

The 49th PAH Week showcased advancements in medical practice and research around the topic ‘No one works in isolation: challenges, opportunities and rewards’ – celebration of the work of our multidisciplinary teams. The session on “what is translational research” highlighted the work of our leading clinician researchers and scientists in translating research into clinical practice.

The planned Translational Research Institute is now becoming a reality. The work is on schedule for a 2012 opening. The Institute will not only provide accommodation for over 600 scientists, but it will be a clear representation of the major research program at PAH.

A world-class prostate cancer research facility will be established at Princess Alexandra Hospital, through a $7.5 million grant from the Federal Government. A partnership of PAH and QUT was successful in National Competition in gaining designation as a National Prostate Cancer Research Centre. The Centre will be part of the planned Translational Research Institute. A flagship clinic for the management of complex and advanced prostate cancer was launched at the Hospital. The clinic will be hosted by the PAH and will engage specialists in urology, medical and radiation oncology, endocrinology, orthopaedics, palliative care, psychology, and radiology.

Sadly, in October, we accepted the resignation of Professor John Prins, who has served as the Director of the Centres for Health Research for four years, and prior to that as Director of Diabetes and Endocrinology at our hospital. He has provided wonderful service, and has been an inspiration to many at PAH. We wish to thank him wholeheartedly for his exemplary contribution. He has been appointed as CEO and Director of the Mater Medical Research Institute. He will continue in a part-time clinical role at PAH, and ultimately will have a presence at the Translational Research Institute on the campus when it is completed in 2012.

We have advertised for John’s replacement and expect to recruit a successful and influential clinical researcher in 2010 that will make a strong contribution to our research effort.

The Centres for Health Research, established by the Princess Alexandra Hospital twelve years ago, is a vital part of the commitment of the PAH Academic Health Centre and Metro South Health Service District towards health and medical research.

**Professor David Theile**
CEO, Metro South Health Service District
AO, PhD (Hon), MBBS (Hons)(Qld), M5, FRACS, FRCS (Eng), FRCS (Ed) (Hon), FANZCA (Hon)

**Dr Richard Ashby**
Executive Director, Princess Alexandra Hospital
AM, MBBS (Gld), BHA (NSW), FRACGP, FRACMA, FACEM, FIFEM
Research Development and Ethics Director Report

2009 was a significant year for research at the Princess Alexandra Hospital, with important developments in research infrastructure, research output and research support, leading to further strengthening of clinical and translational research.

In my eighth year with the Princess Alexandra Hospital Centres for Health Research, it is interesting to reflect on the changes that have occurred. The most obvious is the continuing research growth and expansion. This is evident firstly in the research activity, research staff and students recruited to our academic health centre, competitive grant funding, and investment in capital infrastructure. Standard measures of activity and performance including publications, research grants, higher degree students and applications to the Human Research Ethics Committee continue to increase. Secondly, State Government commitment and investment has accelerated its efforts to facilitate research through capital infrastructure and investment in people.

The completion in December 2009 of the state-of-the art Pharmacy Australia Centre of Excellence will add significantly to the research and education activities. The new TRI facility, due for completion in 2012, will bring together the best and the brightest scientists, clinician researchers, educators and administrators in a vibrant academic health centre precinct. This new translational research facility will provide an environment and opportunity to not only strengthen existing research activities but also will open the door to greater collaboration and new research programs. To achieve the full potential it will be necessary to invest in people with the necessary vision and skills. We have been very encouraged by the ongoing commitment of the Queensland Government to research which now includes investment of $25.65 million in a four year Health and Medical Research Program.

It was very pleasing when in July 2009 at the conclusion of the Australian Council on Healthcare Standards Evaluation and Quality Improvement Program (EQuIP 4) accreditation survey process the Princess Alexandra Hospital was awarded outstanding achievement “OA” rating for research. We are one of few hospitals in Australia to have been granted this recognition which reflects the quality and commitment of the partnerships and collaborations on campus.

The continuing success of the Nursing and Allied Health groups is very pleasing. A bid by Allied Health for three Health Practitioner research positions was successful with plans to establish the Centre for Functioning and Health Research.
I wish to pay tribute to the work of Dr Jennifer Fleming and the Human Research Ethics Committee, the volume and complexity of their work continues to increase. A record number of new research projects were submitted for review and ethical approval. The work of the Committee and the administrative staff is critical to research. Dr Fleming contributed significantly to a number of national subgroups established during the ongoing development and implementation phase of the NHMRC HoMER (Harmonisation of Multicentre Ethical Review) initiative.

I would like to express my appreciation to my staff and all those who support and contribute to the research endeavours continuing to enhance the research performance on the campus.

Finally, I wish to acknowledge the leadership of Professor John Prins as Chair of the Centres for Health Research and thank him for his encouragement, support and mentorship. I wish him all the best with his move to the Mater Medical Research Institute as the CEO and Director of the Institute.

It gives me great pleasure to present this twelfth Annual Research Report, which is a summary of what has been achieved in 2009 through a wealth of partnerships and collaborations.

Areti Gavrilidis
MBA, Grad Dip Bus Admin, BSc, BAppSc
There was outstanding evidence of strong medical/nursing/allied health research programs... which readily demonstrates the hospital’s commitment and expertise in systematic scientific inquiry. The many research activities are centrally coordinated by the hospital’s Centres for Health Research, which is led by an appropriately qualified directorate. The hospital’s research policy is governed by an appropriately constituted Human Research Ethics Committee and is consistent with NHMRC, state/national legislation, regulations...”


Outstanding Recognition for Research

In July 2009 at the conclusion of the EQuIP 4 accreditation survey process (Evaluation and Quality Improvement Program) the Princess Alexandra Hospital was awarded an outstanding achievement “OA” rating for research by the Australian Council on Healthcare Standards. This highest rating by the ACHS recognises the commitment by the hospital and partner organisations to research.

Translating Research into Clinical Practice

Professor Matthew Brown and a consortium of Australian and New Zealand researchers discovered new genes which may hold the key to new treatments for people with multiple sclerosis. Two genetic variants which increase the risk of multiple sclerosis and reveal links to other autoimmune disease were discovered and the study was published in the prestigious scientific journal Nature Genetics.

Professor Ian Frazer and a team from Brisbane began delivering the ground breaking cervical cancer vaccine in developing countries. Working closely with the Vanuatu Government to trial a program for effective delivery of cervical cancer vaccines to schoolgirls, the objective in 2009 was to vaccinate and educate 1000 girls aged 10 to 12 years of age in Vanuatu.

Professor Ian Frazer with team in Vanuatu
Recognition and Awards

Australian Medical Association Gold Medal

Professor Ian Frazer, Director, University of Queensland Diamantina Institute, was named the winner of the prestigious Australian Medical Association Gold Medal. He has also been awarded the 2009 Honda Prize for his contribution to the development of the world’s first cervical cancer vaccines.

Fullbright Senior Scholarship

Professor Leanne Aitken, Chair in Critical Care Nursing, Griffith University and Princess Alexandra Hospital, won a Fulbright Senior Scholarship to visit the School of Nursing at the University of Pennsylvania for four months in 2010. Her project is to develop and test the feasibility of a complex clinical intervention to improve analgesia and sedation management in critically injured patients.

Young Investigator of the Year

Dr James Daveson has been awarded Young Investigator of the Year for his research into celiac disease. Eight finalists across Queensland presented at the Gastroenterological Society of Queensland’s state conference, with Dr Daveson’s work involving hookworm as a treatment for celiac disease. The hookworm trial being conducted at PAH and the Townsville Hospital aims to inhibit the immune response that causes the illness experienced by one in 100 Australians.

Prostate Cancer Centre and Cancer Clinic - PAH in partnership with QUT

A world-class prostate cancer research facility will be established through a $7.5 million grant from the Federal Government. The National Prostate Cancer Research Centre – Queensland will be based at PAH, in conjunction with the Queensland University of Technology. The Centre will be headed up by QUT’s Professor Colleen Nelson who is a world leader in the prostate cancer research field.

A flagship clinic for the management of complex and advanced prostate cancer was launched at the Hospital in November.
Grant Success

National Health and Medical Research Council (NHMRC) Program Grant

Professor Ranjeny Thomas and her team have been awarded a $10.13 million NHMRC Program Grant commencing in 2010. The five-year grant will support research into the role of the immune system in cancers, chronic viral infections and autoimmune diseases, and will help to develop novel vaccines to treat these infections and diseases. The team comprises five leading scientists - Professors Ranjeny Thomas, Geoffrey Hill, Ian Frazer, Matthew Brown and A/Professor Mariapia A Degli-Esposti – who have a history of successful investigation into the role of the immune system in cancers, chronic viral infections, and autoimmune diseases. There is a large unmet need for effective solutions with fewer side effects in these diseases which cause a high disease burden in the society. The team seek to develop novel vaccines for chronic infections and autoimmune diseases, and to improve the safety of bone marrow transplantation.

NHMRC Enabling Grant

The Australasian Kidney Trials Network led by Associate Professor Carmel Hawley, Chair Operations Secretariat, was awarded $2.0 million over 5 years. The Network facilitates well-conducted clinical research and fosters collaboration between leading researchers in kidney disease. The Network’s focus is to answer important questions about prevention and treatment of kidney disease to improve health and quality of life outcomes. The Network is at the forefront of knowledge creation and addresses complex economic, technological and social needs relating to the patient care and the translation of research into clinical practice.

Australian Research Council

Professor Ranjeny Thomas and Professor Mark Kendall were awarded Australian Research Council’s prestigious Future Fellowship. The four year fellowships for outstanding Australian and international researchers in the middle of their career will help to support the Diamantina Institute researchers in their quest to advance the understanding of diseases and therapies into cancer and immunology.

Professor Thomas’ research program focuses on more effective and safer treatment, and future disease prevention, with immune therapy.

Professor Kendall’s team is developing a new improved way to vaccinate against deadly infectious diseases such as influenza and malaria. They believe their Nanopatch technology will boost the power of seasonal influenza vaccination and could even solve vaccine shortages in an influenza pandemic.
Queensland Smart Futures Premier’s Fellowships

Professor Colleen Nelson, Director of the Australian Prostate Cancer Research Centre Queensland, received the top Smart Futures Premier’s Fellowship, $1.25 million over five years. This fellowship will be used to develop new, advanced treatments for prostate cancer. Her project examines the interplay between prostate cancer, diabetes and obesity and seeks to develop small molecule inhibitors of these pathways as potential new therapeutics for advanced prostate cancer.

The University of Queensland’s School of Medicine Centres

During the year, several new research Centres were created by The University of Queensland (UQ) School of Medicine in recognition of escalating research performance.

- The Cardiovascular Imaging Research Centre provides clinical and research capability in cardiac imaging and image processing, including multi-modality interests that are unique in Australia and the Asia-Pacific region.
- The Centre for Integrative Clinical and Molecular Medicine was established as an integrated clinical and research unit focusing on conventional and complementary / alternative medicine.
- The Centre for Liver Disease Research aims to determine the mechanisms by which obesity and fatty liver impair the response of the liver to injury and inflammation from multiple causes in human subjects, and to develop specific strategies to monitor and improve the outcome of treatment in patients with liver disease.
- The Centre for Kidney Disease Research focuses on reducing the burden of kidney disease by conducting research into disease mechanisms, diagnosis, prevention and treatment methods.
- The Centre for Research in Geriatric Medicine was officially launched by the Parliamentary Secretary, Murray Watt, at the Centre’s biannual conference held at the PAH. A product of the research efforts between geriatric medicine at UQ and the Geriatric and Rehabilitation Unit of PAH, the centre has already established a strong foundation for geriatric medicine research in Queensland.
- The Dermatology Research Centre aims to facilitate improved patient outcomes while increasing the profile of dermatological research in Queensland to bring UQ and the PAH to the forefront of this field.
- The Endocrine Hypertension Research Centre based at Greenslopes and Princess Alexandra Hospitals conducts research into the causes and management of various forms of hypertension (high blood pressure), including curable and specifically treatable varieties.
- The Lung and Allergy Research Centre is focused on undertaking scientific research to understand the pathogenesis of asthma and chronic obstructive pulmonary disease, with particular expertise in allergic inflammation and host defence against respiratory viral infections in patients with asthma and chronic obstructive pulmonary disease.
- The Therapeutics Research Centre aims to improve patient health outcomes through innovative strategic application of pharmaceutical science to areas of patient need.
Cancer Collaborative
Making a Difference

The Princess Alexandra Hospital Cancer Collaborative, established in early 2002, brings together renowned academic research scientists and clinical investigators involved in cancer research. The collaborative was formed to foster research collaborations in order to capitalise on the unique academic health environment and resources of the campus for the benefit of people living with cancer.

“Our research is translational and is devoted to developing and testing new clinical innovations that improve the health of patients and their families. Our goal is to translate novel findings into clinical practice.”

A/Professor Devinder Gill
Chair, Cancer Collaborative

Translational Research Pathway

“Cancer clinicians at Princess Alexandra Hospital see research as a basic component of our clinical service. It is through using all clinical encounters as learning experiences that we may deliver the best medical care. Linking laboratory science and clinical research provides us with the best opportunity to have cutting edge opportunities at an intellectual level for our staff and the ability to provide our patients with potentially the best clinical care. It is one of those situations which you can win which ever way you look at it!”

A/Professor Euan Walpole
Medical Director, Cancer Services
Blocking the chemical messages which attract suppressive lymphocytes to skin tumours

Our laboratory has a long standing interest in the interaction between the adaptive immune system and epithelial cells as a model for immunotherapy of cervical cancer and other carcinomas.

Using keratin 14 and keratin 5 promoters to drive expression of defined cancer antigens (such as the human papillomavirus (HPV) type 16 E7 oncoprotein) exclusively in the epithelium, we are beginning to understand the cellular and molecular basis of immune recognition of skin cancers. Recently, we have shown that HPV16 E7 transgenic mouse skin is unique amongst our K14/KS transgenic mice in attracting lymphocytes to the skin dermis and epidermis in the absence of inflammation. We are challenging current paradigms. Our studies are now focussed on how suppressive natural killer T cells (NKTS) are recruited to precancerous skin. These studies include an investigation of NKT cell numbers in human cervical cancer and non-melanoma skin cancer biopsies. If the chemical signals are unique, we will then test if selective blocking of these signals, and therefore NKT cell recruitment, leads to reestablishment of an effective anti-tumour immune response. This research will expand the range of treatment options in early stage human cancers such as cervical cancer.

Impact:
Australia has the highest incidence of skin cancer in the world and it accounts for 80% of newly diagnosed cancers each year.

With treatment, the 5-year relative survival rate for the earliest stage of invasive cervical cancer is 92% and more treatment options could improve this further.

Research Team:

Comprehensive assessment of the older cancer patient

This project pilots a comprehensive and standardised process for assessing fitness for chemotherapy of cancer patients aged > 65 years. The process comprises a Comprehensive Geriatric Assessment (CGA); from which a multidisciplinary cancer treatment plan responsive to each individual patient is subsequently tailored. It is argued that a model of cancer care for the older patient incorporating CGA ensures that individuals amenable to active treatment are accurately identified; vulnerable patients more suitable for modified or supportive regimens are determined; and frail individuals who would benefit most from palliative regimens are also identified and offered the appropriate level of care.

Impact:
More than half of all patients treated by DOCS are aged 65 years and over, making them a significant patient group in this service. However, nationally and internationally, their cancer treatment needs, which might be different from those of younger cancer patients, are not currently well-understood. It is anticipated that the outcome will be a comprehensive model of cancer care tailored to the needs of the older patient.

Research Team:
The POST Study, “Post operative concurrent chemo-radiotherapy versus post-operative radiotherapy in high-risk cutaneous squamous cell carcinoma of the head and neck”

In 2005 Dr Porceddu received funding from the Cancer Collaborative Group for a pilot clinical research study. The two-armed randomised trial was subsequently approved for activation by the Trans-Tasman Radiation Oncology Group to proceed to a full-scale study. The main objective of this research is to determine, in patients who have undergone surgery with curative intent for high-risk cutaneous squamous cell carcinoma of the head and neck, whether there is a difference in time to loco-regional relapse between patients treated with post-operative concurrent chemo-radiotherapy and post-operative radiotherapy alone. Secondary objectives of the research are to compare disease-free survival time, overall survival time, late effects of radiotherapy and chemotherapy and quality of life receiving both treatment arms.

Impact:
Among high-risk patients with resected head and neck cancer, concurrent postoperative chemoradiotherapy and radiotherapy significantly improve the rates of local and regional control and disease-free survival. This study will help identify patients who will likely benefit from combined therapy and reduce unnecessary side effects in patients who should not be offered combination therapy.

Research Team:
Associate Professor Sandro Porceddu and Trans-Tasman Radiation Oncology Group as TROG 05.01

Implementation of 4DCT at PAH Radiation Oncology

Lung cancer is a leading cause of cancer related deaths. Surgical resection remains the optimal method of treatment for early stage tumours. Radiotherapy plays an important role both for patients that refuse surgical intervention and those whose tumours are inoperable.

Clinical studies have demonstrated the benefits of increasing the prescribed dose to the tumour volume. However, surrounding critical organs, such as spinal cord and healthy lung tissue, limit the dose that can be delivered to the target. One method of escalating the radiation dose is to improve delineation of the target volume. Standard computed tomography (CT) scans used for radiotherapy planning only record a snapshot in time. However, lung tumours move as a result of respiratory motion.

One method of target motion management is four-dimensional computed tomography (4DCT). This research project aims to implement 4DCT technology at the PAH Radiation Oncology Department to allow for more accurate and patient-specific tumour delineation, which is hypothesised to lead to dose escalation for lung cancer patients.

Impact:
Lung cancer is the fourth most commonly diagnosed cancer in Australia and the leading cause of cancer related death.

Research Team:
Development of Cancer Survivorship Self Management Plans

With continued improvements in cancer treatment and extended survival from cancer, a growing body of research is emerging that cancer survivors have a unique set of health needs following completion of treatment.

This project seeks to develop, implement and evaluate interventions that will promote sustained improvements in patient self-management abilities following completion of active cancer treatment. Structured self directed management plans with priorities and timeframes, will form the essence of the transition from completion of treatment to self-management. This in turn will improve consumer’s effectiveness in managing the common sequelae of cancer and cancer treatment, including pain, fatigue, nutritional concerns, as well as common psychological concerns including anxiety and depression.

Melanoma

The research, which commenced in 1992, aimed to address the high rate of melanoma recurrence in patients who required surgery to the lymph node. It was led by surgeon Associate Professor Smithers with Professor Burmeister. Initial results in treating melanoma suggested that radiation after surgery was effective in reducing recurrence of disease but for the treatment to be accepted, years of investigation and data collection were necessary to establish the best and safest method of treating melanoma in this situation.

**Phase 1:**
Initial results highlighting reduced recurrence and limited side effects were first published in 1995.

**Phase 2:**
A much larger study involving 234 patients showed the recurrence of the disease was less than 15% in patients who received radiation therapy. The research involved 234 patients from eight centres across the Trans Tasman Radiation Oncology Group, with 45 per cent of participants coming from the PAH. The results were published in 2006.

**Phase 3:**
A third study focused on patients with lymph node disease having surgery alone, compared with patients who had both surgery and radiation therapy. With 250 patients recruited from 16 centres around the world, the results showed a reduction from 32% to 18% recurrence with the addition of radiation therapy. Of those 106 patients came from PAH. The results were published in May 2009.

**Impact:**
Recurrence of melanoma in the lymph nodes after surgery can be extremely disabling.

“Our research into the importance of radiation therapy in treating melanoma is particularly important in Queensland, where we experience the highest rate of melanoma in the world”

Development of Cancer Survivorship Self Management Plans

With continued improvements in cancer treatment and extended survival from cancer, a growing body of research is emerging that cancer survivors have a unique set of health needs following completion of treatment.

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**Impact:**
At current incidence rates, one in three men and one in four women in Australia will develop cancer by the age of 75. Ongoing medical research has meant greatly improved survival rates. Now many more cancer patients become cancer survivors and we need to make sure they have optimal post cancer care.

**Research Team:**
Yates P, McCarthy A, Anderson D

The ALLG Tissue Bank was established to facilitate translational research conducted in association with clinical trials and by independent researchers. It is a repository of high quality tissue samples collected from consenting patients with haematological malignancies, and is a joint initiative of the ALLG and the Leukaemia Foundation.

De-identified samples are collected from 36 Australian institutions, transported, processed and stored before dispatch for approved research projects to research laboratories throughout Australia and overseas. Trial-specific processing and storage is provided for national and international clinical trials for specified translational research. This has overcome one of the major rate limiting steps in translational research: access to adequate quantities of high quality clinically annotated tissue samples.

Impact:
Sample collection is now 35,842 samples from 1427 patients with confirmed haematological malignancies carefully categorized according to the WHO classification. In addition to the pre-defined trial related research, 19 independent research projects have been supported to date, resulting in 7 refereed journal articles.

Research Team:
Marlton P, Ellis M, Saal R, McMillen L, Dracopoulous J, Thomas J

The PAH amyloidosis diagnosis and treatment centre

In order to meet the unique needs of patients with amyloidosis, the PAH commenced a diagnosis and treatment service. This consists of a clinical outpatient service with multidisciplinary involvement from haematology, cardiology, renal medicine, anatomical pathology, social work and other specialist departments as required. Subspeciality registrars also receive training in the clinic. A multidisciplinary team meeting ensures thorough review of diagnosis and treatment plans. The amyloid centre has an active research program. This includes studies to: improve the diagnosis of amyloidosis through the use of laser capture micro-dissection and mass spectrometry; assess if 3-dimensional echocardiography can improve the diagnosis of cardiac amyloidosis; assess new and more accurate ways to measure the free light chains in the blood that cause AL amyloidosis; assess new and more accurate ways to measure the free light chains in the blood that cause AL amyloidosis; examine what factors predict outcome in patients with AL amyloidosis. Patient samples are also stored in the Australasian Leukaemia and Lymphoma Tissue Bank for future research projects.

Impact:
The PAH amyloidosis diagnosis and treatment centre aims to improve the management of patients with amyloidosis, educate patients and clinicians about the disease, and improve patient outcomes through a commitment to research.

Research Team:
Belinda Cole, Michelle Hill, Nikki Isbel, Dariusz Korczyk, Sally Mapp, Peter Mollee, Patricia Renaud, Jill Tate.
The University of Queensland at the Princess Alexandra Hospital

Faculty of Health Sciences

The University of Queensland Faculty of Health Sciences and School of Medicine have through the Princess Alexandra Hospital Centres for Health Research a long history of cooperation at the PAH. This productive relationship promotes innovative and translational research across a wide field of research, as well as supporting dynamic medical and health education at the campus. Many of The University of Queensland research programmes at the PA site are tightly integrated, conducted by both Queensland Health Princess Alexandra Hospital and UQ Faculty of Health Sciences staff and research students. This is particularly evident with many conjoint appointments and honorary academic appointments.

The Faculty’s School of Medicine, School of Population Health’s Queensland Clinical Trials & Biostatistics Centre (a joint PAH-UQ initiative) and School of Health and Rehabilitation Sciences all have significant research programmes at the PA site, including into kidney and liver disease and transplantation, geriatric medicine and e-health delivery, dermatology, hypertension, drug metabolism and therapeutics, clinical trials and biostatistics, mental health, cardiac disease and cardiovascular imaging, lung disease and allergies, integrated or complementary medicine, intensive care and cancer, audiology, speech pathology, occupational therapy and physiotherapy. The multidisciplinary research that continues to gain strength and momentum is a key component of the ongoing relationship between the PA Hospital and UQ.

School of Medicine

As Australia’s leading global medical school, The University of Queensland’s School of Medicine offers a variety of clinical placements within Australia and internationally. Working with a community of scholars, clinicians and stakeholders, the school provides award winning medical education in small case-based and problem based learning groups. In 2009, 1229 students in years one to three were enrolled with the school with approx 476 of these rotating through clinical placements at Princess Alexandra Hospital.
The School of Medicine operates over a number of different sites including Queensland Health, private health service providers and international partners. There are 10 Clinical schools, including schools in Brunei and New Orleans. In addition, there are 11 Academic disciplines that have an overarching role in promoting and supporting teaching and research in the various sites/ hospitals and these include: Anaesthesiology & Critical Care, General Practice, Medical Imaging, Medical Education, Molecular & Cellular pathology, Obstetrics & Gynaecology, Medicine, Paediatrics & Child Health, Rural & Remote medicine, Psychiatry and Surgery. 130 School of Medicine staff were based at the PAH in 2009, attracting $7.25million in research funding for the year.

The School offers opportunities and encouragement for staff members to engage in research projects relevant to the communities served by the school and its graduates and to disseminate the results through national and international peer-reviewed journals. Such research informs clinical academics’ teaching in the MBBS Program and postgraduate courses and is subject to monitoring by the PAH and UQ’s Human Research Ethics Committees. Research into effective education methods is also a component of the MBBS program.

Many School of Medicine research groups are represented at the PAH including the Cardiovascular Imaging Group, the Centre for Research in Geriatric Medicine and the Endocrine Hypertension Research Centre. Staff also conducted research in the clinical departments of gastroenterology & hepatology; intensive care; ear, nose & throat; renal & respiratory units, as well as urology, liver and ophthalmology research.

Previously known as the Academic Unit in Geriatric Medicine, the Centre for Research in Geriatric Medicine was established in October 2009. A product of the research efforts between geriatric medicine at UQ, the Geriatric and Rehabilitation Unit of Princess Alexandra Hospital and funding from the Geriatric Medical Foundation, the centre has already established a strong foundation for geriatric medicine research in Queensland. In 2009, the centre’s competitive research income exceeded $1m, and funding was secured for three significant NHMRC project grants, along with a grant from the Geriatric Medical Foundation to equip a Tele-medicine booth for clinical services to rural Queensland. The Endocrine Hypertension Research Centre based at the PAH and Greenslopes saw continued success in 2009 with Centre members publishing 26 peer-reviewed papers, 2 book chapters and 21 abstracts and gave 11 invited presentations at national and international meetings. In addition to its strong research focus, the centre prioritises patient care, offering diagnostic and treatment services by supporting four hypertension clinics and referrals from private rooms.

Collaboration between the School of Medicine and PAH medical staff is encouraged with many of the 700 plus PAH staff holding joint positions or academic titles with the School of Medicine and multiple partnerships with research groups, other universities and hospitals are also encouraged. There are many of these collaborative studies underway including research into heart failure, liver disease, schizophrenia, diabetes, geriatric medicine, psychiatry, hypertension and clinical pharmacology.

The announcement of Associate Professor Jenny Martin as the new Head, PA Southside Clinical School for 2010 was met with great enthusiasm for the future of our teaching and research staff and resources located within the PA Hospital.
New Colleagues

Dr Pimenata is a physician from Sao Paulo, Brazil and has been in Australia since 2009. He has extensive clinical and research experience in hypertension, including aspects of resistant hypertension, salt and hyperaldosteronism.

He trained two years in Internal Medicine, two years in cardiology and one year hypertension/nephrology. Previous appointments included working for two years with Professors Suzanne Opail and David Calhoun, both internationally acclaimed investigators in hypertension research, within the University of Alabama at Birmingham, USA. He also was appointed a staff cardiologist consultant at Dante Pazzanese Institute of Cardiology in Sao Paulo, Brasil, the largest Cardiology Institute in Latin America. He has over 150 publications including articles in peer review journals, book chapters and abstracts in national and international meetings. He has won eight awards in Brazil, USA and Australia. In 2010 he will receive an award in Washington, from the American Heart Association, in recognition of the top original clinical paper for 2009 published in the prestigious Journal Hypertension.

He is a Clinical Lecturer and Research Fellow to the Endocrine Hypertension Research Centre, University of Queensland School of Medicine and Public Health Officer to the Hypertension Unit, at Princess Alexandra Hospital.

Dr Sally Mapp moved to Brisbane in December 2008 and commenced at the Princess Alexandra Hospital within the Haematology Department as a consultant. She initially trained in Haematology in Melbourne, and subsequently spent four years in Canberra working at The Canberra Hospital and undertaking a PhD at John Curtin School of Medical Research at The Australian National University.

She is currently editing her thesis and finalising the publications from her basic scientific work using mouse models to investigate B cell biology and gene dysregulation in lymphomagenesis. This project focused on the minimum number and nature of dysregulated genes and the cellular pathways implicated in transforming a mouse B cell into one capable of autonomous survival.

The research aimed to increase basic understanding about B cell biology with the goal of clarifying the aberrant cellular processes in lymphoma, and thus identifying targets for future drug development. At the Princess Alexandra Hospital she has been involved in clinical research.

“I joined the PAH campus in February 2009 as a Hypertension Research Fellow. Since then I have investigated the combined effects of salt and aldosterone in determining target organ damage”.

“My aim is to focus on translational research in addition to clinical research upon completion of my PhD”.

Dr Eduardo Pimenta

Dr Sally Mapp
Associate Professor Sanjoy Paul took up the position of Director of the Queensland Clinical Trials & Biostatistics Centre based at the Princess Alexandra Hospital in September 2009. He is a skilled clinical trialist and biostatistician with a strong methodological background and research experience in interdisciplinary fields. Prior to joining The University of Queensland he was Head of the Statistics and Modelling Group of the Diabetes Trials Unit at the University of Oxford.

His work includes the design and analysis plans for multinational mega trials and cluster randomized trials, robust methods of analysis for cluster randomized and multinational outcome trials, aspects of multiple imputations in missing data analysis and data mining approaches to develop predictive models and validation of biomarkers. Sanjoy has extensive high-level consulting experience with pharmaceutical and biotechnology companies in the fields of clinical trials and biomedical studies.

He has published in highly acclaimed research journals including New England Journal of Medicine and the British Medical Journal.

He has designed multinational mega trials in cardiovascular and metabolic diseases, and has written study protocols and statistical analysis plans for over 70 large clinical studies. His recent work includes the design and analysis plans for multinational mega trials and cluster randomized trials, development of methods for the validation of new biomarkers, and robust methods for the analysis of Quality of Life data.

“As an experienced clinical trialist, my goal is the development of QCTBC as a highly specialised clinical trials hub with an international reputation, while providing research support to the highest level of clinical and basic science researchers of Queensland.”
Postgraduate Research

Dr Jellis commenced her PhD studies through The University of Queensland based at Princess Alexandra Hospital under the supervision of Professor Tom Marwick and Associate Professor Jennifer Martin in February 2009.

The opportunity to further her academic training within the internationally esteemed Cardiovascular Imaging Research Centre prompted her relocation from Melbourne.

Dr Jellis' PhD is clinically focused and involves using non-invasive methods such as cardiac stress echocardiography, cardiac MRI and procollagen biomarkers to detect underlying non-ischaemic heart disease in Type 2 diabetes. The unique research environment supported at Princess Alexandra Hospital is an ideal setting in which to conduct this type of research. Not only do clinician researchers have the opportunity to collaborate on campus, but also have the ability to benefit from access to world class research equipment, laboratory facilities and of course the wonderful volunteer patients who make this work possible.

Since commencing her PhD, there have been several highlights. She has been fortunate to attain publications in peer reviewed journals and to have the opportunity to present her research abstracts at several local and international conferences. As a young clinical researcher, she found the experiences to present to an audience of interested international experts invaluable both personally and for Australian research.

Dr Kendall was awarded her Doctor of Philosophy degree by Griffith University in 2009 and was recognised on the Academic Excellence List for this work.

Her thesis “Diverging Life Paths: Understanding the journey of friendship following spinal cord injury” was the culmination of 9 years of qualitative grounded theory research capturing the difficulties that individuals experience in maintaining informal networks of support when they are hospitalised for extensive periods of time following injury.

Her research interests focus on the social outcomes of traumatic injury. Through her current research roles within clinical, community-based rehabilitation teams at the PAH, she has expanded her interests to support the development of research capacity among health practitioners and nurses. She has published in international journals across various areas including outcome measurement, psychosocial adjustment following injury, rehabilitation models of care, health practitioner education, and transition between healthcare settings and between hospital and the community.

She is working with researchers to develop new models of care to support people with acquired brain injury and spinal cord injury to lead successful lives in the community.
Dr Siskind trained as a psychiatrist in Australia and the United States. He graduated from The University of Queensland’s Bachelor of Medicine, Bachelor of Surgery (MBBS) program in 1998, and the Harvard University’s Master of Public Health program in 2005. He spent two years undertaking research at the Harvard School of Public Health Program in Health Decision Science before returning back to Brisbane and joining the PAH in June 2008.

Dr Siskind’s time is split between clinical psychiatry, as a Consultant at the Princess Alexandra Hospital’s Mobile Intensive Treatment Team, and research at the Queensland Centre for Mental Health Research. His research interests include supported accommodation, international and transcultural mental health, assertive community treatment and mental health outcomes research.

Dan is currently a Ph.D candidate at The University of Queensland researching “Supported Accommodation for People with Severe and Persistent Mental Illness”. The PAH runs several programs providing accommodation plus psychosocial support (living skills, recreation, crisis management) for people with mental illness in various stages of crisis and recovery. His research looks at classifying these programs, evaluating their efficacy in improving the quality of life of patients, and making estimates of numbers of supported accommodation services required to meet patient needs.

Dr Varghese is a full-time staff psychiatrist where he works in the acute adult inpatient service as well as in the community. A graduate of The University of Queensland, he completed his psychiatry training at the Royal Melbourne Hospital before returning to Queensland to take up a position at the Princess Alexandra Hospital in 2007.

Daniel served as member of the PAH Human Research Ethics Committee in 2007-2008 and has had a significant role in registrar education in Queensland. He is currently the chair of the Queensland Branch of the Royal Australian and New Zealand College of Psychiatrists. Daniel’s research interest is the examination of the significance of psychotic -like experiences in the general population and he has been published in leading international psychiatric journals.

Daniel is enrolled in a Ph.D with The University of Queensland School of Medicine, under the supervision of Professor John McGrath and Dr William Bor and hopes to complete this in 2012. His research is exploring the significance of sub-threshold psychotic symptoms as it relates to the development of future psychotic disorders as well other mental disorders such as major depression and anxiety disorders.
Allied Health Research Collaborative

The Allied Health Research Collaborative (AHRC) includes health practitioners providing diagnostic, rehabilitative and clinical support to the hospital and community through specialised services. It produces internationally relevant research towards advancement of functioning, disability and health service delivery that is responsive to personal and environmental contexts.

In 2009, the AHRC continued to:

▷ facilitate, encourage and support high quality research in allied health,
▷ facilitate, coordinate and advocate for the dedicated allocation of resources to research in allied health,
▷ provide the support to increase the number of research proposals, publications, presentations and successful grant applications in allied health,
▷ increase the profile of allied health involvement in research at PAH and the community,
▷ ensure allied health research needs are represented and considered in strategic planning,
▷ encourage networking and collaborations with nursing and medical researchers and universities and,
▷ encourage the uptake of research findings into clinical practice and facilitate clinically relevant research.

Achievements

The key achievement for the AHRC in 2009 was its leading role in the successful bid for three Health Practitioner research positions to establish the Centre for Functioning and Health Research in the Metro South Health Service District. The Centre will seek to generate and translate research evidence in order to strengthen the delivery of health care, at all time points along the health care continuum. The research focus will be underpinned by the International Classification of Functioning, Disability and Health.

Recruitment of staff for the Centre commenced towards the end of 2009. This includes a conjoint Professor with the School of Health and Rehabilitation Sciences, University of Queensland, a Principal Research Fellow with Griffith Health Institute, Griffith University and a Senior Research Fellow with the School of Public Health & Institute of Health & Biomedical Innovation, Queensland University of Technology.

Nutrition and Dietetics were also awarded a conjoint Health Practitioner Research position with the Diamantina Institute and Radiation Therapy Services created and recruited a Principal Research Fellow to coordinate, facilitate and strengthen research across four radiotherapy centres in Queensland.

Research productivity has continued to increase as reflected within the relevant departmental reports. Over half a million dollars of competitive funding was awarded across diverse areas of health practitioner research, including exercise therapy, spinal cord injury, acquired brain injury rehabilitation, ageing, cancer services, indigenous health services, health related quality of life and nutrition. There continues to be a strong health practitioner post-graduate research presence on the campus with more than 15 full-time and part-time higher degree students enrolled. Over 40 refereed journal articles and book chapters have been published by members of the AHRC in 2009.

Dr Jennifer Lethlean
Chair
BSpThy (Hons), PhD
Centres for Health Research 2009 Annual Research Report

Dr Jennifer Fleming

Metro South Health Service District Human Research Ethics Committee

In June 2009, the District Executive formally recognised the Metro South Health Service District Human Research Ethics Committee, previously the Princess Alexandra Hospital Human Research Ethics Committee, following the changes within Queensland Health to the District responsibilities. This change represents a wider district role for the HREC. The Metro South Health Service District encompasses Redland and Wynnum Hospitals, Logan and Beaudesert Hospital, Queen Elizabeth II Jubilee Hospital and Princess Alexandra Hospital, as well as various Community, Oral and Mental Health facilities.

The work of the Committee continued to increase with 315 new research projects submitted for review. There were 141 PAH investigator applications, 88 clinical trials, 56 commercially sponsored projects and 30 other projects.

Significant Activities

Dr Fleming, in her capacity as HREC Chair, was formally invited to be a consultant to the Australasian Leukaemia and Lymphoma Group Tissue Bank Management Committee. Dr Fleming, Dr Marlton, Director of the ALLG and Ms Ellis, Tissue Bank Manager, have been involved in a number of initiatives focusing on the development of ethical policy directions on consent and disclosure processes and commercial imperatives for tissue banks including:

- A joint submission to the NHMRC Public Consultation Document “Ethics and the exchange, sale of and profit from products derived from human tissue: An issues paper” in April 2009.

- Co-presentation by Dr Fleming and Ms Ellis on a collaborative research proposal to extend recent research on future policy directions in tissue banking, examining tissue donor and public perceptions towards tissue.

Dr Fleming and Ms Areti Gavrilidis, Director, Research Development and Ethics, have contributed to a number of national subgroups established during the ongoing development and implementation phase of the NHMRC HoMER (Harmonisation of Multicentre Ethical Review) initiative, including the Accreditation Subgroup; Monitoring and Compliance Sub Group and the HoMER Pilot Subgroup. The objective of the NHMRC HoMER initiative is to streamline HREC approval of multi-centre research in Australia.

Dr Fleming co-authored a paper with Dr David Cook, ICU Consultant, PA Hospital, published in the international journal, Critical Care Medicine, March 2009, entitled: "Understanding the shared responsibilities in assessing the benefits and risks for the vulnerable critical care patient.” This paper was also presented at the 2009 joint Annual Conference of the Australasian Bioethics Association and the Australian and New Zealand Institute of Health Law and Ethics at which time Dr Fleming was a Board member (now the Australasian Association of Bioethics and Health Law).

Queensland Health implemented a new online database system, the Australia Research Ethics Database. This database, coupled with the online NEAF (National Ethics Application Form), will be instrumental for a future paperless system of Ethical Review.
Several members of the Committee and the Research Ethics Manager attended a number of professional development meetings including the following training and education forums:

- Queensland Health Research Ethics and Governance Unit, Chairs’ and HREC Member Forum, facilitated by Professor Colin Thomson, August 2009.
- Queensland Clinical Trial Network Training session(s), facilitated by Dr Gary Allen, July 2009 and Good Clinical Practice Training, ACRP.
- Intensive Research Ethics Course at Hepburn Springs, Victoria, organised by the Monash University, Centre for Ethics in Medicine and Society.

A number of new members joined the Committee during the year: Dr Dan Siskind, Dr Maher Gandhi, Dr Peter Mollee, and Dr Scott Campbell. Ms Beverley Ryans replaced Ms Beverley Kurkowski as the new lay female representative.

My sincere appreciation to all the committee members for their brilliant contribution.

Dr Jennifer Fleming
HREC Chair
BA, MHA, PhD
The PA Research Foundation

Our Mission: To bring research to life
Our Vision: To prevent and cure disease

The PA Research Foundation is situated at the Princess Alexandra Hospital and financially supports and promotes health research conducted on the hospital campus. This includes a research staff in excess of 600 people from Queensland Health, The University of Queensland, Queensland University of Technology and Griffith University.

The Princess Alexandra Hospital is one of Australia’s leading teaching and research hospitals and is the tertiary referral centre for the Southern Zone of Queensland Health and the State centre for renal and liver transplantation and spinal injuries.

The PA Research Foundation is a statutory authority appointed under an Act of Queensland Parliament and is controlled and managed by an independent Board of Directors. The Directors are drawn from the local business and medical community and are appointed by the Governor of Queensland.

In 2009, we celebrate two significant milestones. Not only is it Queensland’s 150th birthday, it’s also the year the PA Research Foundation celebrates 25 years of funding innovative and life-changing research. Research made possible by our supporters.

The last 25 years has seen more than $20 million raised from the local community. It has also seen some of the most remarkable medical breakthroughs in modern history. And every dollar donated has helped pave the way.

One breakthrough benefits many. And every donation takes us a step closer to the next one. In the next 25 years, the Foundation aims to build on its considerable achievements to date, and advance the PA Hospital’s world leading, life saving research. The new Translational Research Institute is now in development—the only facility of its kind in the Southern Hemisphere.

A new image for a new era

To celebrate 25 years, and help pave the way for a prosperous future, the PA Research Foundation has updated its logo. The new brand seeks to create a positive, professional and progressive impression for the Foundation and the vital research it supports.

Investing in smart thinking

This is not just an investment in the future health and wellbeing of our families and communities; it is also an investment in Australian industry and ingenuity. In the words of Professor Ian Frazer: “As individuals and as a nation, we need to value ideas. The solution to many of today’s challenges will start with an idea and be driven by a commitment to find that solution.”

Robert Bowen
Chairman, PA Research Foundation
MBA, BSc
Acquired Brain Injury Outreach Service

The Acquired Brain Injury Outreach Service is a specialist community rehabilitation service for people with acquired brain injury, their carers and service providers. The year has seen the recurrent funding of the Skills to Enable People and Communities (STEPS) program on the basis of pilot data collected over several years.

New research has commenced in collaboration with the Spinal Outreach Team, Transitional Rehabilitation Program and the Centre for Rural and Remote Health, looking at the efficacy of consultancy as a model for translating clinical evidence in rehabilitation and aged care settings. Work has continued on many projects in the areas of parenting, service models for Aboriginal and Torres Strait Islander communities and transition from hospital to home. Analysis and reporting is underway for a previous project looking at community care for people with acquired brain injury.

A pilot project has been developed in partnership with Disability Services to implement and evaluate the efficacy of self-directed funding support for people with disabilities. This will be implemented over two years, commencing in 2010.

Ray Quinn
Program Manager

Research Activities

Clinical knowledge translation from specialist health practitioners to generalist health practitioners - evaluating a consultancy model of service delivery (Amsters D, Kuipers P, Kendall M, Lindeman M). The project commenced this year, exploring the efficacy of consultancy as a means of health service delivery and clinical capacity building in community rehabilitation and aged care settings.

Improving community-based rehabilitation for Aboriginal and Torres Strait Islander Queenslanders with Acquired Brain Injury (Gauld S, Smith S, Kendall M). This is an ongoing project that aims to develop and evaluate models of service delivery in community-based rehabilitation for people with acquired brain injury that are appropriate and relevant for Aboriginal and Torres Strait Islander communities. This project commenced in 2007 and resulted in the submission of a business case this year.

Determinants of successful community transition for individuals with acquired brain injury and their families (Fleming J, Worrall L, Cornwall P, Haines T, Ownsworth T, Kendall M, Chenoweth L). This ARC Linkage funded project involves a collaborative team of researchers from The University of Queensland, Griffith University and Princess Alexandra Hospital. Industry partners include Disability Services and ABIOS. The project is a multisite project that has involved the commencement of data collection in regional Queensland.
Integrating individual parenting support into the community rehabilitation and case management context: A pilot study (Black G, Kendall M, Roser J, Smith S, Wright S, Morriss E). This project was commenced as a pilot during 2008. The study involved the development and evaluation of a psychoeducational support for parents with acquired brain injury and their partners. An extension of the data collection process has continued.

Discharge to the community: Factors contributing to successful community re-integration following prolonged hospital admission (Turner B, Wisniowski C). This new research was developed during 2008 to examine the factors that contribute to successful transition to the community following prolonged hospital admission, including slow stream rehabilitation and residential care. Data collection has continued.

Major Grants & Financial Support

Competitive funding: $38,696

National & International Invited Presentations

Susan Gauld
3rd Regional ABI Conference, Warrnambool, Victoria, November
Alcohol and Drug Research

The unit, based within the Division of Medicine, provides outpatient treatment programs for patients referred within the hospital and from the community. Treatment approaches predominately involve cognitive behavioural therapy, supplemented with medication. The disciplines of medicine, nursing, social work and clinical psychology are represented in this small unit. Clinical research is primarily directed to improving patient outcomes.

Dr Gerald Feeney
Medical Director

Research Activities

Clinical Trials
Deployment of a Clinical Support Decision Making System for Alcohol Dependence Treatment (Symons M, Connor JP, Feeney GFX, Young RMcD). A Clinical Support Decision Making System which scores and interprets clinical data, provides a prognosis on likely treatment outcome and identifies key modifiable treatment factors is being trialled. The System is integrated with the existing clinical databases and employs non-linear approaches to model outcomes from 1400 patients previously treated at the service.

Other Research
Effectiveness of Naltrexone and Acamprosate in Alcohol Dependence (Feeney GFX, Connor JP, Young RMcD). The effectiveness of the combined use of Naltrexone and Acamprosate with Cognitive Behavioural Therapy in Alcohol Dependence treatment is under investigation.

Psychometric Evaluation of Substance Use Assessment Instruments (Connor JP, Guillo M, Feeney GFX, Young RMcD). To ensure clinical instruments used in assessment and treatment are reliable and valid in the patient group presenting for treatment at ADAU, a systematic psychometric evaluation process has been undertaken.

Development of an Alcohol Craving Measure (Statham D, Connor JP, Feeney GFX, Young RMcD). A new, more comprehensive measure of alcohol craving that captures the diverse components of this cardinal symptom has recently been developed at PAH.

Alexithymia and Alcohol Dependence Treatment (Thorberg FA, Young RMcD, Connor JP, Feeney GFX). This personality trait characterised by difficulties identifying and describing feelings occurs frequently in alcohol dependence. Treatment implications of this are being investigated.

Public Service Relevant to Research

Associate Professor Jason Connor
Australian Psychological Society, Member, APS Health College National Committee
Research in the Anaesthetic Department moved to a firm footing with a positive outlook for the future. A new position of Anaesthetics Director of Research has been established and a Research Subcommittee. The department received very generous financial support from the Hospital Private Practice Fund which has provided the opportunity to employ a research nurse for two years. Ms Jowett is the first incumbent. The department is grateful to Dr Ashby and the Trust Fund Committee members for their confidence, encouragement and support. The research subcommittee comprises: Drs Burrow, McKenzie, Fairweather, Ferris, Wyssusek, Davies and Sivalingam.

Dr Peter Moran
Director

Dr Pal Sivalingam
Director of Research

Research Activities

Looking at the use of a questionnaire, and a pre-operative sleep study to predict post-operative outcome in Obstructive Sleep Apnoea patients (in collaboration with the Respiratory Medicine Department, Fairweather N, Smith L).

Survey on anaesthetic practice for Obstructive Sleep Apnoea patients across Australia and New Zealand (Wyssusek K, Breen C).

Gum Elastic Bougie vs. the Frova Airway Intubing Catheter When Using the Glidescope. (Sivalingam P, Ariotti G).

Full surgical scrub Vs antimicrobial agent application for aseptic technique (in collaboration with the Microbiology Department, McKenzie B, Howard J).

Preoperative Gabapentin for acute postoperative pain in elective forearm (fracture cases, Salkield I, Cerutti B).

Continuous local anaesthetic wound infiltration in hepatobiliary surgery – A comparison with placebo (Moran P, Sivalingam P, Radford L).


Intraoperative Transoesophageal Doppler monitoring for fluid therapy during (colorectal surgery) part of the multicentre trial (Ferris R, co-ordinating with Lateral Medicals).

REASON study - Research into Elderly Patient Anaesthesia and Surgery Outcome Numbers - our Department is one of the reporting centres for this trial organised by Trials Group, Australian and New Zealand College of Anaesthetists (ANZCA).

National & International Invited Presentations

Dr Pal Sivalingam
2009 Canberra Floriade (Organ Protection), Canberra, September

Dr Barton McKenzie
Ultrasound guided regional Anaesthesia workshop, Brisbane

Major Grants & Financial Support

Other sources of funding: $201,200
Australasian Kidney Trials Network

The Australasian Kidney Trials Network facilitates well-conducted clinical research and fosters collaborations between leading researchers in kidney disease with a focus on answering important questions about the prevention and treatment of kidney disease to improve health and the quality of life outcomes.

Research activities included the further development of a vibrant clinical translational research network with a diverse membership; the development of targeted clinical and translational research strategies; development of education program scholarships and increased mentoring; clinical trial initiation and protocol development; expert development of proposals for clinical trials; successful patient recruitment, and the establishment of international collaborations.

(For further information visit http://www.uq.edu.au/aktn/)

Associate Professor Carmel Hawley
Chair, Operations Secretariat

Professor David Johnson
Deputy Chair, Operations Secretariat

Research Activities

The HONEYPOT trial: A randomised clinical trial to determine whether Medihoney™ Antibacterial Wound Gel is an effective treatment for the prevention of infections that occur in patients requiring peritoneal dialysis (PD) for kidney failure. This trial has secured more than $800,000 in funding and has continued to recruit in 2009. Three hundred and seventy patients will be recruited over two years.

The FAVOURED Trial: A randomised, placebo-controlled clinical trial to determine whether the anti-platelet agents aspirin and fish oil, either alone or in combination, will effectively reduce the risk of early thrombosis (blood clots) in arterio-venous fistulae in patients requiring haemodialysis for kidney failure. This trial has secured $1.79 million in funding and has commenced recruitment. 1200 patients will be recruited over three years.

The HERO Trial: A randomised, placebo-controlled trial to determine whether Oxpentifylline (Trental®) administration will effectively treat erythropoitin-resistant or darbepoietin-resistant anaemia in chronic kidney disease patients. The trial has secured more than $310,000 in funding and commenced recruitment in September 2009. One hundred and ten patients will be recruited over two years.

The BLOCADE Trial: Investigating whether carvedilol (beta-blocker) reduces the incidence of cardiovascular morbidity and mortality in patients receiving dialysis. A feasibility study will initially be undertaken to determine recruitment rates, tolerability of carvedilol and event rates. The feasibility study has secured $755,000 and will commence recruitment in 2010. One hundred patients will be recruited over one year.
The ACTIVE Dialysis Trial: A prospective, randomised trial designed to provide definitive evidence on the benefits and costs of extending weekly haemodialysis hours beyond current standards, has recently received a National Health and Medical Research Council (NHMRC) Project Grant of $1.25 million. This trial is run from the George Institute and endorsed by the Network.

The Carnitine Trial: A prospective, randomised trial designed to provide definitive evidence on the benefits and costs of carnitine supplementation to improve erythropoiesis-stimulating agent responsiveness in end-stage renal failure patients with anaemia. This trial is run from the University of Adelaide and endorsed by the Network.

The Prevention Trial: This is a randomised controlled trial examining the effects of multiple risk factor reduction in prevention the progression of chronic kidney disease in the community. This trial is run from The University of Queensland and endorsed by the Network.

National & International Invited Presentations

Associate Professor Carmel Hawley
The Australasian Kidney Trial Network: Australia and New Zealand Society of Nephrology Conference, Newcastle, September

Major Grants & Financial Support

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Australian Prostate Cancer Research Centre – Queensland

The Australian Prostate Cancer Research Centre – Queensland was established with a $7.5 million Commonwealth grant in early 2009. Hosted by Queensland University of Technology at the Princess Alexandra Hospital, the Centre has made significant progress in their inaugural year. A broad network of partnerships with research institutes and industry were rapidly established, forming the basis of a number of successful grant applications and publications, including 15 grants and 38 prostate cancer-related research articles.

One highlight of the year was the $1.25 million Smart Future’s Premier’s Fellowship awarded to Professor Colleen Nelson. Queensland Premier Anna Bligh presented the award in May, and described Professor Nelson as a world leader in prostate cancer research. Along with Professor Nelson’s Premier’s Fellowship, the Centre received several other large grants. Professor Clements and colleagues received a $2 million NHMRC enabling grant to further develop the Australian Prostate Cancer BioResource, and Dr John Hooper and colleagues received $561,600 from the NHMRC for the grant entitled ‘A Novel Receptor Activated Pathway’. Dr Scott Stansfield, was awarded one of three Young Investigator Awards at the 3rd International Symposium on Kallikreins in Munich, Germany.

The Centre participated in various fundraising and awareness events for prostate cancer. The administration team moved to the PAH campus to join their researchers at the end of the year.

(For further information visit http://www.australianprostatecentre.org/)

Professor Colleen Nelson
Director

Professor Judith Clements
Director of Research

Research Activities

Clinical Trials
The Multidisciplinary Team Clinic for Advanced Prostate Cancer. Funded by APCRC-Q The APCRC – Q’s new Multidisciplinary Team for Advanced Prostate Cancer Clinical Trials Unit launched in December 2009 and will be a key component of the Centre’s research during the next year and beyond. The unit is a vital link between laboratory research and clinical trials and helps accelerate the discoveries that will ultimately underpin improvements in clinical outcomes for prostate cancer patients across Australia.

Other Research
Identify Biomarkers to Discriminate Indolent from Aggressive Prostate Cancer and Mechanisms of Therapeutic Resistance. (C Nelson, D Nicol, J Clements). Prostate cancer is a multi-focal disease; within an individual patient each tumour foci can express different genetic alterations. This project aims to correlate aggressive prostate cancer with the occurrence of a specific cohort of abnormal gene alterations (genetic lesions). This will determine what form of treatment is appropriate for each patient.
MicroRNAs in Prostate Cancer; potential biomarkers and therapeutic targets. (C Nelson; J Clements; D Nicol; G Risbridger (Monash Institute of Medical Research, Melbourne) W Tilley (Hanson Institute of Medical Research, Adelaide)). This project aims to more completely understand the actions of androgens (hormones) in prostate cancer cells, and to characterize the response of tumors to the removal of androgens.

The Role of Kallikrein Gene Variants in Prostate Cancer Etiology, Detection and Disease Progression. (MA Kedda; A Spurdle; J Clements; F Lose; J Batra). This study aims to investigate the role of kallikrein genes in prostate cancer development and patient susceptibility. The detection of gene variants associated with prostate cancer will provide the foundation for development of sensitive and readily applicable lab-based screening tools to be used clinically for diagnosis and monitoring of treatment and prognosis.

Development of therapeutics for castrate resistant prostate cancer—targeting androgen synthesis in the prostate and the role of insulin. (C Nelson). Queensland Premier’s Award. Advanced prostate cancer is treated by blocking production of the male sex hormones (androgens) on which the cancer depend. The tumours only weaken temporarily, however, and profound side effects can occur including “Metabolic Syndrome”. Professor Nelson has discovered that prostate tumours can surprisingly re-create their own androgens. She hypothesizes that changes due to metabolic syndrome enhance androgen production. This project examines the relationships between prostate cancer, diabetes, and obesity. It seeks to develop small molecule inhibitors of these pathways, which will potentially be a new form of therapy for advanced prostate cancer.

Inactivation of the inhibitor of differentiation (Id-1) as an adjuvant therapy for the treatment of advanced prostate cancer. (P Ling). A normal prostate gland makes the prostatic specific antigen (PSA) protein. If PSA levels in a patient rise when treated with hormone blocking agents, then the prostate cancer has progressed to a hormone refractory stage. Prostate cancer is virtually incurable once it has progressed to this stage. Based on previous studies, the team hypothesize that inactivation of the Id-1 gene may be used in conjunction with androgen ablation therapy to inhibit prostate cancer progression, and may also sensitize hormone refractory tumors to chemotherapy.

Proteolytic and non-proteolytic roles for PSA and related kallikrein serine proteases in prostate cancer progression. (J Clements; D Nicol). PSA is unregulated in prostate cancer and as such is used as a diagnostic biomarker. This study aims to clearly determine the functional role of PSA and KLK4 in prostate cancer progression, and will take a holistic approach to investigating the role of Kallikreins in prostate cancer. Using novel proteomic techniques a comprehensive analysis of KLK substrates and binding partners will be undertaken. Other studies will investigate the impact that KLK expression has on the transcriptional profile of tumour cells. Lastly, we will identify the KLK regulated components of the tumour microenvironment. These data will provide key information to help determine the potential of KLK or downstream signalling pathways as therapeutic intervention or prognostic biomarkers.

Evaluation of the Therapeutic Potential of SFTI-FCQR, a Novel Kallikrein 4-Specific Protease Inhibitor. (J Harris; J Clements; P Russell). This project aims to complete a full pharmacokinetic analysis of the KLK4 inhibitor compound SFTI-FCQR. Preliminary studies will determine factors such as toxicity and bioavailability of SFTI-FCQR. Later studies will use sophisticated imaging techniques to monitor the metastatic potential of prostate tumours in the presence and absence of SFTI-FCQR. At its completion, this study will have extended our Proof of Concept studies on the inhibition of KLK4 by SFTI-FCQR to the pre-commercialisation stage.

Kallikrein 4 regulates androgen bioavailability in the prostate by proteolysis of the carrier protein, sex hormone binding globulin (SHBG). (J Harris; J Clements). This project investigates the link between free levels of androgen and KLK4. Circulating levels of free androgen is a key regulator of prostate cancer proliferation and growth; the carrier protein, Sex Hormone Binding Globulin (SHBG), binds to androgen, limiting its bioavailability and restricting proliferation. The team suggest that KLK4 is able to degrade SHBG, thereby increasing the free levels of androgens and promoting prostate cancer proliferation. This study uses KLK4 inhibitors to determine the relationship between KLK4, SHBG and free androgen levels.
Australian Prostate Cancer Research Centre – Queensland (continued)

Applying a Novel Bone Tissue Engineering Platform to Study Prostate Cancer Metastasis to Bone (D W Hutmacher; J Clements; C Nelson). This study utilizes novel bio-mimetic model systems to investigate the role of PSA and KLK4 in prostate cancer bone metastasis. Tissue engineered bone scaffolds can be used in vivo and in vitro to allow in depth analysis of the interaction between bone scaffolds and prostate cancer cells. This work will yield research results with greater clinical relevance and aid in therapeutic developments.

EphB4 as a target for anti-prostate cancer therapy (S-A Stephenson; J Clements; A Herington; A Boyd). The EphB4 protein is increased on the surface of prostate cancer cells compared to normal cells in the human body, and was recently shown to directly contribute to the survival and spread of prostate cancer cells. Such tumour-specific proteins are potential targets for the development of novel therapies for cancer treatment. In particular, therapies using antibodies are showing great promise as new options for the treatment of some cancers. This project aims to develop “immunotherapy” strategies that target EphB4, inhibiting its function and preventing tumour proliferation and metastasis.

The opposing roles of a novel preproghrelin isoform and obestatin, a preproghrelin derived hormone, in prostate cancer. (L Chopin, A Herington). Ghrelin is an autocrine/paracrine factor that stimulates prostate cancer cell proliferation. Interestingly, obestatin is an endogenous hormone that is translated from the same mRNA as Ghrelin and acts to oppose the effects of Ghrelin. This project aims to further investigate the balance between Ghrelin and Obestatin and their individual and combined roles in regulating cell growth, proliferation, apoptosis, migration and invasion.

Development of new prostate cancer cell lines as models of prostate cancer progression (J Clements; C Nelson). Currently prostate cancer research relies heavily on cancer cell lines that are derived from metastatic prostate tumours (lymph, bone and brain) rather than cell lines derived from primary tumours. Five new cancer cell lines have been derived from men with localised prostate cancer. These are now being characterised by expression profiling and a number of growth assays.

A novel receptor activated pathway in prostate cancer. (JD Hooper; E Mackie; Q Wu; J Clements). Prostate cancer is one of the most significant health issues for men. This disease occurs because certain proteins start to function abnormally. The focus is on a protein called Protease-activated receptor (PAR2) which is present on the surface of prostate cancer cells and which we propose helps cancer cells to grow. The aim is to understand how this happens so that ways to block prostate cancer can be developed.

Australian Canadian Prostate Cancer Research Alliance (C Nelson; J Clements; David Nicol; MGleave (Vancouver Prostate Centre, Canada)). Queensland Smart State National-International Research Alliance Program. The Australian-Canadian Prostate Cancer Research Alliance represents a globally significant network of Australian and Canadian academic and clinical experts who can apply their coordinated energies to solve the complex problems facing prostate cancer. It provides a framework that facilitates the advancement of discoveries, from high tech applications through to validation, preclinical proof of principle and clinical evaluation.

PRACTICAL Australia: the prostate cancer arm of the European Union (EU) Collaborative Ovarian Prostate and Breast Cancer Gene Environment Study (Cancer Council Queensland) (G Giles, J Hopper (Melbourne); J Clements; C Nelson; A Spurdle (Queensland Institute of Medical Research, Brisbane), C Chambers (Brisbane)). The principal aim of is to contribute substantively to the prostate cancer component of the European Union Collaborative Ovarian Prostate and Breast Cancer Gene Environment Study by providing as much genotyping, clinical, tumour pathology and lifestyle/environment data as possible from Australian epidemiological studies of prostate cancer. The samples will be used to determine whether genetic variants act singly or together and the extent to which lifestyle and environmental factors can modify the risk of prostate cancer.

Sun exposure, Vitamin D and the outcome of prostate cancer (Cancer Council Queensland) (B Armstrong; C Nelson; D Smith; S Chambers; A Kricker; M Kimlin (QUT); M Clements). This project investigates the association between sun exposure, Vitamin D levels and genetic variants of the Vitamin D receptor gene and prostate cancer susceptibility. Samples from almost 3000 prostate cancer patients have been collected to perform these studies.
These samples will be screened and the results correlated with those from telephone interviews gathering data about pigmentation, sun exposure, sun-protection habits, intake of Vitamin D supplements or food rich in Vitamin D. Ultimately this will reveal the possible benefits of Vitamin D supplementation protecting against prostate cancer.

The Australian Prostate Cancer Collaboration BioResource. (J Clements, D Nicol, F Gardiner (Brisbane); W Tilley, V Marshall, J Stahl, D Roder (Adelaide); R Sutherland, P Stricker (Sydney); G Risbridger, M Frydenberg, J Pedersen (Melbourne)). This project is an initiative of the Australian Prostate Cancer Collaboration, a group of clinicians, basic scientists and other health professionals dedicated to improving prostate cancer management. The BioResource is a three year old national tissue bank collection containing biospecimens with associated clinical data from almost 2000 men with early stage disease. This is the largest collection of prostate cancer tissues within Australia. The Australian Prostate Cancer BioResource is now distributing biospecimens to researchers across all mainland states of Australia, and major collaborations are being formed to utilize these tissues on an ongoing basis.

### Major Grants & Financial Support

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### Awards & Prizes

**Dr Scott Stansfield**
Postdoctoral Research Fellow, Winner – one of three prizes awarded, Young Investigator Award Third International Symposium on Kallikreins, Presentation

**Professor Colleen Nelson**
Fellowship, Smart Futures Premier’s Fellowship, Queensland Government

**Dr Patrick Ling**
Fellowship, QUT Vice Chancellor Fellowship, Queensland University of Technology

### National & International Invited Presentations

**Professor Colleen Nelson**
- European Association of Urology, Stockholm, March 17-23, Sweden
- SPORE NIH retreat, Vancouver, Canada, 9-10 July
- Cancer Research Symposium, University of Sydney, 22-23 July
- Pfizer Workshop, 6-7 July
- Prostate Cancer Foundation, Canada, 15-16 December
- Pfizer Oncology Forum, 2 May
- 10th National Prostate Cancer Symposium, Melbourne, Australia, 19-21 August
- UQ PACE Inaugural International, Symposium on Precinct Development, Brisbane, Australia, 24-25 August
- Translational Research Excellence 2009, Brisbane, Australia, 23 October
- AusBiotech, Melbourne, Australia, 26-30 October
- MIMR Scientific Retreat 2009, Victoria, Australia, 8-9 November
- Transdisciplinary Design Symposium, Melbourne, Australia, 9-10 November

**Professor Judith Clements**
- 2nd Australia-China Biomedical Research Conference, Tianjin, April 24-28 China
- Molecular Urology and Therapeutics Program, Emory University, Georgia, May 19, USA
- International Proteolysis Symposium 2009, Munich, Germany, 26-30 October
- Cancer & Bone Society Scientific Meeting, Sydney, Australia, March 25-26, 2009
- Endocrine Society of Australia and Society of Reproductive Biology Annual Scientific Meeting
  South Australia, Australia, 23-25 August

**Professor Colleen Nelson; Professor Judith Clements**
- COSA Annual Scientific Meeting, 16-19 November
Research Activities

Clinical trials
Muscle hypertonicity - often referred to as “spasticity” - frequently results in poor limb function with loss of independence with walking and upper limb activities such as dressing, feeding and so on. Posture and hygiene issues can also result from permanent flexed postures of limbs. A major focus has been the development of a best practice clinic for the management of hypertonicity with the development of assessment and management protocols focusing on goals in the management of hypertonicity. This clinic is a multidisciplinary research clinic utilising assessment tools such as the gait laboratory in order to document and refine management. This research has been assisted with an educational grant from Allergan.

Other Research
A recreation research position has been funded by a grant from the Brain Injury Foundation exploring the role and benefits of recreation. Patients with acquired brain injury commonly experience: isolation and need for social interaction; a decline in functional independence; reduced self expression and self esteem; decreased ability and opportunity for exercising choice and control in their lives; and depressed mood. Qualitative and quantitative data are being analysed.

Major Grants & Financial Support

| Other competitive funding: | $62,000 |
Breast and Endocrine

The unit provides a comprehensive world-class tertiary surgical service for the management of breast and endocrine surgical conditions within a multi-disciplinary setting. Over 150 newly diagnosed breast cancers are treated annually. Breast cancer is managed in conjunction with the Medical Oncology and Radiation Oncology units. Surgeons meet on a weekly basis with clinicians from the other disciplines in a combined breast oncologic multi-disciplinary clinic to ensure that ‘state of the art’ breast cancer treatment is provided in keeping with nationally accepted best practice guidelines. A multidisciplinary endocrine meeting is also conducted monthly between surgeons, endocrinologists and radiologists to discuss and streamline management of patients with endocrine disorders.

The respective surgeons also work closely with the Breast Screen Queensland Brisbane South Service so that surgical expertise is provided for screening, assessment and diagnosis of early stage breast cancer to facilitate and integrate with definitive management. The unit is also involved in collection of data for the Royal Australasian College of Surgeons National Breast Cancer Audit of all breast cancers treated at the hospital.

Members of the unit have an excellent collaborative working relationship with scientists in University of Queenslands’ The Diamantina Institute for the conduct of clinically relevant research, particularly in the field of breast cancer. The unit plays a role in both undergraduate and post-graduate teaching of breast and endocrine surgical conditions.

Associate Professor Ian Bennett
Chairman

Research Activities

Clinical Trials

Sentinel Lymph Node versus Axillary Clearance (SNAC I Trial) (Wetzig N). A randomised trial of sentinel node based management versus axillary clearance for women with small unifocal breast cancers

Sentinel Lymph Node versus Axillary Clearance (SNAC II Trial) (Wetzig N, Vujovic P). A randomised trial of sentinel node based management to women with larger or multiple breast cancers

Other Activities

Dr Peter Vujovic
Visiting Surgeon at Gallipoli Barracks, Enoggera
Clinical Tutor at Wesley Hospital, Brisbane

Dr Neil Wetzig
Board member Queensland Co-operative Oncology Group
Chair Breast Group Queensland Co-operative Oncology Group
 Examiner Royal Australasian College of Surgeons

Major Grants & Financial Support

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Breast and Endocrine (continued)

**Funded Clinical Trials**

IBIS II DCIS Trial: An International multicentre study of anastrozole versus tamoxifen in post-menopausal women with hormone sensitive Ductal-Carcinoma-in-Situ. Co-ordinated by Australian New Zealand Breast Cancer Trials Group. (Bennett I)

IBIS II Prevention Trial: An international multicentre study of anastrozole versus placebo in post-menopausal women at increased risk of breast cancer. Co-ordinated by Australian New Zealand Breast Cancer Trials Group. (Bennett I)

National Breast Cancer Centre Foundation Research Grant. Pilot study award. Title of grant: “Understanding the Heterogeneity of Invasive Ductal Breast Cancers – a proteomic approach for the discovery of biomarkers and novel therapeutic targets.” Grant commencing 2009, two years funding $200 000. (Chopin I, Simpson P, Lakhani S, Bennett I, Hill M)

SNAC 1: A randomised trial of sentinel node based management versus axillary clearance for women with small unifocal breast cancers. NHMRC Project Grant over 4 years $1,272,852. (Gill G, Wetzig N, Ung O, Bilous M, Campbell I, Collins J)

SNAC 2: A randomised trial of extending sentinel node based management to women with larger or multifocal breast cancers. NHMRC Project Grant over 4 years $889,538. (Wetzig N, Campbell I, Gill G, Ung O, Collins J, Bilous M)

SNAC 2: Breast Cancer Association of Queensland, 2006-2009 $10,000 per annum
Cardiology

The department has led the world with the investigator-initiated Protect-Pace Study. Dr Gerald Kaye is the International Study Chair and Professor Thomas Marwick is the Echocardiograph Core Lab Chair for this study. The group has the highest number of participants recruited worldwide.

Additional achievements during the year have been the clinical investigation of; echocardiographic optimisation of pacing cycle durations at rest and on exercise in cardiac resynchronisation therapy; the effect of atrial fibrillation and ablation of atrial fibrillation, on cardiac neurohormonal response and atrial remodelling, and; correlation of electrical and mechanical activity in the left ventricle using sophisticated mapping and imaging techniques.

The broad expertise the department offers has secured a large number of clinical trials from a variety of commercial companies, the National Health and Medical Research Council, the National Institutes of Health and investigator-driven research over the past year. Collaboration with The University of Queensland’s Cardiovascular Imaging Research Centre has ensured an even broader range of cardiology modalities on offer to enhance research within the department. Research areas cover coronary artery disease, cardiac arrhythmias, cardiac devices, acute/chronic systolic/diastolic heart failure, coronary angiography and percutaneous transluminal coronary angioplasty, cardiac echocardiography, cardiac magnetic resonance imaging and cardiac surgery. Implementation of Good Clinical Research Practice is paramount in all clinical research.

Dr Paul Garrahy
Director

Research Activities

Clinical Trials

Alphee Study (Hill J). Antiarrhythmic study drug vs amiodarone vs placebo as a calibrator for the prevention of ICD interventions or death

Atlas-2 Study (Garrahy P). Antiplatelet agent + ASA +/- Clopidogrel vs Placebo + ASA +/- Clopidogrel in Acute Coronary Syndrome

Atmosphere Study (Marwick T, Korczyk D). Renin inhibitor medication as monotherapy vs renin inhibitor medication with enalapril combination therapy vs enalapril monotherapy, on morbidity and mortality in patients with chronic heart failure (NYHA Class II - IV)

Averroes Study (Garrahy P). Antiplatelet agent vs aspirin to prevent stroke in atrial fibrillation patients who have failed or are unsuitable for Vitamin K antagonist treatment

dalHeart Study (Garrahy P). Lipid medication vs placebo on cardiovascular risk in stable coronary disease patients with a documented recent Acute Coronary Syndrome
Cardiology (continued)

**Echo-CRT Study** (Marwick T, Korczyk D). Heart failure subjects outside the standard ICD insertion guidelines parameters

**Freedom Study** (Garrahy P). Percutaneous transluminal coronary angioplasty vs coronary artery bypass grafting in diabetic subjects with multivessel disease

**OAT Study** (Garrahy P). Myocardial infarction in patients with an occluded coronary artery > 3 days old

**Plato Study** (Garrahy P). New antiplatelet drug vs clopidogrel in subjects with Acute Coronary Syndrome

**Red-HF Study** (Marwick T). New study drug vs placebo on mortality and morbidity in heart failure subjects with symptomatic left ventricular systolic dysfunction and anaemia

**Spirit Prime Study** (Garrahy P). Comparison of new drug-eluting Coronary Stent System in de novo coronary artery lesions

**ZoMaxx II Study** (Garrahy P). Comparison of new drug-eluting stent vs TAXUS™ Express™ Paclitaxel - Eluting Coronary Stent System in de novo coronary artery lesions

**Other Research**

**BNP in metabolic syndrome** (Korczyk D, Gould P, Doneva S). Substudy of Differential effect of right ventricular pacing sites on cardiac Neurohormone Production

Combination of Organic Nitrate and Hydralazine in the Management of Symptomatic Patients with Systolic Heart Failure Receiving Contemporary Neurohormonal Inhibition (substudy) (Korczyk D, Marwick T)

**Protect-Pace Study** (Kaye G). The protection of left ventricular function during right ventricular pacing

**Teaching Project** (Kaye G). Animation of electrophysiological signals during arrhythmias in man, Combined project with Professor Paul Cleveland from the Design Department Griffiths University, Pilot project completed and funded through Griffith University

**National & International Invited Presentations**

**Dr Paul Gould**
Asia Pacific Congress of Doppler Echocardiography, March, Brisbane
Cardiac Society of Australia and New Zealand Annual Scientific Meeting, August, Sydney

**Cindy Hall**
Association of Regulatory and Clinical Scientists Seminar, June, Brisbane
Cardiac Society of Australia and New Zealand Annual Scientific Meeting, August, Sydney

**Rita Hwang**
Heart Failure Conference, Stockholm, Sweden

**Dr Gerald Kaye**
Toowoomba Annual Cardiovascular Symposium, February, Toowoomba
Cardiology in Paradise Annual Cardiovascular Symposium, April, Gold Coast
Asian Pacific Heart Failure Meeting, October, Brisbane

**Dr Richard Lim**
China Interventional Therapeutics Meeting, March, Beijing, China

**Michelle Padget**
Australian Resuscitation “Spark of Life” Conference, May, Tasmania
The Centre provides clinical and research capability in cardiac imaging and image processing, including multi-modality interests that are unique in Australia and the Asia-Pacific region. The group have expertise in new echocardiocardiographic imaging technologies such as tissue Doppler, strain and strain rate imaging, myocardial backscatter and contrast echocardiography. This work is carried out in the research echo/stress area in the main hospital and image processing area in the Department of Medicine.

The Centre comprises researchers, physicians, PhD scholars, visiting scholars, research study nurses, research assistants and students. Members of the Centre have generated over 130 publications in peer-reviewed journals in the last five years, as well as presentations and invited lectures at major international meetings in Asia, the USA and Europe.

(For further information visit http://www.som.uq.edu.au/research/cig/default.asp)

Professor Tom Marwick
Director

Research Activities

The work focuses on four themes to deal with the complex association of cardiovascular disease with other diseases such as diabetes, hypertension and renal disease as well as to understand how cardiac imaging techniques can influence patient outcomes and cost-effectiveness of care.

Detection of subclinical myocardial disease. Using image processing techniques such as tissue Doppler imaging, speckle tracking, strain and strain rate image and myocardial torsion, early changes in myocardial mechanics are detectable both at rest and with stress, which may lead to advanced cardiovascular disease. Early intervention and treatment in these “at-risk” patients may prove beneficial in the long term.

Assessment of myocardial viability, coronary artery disease and contractile reserve. Professor Marwick is a leader in the field of stress echocardiography and helped the American College of Cardiology to establish guidelines for exercise testing. In patients at risk who have symptoms, stress echocardiography has been able to identify those who are not in need of further treatment and do not need a coronary angiogram. The ability to diagnose viable myocardial segments in the heart after infarction without having to use other expensive and potentially dangerous tests is beneficial in decision making for both the patients and surgeons. In patients with valvular disease, assessing contractile reserve with exercise is crucial in deciding whether or not patients need surgery.

Nurse-led intervention in cardiovascular disease management programs. In patients with heart failure and peripheral vascular disease as well as in patients at risk, the ability to provide testing and manage the patient’s care without having to spend time in hospital or travel repeatedly to clinic appointments is beneficial to both the patients and health care system. There is a team of highly qualified research nurses who recruit patients, assist in testing and then follow the patients’ progress and monitor their care. This includes medication changes, referrals to specialists, hospital admissions and quality of life. It is the belief of the group that this is the future of managed care in Australia.
Cardiovascular Imaging Research Centre (continued)

High resolution vascular imaging, assessment of central arterial pressure, arterial distensibility and vascular reactivity. There is a close association between abnormal vascular function and patients having coronary artery disease, hypertension, renal failure and heart failure. The group has been using high resolution ultrasound imaging of large arteries to measure intima-media thickness (IMT), a measure of atherosclerotic burden. In patients with increased age-corrected increased IMT, it is believed early treatment and risk factor modification will decrease future cardiovascular events. Work carried out in the past has also shown that early detection of subclinical vascular dysfunction, as evidenced by increased arterial stiffness and decreased arterial distensibility, can not only be reversed but, when intervention is carried out, it, can also change patients’ risk of developing future disease. This is done using applanation tonometry which measures arterial pressure non-invasively at either the brachial, carotid or femoral artery. Using mathematical formulas, central blood pressure (pressure at the heart) can be measured as well as how fast the arterial pressure waves travel from one site to the next, giving a measure of arterial stiffness.

Major Grants & Financial Support

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National & International Invited Presentations

**Professor Tom Marwick**  
American College of Cardiology Scientific Sessions, March, Orlando, Fla., USA  
Asia Pacific Conference on Doppler Echocardiography, April, Brisbane  
Echo Australia, October, Sydney  
American Heart Association Scientific Sessions, November, Orlando, Fla., USA  
European Society of Cardiology Scientific Sessions, September, Barcelona, Spain  
Annual Tissue Doppler Conference, February, Leuven, Belgium

**Dr Brian Haluska**  
American Society of Echocardiography, June, Washington D.C. USA  
Asia Pacific Conference on Doppler Echocardiography, April, Brisbane

**Dr Carly Jenkins**  
American Society of Echocardiography, June, Washington D.C. USA

Awards & Prizes

**Professor Tom Marwick**  
Recognition Simon Dack Award, American College of Cardiology

**Dr Carly Jenkins**  
Young Investigator’s abstract prize - 3D echocardiography, European Society of Cardiology  
Young Investigator’s abstract prize finalist - 3D echocardiography, American Society of Echocardiography  
Young Investigator’s abstract prize finalist - 3D echocardiography, Asia Pacific Conference on Doppler Echocardiography

**Mr David Holland**  
Young Investigator’s abstract prize - Diastolic Function, Asia Pacific Conference on Doppler Echocardiography

**Dr Brian Haluska**  
Queensland Premier’s Awards, Young Investigator’s abstract prize finalist - Arterial compliance, Australian Society for Medical Research
Centre for Integrative Clinical and Molecular Medicine

The Centre, formally established in 2009 on integrative medicine, focuses on supporting evidence-based research in areas such as probiotics, immune function, osteoarthritis and the use of ascorbate as an anticancer drug that expands the conventional model of care, and in educating clinicians in the emerging evidence base of disease prevention and therapeutic care.

The Centre also includes the venomics group with major research on proteins such as Textilinin-1, Haempatch and factor V which have been patented and have been licensed to QRx Pharma as part of their ASX listing. This venomics group have carried out screening of 20 Australian snake venoms and their venom glands’ cDNA profiles in search of novel DNA sequences. Many of these identified sequences have been added to the NCBI database. Novel cDNA sequences which have been defined as having potential IP value have been retained with a view to patenting. To date four patents have been established which include novel genetic sequence data as part of their composition claims. Three other potential IPs are currently in development.

(For further information visit http://www2.som.uq.edu.au/som/Research/CICMM/Pages/default.aspx)

Associate Professor Luis Vitetta
Research Director, Head of the Research Centre

Research Activities

Clinical Trials
A Prospective Phase Ila Double Blind Randomised Placebo Controlled Study to Evaluate the Safety and Efficacy of a Lactoferrin/Immunoglobulin Preparation to Prevent the Onset of a Cold or Reduce Time of Symptoms in Patients with a Cold (Vitetta L, Coulson S, Lewis S)

A Pilot Trial Assessing the Efficacy of GlycOmega Greenshell Mussel Powder on OA of the Knee (Vitetta L, Coulson S, Vecchio P)

Does regular Tai Chi practice improve depression and metabolic syndrome for depressed adults at risk of developing cardiovascular disease? (Liu Xin, van der Hall E, Vitetta L)

A clinical trial investigating supplementation with B12 and other B group vitamins to reduce chemotherapy-induced peripheral neuropathy in patients diagnosed with a malignancy. (Schloss J, Vitetta L, Colosimo M)

Other Research
To investigate the effects of selected natural compounds on human skin cells in vitro and in vivo. (Chen C, Zhao KN, Linnane AW, Vitetta L)

To investigate probiotic supplementation as an intervention against the toxic and inflammatory effects of gluten and irritable bowel syndrome (Briskey D, Vitetta L, Peake J)
Selected micronutrient absorption studies in healthy adult volunteers (Coulson S, Vitetta L)

Anticoagulant Proteins from Snake Venoms: Structure, Activity, Specificity Sharon: Pre-clinical evaluation of a snake venom protein with therapeutic potential: Investigations into the anticoagulant activity of a phospholipase A2 from Pseudechis australis (Qianyun Sharon Du, Trabi M, Masci P)

Improving outcomes of biochemical testing with patient samples in Pathology (Goce Dimeski, Masci P)

Awards & Prizes

Associate Professor Luis Vitetta
Transitional Preclinical and Clinical Research in Nutraceuticals and Herbal Medicines, National Institute of Complementary Medicine

Liu Xin [CIA] & Associate Professor Luis Vitetta
Does regular Tai Chi practice improve depression and metabolic syndrome for depressed adults at risk of developing CVD? National Heart Foundation and Beyond Blue

Associate Professor Luis Vitetta & Linnane AW [CIB]
Ascorbate as a treatment for cancer, The University of Queensland Cancer Bequest Research Fund

National & International Invited Presentations

Associate Professor Luis Vitetta
Mitochondrial Metabolism, Nutraceuticals and Cognitive Decline with Ageing, 15th International Holistic Health Conference, October, Melbourne

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Centre for Kidney Disease Research

The Centre for Kidney Disease Research was approved as a new School of Medicine Centre in September 2009. The overall mission of the Centre is to reduce the burden of kidney disease in Australia and internationally. Kidney disease contributes directly or indirectly to at least 10% of deaths in Australia. Translational research policies and processes are used to reduce the social and financial burden of renal health services and renal replacement therapies. To achieve the Centre’s goals, state-of-the-art research is used into disease mechanisms, diagnosis, prevention and treatment of kidney disease. The group brings together clinicians and scientists in renal disease from several institutions The University of Queensland, Princess Alexandra Hospital, Royal Brisbane and Women’s Hospital and Griffith University and research networks and centres around the state, nationally and internationally, to form a comprehensive, multidisciplinary renal research Centre.

The translational nature of the research is already evident in the group’s successes. At the “bedside”, the group has made major contributions to improved patient care nationally and internationally by carrying out clinical research, contributing to clinical trials, and having representation on many key kidney disease task forces and committees. At the “bench”, the group have successfully used biomolecular approaches to define the underlying mechanisms of renal disease in its many forms and some of those results have been translated into clinical practice. In a demonstration of the continuing strength and success, early 2010 will see the Australian Kidney Trials Network incorporated into the Centre.

Associate Professor Glenda Gobe
Administrative Director

Research Activities

Refer to the Nephrology report for additional clinical trials and other research

Bench
Erythropoietin as a novel cytoprotective agent in in vitro and in vivo models of acute renal failure, acute myocardial ischaemia and ischaemic brain injury. (Johnson DW, Gobe G, Gokligorsky M, Colditz P, Vesey D). This project successfully demonstrated the ability of a hormone called erythropoietin to protect organs such as the heart, kidneys and brain, from injury due to poor blood supply.

Expression and phosphorylation of p66shc in young and old rats subjected to oxidative stress. (Gobe G, Percy C, Brown L, Johnson DW). This research examined the effects of a gene called p66shc on mediating the effects of age on cell damage and established the research basis for testing the protein as a useful biomarker of chronic kidney disease in humans.

Molecular pathways in age-associated chronic renal pathologies (G Gobe, D Crane, Johnson DW). In this project we have established cell culture models to investigate the role of dysfunctional mitochondria and oxidative stress in age-related kidney disease, and the mechanisms of targeted anti-oxidants in maintaining mitochondrial health.
The role of protease activated receptors (PARs) in progressive renal scarring, inflammation and failure. (Vesey D, Gobe G, Johnson DW). The project has successfully used cell culture models to demonstrate for the first time the effect that these receptors have in progressive kidney failure and scarring.

Therapeutic application of adult mesenchymal stem cells in renal regeneration. (Clark C, McTaggart S, Gobe GC, Johnson DW). This project has demonstrated that mesenchymal stem cells administered locally help repair acutely injured kidneys.

Nuclear factor kappaB inhibition by pyrrolidine dithiocarbamate induces anti-angiogenic activity in vitro and ex vivo. (Morais C, Healy H, Gobe G, Johnson DW). This research has demonstrated the effectiveness of a novel anti-cancer agent, PDTC, against renal cell carcinoma.


Bedside Peritoneal Dialysis
The balANZ trial - A multicentre randomised controlled trial of Balance® in Australian and New Zealand PD patients (Johnson DW). Aims to compare the effects of a novel, neutral pH, low glucose-degradation product dialysis fluid with conventional dialysis fluid on remaining kidney function in peritoneal dialysis patients. Estimated completion date late 2010. This trial is also being conducted at the RBWH with principal investigator Dr Dwaraka Ranganathan, RBWH.

The IMPENDIA trial – Multi-center, prospective, randomized trial to demonstrate Improved Metabolic Control of PPEN Vs DDDD in DiAbetic CAPD patients (Johnson DW). A controlled clinical trial evaluating the effects of sugar-free dialysate on blood sugar control and other metabolic parameters in diabetic peritoneal dialysis patients.

The IMPENDIA study with principal investigator Dr Dwaraka Ranganathan, RBWH. This prospective randomised trial also aims to demonstrate improved metabolic control of PPEN versus DDDD in diabetic CAPD patients.

A review of cardiovascular complications in peritoneal dialysis by (R Fassett and J Coombes).

Gentamycin in peritoneal dialysis (GPID) study investigating the pharmacokinetics and pharmacodynamics of gentamycin administration in peritoneal dialysis being conducted at the RBWH with Dr Dwaraka Ranganathan, PI.

COMIVID study. A comparison of myocardial and vascular structure and function in peritoneal and haemodialysis patients (Fassett RG and Coombes JS).

A pilot study to investigate vitamin D status and its associations with dietary vitamin D intake, sunlight exposure and selected health outcomes in peritoneal dialysis. Fassett RG, Healy H, Hanna K.

The TUMMIE trial: comparing the topical use of medi-honey with mupiracin in the management of PD exit site infection. Principal investigator is Dr Dwaraka Ranganathan, RBWH.

Haemodialysis
A randomized, placebo-controlled study to assess the effects of Cholesterol-lowering therapy with a combination of simvastatin and Ezetimbe on the Risk of Major Cardiovascular Complication Among Individuals with Chronic Kidney disease (SHARP trial) (Johnson DW, Sudak J). Anticipated completion date March 2010. Also being conducted at RBWH with Dr Ranganathan as PI.

The initiating dialysis early and late (IDEAL) study. (Johnson DW, Martin AJ). An Australasian, multi-centre, controlled clinical trial of early versus late commencement of dialysis in end-stage kidney failure patients. Follow-up completed 31 December 2009. This study is also being conducted at RBWH with A/Prof Helen Healy as listed PI.

Evaluation of Cinacalcet HCI Therapy to Lower Cardiovascular Events (EVOKE) (Hayley, C, Sudak, J). A multi-centre, controlled clinical trial of cinacalcet versus placebo in haemodialysis patients. The primary outcome measure is a composite cardiovascular end-point. This study is also being conducted at RBWH with Dr Adrian Kark as listed PI.

Ethanol lock therapy for the prevention of tunneled catheter-related bacteremia in haemodialysis patients (Broom J, Playford G, Johnson DW, Hawley CM). Single centre, controlled clinical trial examining the effect of once-weekly alcohol lock treatment versus conventional heparin locking on catheter-associated bloodstream infection in haemodialysis patients. Expected completion date 2011.

DOPPS Dialysis Outcomes and practice Patterns Study IV is being conducted at the RBWH following on from DOPPS III with principal investigator Dr Sharad Ratange.
An observational cohort study of EXTENDed dosing (Q2W or QM) with Aranesp s.c. in patients with Chronic Kidney Disease. The EXTEND Study and its EXTENSION has Dr Sharad Ratange as principal investigator at the RBWH.

Randomised trial to evaluate the efficacy and safety of cinacalcet treatment in combination with low dose vitamin D for treatment of subjects with secondary hyperparathyroidism (SHPT) recently initiating haemodialysis with principal investigator Dr Sharad Ratange at the RBWH.

The ACTIVE dialysis study investigating the optimal dialysis duration with Dr Dwarka Ranganathan the principal investigator.

Vitamin E time course and dosing study in hemodialysis patients with Reed S, Cho YJ, Coombes JS and Fassett RG.

Transplantation

Xanthin Study of Astaxanthin versus placebo on oxidative stress inflammation and vascular function in renal transplant patients: a randomized controlled trial Fassett RG and Coombes JS is being performed at the RBWH and Launceston Tasmania.

The ASCERTAIN study Assessment of Everolimus in addition to calcinurin inhibitors reduction in maintenance renal transplant recipients. This is a Phase 3 study being conducted at the RBWH with principal investigator Dr Helen Healy and Fassett RG at Launceston (Largest recruitment in Australia).

General Nephrology

CKD QLD a cooperative venture investigating CKD in Queensland Hoy W and Fassett RG et al

Arterial stiffness in acute kidney injury study Coombes JS and Fassett RG is being conducted at the RBWH

The POMMARD study is assessing the pharmacokinetics and pharmacodynamics of mycophenolate in autoimmune renal disorders with the aim of developing dosing recommendations. The principal investigator is Dr Dwarka Ranganathan at the RBWH.

The ACR/EVLAR study is assessing the diagnostic classification of Vasculitides and is sponsored by Oxford University with Dr Dwarka Ranganathan the principal investigator at the RBWH.

Dr Dwarka Ranganathan at the RBWH is profiling glomerulonephritis in Queensland comparing retrospectively the histological diagnoses in the 21st century with those in the 1990’s.

Major Grants & Financial Support

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National & International Invited Presentations

Professor David Johnson

APD: The case against. PD College, Shanghai, China

APD versus CAPD, World Congress of Nephrology, May, Milan, Italy

Diabetic nephropathy: benefits of blocking the RAAS, Asia-Pacific RAAS Forum, May, Taipei, Taiwan

Metabolic syndrome in dialysis, PD College, Seoul, Korea

Queensland State-wide Renal Clinical Network Activity, National Chronic Kidney Disease Summit, July, Melbourne, Australia

The current peritoneal dialysis scene in Australia and New Zealand, Roche National Nephrology and Transplant Symposium, August, Sydney, Australia

Management of stage 3 chronic kidney disease, General Practitioners’ Continuing Education Conference, September, Brisbane

Improving outcomes in peritoneal dialysis, Home Dialysis Symposium, September, Melbourne

“PD for all: Lessons from the ANZDATA Registry, (Opening plenary lecture), Euro-PD, Strasbourg, France

Awards & Prizes

Professor David Johnson

Community Award, Australian of the Year Award (Queensland Finalist), Australia Day Council

Contributions to patients with kidney disease, especially screening and prevention of chronic kidney disease in Australians
The Centre for Liver Disease Research

The Centre has an established track record and international reputation in human liver disease research. The group’s seminal observations of the role of body mass index in steatosis and the progression of fibrosis in chronic hepatitis C have now gained widespread acceptance and have led to a change of understanding and approach to the management of this disease. Research from this centre has also helped to shape another new paradigm, proposing altered hepatic regeneration and the ductular reaction as a potential driver of hepatic fibrosis.

The mission of the Centre is to determine the mechanisms by which obesity and fatty liver impair the response of the liver to injury and inflammation from multiple causes and to develop specific strategies to monitor and improve the outcome of treatment in patients with liver disease. The vision is to successfully integrate scientific and clinical research projects in order to rapidly translate scientific outcomes into clinical practice to benefit the health of the community affected by liver disease.

(For further information visit http://www2.som.uq.edu.au/som/Research/ResearchCentres/LRC/Pages/default.aspx)

Associate Professor Elizabeth Powell
Co-Head

Associate Professor Julie Jonsson
Co-Head

Research Activities

The role of magnetic resonance imaging (MRI) and spectroscopy (MRS) in assessing the severity of steatosis in patients with liver disease (Powell E, Jonsson J, Benson M, Cowin G, Galloway G, McPherson S, O’Rourke P, Clouston A, Volp A, Horsfall L, Jothimani D, Fawcett J). In collaboration with physicists from the Centre for Magnetic Resonance at The University of Queensland, the Centre for Liver Disease Research has shown that magnetic resonance imaging and spectroscopy are effective tools to quantify steatosis and preliminary studies have shown the utility of these techniques to monitor changes in hepatic steatosis following dietary interventions to reduce body weight.

Investigation of the role of Angiotensin II in liver fibrosis
(Oakley F, Teoh V, Ching-A-Sue G, Bataller R, Colmenero J, Jonsson J, Eliopoulos A, Watson M, Manas D, Mann D). A further international collaboration demonstrated that an autocrine pathway that includes angiotensin II, I kappa B kinase, and P-Ser(536)-RelA regulates myofibroblast survival and can be targeted to stimulate therapeutic regression of liver fibrosis.

Dr Richard Skoien, a PhD student, was a finalist in both the oral and poster divisions of the Young Investigator Awards at the Royal Brisbane and Women’s Hospital Research Forum.

Dr Elizabeth Powell was Visiting Professor-in-residence, at Yale University School of Medicine, USA, from September to December.

Awards & Prizes

Dr Richard Skoien
Young Investigator Finalist, Royal Brisbane Hospital Research Forum

National & International Invited Presentations

Associate Professor Elizabeth Powell
Falk Liver Conference: Liver and Metabolic Syndrome, October, Hannover, Germany

Associate Professor Andrew Clouston
Adelaide Liver Research Group Meeting, August, Adelaide Australian Gastroenterology Week, Presenter, October
Australian Liver Association Research Workshop, May, Yarra Valley
International Liver Pathology Study Group, June, Halifax, Nova Scotia Canada
Liver Special Interest Seminar, Annual Scientific Meeting of the International Academy of Pathology (Australasia), June, Sydney
Pathology Queensland Gastrointestinal Pathology Symposium, October, Brisbane

Major Grants & Financial Support

| Total NHMRC funding: | $398,375 |
| Other competitive funding: | $100,000 |

L-R (Back row): Dr Richard Skoien, Ms Victoria Godd, A/ Prof Elizabeth Powell
L-R (Front row): Ms Leigh Horsfall, Dr Michelle Melino, A/ Prof Julie Jonsson
Absent: A/Prof Andrew Clouston, Mr Gene walker, Ms Millicent Williams
This was a landmark year for Geriatric Medicine research at the Princess Alexandra Hospital.

The Unit was awarded School of Medicine “Centre” status by The University of Queensland, in recognition of escalating research performance. The Centre was officially launched by the Parliamentary Secretary, Murray Watt, at the Centre’s biannual conference held at the Princess Alexandra Hospital in October.

The Centre moved into purpose built facilities, enabling all staff to be co-located for the first time in the seven year history of the group. The Centre incorporates a state of the art video-consultation suite. Research income continues to escalate, derived from four NHMRC grants, philanthropic research support and contract work. For the first time, income exceeded $1 million. The Centre coordinated several multi-site studies, which encompassed 15 Australian and 14 international sites.

The Centre’s first two PhD students successfully concluded their studies in 2009. The growing research program provides a unique multi-disciplinary setting for researchers with an interest in gerontology.

(For further information visit http://www2.som.uq.edu.au/som/Research/crgm/Pages/default.aspx)

Professor Len Gray  
Director, Centre for Research in Geriatric Medicine  
Director, Centre for Online Health UQ

Associate Professor Paul Varghese  
Director, Geriatric and Rehabilitation Unit, PAH

Research Activities

Clinical Trials

2009-2010 Reliability of an “Online” Geriatric Assessment Procedure (L Gray, S Counsell, H Edwards, M Martin-Khan, et al). This program will examine the reliability, safety and cost of providing “Online” Comprehensive Geriatric Assessment to older people in hospital. The research aim is to explore the accuracy of the procedure in identifying common geriatric syndromes, and its cost relative to conventional “live” consultations. This program is funded by an NHMRC Project Grant.

2008-2009 Validation of Cognitive Assessment using Telecommunication (L Gray, L Flicker, R Wootton, PK Loh, M Martin-Khan, et al). This project assesses the reliability of video conferencing to enable geriatricians to assess and diagnose memory problems including dementia. This is an NHMRC funded project at 4 sites, 2 in Brisbane (QLD) and 2 in Perth (WA).
Other Research

2009-2010 Identifying brittle discharges from the ED: A prospective study (L Gray, E Burkett, S Salih, P Varghese, B Pimm, J Ritchie, P Lakhan). The aim of this study is to improve the safety and efficiency of discharge of frail older patients from the ED, in an effort to reduce hospital access block and improve the quality of care for this complex patient group. An international arm of this study involves 16 emergency departments in 10 countries, from Canada to India. The project is supported by the PAH Private Practice Fund.

2009-2010 Development of Quality Indicators for the frail elderly in acute care (L Gray, C Brand, J Morris, R Jones, O Wright, et al). Frail older people are particularly vulnerable to a range of mishaps while in hospital. Good care can reduce frequency and extent of these problems. Quality Indicators (QIs) assist hospitals, and clinical service units within them to appraise their performance, and to compare it to other hospitals. The aim of this program is to develop these indicators during this study. This program is funded by an NHMRC Project Grant.

2006-2011 Transition Care: Innovation and evidence (I Cameron, M Crotty, L Gray, et al). This project is evaluating the efficacy of transition care models from a variety of clinical, economic and consumer perspectives. Several studies are in progress: (i) An evaluation of in-home video-conference mediated Transition Care; (ii) Development of Quality Indicators and Economic Analysis of the Transition Care Program and (iii) Predictors of receipt of Transition Care. This work is funded by an NHMRC Health Services Research Program Grant.

2008–2010 Clinical outcomes, staff and carer perceptions of acute hospitalisation of patients with dementia (L Gray, G Byrne, N Pachana). This work will provide a clear picture of the problem of dementia in hospital, including how often people with dementia are admitted, what happens to them, how hospitals respond to their needs, and how well carers perceive their needs are met. This program is funded by an NHMRC Dementia Research Grant.

2009-2010 Are hospitals providing quality care for people with dementia? (L Gray, G Byrne, R Jones, M Martin-Khan, et al). The project aims to develop and test a suite of QIs to measure the quality of care associated with patient outcomes for people with dementia in hospital. This program is funded by The J.O. & J.R. Wicking Trust and Alzheimer’s Australia.

2006-2010 Ambulatory monitoring of elderly patients in a rehabilitation setting (L Gray, V Cheung, M Karunanithi, S Salih, L Dakin, C Yelland, A Crouch). This program of research has been developed to determine if patient activity can be monitored by an accelerometer device on a long-term basis in a rehabilitation hospital setting. The work aims to create a capacity to “manage” activity in hospital, to minimise function loss and enhance rehabilitation.

Major Grants & Financial Support

| Total NHMRC funding: | $977,989 |
| Other competitive funding: | $309,200 |
| Funding from other sources: | $319,000 |
Clinical Pharmacology

The department has maintained an active research program while continuing to provide an expanded tacrolimus monitoring service for transplant centres throughout the state. Numerous collaborations have been established, including an ongoing collaborative research agreement with Waters Corporation to investigate measurement of endogenous steroids utilising the latest mass spectrometer technology. A highly accurate aldosterone assay has been developed, as well as a new method for the measurement of hepcidin, a novel iron biomarker. Research continues with dosage individualisation of the newer immunosuppressant drugs. Numerous drug utilisation and pharmacovigilance studies have been performed.

Associate Professor Peter Pillans
Director

Research Activities

Optimizing detection of curable hypertension by the development of a highly accurate method for measuring aldosterone concentrations in human blood and urine (Taylor PJ, Stowasser M, Gordon RD)

Improved patient outcomes through dosage individualisation of the newer immunosuppressant drugs (Staatz CE, Tett SE, Taylor PJ, Johnson DW, Lynch SV)

The role of hepcidin in iron regulation (Hall S, Taylor PJ, Fletcher L, Bird R, Saal R, Mudge DW, Crawford D)

The preventative effects of omega-3 fatty acids on cardiovascular disease (Salm P, Taylor PJ, Kostner K)

Pharmacokinetic variability of imatinib in chronic myelogenous leukaemia (Lee S, Pillans P, Taylor P, Franklin M, Mills T)

Major Grants & Financial Support

Total NHMRC funding: $155,250
Funding from other sources: $30,000

National & International Invited Presentations

Mr Paul Taylor
11th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, October, Montreal, Canada
The department had a productive year. Led by Professor H. Peter Soyer and supported by Associate Professor Stephen Gilmore, the charter of the professorial chair aimed to initiate, conduct and promote international-standard translational and interdisciplinary research focused on three areas: teledermatology, cutaneous bio-imaging and cutaneous systems biology. In the field of teledermatology, the Skin Emergency Teledermatology Service clinical trial was carried out by the Emergency Department of the Princess Alexandra Hospital demonstrating that by using this innovative approach, accurate and rapid diagnostic and treatment advice for acute and sub-acute dermatologic emergencies can be provided.

With the relocation of the Dermatology Research Centre to Building 33 in September, research rooms with cutting-edge devices for skin imaging, a reflectance confocal microscope and a videosystem for total body photography and dermoscopic imaging, were added to the department’s facilities. The device was purchased with funds donated jointly by the Former Origin Greats, the Mardi Jackson Foundation and the PA Foundation and is being used to investigate nevus morphology. A pilot study, “Genotypic, phenotypic and dermoscopic characteristics of nevi”, examined the relationship between pre-existing mole types, their dermoscopic morphology and colour with subsequent risk of development of melanoma. This will be the first study combining dermoscopy and testing of genes that determine skin, hair, eye colour, and nevus formation. In addition, in collaboration with the Melanoma Unit, a naevas surveillance study on high risk melanoma patients has been initiated.

(For further information visit http://www2.som.uq.edu.au/som/Research/ResearchCentres/DRC/Pages/default.aspx)

Professor H Peter Soyer
Director

Research Activities

Clinical Trials

Skin Emergency Telemedicine Service (SETS) study (Sinnott M, Xu C, Muir J, Soyer HP). Images of acute skin conditions in PA emergency patients were sent to a dermatologist for remote analysis. Treatment recommendations were carried out by emergency physicians and follow-up consultation performed within 2 weeks. This innovative approach provides accurate and rapid diagnostic and treatment advice for acute and sub-acute dermatologic emergencies.

In vivo Diagnosis of Neoplastic and Inflammatory Skin Diseases by Reflectance Confocal Microscopy (Soyer HP). The confocal laser microscope has been used to examine healthy and diseased skin (inflammatory and neoplastic). Interesting morphological characteristics have been observed and path the way for more targeted and detailed research.
Dermatology (continued)

Genome-wide Investigation of the Phenotypic Underpinnings of Psoriasis (Gilmore S, Soyer HP, Saunders N). Tissue samples will be taken from psoriatic and non-psoriatic patients and examined at the level of DNA expression, to investigate the abnormal psoriatic phenotype in normal-looking psoriatic skin by comparison to normal, healthy skin.

Age-related Dermoscopic Patterns of Acquired Melanocytic Naevi in Veterans (Soyer HP, Piliouras P, Wurm E, Gilmore S). This project aimed to classify the different types of naevi among those aged over 60 years, to provide insight into naevus evolution and a more accurate identification of “atypical” lesions with respect to the age of the patients. Taking into account confounding factors such as skin type and degree of solar damage, reduced naevi numbers were significantly associated with advancing age (P = 0.003).

Naevus surveillance using total body photography and dermoscopic analysis (Soyer HP, Green A, Smithers M). Total body photography and dermoscopy are combined to monitor skin lesions and moles in high-risk melanoma subjects as well as patients with dysplastic naevus syndrome. It is anticipated that analysis of subsequent images of the same mole over a period of time may facilitate the identification of the early changes that take place in the progression of moles to melanoma.

Pigmentation genotypes and phenotypic correlations with dermoscopic naevus type and distribution (Soyer HP, Sturm R, Duffy D, Smithers M). This pilot study examines the interrelationship between genes, the dermoscopic characteristics of acquired melanocytic naevi and subsequent risk of development of coetaneous malignant melanoma. A number of high-risk melanoma patients and control patients have been recruited and some interesting correlations have become apparent.

Other Research
IVIMEDS Seed Funded Content Development in Dermatology (Soyer HP, Wilkinson D, Ozolins I, Ferguson J, Ibbotson S, McGregor J, Hubbard V). The content is aimed at Year 2 medical students and covers the basics of dermatology in addition to the three most common neoplastic and inflammatory skin diseases. Virtual patients have been developed as representative cases in each area and short online videos detailing the patient experience are included.

Major Grants and Financial Support

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Awards & Prizes

Professor H Peter Soyer
Accredited as specialised in dermatohistopathology, Austrian Medical Association, Dermatohistopathology

National & International Invited Presentations

Professor H Peter Soyer
Past, present and future of dermoscopy. 2nd Congress of the International Dermoscopy Society. Barcelona (keynote)

NZ – World Capital of Melanoma. General Practice Conference & Medical Exhibition. Rotorua, New Zealand (keynote)

Imaging techniques for early melanoma detection. QIMR Melanoma Information Night. B

Surveillance of Dysplastic Nevi / Melanoma. Visiting Expert, National Skin Cancer, Pte Ltd. Singapore


International one-day course on dermoscopy. VIII International Aesthetic Medicine Congress named after Eugeny Laputin. Moscow, Russia

Dermoscopy usage in aesthetic medicine specialist practice. VIII International Aesthetic Medicine Congress named after Eugeny Laputin. Moscow, Russia
Diamantina Institute for Cancer, Immunology and Metabolic Medicine

The Diamantina Institute is gaining an international reputation for its basic and translational biomedical research into diseases such as cancer, diabetes, obesity, arthritis, osteoporosis, genital warts and liver disease. The Institute has important collaborations with national and international institutions and places emphasis on establishing connections with hospitals and industry.

**Highlights for 2009**

Professor Ranjeny Thomas and her team have been awarded $10.13 million in a National Health and Medical Research Council Program Grant commencing in 2010. The five-year grant will support research into the role of the immune system in cancers, chronic viral infections and autoimmune diseases, and will help to develop novel vaccines to treat these infections and diseases.

Professor Ian Frazer and a team from Brisbane began delivering the ground breaking cervical cancer vaccine in developing countries. Working closely with the Vanuatu Government to trial a program for effective delivery of cervical cancer vaccines to schoolgirls, the objective in 2009 was to vaccinate and educate 1000 girls aged 10 to 12 years of age in Vanuatu.

Professor Ian Frazer was named the winner of the prestigious Australian Medical Association (AMA) Gold Medal. Professor Frazer was recipient of the 2009 Honda Prize for his contribution to the development of the world’s first cervical cancer vaccines.

Professor Matt Brown and a consortium of Australian and New Zealand researchers discovered new genes which may hold the key to new treatments for people with multiple sclerosis (MS). Two genetic variants which increase the risk of MS and reveal links to other autoimmune disease were discovered and the study was published in the prestigious scientific journal Nature Genetics.

Professor Ranjeny Thomas and Professor Mark Kendall were awarded Australian Research Council’s prestigious Future Fellowship. The four year fellowships for outstanding Australian and international researchers in the middle of their career will help to support the Diamantina Institute researchers in their quest to advance the understanding of diseases and therapies into cancer and immunology.

(For further information visit http://www.di.uq.edu.au/)

Professor Ian Frazer FAA  
Director

Professor Ranjeny Thomas  
Deputy Director Research

Associate Professor Nigel McMillan  
Deputy Director Academic

Anton Sanker  
Deputy Director Operations
Diamantina Institute for Cancer, Immunology and Metabolic Medicine (continued)

Research Activities

Commercialisation Update:
The Diamantina Institute maintains a strong focus on commercialisation of its research with an aim of translating early stage technologies into clinical outcomes. From early successes with the HPV cervical cancer vaccine, the Institute continues to forge links with Industry and academia alike to advance our research towards the clinic. In 2009, the Diamantina Institute made steady progress towards its commercial goals in spite of the difficult funding environment affecting industry partners.

Facts at a glance
Patents:
27 Active patent families:
2 in provisional patent applications; 3 in PCT stage;
56 granted patents

Start-up companies:
Coridon Pty Ltd
Dendright Pty Ltd

Clinical Trials

A Multicenter Uncontrolled Extension Study Evaluating the Long Term Safety and Efficacy of Sar153191 in Patients with Ankylosing Spondylitis (AS) (Brown MA). This is a trial of a novel anti-IL6 treatment for ankylosing spondylitis which commenced in late 2009.

Multicenter study of the efficacy and safety of adalimumab in subjects with axial spondyloarthritis (Brown MA). This is a trial of the TNF-antagonist adalimumab in preradiographic ankylosing spondylitis, which commenced in late 2009.

Phase I trial of rheumavax to induce antigen specific tolerance in patients with rheumatoid arthritis (Thomas R, White D, Vecchio P). This study aims to demonstrate that a vaccine made from a patient’s own blood cells, (known as Rheumavax) can safely modify (reduce or desensitize) the body’s immune response to a specific rheumatoid arthritis antigen. The trial is taking place at the Princess Alexandra Hospital and is a co-operative effort between clinicians and researchers at this hospital and at The University of Queensland. Dendritic cells are a type of white blood cell. Their role in the immune system is to switch other cells, known as T cells, on to attack mode. This is achieved by presenting antigens to T cells. Antigens are substances that the body normally recognises as foreign. An example of an antigen to which the population are all exposed is flu antigen. There is considerable evidence that dendritic cells are involved in diseases such as rheumatoid arthritis and other autoimmune diseases. In these disease states, the body’s immune system starts attacking its own tissues/ organs, because T cells recognise and respond to self-antigens. The investigators are testing a new way to reduce immune responses to antigen using dendritic cells. Rheumavax is a vaccine made from modified dendritic cells mixed with rheumatoid arthritis antigens. A drug called Bay11-7082 is added to Rheumavax to modify the way the dendritic cells interact with T cells with the aim of reducing the immune response to RA self-antigens in the body. Achievements 2009: recruited patients and collected data for control group, commenced dendritic cell group in November 2009.

A randomised, controlled double blind study to evaluate the effects of simvastatin in reducing atherosclerosis in early rheumatoid arthritis (Thomas R, White D, Pahau H). The aims of this study are to examine the effectiveness of cholesterol-lowering medicine in atherosclerotic disease progression in rheumatoid arthritis. Patients with rheumatoid arthritis symptoms beginning within the past 12 months, and who have no history of cardiovascular or cerebrovascular disease are eligible. Sensitive ultrasound
measures of the arteries, and blood tests are taken before and after treatment to assess the progression of disease. Patients are randomly allocated to receive cholesterol-lowering therapy with either simvastatin or no active substance (placebo) for 2 years. Ultrasound and blood measurements are taken yearly to assess progression of arthritis and atherosclerosis. Achievements 2009: Recruited patients and collected data.

Other Research
Molecular Oncogenesis Group
Professor Tom Gonda
The transition from a normal cell to a cancer cell development is driven by changes to genes that either promote or suppress cancerous properties such as uncontrolled growth and invasion of adjacent tissues. These two classes of genes, called oncogenes and tumour suppressor genes, respectively, represent potential targets for cancer therapy. That is, the group can try to develop drugs that “home in” and block the cancer-promoting actions of these genes. In particular, cancer cells are often “addicted” to oncogenes in being more sensitive to their loss than are non-cancerous cells. Thus, identifying oncogenes that are important for particular cancer types and subtypes is a critical first step in developing potential new treatments for these diseases.

Research in the Molecular Oncogenesis Group can be divided roughly into two areas. The first focuses on an oncogene called MYB that is already known, through our work and that of others, to be important several important human cancers – leukaemia, breast cancer and bowel cancer. The laboratory is trying to understand how it promotes cell growth and blocks normal cell maturation. The Molecular Oncogenesis Group is also working on approaches for targeting MYB that can be developed, either singly or in combination with other drugs, as possible cancer treatments. The second part of the work aims to identify new targets for cancer treatment. One major effort in this direction is to develop novel technology to test large numbers of genes for their ability to confer or block properties important for cancer cell function.

Cell Cycle Group Associate
Professor Brian Gabrielli
The debilitating side effects of conventional chemotherapeutics are a direct consequence of their poor targeting, destroying normal tissue as well as cancer. Improved targeting of the cancer by targeting a defect that is specific for the cancer will improve both treatment outcomes and reduce side effects thereby improving the quality of life of the patient.

Molecular Virology Group
Associate Professor Nigel McMillan
Cancer is caused by mutated or lost genes. We now have the ability to turn off single genes within a cell using a technology called gene silencing and the Molecular Virology Group are pioneers of using this technology. In this bio-information age entire human genomes can be sequenced in days so it is now known what has gone wrong in each cancer allowing us to design treatments that only kill cancers cells.

Epithelial Pathobiology Group
Associate Professor Nick Saunders
In contrast to cancers detected early, advanced or metastatic squamous cell carcinomas and osteosarcomas are unlikely to be cured by surgery and radiation therapy. These cancers are therefore more difficult to cure and are frequently associated with patient death. To improve cure rates therapies that can target disseminated disease specifically need to be developed. The Epithelial Pathobiology Laboratory focuses on developing novel targeted drug therapies that selectively kill advanced cancers.

Musculoskeletal Genetics Group
Professor Matthew Brown
Most common human diseases run in families, due to sharing of genetic variants between affected family members. Identifying those genes can help work out how the diseases are caused and develop, in turn informing research into potential treatments and cures. Those genetic findings can also be used to predict who is most likely to develop the diseases being studies, information which could help target treatment to those at greatest disease-risk.
Immunotheapy Group
Professor Ian Frazer
The research undertaken seeks to unravel why immunization, which can induce immune responses that kills cancer cells in the lab and in animal models of cancer, fails to help patients get better from cancer. It is known that cancer cells are sufficiently different from normal cells that the body’s defense systems see them as foreign and we are trying to work out what stops the induced responses to these foreign cells from killing the cancer in the patient.

Dendritic Cell Biology Group
Professor Ranjeny Thomas
Autoimmune diseases such as Type 1 diabetes and rheumatoid arthritis occur in people with a genetic background that puts them at risk, combined with specific environmental triggers that set off an inflammatory reaction. The Dendritic Cell Biology Group’s research aims to understand essential inflammatory pathways in patients and animals with autoimmune disease that will identify markers of disease risk, and immune system targets for treatment.

Delivery of Drugs and Genes Group
Professor Mark Kendall
Professor Kendall’s team, based at the UQ Australian Institute for Bioengineering and Nanotechnology, focuses on the delivery of biomolecules and stimuli to cells in skin and other soft tissue using physical methods – putting vaccines where they need to go to generate far better immune responses than the needle and syringe. The goal is novel delivery strategies for step-change improvements in the treatment/vaccination of key major diseases.

Metabolism and Clinical Metabolic Group
Professor John Prins
The reasons why obesity causes metabolic problems such as heart disease, high blood pressure, diabetes and some cancers are not fully understood. Similarly, it is known that weight loss is highly beneficial in many of these illnesses, but it is not understood why this is so. The research in the Metabolism and Clinical Metabolic Group addresses these two problems.

Cell Signalling Group
Associate Professor Jon Whitehead
The Cell Signalling Group studies mechanisms which govern insulin sensitivity and metabolic homeostasis. In insulin resistance and obesity, these processes become defective, resulting in type 2 diabetes and cardiovascular disease. A detailed understanding of the underlying mechanisms will facilitate the identification of effective therapeutic strategies.

Bone Biology Group Associate
Professor Edith Gardiner
In the healthy skeleton, bone is continuously removed and replaced to supply calcium to other tissues in a process called bone turnover. Within the Diamantina Institute studies were undertaken investigating the role of the bone forming osteoblastic cells in this process, with particular focus on the neural, hormonal and cellular modulation of bone formation.

Major Grants & Financial Support

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Awards & Prizes

Dr Michelle Hill
Research Week Basic Research Poster Prize, Princess Alexandra Hospital, Obesity and prostate cancer

Professor Ian Frazer
Laureate - 2009 Honda Prize, The Honda Foundation, Immunology
AMA Gold Medal, Australian Medical Association, Immunology and Medicine
Royal Australian College of General Practitioners Honourary Fellowship

Dr Gethin Thomas, Ran Duan, Professor Matt Brown
Innovation Award – Trailblazer, UniQuest Pty Ltd, Immunotherapy

Dr Shayna Street
Early Career Research Grant, Arthritis, University of Queensland,

National & International Invited Presentations

Dr Emma Duncan
Endocrine Society of Australia, September, Adelaide
Australian Orthopaedic Association Continuing Education Seminars, Brisbane

Dr Michelle Hill
The 5th meeting of the Asia-Pacific Diabetes and Obesity Study Group, August, Tokyo, Japan

Dr Graham Leggatt
Infectious Disease Control Conference, February, Sydney
University of Otago Departmental Seminar, November, Dunedin, NZ
Lions District Convention, October, Longreach

Dr Raymond Steptoe
39th Annual Scientific Meeting of the Australasian Society for Immunology, December, Surfers Paradise

Dr Gethin Thomas
Lions District 201 Q1 Convention 2009, October, Acacia Ridge, QLD

Professor Ranjeny Thomas
Australian Rheumatology Association, April, Melbourne
Walter and Eliza Hall Institute Post-graduate Lecture, July, Melbourne
Garvan Institute, July, Sydney
Australian Diabetes Association Meeting, August, Adelaide
Australian Autoimmunity Workshop, November, Adelaide
Federation of Immunological Societies of Asia-Oceania, December, Moreton Island Qld
Emergency

The department is a designated Level 6-Trauma centre with 45,729 attendances for the year, with an admission rate of 34.8%. This is amongst the highest in Australasia and demonstrates the high level of clinical acuity.

Staff within the department have been successful in receiving funding for eight studies this year and are involved in collaborative research with the Southern Districts Emergency Department Clinical Network, Princess Alexandra Hospital Intensive Care Unit, Queensland Ambulance Service, Griffith University and Queensland University of Technology. The appointment of Mr Ramon Shaban as a Visiting Scholar from Griffith University has further enhanced research within the department.

Dr Phillip Kay
Director

Research Activities

An exploratory study to examine the phenomenon or ‘ramping’ at hospitals within the Queensland Southern Health Districts and Queensland Ambulance Service (Hammond E, Shaban R, Holzhauser K, Crilly J, FitzGerald G, Tippett V, Eeles D, Collier J, Finucane J). This is an exploratory, descriptive study using qualitative and quantitative methods to define the phenomenon of ramping and its impact on patients, hospitals and ambulance services. This project has been conducted in two parts and is nearing completion.

The effects of ambulance ramping on patient outcomes and ambulance services (Holzhauser K, Ting J, Shaban R, Hammond E, Crilly J, Tippett V, FitzGerald G, Eeles D, Finucane J, Melton N, Burmeister L). This study aims to identify and evaluate the impact of ramping on emergency health services and on the potential outcomes of patients who are subject to access delays. It will use a case control method to examine the outcomes for ramped ambulance patients compared to a non ambulance ramped group. Outcomes measured include: mortality, length of hospital stay, length of ED stay and ramping time. These will be used to determine whether delay to definitive treatment is a predictor of negative patient outcomes.

Designing robust reactive scheduling systems for emergency medical services (Kozan E, Sinnott M, Collier J, Diefenbach M, Stuart K, Wong A). This research project will adopt specifically resource-constrained job shop sequencing and scheduling techniques in an ED environment. It considers how best to process patients through a number of resources (beds, doctors, nurses) in a set order or routing a number of different patients who have different processing times on each resource. These techniques are used to find the sequence, schedule and accompanying resource allocation that maximise the ED usage.

Pilot project to assess measure of psychological impact of providing CPR to related victims of cardiac arrest (Williamson F, McNeill I, Nunninck L, Broome A). Cardiopulmonary resuscitation (CPR) provision by bystanders has a well recognised link to improved outcome in cardiac arrest sufferers. However, a victim of cardiac
arrest is more likely to receive CPR from a non-related bystander than from a related witness. It is thought that there are psychological barriers to the provision of CPR by related persons. The overall aim of the proposed study is to examine the effects of CPR provision on persons who are related bystanders of a victim of cardiac arrest.

SISTER - Syringe Identification: the Simplest Technique for Error Reduction (Thomas P, Shaban R, Balkin L, Isoardi K). This study will compare the three most commonly used syringe error reduction techniques (use of pre-printed colour coded labels, writing on the syringe, and sticky-taping the ampoule to the syringe) with a novel method (the use of a Chek-clip to attach the ampoule to the syringe) to determine which is the most effective at reducing likelihood of error. It is hypothesised that the novel method will be the most effective at reducing error using surrogate markers.

Placement of equipment as a factor influencing hand hygiene in the Emergency Department (Hand washing equipment) (Sinnott M, Livesay G, Shaban R). Effective hand washing and hand hygiene are universally recognised as the simplest ways to prevent the spread of infection. Despite this, many studies have shown that hand hygiene and compliance best-practice standards are universally poor amongst doctors and nurses working in hospitals. One important factor known to influence hand hygiene is the availability and accessibility of equipment to carry out effective hand hygiene, such as antiseptic solutions. It is well-documented that compliance with hand hygiene is directly proportional to the accessibility and availability of products to decontaminate hands.

The study has three aims to: determinate the kind of hand hygiene practices that occur at sinks within the department; examine whether the hand hygiene practices of emergency department staff is consistent with standard definitions of hand hygiene and hand washing; seek to understand whether the placement of antimicrobial solutions and hand lotions influence hand hygiene compliance, as measured by errors in hand hygiene.

C.R.A.S.H. study: A randomised study of tissue oxygenation in an ovine model of haemorrhagic shock comparing the effect of colloid, fresh red cells, aged red cells and saline (Staib A, Collier J, Fung YL, McMurray P, Colebourne K, Barnett A, Tung J, Dunster KR). Blood loss is a major cause of early deaths after trauma, accounting for 51% of the deaths occurring during the initial 48 hours after hospital admission. Decisions made in the early treatment of severe blood loss have important consequences for patient survival and length of time in the Intensive Care Unit. This project will investigate the ability of typical fluids used in haemorrhagic shock in ED departments to improve oxygen delivery to vital organs following severe haemorrhage. The results of this study will provide important evidence which the ED physician can use in determining how to manage a shock patient in a typical resuscitation and add substantially to the debate of “Old blood, new blood or no blood” in the management of these critically injured patients.
Emergency (continued)

“Blind Prescribing” and the prescribing preparedness of doctors in emergency departments (Sinnott M, Stamer K, Shaban R, Donegan E). This project seeks to determine the prevalence of “Blind Prescribing” in the Emergency Department of a Tertiary Brisbane Hospital. “Blind Prescribing” describes the situation where a medical practitioner prescribes a medication they have little knowledge of. Theoretically, it could lead to higher rates of medication error and unsafe medical practice. The project aims to: determine if blind prescribing occurs in emergency medicine; identify the prevalence of the practice; and propose situational and contextual factors pertinent to emergency medicine that are thought to enable this practice.

A comparison of the implementation of interventions for controlling laboratory blood tests ordering in four queensland teaching hospital emergency departments (Chu K, Spain D, Aitken P, McNeill I, Greenslade J, Lind J, Furyk J, Sinnott M, Hansen D, O’Dwyer M, Mallit K, Ford M, Rothwell S, Cullen L). Doctors frequently need to order blood tests in the Emergency Department when patients come to hospital with a medical or surgical emergency. In all but the most trivial cases, laboratory blood tests are requested as part of the diagnostic workup. Doctors and even the patient are often concerned about missing a diagnosis if enough blood tests are not done. Medical research worldwide indicates test ordering is excessive and often unnecessary. Health care professionals have developed ways to ensure tests are ordered only when needed. Methods such as educating junior medical staff, developing protocols for ordering tests, undertaking audits of tests ordered, and feedback of audits to staff have been successful in reducing test ordering in the short-term, but sustaining a long-term reduction is more difficult.

Queensland Hospital Emergency Departments have implemented methods to reduce excessive test ordering, but it is not known which method is most effective. The aim of this study is to determine maximum efficacy, by comparing the number of tests ordered in four of the busiest Emergency Departments in the state. Specifically, the study will compare the average number of blood tests ordered per patient treated in the Emergency Department taking into account their age, severity of their illness, and whether or not they were admitted to hospital.

Major Grants & Financial Support

Competitive funding: $338,598

Dr Michael Sinnott, Senior Staff Specialist
The department is involved in a range of clinical and translational research in collaboration with researchers from The Diamantina Institute, The University of Queensland, Queensland Institute of Medical Research, Griffith University, and the Australasian Leukaemia Lymphoma Group (ALLG). The major focus of the research is to develop new treatments, molecular diagnostic tests and monitoring of leukaemias, particularly acute myeloid leukemia (AML) and chronic lymphocytic leukemia (CLL). There were 61 clinical trials/research projects being conducted in leukaemia, lymphoma, myeloma, amyloidosis and idiopathic thrombocytopenic purpura (ITP) with increasing numbers of patient accrual.

Patients with Amyloid now have a dedicated MDT Amyloid clinic, headed by Dr Peter Mollee, which will promote research into this rare but fatal disorder.

The ALLG Tissue Bank, located within the PQ-PAH Haematology Laboratory and directed by Associate Professor Paula Marlton, has > 21,000 samples stored and has greatly facilitated research on the campus, nationally and internationally.

Dr Sally Mapp joined the haematology team from Canberra, where she had been researching genetics of B cell lymphoma. Dr Matt Hourigan rejoined the department, having spent two years at the UCH, London, UK.

Major highlights included a breakthrough which may facilitate further advancement of CLL research was made by Associate Professors Gill/McMillan’s team, with the finding that CCL2 and CXCL2 enhance long term survival of primary chronic lymphocytic leukaemia cells in vitro.

Genome-wide sequencing in Acute Myeloid Leukaemia commenced in collaboration with Professors Gonda and Brown from the Diamantina Institute. This is cutting-edge research and aims to identify new genetic lesions.

Associate Professor Devinder Gill
Director, Clinical Haematology

Dr Robert Bird
Director, Haematology

Research Activities

Established simple long-term cultures in vitro of primary CLL cells and have identified two novel growth factors important in enhancing survival of the leukaemic cells. Currently, the group are investigating the interactions between the leukaemic cells and the microenvironment. This work may lead to identifying new targets and may lead to novel therapeutic interventions (Gill D, McMillan N, Burgess M, Mollee P).
Haematology (continued)

Research Activities

Established simple long-term cultures in vitro of primary CLL cells and have identified two novel growth factors important in enhancing survival of the leukaemic cells. Currently, the group are investigating the interactions between the leukaemic cells and the microenvironment. This work may lead to identifying new targets and may lead to novel therapeutic interventions (Gill D, McMillan N, Burgess M, Mollee P).

Genome-wide analysis of genetic alterations in normal karyotypic Acute Myeloid Leukaemia presented at the “New Directions in Leukemia Research” (Gray J, Gill D, Marlton P, Gonda T).

Large Scale Assessment of WT1 as a Marker of MRD in Patients with Acute Myeloid Leukaemia Treated Uniformly in a Clinical Trial. Presented at ASH December 2009 (Marlton P, Saal R, McMillan N, Gray L).


Molecular prognostication in chronic lymphocytic leukaemia. New tests to predict patient outcome in chronic lymphocytic leukaemia. Samples collected and methodology developed with testing underway. (Mollee P, Gill D, Banh R, Cheung C).


To determine the magnitude and duration of adrenal suppression in patients receiving repeated cycles of high dose steroid (Bird R, Adams R, Duncan E).


Glucocorticoid Induced Bone Loss in Lymphoma (Bird R, Henden A, Duncan E).

MUC1 as a predictor of bleomycin lung toxicity in Hodgkin’s Lymphoma (Mollee P, Keane C, Garske L, Wong R).


Clinical Trials

The clinical trials program spans a number of haematological disorders particularly the leukaemias, lymphomas and multiple myeloma. Outlined below are a few clinical studies that highlight the research currently underway within the department.

Leukaemia

Significant activity has been achieved in Chronic Myeloid Leukaemia research particularly from the following two trials.

“An open label, randomized study of Nilotinib versus standard Imatinib (400/600 mg QD) comparing the kinetics of complete molecular response for CML-CP patients with evidence of persistent leukaemia by RQ-PCR.”

“A phase II study in adult patients with newly diagnosed chronic-phase Chronic Myeloid Leukaemia of initial intensified Imatinib therapy and sequential dose escalation followed by treatment with Nilotinib in suboptimal responders to determine the rate and duration of major molecular response”.

In addition to investigating the role of chemokines in Chronic Lymphocytic Leukaemia, PAH was the second highest recruiting centre on the ALLG CLL5 Phase II trial “An Australasian, Phase II, Multicentre, Randomised, Dose Intensification Study Investigating Oral Fludarabine, Oral Cyclophosphamide and IV Rituximab (poFCivR) Tolerance in Previously Untreated Elderly (≥ 65 years old) Patients with Chronic Lymphocytic Leukaemia”. The results will be presented at the American Society of America, New Orlando, in December 2010.
Lymphoma
Two significant trials that are currently underway are being lead by Dr Maher Gandhi, whose research focuses on the immunobiology of lymphoma, with a special interest in Epstein-Barr virus associated lymphomas. Both of the studies, “Immune and viral biomarkers as tools to assist clinical outcomes in patients with EBV-associated lymphomas” and the study “Autologous EBV-specific T Cells as therapy for relapsed / refractory EBV-positive Lymphomas”, have recruited more than half their target accrual.

The department has provided an opportunity for patients with newly diagnosed low grade Non-Hodgkin’s Lymphoma with the BRIGHT study, “An Open-Label, Randomized, Multi-Center Trial of Bendamustine HCL and Rituximab Compared to Rituximab, Cyclophosphamide, Vincristine and Prednisone or Rituximab, Cyclophosphamide, Doxorubicin, Vincristine and Prednisone Chemotherapy in First Line Treatment of Subjects with Indolent Non-Hodgkin’s Lymphoma”.

A clinical study that is looking at treating patients with the next generation of the highly successful rituximab monoclonal antibody is the GAUDI study, “An Open-Label, Multi-Centre, Non-Randomised, Dose-Escalating Phase Ib Study to Investigate the Safety and Tolerability of RO5072759 Given in Combination with CHOP or FC Chemotherapy in Patients with CD20+ B-Cell Follicular Non-Hodgkin’s Lymphoma”.

Because of the kidney and liver transplant units located at the Princess Alexandra Hospital, the Haematology Department has had a long interest in post-transplant lymphoproliferative disorders which are a complication of solid organ transplantation. Patients with PTLD can be treated on the PTLD1 study which is the world’s largest trial in this uncommon disease. Interim results are very promising and have been presented at the American Society of Haematology Meeting in December 2009.

Multiple myeloma
Patients with newly diagnosed multiple myeloma have had the opportunity to participate in clinical trials. Younger patients could be treated with the novel agent, bortezombib, on the PIMMS study, “A Phase II Trial of PAD Induction Therapy in Patients with Untreated Multiple Myeloma (MM), Stratified for Markers of Bortezomib Resistance. The PAD Induction in Multiple Myeloma Stratified Trial”. Older patients could participate in the important large international randomised study comparing the current standard therapy (melphalan, prednisolone and thalidomide) with a new promising treatment (lenalidomide and dexamethasone), the MM-020 or FIRST study.

Patients with relapsed multiple myeloma had access to two studies that examine a new promising class of agents, the histone deacetylase inhibitors. The first study, “A Phase Ib, Multi-center, Open-label, Dose-escalation Study of Oral LBH589 when Administered in Combination with Oral Lenalidomide & Dexamethasone in Adult Patients with Multiple Myeloma”, examined the combination of lenalidomide, dexamethasone and panobinostat to find the best dose of panobinostat. The second study, PANORAMA, is a randomised comparison of bortezomib and dexamethasone with or without panobinostat.

Myelofibrosis
For the first time, patients diagnosed with myelofibrosis have an opportunity to participate in a clinical trial, “A Randomized, Double-blind, Placebo-controlled Study of the JAK Inhibitor INCB018424 Tablets Administered Orally to Subjects with Primary Myelofibrosis, Post-Polycythemia Vera-Myelofibrosis or Essential Thrombocythemia Myelofibrosis.”
Other Trials


A Randomised Trial of Idarubicin Dose Escalation in Consolidation Therapy Following Intensive Chemotherapy incorporating High Dose Cytarabine in Patients with Untreated Adult Acute Myeloid Leukaemia.

An Open-Label, Multi-Center, Three Arm Randomized, Phase III Study to Compare the Efficacy and Safety of RO5072759 + Chlorambucil (GCib), Rituximab + Chlorambucil (RCib) or Chlorambucil (Cib) Alone in Previously Untreated CLL Patients Not Eligible for Fludarabine-Based Chemoimmunotherapy.

A Randomized, Double-blind, Placebo-controlled Study of the JAK Inhibitor INCB018424 Tablets Administered Orally to Subjects with Primary Myelofibrosis (PMF), Post-Polycythemia Vera-Myelofibrosis (PPV-MF) or Essential Thrombocytethemia Myelofibrosis (PET-MF).

A Pilot Study Investigating Valproic Acid (VA) in Combination with Cytarabine (Ara-C) in Elderly Patients with Acute Myeloid Leukemia (AML) and in Patients with Refractory or Relapsed AML.

A Study of Magnetic Resonance Imaging Assessment of Cardiac and Liver in Patients with Haemoglobinopathies, Myelodysplastic Syndromes (MDS) or Post Bone Marrow Transplantation (BMT) Treated with Deferasirox (Exjade).

Follow-up Observational Study of the Randomised Intergroup Trial of First Line Treatment for Patients with Diffuse Large B-Cell Non-Hodgkin’s Lymphoma with a CHOP-Like Chemotherapy Regimen with or without the anti-CD20 Antibody Rituximab (IDEC-C2B8).

A Phase III, Multi-centre, Randomised, Double-Blind, Placebo-Controlled, 3-Arm Parallel Group Study to Determine the Efficacy and Safety of Lenalidomide (Revlimid) in Combination with Melphalan and Prednisone Versus Placebo Plus Melphalan and Prednisone in Subjects with Newly Diagnosed Multiple Myeloma Who are 65 Years of Age or Older.


A Phase 3, Multicenter, Randomized, Open-Label, Parallel-Group Study of the Efficacy and Safety of Lenalidomide (Revlimid®) versus Chlorambucil as First-Line Therapy for Previously Untreated Elderly Patients with B-Cell Chronic Lymphocytic Leukaemia.

A Phase II Study in Adult Patients with Newly Diagnosed Chronic-Phase Chronic Myeloid Leukaemia of Initial Intensified Imatinib Therapy and Sequential Dose Escalation Followed by Treatment with Nilotinib in Suboptimal Responders to Determine the Rate and Duration of Major Molecular Response.


Unmet Needs (Cancer in Young Adulthood – Identifying Needs): Development and psychometric evaluation of two measures of perceived need: one for young people with cancer; one for carers.

Major Grants and Financial Support

| Total NHMRC funding: | $382,000 |
| Other competitive funding: | $100,000 |
| Funding from commercial studies: | $269,374 |
| Funding from other sources: | $33,450 |
Hypertension

The unit conducts internationally-recognised clinical research into the pathogenesis and management of hypertension, especially endocrine forms. Working with its sister unit at Greenslopes Hospital, the unit is considered a world authority on primary aldosteronism (PAL), a specifically treatable and potentially curable form of hypertension. The unit at Greenslopes was first to demonstrate worldwide that PAL is approximately ten times more common that previously thought. The combined unit has the largest number of patients (currently >1500) with PAL worldwide who have been thoroughly studied and documented. This provides a unique resource for further research into its causes, diagnosis and treatment.

Significant progress was made in the quest to elucidate the genetic basis of PAL. An exciting new collaboration with Professor Matt Brown’s group at the Diamantina Institute was established and quickly resulted in a major breakthrough. State-of-the-art high-throughput “next generation” sequencing methods were employed to successfully sequence the entire region that had previously been found by the hypertension units at Greenslopes and Princess Alexandra Hospitals to be linked to familial PAL, thereby considerably fast-tracked efforts of locating the causative mutation/s. Bioinformatic analyses are already under way. The unit attracted a project grant from the NHMRC to support this work from 2010-2012.

The arrival of Dr Eduardo Pimenta, a physician from Brazil with an extensive clinical and research experience in hypertension, including hyperaldosteronism, greatly strengthened the work of the unit. In 12 months Dr Pimenta, funded as a Clinical Research Fellow by an NHMRC CCRE grant, has: published 15 papers in peer-reviewed journals and two book chapters; given seven presentations (four as an invited speaker) at major national and international meetings; won the Young Investigator of the Year Award (Clinicians) at the Princess Alexandra Hospital Week, and was finalist for two presentation awards (one oral, one poster) at the Annual Scientific Meeting of the High Blood Pressure Research Council of Australia.

Other major achievements included Dr Norlela Sukor’s PhD thesis completion on the genetics of PAL, which was accepted without changes by the assessors, and Dr Ashraf Ahmed’s selection as finalist for a student oral presentation award at the Annual Scientific Meeting of the High Blood Pressure Research Council of Australia.

(For further information visit http://www2.som.uq.edu.au/som/Research/ResearchCentres/EHRC/Pages/default.aspx)

Professor Michael Stowasser
Director
Hypertension (continued)

Research Activities

Clinical Trials
A multi-center, randomized, double-blind, placebo and active controlled, parallel group, dose-finding study to evaluate the efficacy and safety of LCI699 compared to placebo after 8 weeks treatment in patients with essential hypertension (Stowasser M, Cowley D). The unit participated in this Novartis-sponsored multicentre clinical trial which evaluated the efficacy and safety of a new form of antihypertensive medication.

BP GUIDE - A randomised study to determine the value of central blood pressure for guiding management of hypertension (Sharman J, Stowasser M, Marwick T). This study, funded by a project grant from the NHMRC, is focussing on the use of central blood pressure monitoring to guide management of hypertension in the general practice setting.

Other Research
Clinical, biochemical, morphological and management aspects of primary aldosteronism (Stowasser M, Gordon R, Sukor N, Ahmed A, Cowley D). Noriela Sukor, as part of her PhD studies, found that patients with PAL caused by an aldosterone-producing tumor in the adrenal gland have a reduced quality of life, but that this is restored to normal following removal of the affected adrenal gland (published in J Clin Endocrinol Metab). Dr Ashraf Ahmed, who is completing a PhD on pharmacological and physiological factors affecting the level of the aldosterone/renin ratio, used to screen patients for PAL, found that in women the ratio changes depend on the phase of the menstrual cycle and that the best time to screen women for this condition is during the first 10 days after the start of the menstrual period. He also reported that the use of beta-blocking medications can raise the ratio and has the potential to cause false positive screening test results.

Elucidating the molecular basis of familial hyperaldosteronism type II (Stowasser M, Gordon R, Brown M, Duncan E, Sukor N, Dowling A, Jeske Y, O’Shaughnessy K, Mulatero P, Duffy D). The PAHHU is involved in collaborative research with the Queensland Institute of Medical Research, the University of Torino, the University of Cambridge (UK) and the Diamantina Institute in order to determine genetic mutations responsible for a new familial variety of PAL (FH-II) described by the GHHU in 1991. This has the potential to greatly facilitate detection of individuals with PAL through genetic testing while at the same time enhancing our understanding of the pathogenesis of this important, potentially curable and specifically treatable form of hypertension.

Non-BP dependent adverse cardiovascular effects of aldosterone excess II (Stowasser M, Pimenta E, Gordon R, Marwick T). In 2008, the unit’s findings in this area were extended by the demonstration by Dr Pimenta that normotensive individuals with a familial variety of PAL (FH-I) had evidence of cardiac dysfunction which persisted over a several year follow-up period. Dr Pimenta, in a separate study, demonstrated that correction of aldosterone excess by unilateral adrenalectomy in patients with unilateral PAL significantly reduced urinary protein excretion (a marker of renal damage). There was positive correlation between dietary salt ingestion and proteinuria before adrenalectomy that was not reversed after surgery in spite of BP reduction and biochemical correction of PAL. This study supports the testing of treatment strategies based on reduction of aldosterone effects, by adrenalectomy or mineralocorticoid receptor blockade, in conjunction with low-salt diet to provide additional target organ protection in patients with PAL.

The development of a new, highly-accurate method of measuring aldosterone using high-performance liquid chromatography-mass spectrometry (Taylor P, Stowasser M, Gordon R, Cooper D). Mr Paul Taylor, as part of his PhD, has successfully developed this technique, which is a critical advance as other currently available methods of measuring aldosterone lack reliability. His work served to further validate the method in the clinical setting and in studies of human physiology. This work, which was funded by a highly competitive grant awarded by the Golden Casket Foundation, was published in the prestigious Clinical Chemistry journal. It has the potential to provide accurate measurements for the whole of Queensland of this hormone secreted in such minute concentrations.
Major Grants and Financial Support

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Awards & Prizes

Dr Eduardo Pimenta
Winner, Young Investigator of the Year Award (Clinician), Princess Alexandra Hospital Week Princess Alexandra Hospital, Should treatment for glucocorticoid-suppressible hyperaldosteronism (GSH) be commenced long before hypertension develops, and, if so, which?

Finalist, Early Career Investigator Best Oral Presentation, 31st Scientific Meeting of the High Blood Pressure Research Council of Australia, Unilateral adrenalectomy improves urinary protein excretion but does not abolish its relationship to sodium excretion in patients with aldosterone-producing adenoma

Finalist, Early Career Investigator Best Poster Presentation, 31st Scientific Meeting of the High Blood Pressure Research Council of Australia, Should treatment for glucocorticoid-suppressible hyperaldosteronism (GSH) be commenced long before hypertension develops, and, if so, which?

Dr Ashraf Ahmed
Finalist, Student Best Oral Presentation, 31st Scientific Meeting of the High Blood Pressure Research Council of Australia, Is the phase of the menstrual cycle important when screening for primary aldosteronism (PAL) in women, and does renin assay method matter?

Professor Michael Stowasser
Honorary Professor, Hypertension Department at Henan Provincial People’s Hospital, the Hypertension Control and Research Center of Henan Province, and the Hypertension Diagnosis and Treatment Center of Henan Province

National & International Invited Presentations

Professor Michael Stowasser
Cardiovascular Specialist Symposium, February, Melbourne
Australian Pharmacy Professional Conference, April, Gold Coast
13th Asia-Pacific Congress in Doppler-Echocardiography, May, Brisbane
Symposium on Low Renin Hypertension (Satellite to the 19th Scientific Meeting of the European Society of Hypertension), June, Torino, Italy
47th Annual Scientific Conference of the Australasian Association of Clinical Biochemists, September, Brisbane
Westmead Kidney School, October, Sydney

Dr Eduardo Pimenta
Inter-American Society of Hypertension, XVIIIth Scientific Sessions, August, Belo Horizonte, MG, Brazil
13th Annual Conference of Australian Nurse’s Cardiovascular and Hypertension Association, December, Sydney

Paul Taylor
11th International Congress of Therapeutic Drug Monitoring and Clinical Toxicology, October, Montreal, Canada
Infection Management

The department continues to provide clinical infectious diseases programmes, sexual health services, alternate site infusion services and infection control programmes at Princess Alexandra, Logan, Ipswich, QEII and Redland Hospitals.

The department provides undergraduate and post-graduate teaching in all areas of infectious diseases and infection control, as well as some microbiology to medical, pharmacy and science students of The University of Queensland. Post-graduate education and activities are undertaken with a range of professional groups including doctors, nurses, pharmacists and laboratory scientists.

Research within the department focuses primarily on the epidemiology, prevention and therapy of healthcare associated infection, particularly: healthcare-acquired fungal nosocomial infection; healthcare-acquired and community Staphylococcal infection; and aspects of healthcare worker behaviour integral to the prevention of healthcare associated infection.

Associate Professor Michael Whitby
Director

Research Activities

A phase III, double-blind, randomised study to evaluate the safety and efficacy of BAL8557 versus voriconazole for primary treatment of invasive fungal disease caused by aspergillus species or other filamentous fungi.

A phase III, double-blind, randomised study to evaluate the safety and efficacy of BAL8557 versus a caspofungin followed by Voriconazole regimen in the treatment of candidaemia and other invasive candida infections.

Open Label Study of Isavuconazole in the Treatment of Patients with Aspergillosis and Renal Impairment or of Patients with Invasive Fungal Disease caused by Rare Moulds, Yeasts or Dimorphic Fungi.

A Phase 2 Randomised, Double-Blind, Double-Dummy Efficacy; Safety and Tolerability Study of IV Sulopenem with Switch to Oral PF-03709270 Compared to Ceftriaxone with Step Down to Amoxycillin/Clavulanate Potassium in Subjects with Community Acquired Pneumonia requiring Hospitalisation.

Developing a Research Base for Intravenous Peripheral Catheter Resites: The DRIP trial.

Ethanol lock therapy for the prevention of tunnelled intravenous catheter-associated bacteraemias: a randomised controlled trial.

Prospective Surveillance of Invasive Fungal Infections in Australian Intensive Care Units.

Major Grants and Financial Support

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The Unit has demonstrated another successful year in the growth and development of critical care research. This is evidenced by an increase in the number of publications; PhD enrolments; University collaborations, and grant application successes. As a department the unit strives to create a culture of research by participation in national and international clinical trials, as well as encouraging unit-initiated studies and registrar projects.

Highlights of the year include: two PhD students are close to submitting their thesis; completion of one local randomised controlled trial; near completion of a national multi-centre study driven by the hospital; completion and publication of registrar projects; the award of a Fulbright scholarship; several international presentations, and an invitation of a departmental unit member to an international Round Table meeting.

This continued success is the culmination of hard work from dedicated intensive care staff and their collaborations with multidisciplinary teams.

Professor Bala Venkatesh
Director of Research

Associate Professor Chris Joyce
Director of Intensive Care

Research Activities

Clinical Trials


CAS (Kruger P, Venkatesh B, Joyce C). The Continued Use of Atorvastatin in Sepsis Trial. A phase II randomised, controlled trial in patients on statin therapy who develop sepsis to evaluate the effect of continued atorvastatin use on the incidence of severe sepsis.


DECRA (Decompressive craniectomy) study (Venkatesh B, Joyce C). Multi-centre prospective randomised trial of early decompressive craniectomy in patients with severe traumatic brain injury.


CRITSTAT (Kruger P) The Development of Acute Organ Failure in ICU-An Observational Cohort study.

Point Prevalence (Joyce C). A systematic snapshot of current practice. ANZICS CTG.


InROADS (Improving Analgesia Delirium and Sedation Management for Critically Ill Patients) (Aitken L, Mitchell M). Testing a Complex Intervention for Realising Optimal management of Analgesia, Delirium and Sedation.


Flexible Visiting Hours in ICU (Mitchell M, Aitken L, Cook J, Clayton S). The Benefits and Barriers; examines if flexible visiting hours benefits and improves the satisfaction of family members and patients.

OUTREACH (Aitken L, Joyce C, Daly M, Kelly A, Harris K). Implementation of a system to replace Code Blue and Medical Emergency calls with a rapid response team. Service includes Critical Care support to the ward nursing staff and monitoring of the deteriorating patient to prevent number of unplanned admissions to ICU.


How Nurses Overcome Interruptions: An Analysis of Distributed Support (Sanderson P, Grundgeiger T, Venkatesh B).


Other Research

Vancomycin kinetics study (Kruger P)

NGAL as a marker of contrast nephropathy (Adams F, Venkatesh B, Kruger P)

An RCT of HRL vs. saline in DKA (Ochola J, Venkatesh B, Kruger P, Collier)

Psychological assessment of families involved with CPR of relatives (Williamson F, Nunnink L)

Vitamin D study (Ochola J, Venkatesh B, Krishnan A)

Assessment methods for simulation vs. non-simulation (Nunnink L, Venkatesh B)

Contribution of acetate and gluconate to anion gap during cardiopulmonary bypass (Davies P, Venkatesh B)

Steroid survey through CTG (Venkatesh B, Joyce C)

Development of a hyperosmolar solution for head injuries (White D, Venkatesh B)

Protein C in immunocompromised sepsis (Panwar R, Venkatesh B, Kruger P, Nunnink L)
Rosuvastatin pharmacokinetics (Koehler A, Vargas N, Kruger P, Venkatesh B)

Statins in valvular surgery (Kruger P, Venkatesh B)

Examiner vs. candidate expectations of optimal performance in an examination (Venkatesh B, Joyce C)

Adiponectin in critical illness (Venkatesh B)

Hygiene Study (Coyer F). Multi-Centre study on bed bath practice.

› National & International Invited Presentations

**Professor Bala Venkatesh**

The Intensive Care Fellowship Examination. Sydney Registrar Course, Sydney

Sick adrenal or sick euadrenal. Annual scientific meeting of the Joint Faculty of Intensive Care Medicine, Brisbane; Australia

Head injury: have we made any progress over the last 50 years? International Congress of Emergency and Critical Care Medicine.; Brussels, Belgium

Procalcitonin guided antibiotic therapy. International Congress of Emergency and Critical Care Medicine, Brussels, Belgium

Time to abandon plasma cortisol. International Congress of Emergency and Critical Care Medicine, Brussels, Belgium

Annual Scientific Meeting of the Joint Faculty of Intensive Care Medicine, Brisbane

Poster adjudication: International Congress of Emergency and Critical Care Medicine, Belgium

Delirium: International Congress of Emergency and Critical Care Medicine, Belgium

**Dr P Kruger**

Forget Glucose, What about lipids in critical illness. Presented at the annual scientific meeting, Joint Faculty of Intensive Care Medicine, Brisbane

Fluid distribution in critical illness. Presented as an international invited speaker at the 29th International Symposium on Intensive Care and Emergency Medicine, Brussels

Should we give statins in sepsis? The clinical trials. Presented as an international invited speaker at the 29th International Symposium on Intensive Care and Emergency Medicine, Brussels

The impact of altered body fluid distribution on antibiotic dosing in sepsis. Presented as an international invited speaker at the 29th International Symposium on Intensive Care and Emergency Medicine, Brussels

› Major Grants and Financial Support

<table>
<thead>
<tr>
<th>Total NHMRC funding:</th>
<th>$196,000</th>
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<td>Other competitive funding:</td>
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<td>Funding from other sources:</td>
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**Dr L Nunnink**

Inotrope use in the Emergency Department. Presented at 6th Annual Queensland Emergency Medicine Autumn Symposium; Gold Coast, February
Internal Medicine and Clinical Epidemiology

The highlights of the department's research program for the year included analyses of: evidence of effectiveness of acute medical assessment and planning units (AMAUs) in hospitals; practice and organisation of all AMAUs currently in operation in Australia and New Zealand; means for improving productivity of healthcare workforce and efficient use of acute hospital beds; recommendations of the NHHRC final report in relation to the acute hospital sector; quality of drug prescribing in older patients; limitations of clinical trials to the care of older patients; tools for assessing clinical performance of individual physicians; validity and utility of risk prediction tools in clinical practice; diagnosticity of intermediate elevated troponin levels in acute clinical presentations; specificity of C-codes in administrative data in identifying potential patient safety issues; validity and utility of clinical trials reporting treatment-induced changes in patient health status.

Associate Professor Ian Scott
Director

Research Activities

Investigation of the diagnosticity of elevated troponin levels in intermediate range (0.04 to 0.10 μg/l) in patients presenting acutely ill to hospital. This project seeks to determine if certain patterns of troponin rise and fall and absolute levels are correlated with presentations not associated with a final diagnosis of acute coronary syndrome. (Scott I, Sykes S, Tate J, Dimeski G)

Investigation of management of patients presenting with syncope in whom acute cardiovascular disease is not the evident cause. This study seeks to compare actual practice with evidence-based guidelines, compare observed outcomes with those predicted by various risk-prediction tools, and determine the extent to which clinical findings and simple investigations are used efficiently to formulate provisional diagnosis aligned with common aetiologies. (Scott I, Sursala M, Jones M)

Investigation of specificity of C-codes in administrative data in flagging potential problems with quality of care in hospital practice. This study using Delphi techniques ascertains from a panel of experts coded diagnoses at discharge which are likely to be associated with (or suggestive of) suboptimal quality of care. The chosen codes will then be subject to validation studies using large numbers of patients from administrative datasets collected from several large hospitals. (Scott I, Brand C, Jolly D, Sundararajan V)

Systematic review of the evidence of effectiveness of several quality and safety improvement interventions that have been recently promoted by the Australian Commission on Safety and Quality in Health. (Scott I, Brand C, Cameron P)
Review of case studies of interventions for improving quality of care of patients presenting to hospital with acute coronary syndromes throughout Australia and New Zealand. (Scott I, Chew D, Tideman P, Walters D, Briegler P)

Audit of investigation and care of patients admitted to hospital and diagnosed as having iron deficiency. This study investigates investigations undertaken, treatments prescribed and clinical outcomes of patients who were found to be iron deficient during the course of their hospital admission. (Khadem G)

Awards & Prizes

Associate Professor Ian Scott
Research Award, IMSANZ Best Publication 2009, Internal Medicine Society of Australia and New Zealand, Cardiovascular risk prediction

National & International Invited Presentations

Associate Professor Ian Scott
Acute Medical Assessment Units in Australian public hospitals – developing a blue print for the future, April, Royal Children’s Hospital, Melbourne
3rd Asia-Pacific Congress of Cardiology, May, Kyoto, Japan
Australian College of Health Service Executives, August, Brisbane
RACP-IMSANZ-ASGM Annual Scientific Meeting, November, Auckland, NZ
Medical Oncology

The department is a tertiary-referral centre for cancer. Most clinics operate in a multi-disciplinary format with radiation oncology, surgical and allied health services. The department has an active clinical trials program primarily in breast cancer, melanoma, gatroesophageal cancer, colorectal cancer, head and neck cancer, pancreatic cancer, lung cancer and germ cell tumours.

Participation in clinical trials conducted under the auspices of national and international study groups such as the Australasian Gastro-Intestinal Trials Group, the Australian New Zealand Germ Cell Trials Group, the Australian New Zealand Breast Cancer Trials Group, Eastern Cooperative Oncology Group, National Surgical Adjuvant Breast and Bowel Group, European Organisation for Research and Treatment of Cancer, has enabled the department access to and experience with the latest developments in treatment regimens for cancer patients. The formation of the Australian Sarcoma Study Group has enabled access to several trials of new drugs in this uncommon but complex area.

The unit has a significant history in the conduct of industry-initiated research trials allowing the hospital, and ultimately the patient, access to potential cutting-edge developments in cancer therapy. The department has a considerable infrastructure of clinical trial research staff and shares research nurses and data managers with the Haematology Department and the Radiation Oncology Department.

Associate Professor Damien Thomson
Director

Research Activities

Medical Oncology Clinical Trials:

A Randomised, Multicentre Phase III Study to Compare the Efficacy of Panitumumab in Combination with Chemotherapy to the Efficacy of Chemotherapy Alone in Patients with Previously Treated Metastatic Colorectal Cancer. (Walpole E).


A Phase III Randomized Study of Brivanib Alaninate (BM582664) in Combination with Cetuximab (Erbitux®) versus Placebo in Combination with Cetuximab (Erbitux®) in Patients Previously Treated with Combination Chemotherapy for Metastatic Colorectal Carcinoma. (Joubert W).

A Clinical Trial Comparing 5-Fluorouracil (5-FU) Plus Leucovorin (LV) and Oxaliplatin with 5-FU with LV for the Treatment of Patients with stages II and III Carcinoma of the Colon. (Walpole E).

A Randomised, Multi-centre, Open-label, Phase III Study of Adjuvant Lapatinib, Trastuzumab, their Sequence and their Combination in Patients with HER2/ErbB2 Positive Primary Breast Cancer (BiG 2-06). (Woodward N).
An Asia Pacific non-randomized, open-label phase II study evaluating the safety and efficacy of FOLFIRI plus cetuximab (Erbitux) or FOLFOX plus cetuximab in patients with wild-type KRAS status as first-line therapy in subjects with metastatic Colorectal cancer (APEC-Study). (Walpole E).

A phase II multi-centre trial of a seven day Aprepitant schedule for the prevention of chemotherapy induced nausea and vomiting in patients receiving five day cisplatin-based chemotherapy for germ cell tumours. (Thomson D).

A Randomised Phase II Study Evaluating a Weekly Schedule of Docetaxel with Cisplatin and 5-FU (wTCF) or Capecitabine (wTX) in Advanced Oesophago-gastric Cancer. (Walpole E).

Phase II Study of Cetuximab (Erbitux) plus Weekly Docetaxel Chemotherapy in Docetaxel Refractory Patients with EGFR Positive Advanced Oesophago-gastric Cancer. (Walpole E).

A Randomized, Double Blind, Placebo Controlled, Multicenter Phase III Trial of Bevacizumab, Temozolomide and Radiotherapy, Followed by Bevacizumab plus Temozolomide versus Placebo, Temozolomide and Radiotherapy followed by Placebo and Temozolomide in Patients with Newly Diagnosed Glioblastoma. (Atkinson V).

A Multicenter Phase III Randomized Trial comparing Docetaxel in combination with Doxorubicin and Cyclophosphamide (TAC) versus Doxorubicin and Cyclophosphamide followed by Docetaxel (AC-T) as Adjuvant Treatment of Operable Breast Cancer Her2neu Negative Patients with Positive Axillary Nodes. (Walpole E).

A Phase III Study to Evaluate Letrozole as Adjuvant Endocrine Therapy for Postmenopausal Women with Receptor (ER and/or PgR) Positive Tumours. (Walpole E).

An Intergroup Phase III Trial to Evaluate the Activity of Docetaxel, Given Either Sequentially or in Combination with Doxorubicin, Followed by CMF, in Comparison to Doxorubicin Alone or in Combination with Cyclophosphamide, Followed by CMF, in the Adjuvant Setting Treatment of Node-Positive Breast Cancer Patients. (Walpole E).

Adjuvant immunotherapy with anti-CTLA-4 monoclonal antibody (ipilimumab) versus placebo after complete resection of high-risk Stage III melanoma: A randomized, double-blind Phase 3 trial of the EORTC Melanoma Group. (Walpole E).


A Randomised, Open Label, Phase III study of Taxane Based Chemotherapy with Lapatinib or Trastuzumab as First Line Therapy for Women with HER2/neu Positive Breast Cancer (EGF108919) (Woodward N).

An Open-Label, Multi-Center, Phase 2 Safety and Efficacy Study of Denosumab (AMG 162) in Patients with Recurrent or Unresectable Giant Cell Tumor of Bone. (Joubert W).

Treatment with Chemotherapy Before and After Surgery versus Surgery in Liver Metastases from Colorectal Cancer (Walpole E).

A Phase III Randomized, Intergroup, International Trial Assessing the Clinical Activity of STI-571 at two dose levels in patients with Unresectable or Metastatic Gastrointestinal Stromal Tumours (GIST) Expressing the KIT Receptor Tyrosine Kinase (CD117) (Walpole E).

Open-label, Randomized, Controlled, Multicenter Phase III Study Investigating Cetuximab in Combination with Capecitabine (Xeloda, X) and Cisplatin (P) versus XP alone as First-line Treatment for Subjects with Advanced Gastric Adenocarcinoma including Adenocarcinoma of the Gastroesophageal Junction (Walpole E).

Hypofractionated Radiotherapy with Cetuximab as Palliation for Locally Advanced Head and Neck Squamous Cell Carcinoma – A Phase II Study. (Porceddu S).
Medical Oncology (continued)

The LOTESS Trial: A Clinical Study Investigating the Long Term Efficacy and Safety of Zometa® Treatment. (CZOL446EAU22) (Woodward N).

Low Grade Glioma: Primary chemotherapy with Temozolomide vs radiotherapy in patients with low grade gliomas after stratification for genetic 1p loss: a phase III study (Lehman M).

An Open-Label, Randomized Phase 2 Study of ABT-869 in Combination with mFOLFOX6 (Oxaliplatin, 5-Fluorouracil, and Folinic Acid) versus Bevacizumab in Combination with mFOLFOX6 as Second-line Treatment of Subjects with Advanced Colorectal Cancer. (Walpole E).

Merkel Cell: Efficacy Study of Synchronous Weekly Carboplatin and Radiation in Merkel Cell Carcinoma of the Skin (Harvey J).

A randomized double blind phase III trial of Pazopanib versus placebo in patients with soft tissue sarcoma whose disease has progressed during or following prior therapy. PAZopanib Explored in Soft-Tissue Sarcoma - A phase III study (EORTC 62072 / GSK VEG110727) (Thomson D).

A Randomized, Double-Blind, Placebo-Controlled, Phase 2 Study Evaluating the Efficacy of ABT-888 in Combination with Temozolomide Versus Temozolomide Alone in Subjects with Metastatic Melanoma (Thomson D).

A Study to Determine the Activity of SCH 717454 in Subjects With Osteosarcoma or Ewing’s Sarcoma That Has Relapsed After Standard Systemic Therapy (NCT00617890).


A Phase II Study of PI-88 with Dacarbazine in Patients with Metastatic Melanoma.

Multicentre International Study of Capecitabine +/- Bevacizumab as Adjuvant Treatment of Colon Cancer (Walpole E).

A Multicentre Phase II study of Risk Evaluation in GIST with Selective Therapy Escalation for Response (AG0507GS) (Walpole E).

A Multinational, Randomized, Double blind, Placebo-controlled Study to Evaluate the Efficacy and Safety of AVES026 in the Prevention of Venous Thromboembolism (VTE) in Cancer Patients at High Risk for VTE and who are undergoing Chemotherapy (Atkinson V).

A Phase III Trial Evaluating the Role of Ovarian Function Suppression and the Role of Exemestane as Adjuvant Therapies for Premenopausal Women with Endocrine Responsive Breast Cancer (IBCSG 24-02 / BIG 2-02) (Woodward N).

Randomised comparative study of FOLFOX6m plus SIR-Spheres® versus FOLFOX6m alone as first line treatment in patients with non-resectable liver metastases from primary colorectal carcinoma (Walpole E).

A Randomised, Double-blind, Phase 3 Trial of STA-4783 in combination with Paclitaxel versus Paclitaxel Alone for Treatment of Chemotherapy-Naive Subjects with Stage IV Metastatic Melanoma. SYMMETRY (Protocol # 4783-08) (Thomson D).

TROG 03.01: A Randomised Phase III Study in Advanced Oesophageal Cancer to Compare Quality of Life and Palliation of Dysphagia in Patients Treated with Radiotherapy versus Chemoradiotherapy. (Harvey J).

TROG 03.02: A Feasibility Study to Evaluate Adjuvant Chemoradiotherapy for Gastric Cancer (Harvey J).
TROG 03.07: A Randomised Phase II Study of Two Regimens of Palliative Chemoradiation Therapy in the Management of Locally Advanced Non Small Cell Lung Cancer (Burmeister B).

TROG 07.04: A Phase II Study of Cetuximab, Carboplatin and Concomitant Boost Radiotherapy for Locally Advanced Head and Neck Squamous Cell Carcinoma (Porceddu S)

TROG 08.02: A Randomized Phase III Study of Temozolomide and Short-course Radiation versus Short-course Radiation Alone in the Treatment of Newly Diagnosed Glioblastoma Multiforme in Elderly Patients (Lehman M).

> Major Grants & Financial Support

- Competitive funding: $255,539
- Funding from other sources: $81,912
Mental Health

Significant changes were made over the year. The Princess Alexandra Hospital PAH Mental Health Service is now part of the Metro South Health District Mental Health Service, working in collaboration with Logan and Bayside hospitals. To support the exponential growth in community catchment and the increased staff to serve those needs, numerous initiatives have been implemented. These include: clinical governance structure and processes; clinical performance evaluation using score card reporting; clinical risk management; and learning, development and clinical research.

Research achievements during the year included two PhD and one Masters’ completions with another five PhD and three Masters in progress.

Professor David Crompton
Director

Research Activities

Clinical Trials
Effects of Omega 3 on weight gain after initiation of atypical medication in Early Psychosis (Capra C, Ferguson M, Kavanagh D, Crompton, D). The primary aim of this project is to establish if a high dose of Omega 3 supplement at the commencement of atypical antipsychotic medication can reduce weight gain in young people with early psychosis. It is proposed that the use of this type of nutritional supplement will reduce appetite increase and act as an anti-inflammatory marker to help with any possible rapid weight gain. Currently this is a new field of research and no one has tested this idea with young people who are taking antipsychotic medications for the first time. The evidence does show that many young people who start antipsychotic medications gain weight and then stop taking the medication, placing them at greater risk of getting sick again. Weight gain on antipsychotic medications is usually the most rapid during the start of treatment and in the first few weeks of starting medication. This study aims to test if using a product that is widely available with little known side effects can assist with minimising any possible weight gain that may occur on antipsychotic medications. A secondary aim is to see whether the intervention improves compliance with treatment as a result of reduced weight gain. The indirect nature of the effect requires that it be relegated to a secondary status in this small project. In order to achieve the above objectives a randomised double blind cross over trial has been developed.

Other Research
Dialectical Behaviour Therapy (DBT) for Borderline Personality Disorder (BPD) in a community mental health setting (Hunter MA). The aims of this study are: to evaluate the effectiveness of the full DBT program in a real world community outpatient setting; case studies – tracking change over time; evaluate the effectiveness of DBT in treating the diagnostic criteria of BPD; symptom reduction or behavioural change; evaluate service usage – presentations to emergency, crisis contacts, hospitalisations, and to provide evidence in an Australian setting.
Factors Influencing Donation Decision-Making that Indicate a Positive Outcome for Renal Transplant Donor Patients - A Longitudinal Study (McGrath P, Pun P, Holewa H). The decision to donate a kidney is potentially life altering, involving non-therapeutic surgery and the loss of a significant body part. An important part of ensuring excellence in transplantation care is the process of assessing donor decision-making in regard to donation in order to confirm their ethical, emotional and physical suitability. This study documents factors that contribute to ethically and emotionally sound decision-making by donors that can be predictive of positive donor outcomes post-transplant. The qualitative methodology involves in-depth interviews with a sample of twenty live donors consecutively recruited through the Princess Alexandra Hospital Renal Transplant Unit. The study design is longitudinal, including five interviews over a four year period.

The findings indicate that donor decision-making is instantaneous and instinctual, ranges from realistic to unrealistic in terms of expectation of outcome, and is based on a number of factors that may facilitate or hinder positive outcomes. The results affirm the importance of effective psycho-social assessment for long-term transplant success.

Evaluation of Step up Step Down programs in Metro South Division of Mental Health (Siskind D). The aims of this study are to evaluate whether a step-up step-down program is effective in maintaining community tenure of consumers, and reducing consumer's level of illness acuity.

The expected outcome is that the cost savings of reductions in bed-days will be greater than program costs. It is expected that consumer outcome measures for consumers using Step-Up Step-Down programs will show greater reductions in illness acuity, and higher rates of consumer satisfaction and community engagement.
Nephrology

The department enjoys the best patient survival rates of any dialysis and kidney transplant centre in Australia and New Zealand. Major clinical highlights for the year included: the performance of the 3000th renal transplant in April; a record number of renal transplants performed for the year (140); the commencement of the highly successful ABO-incompatible renal transplant program; and the opening of the Limited Care Haemodialysis Unit.

The major research highlight was the formation of The University of Queensland Centre for Kidney Disease Research at the Princess Alexandra Hospital Nephrology Department from the merging of the PAH Renal Research Laboratory, the Apoptosis and Molecular Pathology Laboratory and the Australasian Kidney Trials Network (AKTN). The centre will conduct bench-to-bedside translational research, while the AKTN will continue to develop, endorse and co-ordinate investigator-initiated and industry-sponsored multi-centre renal clinical research trials in Australasia. Significant research achievements included: endorsement of the Centre for Kidney Disease Research by The University of Queensland; commencement of the HERO and HONEYPOT trials by AKTN; completion of the IDEAL (early versus late commencement of dialysis) trial; completion of the multi-centre Australasian sirolimus trial demonstrating that sirolimus conversion reduces skin cancer formation in renal transplant recipients; and a successful application by the AKTN for a second NHMRC Enabling Grant of $2 million over five years.

The Centre’s basic science research focus is the investigation of mechanisms underpinning pathological kidney cell growth and fibrogenesis with a view to developing novel therapeutic strategies for the management of acute renal failure, chronic renal scarring and failure, and renal cell carcinoma.

Professor David Johnson
Director, Nephrology
Co-Director, Centre for Kidney Disease Research

Associate Professor Glenda Gobe
Co-Director, Centre for Kidney Disease Research
Research Activities

Refer also to Centre for Kidney Disease Research for clinical trials and other research

Clinical Trials

Peritoneal Dialysis

The balANZ trial - A multicentre randomised controlled trial of Balance® in Australian and New Zealand PD patients (Johnson DW). Aims to compare the effects of a novel, neutral pH, low glucose-degradation product dialysis fluid with conventional dialysis fluid on remaining kidney function in peritoneal dialysis patients. Estimated completion date late 2010.

Predictors and outcomes of peritonitis in the Australian and New Zealand PD patient populations (Johnson DW). Twelve major publications generated from this work in 2009 demonstrating the incidence, predictors and outcomes of different causes of peritoneal dialysis-associated peritonitis in Australia and New Zealand.

The effect of dialysis modality on decline of residual renal function (Hawley CM, Petrie J, Johnson DW). A study of new dialysis patients evaluating the effects of different types of dialysis on remaining kidney function decline.

Encapsulating peritoneal sclerosis in Australian and New Zealand Peritoneal Dialysis Patients – Incidence, predictors and outcomes (Johnson DW, Cho Y). ANZDATA Registry study was completed demonstrating that encapsulating peritoneal sclerosis (a condition characterised by severe scarring inside the abdomen causing bowel blockage) occurs in 0.5% of peritoneal dialysis patients and is predicted by younger age and peritoneal dialysis duration. The risk of death from this condition was relatively low and not appreciably different to that from competing risks for death in matched dialysis controls.

The IMPENDIA trial – Multi-centre, prospective, randomized trial to demonstrate Improved Metabolic Control of PPEN Vs DDDD in DiAbetic CAPD patients (Johnson DW). A controlled clinical trial evaluating the effects of sugar-free dialysis on blood sugar control and other metabolic parameters in diabetic peritoneal dialysis patients.

The impact of APD versus CAPD on survival of Australian and New Zealand peritoneal dialysis patients (Johnson DW, Badve S). ANZDATA Registry study completed demonstrating that, compared with continuous ambulatory peritoneal dialysis (a manual form of peritoneal dialysis), automated peritoneal dialysis (using a machine to form peritoneal dialysis) is associated with superior survival in high transporters (patients who transport wastes quickly) and inferior survival in low transporters (patients who transport wastes slowly).

Predictors of recovery (and time to recovery) of dialysis-independent renal function in scleroderma renal crisis patients commencing PD or HD in Australia and New Zealand (Johnson DW). ANZDATA Registry study examining outcomes for patients with scleroderma (a condition characterised by progressive skin scarring and acute kidney failure) in Australia and New Zealand.

A systematic review of the effects of biocompatible peritoneal dialysis solutions on patient outcomes (Johnson DW). Cochrane review of novel biocompatible dialysis fluids on patient outcomes in peritoneal dialysis.

The effect of dialysis modality on infectious mortality in the Australian and New Zealand PD patient populations (Johnson DW). ANZDATA Registry analysis completed demonstrating that infection-related death is significantly higher in peritoneal dialysis compared with haemodialysis after the first 6 months, primarily due to differences in the rates of peritonitis.
Nephrology (continued)

Microbiology and outcomes of peritonitis in Australian peritoneal dialysis patients (Johnson DW). ANZDATA Registry analysis of the microbiological causes and outcomes of peritoneal dialysis-associated peritonitis in Australia 2003-2006.

A randomised, controlled trial of exit site application of Medihoney™ Wound Gel for the prevention of catheter-associated infections in peritoneal dialysis patients (HONEYPOT trial) (Johnson DW, Hawley CM, Isbel NM, Clark C). An Australasian multi-centre randomized controlled trial co-ordinated by the AKTN examining the effect of nasal antibiotics versus skin application of Medihoney™ Wound Gel for the prevention of peritoneal dialysis-associated infections.

A randomised controlled trial of oral HEMe iron polypeptide Against Treatment with Oral Controlled Release Iron Tablets for the correction of anaemia in peritoneal dialysis patients (HEMATOCRIT trial) (Johnson DW, Hawley CM). A single centre, controlled clinical trial examining the effect of oral heme iron polypeptide versus slow release iron tablets for the correction of anaemia in peritoneal dialysis patients. Expected completion date 2010.

Predictors of residual renal function recovery in Australian and New Zealand peritoneal dialysis patients (Johnson DW, McDonald S, Macdonald J). ANZDATA Registry project completed demonstrating that dialysis type did not significantly influence recovery of kidney function in Australian and New Zealand patients with end-stage kidney failure.

Microbiology and outcomes of peritonitis in Australian paediatric peritoneal dialysis patients (Bordador E, McTaggart S, Johnson DW), ANZDATA Registry analysis of the microbiological causes and outcomes of peritonitis in children treated with peritonitis in Australia between 2003 and 2007.

Haemodialysis

Ethanol lock therapy for the prevention of tunnelled catheter-related bacteraemia in haemodialysis patients (Broom J, Playford G, Johnson DW, Hawley CM). Single centre, controlled clinical trial examining the effect of once-weekly alcohol lock treatment versus conventional heparin locking on catheter-associated bloodstream infection in haemodialysis patients. Expected completion date 2011.

A randomised, placebo-controlled trial of oxpentifylline on haemoglobin levels in patients with erythropoietin-resistant anaemia (The HERO trial) (Johnson DW, Hawley CM). An Australasian, multi-centre, controlled clinical trial of oxpentifylline versus placebo for anaemia correction in patients with erythropoietin-resistant anaemia.

The impact of nocturnal home haemodialysis on patient outcomes (van Eps C, Hawley C, Isbel N, Campbell SB, Johnson DW). Study of the outcomes of alternate nightly nocturnal haemodialysis compared with conventional thrice-weekly haemodialysis.

Effects of Alternate Night Nocturnal Hemodialysis on Oxidative Stress and Antioxidant Enzymes (van Eps C, Hawley C, Jeffries J). Prospective observational study of the effect of alternate nightly nocturnal haemodialysis on indicators of oxidative stress compared with conventional thrice-weekly haemodialysis.

A prospective trial of intradermal hepatitis B vaccination in dialysis patients who have failed to seroconvert following standard subcutaneous vaccination (Barracough K, Wiggins K, van Eps C, Hothersall E, Johnson DW, Campbell SB, Isbel N, Playford G, Hawley C). A single centre, controlled clinical trial of weekly intradermal (superficial skin) hepatitis B vaccination (8 doses) versus conventional subcutaneous (under the skin) vaccination in dialysis patients who have failed to respond to vaccination. Completed this year, demonstrating that intradermal vaccination was highly effective in achieving immunity to hepatitis B in previously unresponsive individuals.

A Double Blind, Randomised, Multicentre, Phase IIb, Parallel-Group Study to compare the Effects of Rosuvastatin (10mg oral) with Placebo on Assessment of Survival and Cardiovascular Events When given Subjects with End Stage Renal Failure on Chronic Haemodialysis Treatment (Isbel, N, Johnson DW). The AURORA trial was completed this year and demonstrated that lowering blood cholesterol with rosuvastatin therapy did not influence survival or cardiovascular events in haemodialysis patients.
A randomized, placebo-controlled study to assess the effects of Cholesterol-lowering therapy with a combination of simvastatin and Ezetimebe on the Risk of Major Cardiovascular Complication Among Individuals with Chronic Kidney disease (SHARP trial) (Johnson DW, Sudak J). Anticipated completion date March 2010.

The initiating dialysis early and late (IDEAL) study (Johnson DW, Martin A). An Australasian, multi-centre, controlled clinical trial of early versus late commencement of dialysis in end-stage kidney failure patients. Follow-up completed.

Evaluation of Cinacalcet HCI Therapy to Lower Cardiovascular Events (EVOLVE) (Hawley C, Sudak J). A multi-centre, controlled clinical trial of cinacalcet versus placebo in haemodialysis patients. The primary outcome measure is a composite cardiovascular end-point.

Transplantation
An investigation into the influence of CYP3A5, CYP3A4 and MDR-1 gene polymorphisms on tacrolimus pharmacokinetics and pharmacodynamics (Staatz C, Barraclough K, Johnson DW, Isbel NM). Single centre observational cohort study examining the influence of certain genetic types on anti-rejection drug blood levels, effectiveness and safety.

Intravenous versus oral iron supplementation for the correction of post-transplant anaemia (Mudge DW, Tan K, Haley CM, Campbell SB, Isbel NM, Nicol DL, Johnson DW). Single-centre, controlled clinical trial of iron supplementation by mouth or by vein for the correction of post-kidney transplant anaemia. Completed, demonstrating that both treatments were equally effective and well-tolerated.

A Randomized, Open-Label Study to Compare the Rate of New Non-Melanoma Skin Cancer in Maintenance Renal Allograft Recipients Converted to a Sirolimus-based Regimen versus Continuation of a Calcineurin Inhibitor-based Regimen. (Campbell SB, Isbel N, Hawley CM, Nicol DL, Johnson DW). A multi-centre controlled clinical trial of 2 different anti-rejection drugs in kidney transplant patients. Completed, demonstrating that an anti-rejection drug called sirolimus was associated with a significant reduction in skin cancer incidence.

The role of tumourrectomised kidneys as a potential source of allografts for renal transplantation (Brook N, Nicol DL, Johnson DW, Campbell SB, Isbel N, Hawley C). Prospective observational cohort study demonstrating that transplanting of kidneys from which a cancer had been removed yielded equivalent outcomes to conventional donor kidneys with a very small incidence of tumour recurrence. Such kidneys represent a novel donor source and could increase kidney transplantation.


Adiponectin in renal transplant recipients (Kaisar MO, Armstrong K, Prins J, Johnson DW, Isbel N). Controlled clinical trial demonstrating that blood levels of a hormone called adiponectin were associated with inflammation, abnormal cholesterol levels and abnormal sugar tolerance in kidney transplant recipients. Low levels of adiponectin were correlated with heart disease in male transplant patients, although no such association was able to be demonstrated for females.

Impact of aggressive intervention in renal transplant recipients with impaired glucose tolerance on insulin resistance and atheroma burden (Kaisar MO, Armstrong K, Prins J, Johnson DW, Isbel N). Single centre, controlled clinical trial of the effects of lifestyle modification versus usual medical care on sugar control and heart and blood vessel disease in kidney transplant recipients with diabetes or pre-diabetes.

Evaluation of Dietary Advice for modification of Cardiovascular Disease Risk Factors in Renal Transplant Recipients with Abnormal Glucose Tolerance (Orazio L, Isbel NM, Johnson DW). Completed, demonstrating that dietary advice can contribute to healthier eating habits and a trend for weight loss in kidney transplant recipients with abnormal sugar tolerance.
Nephrology (continued)

General Nephrology
Opinions on the effect, content and structure of guidelines on CKD: Results of a national survey of nephrologists (Johnson DW). National survey completed, demonstrating that the majority of kidney specialists valued the national renal guidelines more in 2006 than in 2002. There was an improvement of about 20% in many areas evaluated by this study.

Opinions on the effect, content and structure of guidelines on CKD: Results of a national survey of renal nurses. (Johnson DW). National survey completed, demonstrating that Australian and New Zealand renal nurses valued the national renal guidelines, utilised them in practice, and considered that they led to improved patient outcomes. Positive attitudes towards the Guidelines increased between 2002 and 2006 and nurses valued the guidelines more so than kidney specialists.

Randomised and Multi-Center Two-Group Clinical Trial to Assess the Best Treatment for Patients with High Blood Pressure and Renal Artery Stenosis: Stenting with Anti-Hypertensive Medical Therapy, Compared to Medical Therapy alone (Mudge D, Martin A). This multi-centre RCT (CORAL trial) is anticipated to be completed in 2011 and aims to determine the best treatment for patients with impaired blood supply to their kidneys.


Other Research
Erythropoietin as a novel cytoprotective agent in vitro and in vivo models of acute renal failure, acute myocardial ischaemia and ischaemic brain injury (Johnson DW, Vesey D, Gobe G). This projects aims to look at the ability of a hormone called erythropoietin to protect organs such as the heart, kidneys and brain, from injury due to poor blood supply.

Expression and phosphorylation of P66SHC in young and old rats subjected to oxidative stress (Percy C, Brown L, Johnson DW, Gobe GC). Study examining the effects of a compound called p66SHC on mediating the effects of age on cell damage.


The role of protease activated receptors (PARs) in progressive renal scarring, inflammation and failure (Vesey D, Gobe G, Johnson DW). Cell culture study examining the effect that receptors in the blood clotting pathway have on progressive kidney failure and scarring.

Therapeutic application of adult mesenchymal stem cells in renal regeneration (Clark C, McTaggart S, Gobe GC, Johnson DW). Cell culture and animal studies examining the effects stem cells have? on helping the repair of injured kidneys.

Nuclear factor kappaB Inhibition by Pyrrolidine Dithiocarbamate Induced Anti-angiogenic Activity In Vitro and Ex Vivo (Morais C, Healy H, Gobe G, Johnson DW). Cell culture study of a novel anti-cancer agent, PDTC.

Major Grants and Financial Support

| Total NHMRC funding: | $167,750 |
| Other competitive funding: | $668,818 |
| Funding from commercial studies: | $438,865 |
Awards & Prizes

Professor David Johnson
Community Award, Australian of the Year Award (Queensland Finalist), Australia Day Council

Contributions to patients with kidney disease, especially screening and prevention of chronic kidney disease in Australians

National & International Invited Presentations

Professor David Johnson
APD: The case against. PD College, April, Shanghai, China
APD versus CAPD, World Congress of Nephrology, May, Milan, Italy
Diabetic nephropathy: benefits of blocking the RAAS, Asia-Pacific RAAS Forum, May, Taipei, Taiwan
Metabolic syndrome in dialysis, PD College, June, Seoul, Korea
Queensland State-wide Renal Clinical Network Activity, National Chronic Kidney Disease Summit, July, Melbourne, Australia
The current peritoneal dialysis scene in Australia and New Zealand, Roche National Nephrology and Transplant Symposium, August, Sydney, Australia
Management of stage 3 chronic kidney disease, General Practitioners’ Continuing Education Conference, September, Brisbane
Improving outcomes in peritoneal dialysis, Home Dialysis Symposium, September, Melbourne
PD for all: Lessons from the ANZDATA Registry, (Opening plenary lecture), Euro-PD, October, Strasbourg, France
Nursing Practice Development

The Nursing Practice Development Unit supports the spirit of enquiry, nursing research development and evidence-based practice across the Metro South District whilst maintaining positive links with the tertiary sector.

One of the department’s greatest challenges is to ensure nursing staff practise their profession within an evidence-based model whilst encouraging innovative, contemporary practice initiatives.

A highlight for the department was involvement in the successful Magnet redesignation for the Princess Alexandra Hospital.

The last 12 months has been a busy time for nursing across the organisation with a focus on building research teams. There has been an increase in the number of units initiating and participating in research, as well an increase in the number of staff enrolling in post graduate study with a research dissertation.

Professor Leanne Aitken, the Chair of Critical Care Nursing who is a joint appointee of Griffith University and Princess Alexandra Hospital, was awarded a prestigious Fulbright Scholarship which she will take up in 2010 to visit Philadelphia in the USA.

Kerri Holzhauer
Director of Nursing Research

Research Activities

Clinical Projects

“Ambulance Ramping”: An exploratory study across the Southern Area Health Service and Queensland Ambulance Service (Hammond E, Holzhauser K, Shaban R, Crilly J, Fitzgerald GJ, Tippett V, Eeles D, Finucane J, Collier J). The aim is to examine the practice of ambulance ramping at emergency departments in the Southern Districts Emergency Departments through the use of focus groups and interviews and analysis of Emergency Department reporting systems.

NHMRC NICS Pain Management Initiative - Characteristics of effective interventions supporting quality pain management in Australian emergency departments: An exploratory study (Huckson S, Bennett S, Holzhauser K, Shaban R, Knott J, et al). This study will use focus groups and interviews and policy and document analysis to describe interventions that lead to successful implementation of the NHMRC approved guidelines Acute Pain Management: Scientific Evidence (2nd Edition) that include specific recommendations for best practice pain management.

Mater Pain Management Project - Improving pain management of abdominal pain in Paediatric Emergency patients using a pre-post: interventional study (Williams S, Bonney D, Gilhotra Y, Pitt R, Holzhauser K). This project aims to develop, implement and evaluate pain management guidelines specific to paediatric patients presenting with abdominal pain to the emergency. This project is using a pre-test - post-test intervention design with survey and chart audits to evaluate the implementation of the guidelines. An expert panel is being used to develop evidence-based guidelines and the Agree Tool is being used to evaluate the guidelines.
Pilot study to examine consistency of assignment of ATS Category to patients presenting to the emergency department (Holzhauser K, Melton N, Considine J, Cooke M). This study aims to use a number of experts to review previously triaged cases and allocate the relevant ATS category using the ETEK as a gold standard. The design will be reviewed to determine if it is an appropriate design to use for this type of project.


Doctoral Study: The Change to one Queensland Public Hospital during the Application for ‘Magnet’ Recognition (Holzhauser K, Hase S). This study aims to describe the process the Australian health care facility used to apply for Magnet Recognition and to investigate the changes to staff satisfaction, staff perceptions of quality of care, nursing burnout and the professional nursing environment during an Australian health care facility’s application for Magnet Recognition. This project used pre and post test surveys, focus groups and interviews to examine the changes.


Awards & Prizes

Professor Leanne Aitken
Scholarship, Fulbright Scholarship, Fulbright, Trauma outcomes

Mary Boyde
Scholarship, Elizabeth Davies Scholarship, UQ, Efficacy of Self-Care Manual for HF Patients

National & International Invited Presentations

Mary Boyde
Cardiac Society of Australia and New Zealand Annual Scientific Meeting, August, Sydney

Eleanor Miligan
Australasian Bioethics Association/Australian New Zealand Institute of Health Law and Ethics Conference, July, Queenstown, NZ

7th International Conference of Emergency Nursing (CENA), July, Queenstown, NZ

Dr Marion Mitchell
10th Congress WFSICCM - 63 Congresso SIAARTI - 6th Congress WFCCN, September, Florence, Italy

Major Grants & Financial Support

| Total NHMRC funding: | $106,136 |
| Other competitive funding: | $230,192 |
Nutrition and Dietetics

The department was successful in obtaining a competitive Health Practitioner Research Position in collaboration with the Diamantina Institute for a five year period to research the management of obesity. The department received $250,000 in grants for research concerning malnutrition, falls, oncology, heart failure, and geriatrics. Maree Ferguson is an associate investigator on a $700,000 NHMRC grant.

In tribute to the hospital’s active culture in dietetic research and practice, the department presented nine oral abstracts, five posters, and two workshops at the Dietitians Association of Australia conference in May. The group received the Dietitians Association of Australia Presidents Award for Innovation (in memory of Jo Rodgers) in recognition of their development of the Malnutrition Screening Tool and the resultant changes to practice around the world.

Linda Orazio was awarded her MPhil on ‘Assessment of lifestyle and metabolic factors in renal transplant recipients’. Maree Ferguson is an Adjunct Associate Professor at Queensland University of Technology and Griffith University and Senior Lecturer at The University of Queensland. Angela Vivanti was appointed Honorary Fellow at The University of Queensland and Adjunct Lecturer at Griffith University. Winsome Abbott was appointed as an Honorary Associate Lecturer, School of Medicine, The University of Queensland.

The department commenced a new model of dietetic student education in partnership with The University of Queensland and received grant funding to undertake evaluation of the outcomes for Queensland Health. The department partnered with Griffith University to provide six research student placements.

Dr Maree Ferguson
Director

Research Activities

Clinical Trials

Randomised controlled trial assessing outcomes of two service models providing nutritional support to older people presenting to emergency departments (Vivanti A, Ferguson M, Powrie D, O’Neill M, Isenring E).


Prevalence of malnutrition and nutrition impact symptoms in chemotherapy patients (Davidson W, Ferguson M, McCarthy A, Vick J, Isenring E, Campbell V).


Investigation of current parenteral nutrition delivery practices at Princess Alexandra Hospital (Ali A, Hall C).

An investigation into nutritional supplement distribution and consumption rates in the Geriatric and Rehabilitation Unit at the Princess Alexandra Hospital (Ferguson M, Vivanti A, Fallon C).

Accuracy of patient food records documented through visual observation by nursing staff within a hospital rehabilitation environment (Vivanti A, Ferguson M, Lynch K).


Pre-liver transplant nutrition status and impact on post-liver transplant outcomes (Murray E, Ali A, Bowser N, MacDonald G, Khatoon M).

Measurement of physical activity levels in people with stroke using sensewear armbands (Kuys S, Vivanti A Morris N).

Other Research


Queensland metropolitan dietitians, an exploratory investigation of factors affecting workforce participation (Ferguson M, Desbrow B, Cody S).

Major Grants & Financial Support

Other competitive funding: $239,000

Awards & Prizes

Dr Maree Ferguson, J Bauer, M Banks, S Capra
Professional Association, Presidents award for Innovation (in memory of Jo Rodgers), Development of the Malnutrition Screening Tool and the subsequent changes in practice globally

National & International Invited Presentations

Ms Azmat Ali
International Surgical Week, September, Adelaide

Dr Angela Vivanti
National Falls Summit, October, Brisbane

L-R [Back row]: Helen Porteous, Azmat Ali, Maree Ferguson, Linda Orazio, Nora Ramos  
L-R [Front row]: Winsome Abbott, Wendy Davidson, Angela Vivanti
Occupational Therapy

The staff work in partnership with adults to overcome factors which limit their ability to function in their chosen ‘occupational roles’ and impact on their quality of life. These limiting factors can be caused through injury or illness, environmental, psychological or emotional difficulties, or by the effects of ageing. Through developing research capacity and strength in a variety of clinical areas, the occupational therapists are major contributors to the occupational therapy clinical knowledge base, creating a strong research profile nationally and internationally, and enhancing evidenced-based clinical decision making at a local level.

Research activity concentrated on the areas of brain injury rehabilitation, cancer services, spinal cord injury research, aged care assessment and management, and hand and upper limb rehabilitation. The department is involved in two ARC Linkage grants for multidisciplinary research projects in the field of acquired disability. Staff disseminated their research outcomes through publication in peer-reviewed journals and books and by presentation at national and international conferences. Currently the department supports 12 postgraduate research students conducting research in the fields of brain injury, aged care, cancer, and hand therapy.

Mrs Mary Whitehead
Director

Mrs Ruth Cox
Acting Director

Dr Jennifer Fleming
Associate Professor

Research Activities

Clinical Trials

The effect of nerve and tendon gliding exercises on swelling in the median nerve in patients with carpal tunnel (Little M, Strudwick M, Schmid A, Elliott J, Coppieters M). A clinical research project investigating the effectiveness of exercises as a conservative treatment strategy for patients with carpal tunnel syndrome.

Skill mix in an aged care rehabilitation setting: Trial of an advanced scope of practice Occupational Therapy Assistant role at the Princess Alexandra Hospital, Demonstration Project (Cox R, Wood A, Wiemers A, Clements L, Fleming J). This project is one of a number of demonstration projects for the ‘Workforce Innovation: Caring for older...
people’ program and will involve the development, trial and evaluation of an advanced scope of practice Occupational Therapy Assistant role in an aged care rehabilitation setting.

Community based rehabilitation after traumatic brain injury: a comparison of home and hospital based outpatient intervention (Doig E, Fleming J, Kuipers P, Cornwell, P). This PhD study compares goal attainment of individuals with TBI in two settings (outpatient clinic based rehabilitation and home/community based rehabilitation) using a within-subjects design and qualitative methodology.

A randomised control trial investigating the effects of group education and support in reducing cancer-related fatigue and improving quality of life in patients undergoing radiotherapy (Purcell A, Fleming J, Haines T, Burmeister B). This component of a PhD study examines the effectiveness and timing of a multidisciplinary group intervention to assist patients to manage cancer-related fatigue and reduce its debilitating effects on quality of life during and following radiotherapy treatment.

Other Research
Investigation of the transition from hospital to home for individuals with acquired brain injury and their family caregivers (Fleming J, Naider E, Turner B, Cornwell P, Worrall L, Ownsworth T, Haines T, Kendall M, Chenuweth L). This program of research includes an ARC Linkage Project and the work of two doctoral students. The research examines the determinants of successful transition home from hospital following acquired brain injury using a mixed (qualitative and quantitative) methods approach.

Cancer-related fatigue management in adults undergoing radiotherapy treatment (Purcell A, Fleming J, Haines T, Bennett S). This PhD thesis incorporates a prospective longitudinal study of the correlates of fatigue dimensions in radiotherapy patients and an RCT of group fatigue education and support sessions.

Facilitation of self management of the upper limb following a stroke (Bower K, Hoffmann T, Gustafsson L). A PhD study being conducted in three parts, this research will determine the available evidence for methods of teaching people to manage their stroke-affected arm, develop and pilot an intervention, and trial its effectiveness using an RCT.


Evaluation of a telephone screening tool for the presence of post-concussive symptoms (Wright S, Prescott C, Fleming J, Hoffmann T, Ladnor Y). An evaluation of the validity of a follow-up telephone interview for screening patients who present to the Emergency Department after hours and are discharged home without occupational therapy screening for cognitive, physical and subjective changes following mild brain injury.

Financing and management of lifetime care for adults with acquired disabilities and high care needs (Foster M, Henman P, Fleming J, Tilse C). An ARC Linkage project examining the policy, financing and services systems involved in the provision of lifetime care with severe acquired disabilities such as severe traumatic brain injury and spinal cord injury.

Does individualised hand splinting reduce spasticity after traumatic brain injury (Copley J, Fleming J, Griffin J). A randomised controlled trial designed to examine the effectiveness of individually prescribed hypertonicity splints compared to standard care without splinting in patients with traumatic brain injury.
Occupational Therapy (continued)

Goal setting and attainment by individuals in spinal cord injury rehabilitation using the Canadian Occupational Performance Measure (Mitchell G, Gustafsson L, Fleming J, Price G). A collaborative project between occupational therapists in the Spinal Injuries Unit and an honours student, examining the clinical utility of the COPM in spinal cord injury rehabilitation.

Past and current leisure activities of individuals in a brain injury rehabilitation unit (Braithwaite H, Fleming J, Gustafsson L, Griffin J). A survey based study of inpatients and outpatients in the Brain Injury Rehabilitation Unit.


Splinting to prevent forearm rotation – to what degree? (Slaughter A, Miles L, Fleming J, McPhail S). This pilot study examined the extent to which forearm pronation and supination is restricted in four different splints.


The evaluation of multi-disciplinary goals and goal-setting: Processes in an adult rehabilitation setting (Cornwell P, Fleming J, Haines T, Leech E). A multidisciplinary qualitative study investigating goal setting processes used by therapists in rehabilitation.

Helping people with traumatic brain injury and their families adjust to driving cessation (McKenna K, Fleming J, Liddle J, Turpin M, Weir N, Whitelaw P). A qualitative study of adjustment to loss of the driving role either temporarily or permanently following traumatic brain injury.

Rehabilitation of prospective memory following traumatic brain injury (Fleming J, Shum D, Strong J). A series of studies in the traumatic brain injury population on the assessment and rehabilitation of prospective memory or the ability to remember to perform an action at a future point in time.

Major Grants and Financial Support

Competitive funding: $318,126

Awards & Prizes

Dr Jennifer Fleming
Research, School of Health and Rehabilitation Sciences
Research Excellence Award (Level C) The University of Queensland, Overall research productivity

L-R: Susanne Wright, Emily Nalder, Ruth Cox, Elizabeth Caldwell, Assoc Prof Jenny Fleming
Ophthalmology

Although the department is small, research continues through appointments with external organisations. Internal research of the Queensland Eye Bank continues to analyse statistical information to see how to better undertake the donation process. In conjunction with external organisations the department has been able to establish culture of both a cell line and primary human corneal endothelium. Furthermore, the department has grown endothelial cells on silk fibroin as a substratum. This has the potential to improve corneal transplantation and reduce reliance on corneas from donors.

Dr Peter Madden
Scientific Director

Research Activities

Analysis of data at the Queensland Eye Bank has identified that in only one of ten cases are potential eye donors registered on the Australian Organ Donor Register. The automatic notification of death system has been analysed for its value and future potential.

At the Queensland Eye Institute the group established the growth of a human cell line and primary corneal endothelial cells and their growth on silk fibroin membranes. The aim is to develop the fibroin membranes for use as a replacement for conventional donor tissue for corneal transplants.

In collaboration with the Therapeutics Research Unit the department has investigated the use of multiphoton microscopy to assess the living cornea and its response to nanoparticles. One aim is to review and improve drug penetration into the eye.

In collaboration with the Centre for Integrative Clinical and Molecular Medicine the department has been examining the value of the -Subunit of Taipoxin snake venom from the Australian Taipan (Oxyuranus scutellatus scutellatus) as a possible mitogen for corneal epithelial and endothelial cells.

Major Grants & Financial Support

Funding from other sources: $5,000
Older Persons Mental Health Service

The Older Persons Mental Health service is the geriatric psychiatry service covering the previously known PA/QEII Hospital District catchment and now networked with similar services at Logan and Bayside. The capacity for research and evaluation has become strengthened through links with other Metro South Health Service District OPMH teams as well as new strategic partnerships with The University of Queensland’s Centre for Research in Geriatric Medicine, RSL Care Queensland, Jenni Marshall, and Lynne Halliday from the Mental Health Directorate (the new name for Queensland Health’s Mental Health Branch) in the area of public health and telehealth. The Service continues collaboration with the Dementia Collaborative Research Centres (DCRC) at Queensland University of Technology and Australian National University, the Stirling Dementia Centre in Scotland and the Princess Alexandra Hospital’s Geriatric Medicine Department.

Literature reviews federally funded through DCRC resulted in three publications this year. The STEADI project, which is a Queensland Health-based intranet site dedicated to hospital care for people with dementia, continues to be developed and funding was extended to March 2010. Two publications will be submitted. A DVD comprising two locally made short films was requested by the State Library of Queensland and the Alzheimer’s Society Library in London, and is available in the Princess Alexandra Hospital Library. Findings from the evaluation of STEADI have been presented at a number of local and international meetings.

The Service had the pleasure of providing an inaugural research internship for a University of Queensland medical student, Emily McCullum, who produced a literature review on frequency of ECT treatment which will be presented at meetings in 2010. Emily was supervised by Dr Dan Siskind (Princess Alexandra Hospital, Queensland Centre for Mental Health Research) and Dr David Lie. A research forum was held in July to scope local interest in future psychogeriatric research.

Dr David C Lie
Clinical Director

Research Activities

Effectiveness of Adherence to Dementia Risk Reduction in Everyday Practice (Lie D, Travers C & Martin-Khan M). A literature review which explored potential outcome measures for primary care based programmes with regard to uptake of practices in dementia risk reduction.

Streaming Technology as an Adjunct to Dementia Intervention (STEADI) (Lie D, Austin S, Chen L). STEADI produced materials for hospital-based clinicians on dementia care, established an intranet multimedia website and evaluated measures of utility and satisfaction. The website is available to all people with access to Queensland Health Electronic Publishing Service.
Improving outcomes related to driving cessation for people with dementia and their families (Liddle J, Bennett S, Pachana N, Lie D). This study has two aims: to understand the unique experience and needs of people with dementia related to stopping driving (driving cessation), and to adapt an existing intervention to assist people with dementia to adjust to stopping driving. This study will develop a practical, tailored approach to improve outcomes for people with dementia and their families when they stop driving. The perspectives of people with dementia, their family members and health professionals will be explored to understand the unique experience of people with dementia.

liced grants & Financial Support

Competitive funding: $31,000

National & International Invited Presentations

Dr David Lie
Managing Challenging Behaviour in Older People with Cognitive Impairment, Melbourne, May

Geriatrics Beyond the Boundaries 2009: e-Health and Technology in Aged Care*, Brisbane, October

2009 Australasian Nurse Educators Conference, Christchurch, NZ, September-October

Susan Austin
38th Annual Conference of the British Society of Gerontology, Bristol, UK, September

DSDC’s 3rd International Conference: Facing the Future, York, UK, September

New Zealand Association of Gerontology Age Concern New Zealand Conference 2009, Wellington, NZ, October

Dr Natasha Squelch
Joint APS Psychology & Ageing Interest Group & FRANZP Faculty of Psychiatry of Old Age Meeting, Gold Coast, November

Dr David Lie, Lynne Halliday, Susan Austin
National Dementia Research Forum, Sydney, September
Pathology Queensland

In September 2008, a Memorandum of Understanding was signed between Queensland Health and the Department of Tourism, Regional Development and Industry, regarding the Department’s award to Queensland Health from the Innovation Building Fund for the Molecular and Clinical Pathology Research Laboratory (MaCH R). This provided an equity injection of over $2.96 million to acquire and install the Plant and Equipment.

Based at the Princess Alexandra Hospital, the MaCH R has been established as a unique research facility dedicated to providing downstream research and development to enable translation of basic biomedical research from existing research facilities into effective clinical treatments to improve cancer patient outcomes.

Dr Glenn Francis
Director Pathology, Director MaCH R

Research Activities

MaCH R has instigated or collaborated on a number of projects as outlined below:

Phenotypic/genotypic profiling and outcome in breast cancer. The aim is the identification of biomarkers to determine outcome in breast cancer patients (Francis G, Stein S, Wagner S, Beadle G)

Prediction of lymph node status in breast cancer patients. The aim is to predict lymph node status from characteristics of the primary tumour (Francis G, Stein S, Wagner S, Wetzig N)

Prospective assessment of patient response to treatment with the drug Trastuzumab. The aim is to determine biomarkers to predict response of HER2 positive patients to targeted therapy (Francis G, Stein S, Wagner S)

High-through-put tissue analysis of novel candidate biomarkers of breast cancer progression. The aim is to determine biomarkers to predict breast cancer progression in lymph node positive patients (Francis G, Stein S, Wagner S, McCosker H, Upton Z, Leavely D)

E-Health extraction of pathology data from text reports. The aim is to extract data from pathology reports into synoptic format (Francis G, Stein S, Wagner S, Hansen D, Nygun A)

Utilization of biomarkers to determine outcome in HER2 positive breast cancer patients. The aim is to determine biomarkers to predict response of HER2 positive patients to therapy (Francis G, Stein S, Wagner S, Farah C)

Gene expression analysis of breast cancer cell populations and correlation with metastatic clones using immuno-laser capture microdissection. The aim is to identify gene expression profiles of breast cancer cell populations and correlation with metastatic clones (Francis G, Stein S, Wagner S, Farah C)

Identification and analysis of non-coding RNAs that contribute to advanced breast cancer. The aim is to identify non-coding RNAs that contribute to advanced breast cancer (Francis G, Stein S, Wagner S, Farah C in collaboration with Brown M, French J).


Translational pilot study of combined Androgen Receptor and ErbB2 inhibition in Molecular Apocrine subtype of Breast Cancer. The aim is to identify androgen receptor status in apocrine type breast cancer (Francis G, Stein S, Wagner S, Farah C in collaboration with Naderi, A).

The affect of MYB and associated genes being expression on estrogen-receptor positive and negative breast cancer cells and lines. The aim is to identify genes associated with MYB in breast cancer (Francis G, Salkield K in collaboration with Brown, M).
Pharmacy

The Pharmacy department completed a program of Drug Use Evaluations (DUE). These have been conducted by pharmacists, pharmacists completing postgraduate studies, undergraduate pharmacy students, nursing and other clinical staff. The DUEs are co-ordinated by the Drug Use Evaluation pharmacist.

The department has a specialist pharmacist working in 127 clinical trials, an infectious diseases specialist pharmacist involved in seven clinical trials and oncology pharmacists involved in 82 clinical trials.

Lynette Loy
Director

Research Activities

Evaluation of the Impacts of a Doctor - Pharmacist Collaborative Supplementary Prescribing Model in a Multidisciplinary Elective Surgery Pre-Admission Clinic (Hale A). Proposed Supplementary Prescribing Model. A randomised controlled study, following ethical approval, is proposed to investigate the outcome of extending the role of the senior pharmacist, in Pre-Admission Clinic only, to the prescribing of the inpatient medication chart for the administration of medications on the ward peri-operatively. Study Objectives: To determine if a doctor – pharmacist collaborative prescribing model within the Pre-Admission Clinic has an effect on Primary and Secondary End Points.

The Role of the Pharmacist in the Medication Management of Patients Receiving Chemotherapy for Breast Cancer in Day Care (Carrington C). The aim of this study is to investigate what effect the pharmacist has on the medication management for patients who are receiving chemotherapy for breast cancer in the oncology day care unit. It also aims to develop novel methodology using a modified repertory grid method to measure patient understanding of medications. The study compares 2 groups of patients receiving chemotherapy for breast cancer at the Princess Alexandra Hospital and the Royal Brisbane Hospital. It measures whether having a pharmacist in day care changes the patients’ understanding of medication in relation to chemotherapy and its side effects and if the incidence and severity of side effects is reduced.

Does closed system compounding reduce levels of contamination in pharmacy preparation areas? (Bates J, Semmler J). This trial is in recognition of new developments that may help to achieve a reduction in occupational exposure to cytotoxic drugs by 1) investigating and establishing existing levels of surface contamination with cytotoxic drugs in pharmacy preparation and nursing administration areas, and 2) trialing the introduction of closed system compounding devices and assessing the effect on levels of contamination after a six month period of use.

Other Research

Prescribing and safety issues of oral molecular therapies and chemotherapies in Australian haematology oncology practice (Dooley M, Larizza M, Poole S, Carrington C). The aim of the study was to determine the prescribing practices of oncologists and haematologists regarding oral molecular and chemotherapy medications across various practice settings in Australia. A nineteen-question survey was developed (based, with permission, on that of Weingart et al BMJ 2007), examining aspects of prescribing and supply of oral chemotherapy and molecular therapies. The survey was distributed electronically to 203 medical oncologist and haematologist members of Medical Oncology Group of Australia (MOGA) and/or Clinical Oncology Society of Australia (COSA) in April 2008. Eighty-four surveys were returned and it was identified that there was a
lack of consistency in prescribing of oral chemotherapy and molecular therapies. Further research is now being carried out to identify best practice for reducing the risks associated with these therapies. Study presented at COSA 2009.

A study to support the standardisation of prescribing and dispensing of etoposide formulations in Australia (Carrington C, Weir J, Do C)

Evaluation of a Competency Framework for Pharmacists Providing Cancer Services (Carrington C, Weir J, Smith P)

Discharge Medications after Acute Coronary Syndrome (DMACS) - a multicentre national study (Coombes J, Downie M, Slater K)

Physicians Perceptions of Warfarin for stroke prevention in elderly patients with Atrial Fibrillation (Chowdhury R, Cottrell N, Winckel K)

The role of a pharmacist supporting beliefs about medications in consumers who have experienced an episode of Acute Coronary Syndrome (Gujral G, Cottrell N, Nissen, L. Winckel K)

“Blind Prescribing and the prescribing preparedness of doctors in emergency departments”  (Starmer K, Sinnott M, Shaban R, Donegan E)

National & International Invited Presentations

Christine Carrington
Clinical skills for Cancer Pharmacy Practitioners Course, Brisbane, May

Amgen Clinical Symposium 2009, Melbourne, September

Clinical Oncological Society of Australia 2009 Annual Scientific Meeting, Gold Coast, November

Advancing Key Initiatives in Cancer Care, Brisbane, May

Judith Coombes
SHPA introductory seminar in Clinical Pharmacy, Brisbane, June

Jo Sturtevant
SHPA introductory seminar in Clinical Pharmacy, Brisbane, June

Sean Unwin
SHPA Federal Conference, Perth

Janet Weir
Clinical Oncological Society of Australia 2009 Annual Scientific Meeting, Gold Coast, November

Healthcare associated infection antibiotic stewardship forum, Sydney, September

Awards & Prizes

Geeta Sandu, Trang Le
Australasian Regional Symposium 2009, Best Abstract 2009, International Society of Oncology Pharmacy Practitioners

Cancer Pharmacist’s Role in Identifying Complementary Drug-Anticancer Therapy Interactions in Ambulatory Care
Physiotherapy

The department had a very successful year, with 13 publications in peer reviewed journals and more than $35,000 received in grant funding. Two research higher degree students continued to make substantial progress on their studies with one additional person being awarded a Doctorate.

Kathy Grudzinskas
Director
Cherie Hearn
Assistant Director

Research Activities

Clinical Trials

Validation of the acute brain injury physiotherapy assessment (Gesch J, Nascimento M, Passier L). Test-retest reliability testing has commenced. Preliminary results presented at national conference.


Treadmill walking to improve walking and fitness following stroke: a single blinded pilot randomized controlled trial (Kuys SS, Brauer SG, Ada L). This project was completed and analysis has been carried out, with manuscript under review. Results presented at national conference.

Randomised controlled trial of multimedia patient education approaches to preventing in-hospital falls (Haines T, Hill K, Hoffmann T, Brauer SG, Oliver D, Hill A). Data collection completed, analysis under way.


Falling for misconceptions in hospital (Haines T, McPhail S, Varghese P)

Other Research

Validation of outcome measures (Demmi, Berg Balance Scale and BOOMER) in acute geriatric patients (Dolecka U, Kuys SS, LowChoy N). Data collection Phase 1 completed. Preliminary analysis presented at National conference.

Audit of seating available within Division of Medicine (Dolecka R, Morrison C, Kuys S). Audit completed, submission made to secure appropriate seating which was successful. Await purchase.

Activity levels of acute geriatric medical patients (Dolecka U, Kuys S). Phase 1 data collection complete.

Activity levels following discharge from inpatient rehabilitation of people with stroke (Kuys S, Moroney T, Mitchell J, Vivante A, Morris N). Data collection commenced.


Comparison of Nintendo Wii and usual physiotherapy in adults with CF (Hall K, Passey M, Kuys S). Data collection commenced.

Major Grants & Financial Support

Competitive funding: $35,725
Queensland Clinical Trials and Biostatistics Centre

This new centre within the School of Population Health of The University of Queensland was formed in September 2009 with the goal of promoting and running high quality clinical trials and other non-trial clinical studies projects, both locally and internationally. Based at the Princess Alexandra Hospital, the centre has replaced the former Queensland Clinical Trials Unit, which was established in 2001.

The centre provides expertise and infrastructure to design, conduct, and facilitate high quality clinical trials, non-trial clinical studies and biostatistical research with both academic and industry collaborators. There has already been active involvement in Phase 1 and Phase 2 clinical trials, several clinical studies including new biomarker and genetic studies, and methodological studies in Clinical Biostatistics. In addition, the Centre provides high quality consulting services to clinical researchers and biotechnology companies.

In the short time since the establishment of the centre, three new staff members have been recruited, with funding secured for three additional fulltime statisticians. The Director’s position is supported by the Princess Alexandra Hospital. The centre is actively involved in the conduct of nine national and international research projects. This includes long-term research programme grants from pharmaceutical companies. In addition, the centre has several ongoing and newly established collaborations with highly reputed academic research groups and pharmaceutical industry partners, both within Australia and internationally.

Associate Professor Sanjoy K Paul
Director

Research Activities

Clinical Trials
ALLG MM8 Amyloidosis Trial. A Phase II Study of Risk-Adapted IV Melphalan in Patients with AL Amyloidosis (Mollee, P). This phase 2 trial is an initiative of the Princess Alexandra Hospital Cancer Collaborative Group, sponsored by the Australasian Leukemia and Lymphoma Group. The aim is to identify improved modes of drug delivery for individual patients with this rare disease. The study is now closed and data analysis is in progress.

Other Research
Dynamics of weight change and glycaemic control in Type 2 diabetes patients treated with exenatide or insulin (Paul S). The aim of this novel methodological study is to unravel the dynamics of insulin dose and changes in weight and HbA1c in Type 2 diabetes. It should help predict the glycaemic control achievable with different treatment regimens in clinical trials, and better inform glycaemic management in clinical practice.
**Statistical analysis of disease progression in Type 2 diabetes patients** (Paul S). This study looks into disease progression in newly diagnosed Type 2 diabetes at population level using the UK General Practice Research Database (GPRD) data. It is part of a program of study in clinical epidemiology and clinical biostatistics, in collaboration with Imperial College, London, and the University of Leicester, UK.

**Plant sterols in Type 2 diabetes** (Paul S, Neil A & Holman R). The study utilises data from the Phase III clinical trial, AFFORD, and is in collaboration with University of Oxford and Pfizer Inc. The aim is to determine the effect of statin treatment and omega-3 polyunsaturated fatty acid supplementation on plasma plant sterol concentrations and cholesterol synthesis in Type 2 diabetes.

**Comparison of diabetic cardiovascular risk factors between the Caucasian and South-Asian populations** (Paul S, Khunti K). This study addresses the issue of possible differences between Caucasian and South-Asian populations in the behaviour and association of anthropometric, clinical, and biochemical risk factors defining the likelihood of Type 2 diabetes. The data has been generated by combining various diabetes screening studies conducted by the University of Leicester, UK.

**Prediction of incipient hypoglycaemia using a continuous blood glucose monitoring system** (Paul S). Continuous blood glucose monitoring (CGMS) is a relatively new technique which provides best insight into glycaemic fluctuations in Type 1 & Type 2 diabetic patients. The aim is to use statistical approaches to model the volatility and trends in CGMS data, leading to potential real time forecasting of incipient hypoglycaemia.

### Major Grants & Financial Support

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<tr>
<th>Source</th>
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### National & International Invited Presentations

**Dr Sanjoy Paul**

American Diabetes Association Conference, July, New Orleans, USA
Queensland Melanoma Project

The project was originally established in 1963 by Dr Neville Davies to investigate issues such as the incidence of the disease and outcomes from treatment. It has developed over the years to include a multi-disciplinary meeting and clinic that involves General Surgeons (Surgical Oncology), Plastic and Reconstructive Surgeons, Medical Oncology, Radiation Oncology and Allied Health. This is the only specialist melanoma clinic in Queensland and offers patient care and advice to clinicians in Queensland and Northern New South Wales. It is through this clinic that a focus on clinical research has developed.

The Queensland Melanoma Project is currently involved in local, national and international clinical trials. The project continues to collect prospective data on all patients undergoing nodal surgery and isolated limb therapy. This data has been presented at National conferences.

Associate Professor B Mark Smithers
General Surgeon, Senior Lecturer The University of Queensland Department of Surgery
Chairman Queensland Melanoma Project Princess Alexandra Hospital
Chairman Upper GI and Soft Tissue Unit Princess Alexandra Hospital

Research Activities

Clinical Trials

Multicenter Selective Lymphadenectomy for Melanoma Trial II: A Phase III Multicenter Randomized Trial of Sentinel Lymphadenectomy and Complete Lymph Node Dissection versus Sentinel Lymphadenectomy Alone in Cutaneous Melanoma Patients with Molecular or Histopathological Evidence of Metastases in the Sentinel Node (Smithers BM, Bayley G, Barbour A, Jones S, Allan C). The objective of this study is to determine whether LM/SL and CLND in cutaneous melanoma subjects with evidence of SN metastases by histopathologic or molecular evaluation will lead to longer melanoma-specific survival than that observed after LM/SL alone and postoperative observation with serial nodal ultrasound.

A Double blind, randomised, placebo-controlled Phase III study to assess the efficacy of recMAGE-A3 + AS15 ASCI as adjuvant therapy in patients with MAGE-A3 positive resected stage III melanoma (Smithers BM, Barbour A, Burmeister B, Walpole W, Bayley G, Allan C). The objectives of this study are to assess the efficacy in terms of Disease-Free Survival of the recMAGE-A3 + AS15 ASCI in the overall population of patients and to evaluate other indicators of efficacy and safety of recMAGE-A3 + AS15 ASCI such as overall survival, distant metastasis free survival, 1-year, 2-year and 3-year DFS rates and the immune response to the ASCI.

A Phase II study of intrallesional PV-10 in the treatment of metastatic melanoma (Multicentre trial) (Smithers BM, Barbour A, Bayley G, Burmeister B, Allan C). The objective is to investigate whether injection of PV-10 into melanoma tumours is effective for the destruction of the injected tumours and to assess the safety of this treatment. This study closed to recruitment in mid 2009.
Queensland Melanoma Project (continued)

**A Phase I, open label cohort study of two doses of Cavatak (Coxsackievirus A21) given intra-tumourally in Stage IV Melanoma** (Smithers BM, Thomson D, Barbour A, Bayley G, Walpole E, Guminski A, Joubert W, Atkinson V). The objectives of this study are to investigate whether an injection of a virus, called Coxsackievirus A21 (CVA21), into a nodule of cancer is safe and well tolerated.

**Phase I clinical trial of interferon modified B7 positive melanoma cell vaccine in patients with Stage IV malignant melanoma** (Smithers BM, Barbour A, Burmeister B, Walpole E, Bayley G, Allan C). The objectives of this study are to test the safety of the vaccine, Genvax, at different dose levels and to see the effect the vaccine has on melanoma cancer.

**Molecular markers of sentinel node invasion in melanoma** (Khosrotehrani K, Smithers BM). This study is being conducted with the University of Queensland using the existing database being managed through the QMP office. The objective of the study is to look at different markers in the tumour to see if they could predict the invasion of the sentinel node and the severity of the melanoma.

Prospective study of the natural history of subjects who were entered in the MMAIT-03-001 and MMAIT-04-001 trials and underwent post-operative therapy with BCG plus placebo or BCG plus Canvaxin (Smithers BM, Bayley G, Barbour A).

Follow-up Study of randomised double-blind phase II trial of NY-ESO-1 Iscomatrix vaccine and Iscomatrix adjuvant alone in patients with resected stage IIC, II or IV malignant melanoma (Multicentred trial) (Smithers BM, Barbour A, Burmeister B, Walpole E, Bayley G).

The natural history of patients who were entered into the MRPQ0161A study (Smithers BM, O’Rourke M, Schmidt C)

**Melanoma - Isolated Limb Infusion Database.** Data has been collected on all patients who have undergone an isolated limb infusion at the Princess Alexandra Hospital since 1997. The majority of these procedures have been for metastatic melanoma. There are currently 127 patients. (Smithers BM, Jones S, Barbour A, Bayley G, Allan C)

**Major Grants & Financial Support**

| Funding from commercial studies: | $212,916 |
| Funding from other sources: | $5,460 |

**National & International Invited Presentations**

- **Associate Professor Mark Smithers**
  Royal Australasian College of Surgeons, Brisbane, Australia, May
  Clinical and Translational Research, Brisbane, Australia, May
  Consumer Forum, Townsville, Australia, November

- **Dr Chris Allan, Dr Andrew Barbour & Dr Gerald Bayley**
  Royal Australasian College of Surgeons, May, Brisbane

- **Dr Andrew Barbour**
  Royal Adelaide Melanoma Research and Education Day, December, Adelaide

**Other Research**

**Melanoma Database - Sentinel Node and Nodal Dissection.** Established in 2004, data has been collected on all patients undergoing a sentinel lymph node dissection or complete lymph node dissection for metastatic melanoma. Retrospective data has been collected since 1997. There are currently 1272 patients. (Smithers BM, Jones S, Barbour A, Bayley G, Allan C)
The Queensland Spinal Cord Injuries Service (QSCIS) consists of the Spinal Injuries Unit (SIU), the Transitional Rehabilitation Program (TRP) and the Spinal Outreach Team (SPOT). All three services have active research programs.

Dr Tim Geraghty
Director

Spinal Injuries Unit

It was a year of consolidation for research in the Spinal Injuries Unit. One of the research programs included investigating the importance of hope following spinal cord injury (SCI). A great deal of preparatory work has also been done to allow QSCIS to participate in two international multi-centre trials funded by the Victorian Neurotrauma Initiative – one involving investigation of physical activity after SCI (initially involving upper limb and hand function) and the other investigating obstructive sleep apnoea in tetraplegia. Both will commence recruitment early in 2010.

A proposal has been submitted through the Queensland Government – National and International Research Alliances Program for the establishment of the Queensland/Canada SCI Alliance which will promote data collection/analysis and clinical trials between QSCIS and Canadian SCI Solutions Network.

Dr Sridhar Atresh
Director

Research Activities

Clinical Trials

The role of hope in the coping process following spinal cord injury (Dorset P, Geraghty T). This prospective study investigates the relationship between hope and rehabilitation and adjustment outcomes following SCI. Participant’s hope levels will be measured using the Adult Dispositional Hope Scale at eight weeks post injury, at discharge from hospital and three months post discharge. Rehabilitation and adjustment measures include functional independence, health problems, hospital-readmissions, depression, life satisfaction and self-efficacy. Eligible participants are all adult patients admitted to QSCIS with an acute traumatic spinal cord injury. The Investigators have recently formed a partnership with The Burwood Spinal Injuries Unit New Zealand to replicate the study. This will extend the sample size and provide a comparison group. To date eight week post injury data has been collected for a full sample of 26 at the Brisbane QSCIS site. Discharge and three month follow-up data is being collected for the
Queensland Spinal Cord Injuries Service (continued)

Brisbane sample. Recruitment and the eight week post discharge data collection has commenced at the New Zealand site.

Other Research

Neuropsychological Assessment of Recovery after mild Traumatic Brain Injury (Kwapil, K). The aim of this research is to validate and standardise a brief battery of neuropsychological tests to be used in identifying individuals who have sustained a mild Traumatic Brain Injury (mTBI) and to guide diagnostic and prognostic decision-making within hospital emergency departments. In order to address this overall aim, several subordinate goals were formulated. These include identifying the general and specific long-term effects of mTBI on cognitive functioning, examining group and individual resolution of post-concussive symptoms and investigating the influence of selected psychosocial and injury variables on mTBI recovery. The significance of this project lies in its potential to offer a more detailed knowledge of the neurocognitive processes associated with mTBI. Following mTBI, post-concussive symptoms may persist for days or even months. In these cases, significant costs are borne by the community due to repeated visits to health care professionals, lost productivity because of full or partial inability to work, and medico-legal claims. Given the frequency of head injuries that are classified as mild, it is important to be able to determine whether a patient who presents with a blow to the head has also received measurable injury to the brain. Because it is difficult to distinguish between an external head injury and a mild Traumatic Brain Injury, the development of a sensitive, practical and reliable concussion management protocol would be of benefit to clinicians. An adequate index of severity of injury would permit further investigation of mechanisms of injury. This in turn could lead to the development of a theoretical model of mTBI on which to base predictions. Furthermore, an objective screen that identifies cases of concussion could aid clinical decision making regarding hospital admission and discharge, the necessity for patient follow-up or intervention, and the duration of rest before return to work, study or sport.

Awards & Prizes

Josh Simmons
Best Poster Presentation, Best Poster Presentation, ANZCoS Annual Scientific Meeting, “A Unique Vehicle for Independence”

National & International Invited Presentations

Dr Tim Geraghty
Frontiers in Spinal Cord Research, Queensland Brain Institute, University of Queensland, September

Spinal Outreach Team

The Spinal Outreach Team embarked upon a new research project which will examine the efficacy of “consultancy” as a model for translating clinical evidence in rehabilitation and aged care settings.

The group continues to examine, and report on, data from its longitudinal spinal cord injury outcomes study.

Kiley Pershouse
Program Manager

Research Activities

Clinical Projects


This study of physical and psychosocial outcomes for people with spinal cord injury utilised a wave panel design with data collected between 2004 and 2008. Data analysis is ongoing.
Other Projects
Clinical knowledge translation from specialist health practitioners to generalist health practitioners – evaluating a consultancy model of service delivery (Amsters D, Kuipers P, Kendall M, Lindeman M, Schuurs S). The project commenced this year and is exploring the efficacy of consultancy as a means of health service delivery and clinical capacity building in community rehabilitation and aged care settings.

Translational Rehabilitation Program
The Translational Rehabilitation Program (TRP) provides post-primary rehabilitation services for people with spinal cord injuries who have undergone inpatient rehabilitation in the Queensland Spinal Injuries Unit.

Research highlights included the publication of two papers resulting from research undertaken in the area of professional boundaries. Dr Melissa Kendall was awarded her Doctor of Philosophy degree with 1st class Honours, making the Dean’s Academic Excellence List. Her research investigating friendships following spinal cord injury will have significant translational implications for spinal services over the coming years. TRP also commenced a new research project in collaboration with the Spinal Outreach Team, the Acquired Brain Injury Outreach Service and the Centre for Remote Health looking at the efficacy of consultancy as a model for translating clinical evidence in rehabilitation and aged care settings.

Greg Ungerer
Manager

Research Activities
Clinical knowledge translation from specialist health practitioners to generalist health practitioners- evaluating a consultancy model of service delivery (Amsters D, Kuipers P, Kendall M, Lindeman M). This project is exploring the efficacy of consultancy as a means of health service delivery and clinical capacity building in community rehabilitation and aged care settings.

Social support following spinal cord injury: A qualitative examination of friendships (Kendall M, Kendall E). This project developed a theory of friendship following spinal cord injury that is being used to facilitate the development of clinical guidelines.

Professional boundaries: development and evaluation of an intervention to address staff knowledge, comfort and attitudes and behaviour (I-Ronek H, Kendall M, Ungerer G, Malt J, Eugarde E, Geragthy T). This project evaluated an intervention to address professional boundaries in practitioner/client relationships. Ongoing analysis of and reporting of findings is being carried out, and has resulted in two publications.

Major Grants & Financial Support

| Competitive funding: | $38,696 |

Awards & Prizes
Dr Melissa Kendall
Dean’s Academic Excellence List, Griffith University, Doctoral research on friendships following injury
The Princess Alexandra Hospital Radiation Oncology Department continued to increase its workload. In the 2008/2009 financial year the department administered 1359 courses of radiation therapy, which represents an increase of 12% when compared with the previous year, and an increase of 35% when compared with 5 years previously. With this increase in demand, permanent funding for a 5th treatment shift was obtained and this will continue into next year. Clinical trial activity has remained high with many new trials coming on line, three of which are home-based.

In the new technology area, the implementation of intensity modulated radiation therapy has gone ahead for the treatment of head and neck and prostate cancer. This is now routine therapy for tumours close to sensitive tissues. Further developments in the new technology area will continue with the implementation of volumetric arc therapy in 2010.

The Director of Radiation Oncology at the Princess Alexandra Hospital campus, Professor Bryan Burmeister, was given the opportunity to present at a plenary session at the American Society of Therapeutic Radiation Oncology in Chicago in relation to his research into the benefits of radiation therapy following nodal surgery for melanoma. Associate Professor Porceddu was the convenor of the Trials Review Meeting for the Trans Tasman Radiation Oncology Group as well as the annual meeting of the Australian Sarcoma Study group in Brisbane.

Professor Bryan Burmeister
Director

Research Activities

Clinical Trials

20040118 - A Phase III, Randomised, Double-blind, Placebo-controlled Study to Evaluate the Efficacy and Safety of Weekly Doses of Palifermin (Recombinant Human Keratinocyte Growth Factor) for the Reduction of Oral Mucositis in Subjects with Advanced Head and Neck Cancer Receiving Adjuvant Radiotherapy and Chemotherapy. (Porceddu S)

APBI (TROG 06.02) - A multicentre feasibility study of three-dimensional conformal radiation therapy for accelerated partial breast irradiation (Lehman M)

Arms Up v Arms Down - A retrospective study comparing the treatment accuracy of three treatment positions for chest irradiation (Tran J)

AVAGLIO (BO21990) - A Randomized, Double Blind, Placebo Controlled, Multicenter Phase III Trial of Bevacizumab, Temozolomide and Radiotherapy, Followed by Bevacizumab plus Temozolomide versus Placebo, Temozolomide and Radiotherapy followed by Placebo and Temozolomide in Patients with Newly Diagnosed Glioblastoma (Atkinson V)
Breast Project Group - To determine the benefit/use of Cone Beam CT during treatment of Breast cancer (Mauro M)

CT PET - Prospective database collection of neck node positive head and neck cancer patients undergoing CT-PET guided management of the neck policy following definitive (chemo)radiotherapy (Porceddu S)

DCIS (TROG 07.01) - A phase III study of radiation dose escalation and fractionation in women with non-low risk ductal carcinoma in situ (DCIS) of the breast (Harvey J)

EBP in RT - Integration of Evidence Based Practice Culture into Radiation Therapy Work Practices (Davidson K)

Fixation in Breast RT - Comparative Study of Fixation Devices Utilized in Radiation therapy Treatment of Breast cancer at Princess Alexandra Hospital (Van Den Bosch K)

Genentech BCC (SHH4769G) - A Pivotal, Phase II, Multicenter, Single-Arm, Two Cohort Trial Evaluating the Efficacy and Safety of GDC-0449 In Patients with Advanced Basal Cell Carcinoma (Burmeister B)

Genital Sparing Anal Technique - Conformal External Beam Radiotherapy in the Treatment of Anal Canal Carcinoma. A retrospective study of genital sparing technique (Brown E)

GOFURTGO - Phase II Study of Fixed Dose Rate Gemcitabine-Oxaliplatin Integrated with Concomitant 5FU and 3-D Conformal Radiotherapy for the Treatment of Localised Pancreatic Cancer (Harvey J)

Gold Seed Study - Hitting a Moving Target: Do implanted gold seed fiducial markers help? A study of prostate motion and accuracy of external beam radiation therapy delivery in patients with prostate cancer (Ferrari J)

HPV H&N - Human Papillomavirus in Oropharyngeal Carcinoma: Prognostic Significance and Interaction with Radiation Therapy (Porceddu S)

Hypo Cetux - Hypofractionated Radiotherapy with Cetuximab as Palliation for Locally Advanced Head and Neck Squamous Cell Carcinoma – A Phase II Study (Porceddu S)

IMRT Project Group - Developing an implementation plan for Intensity Modulated Radiation Therapy (Foley H)

Lung Project Group - Aims to look at the benefit/use of 4D CT, chest immobilisation and Cone beam CT during the treatment of lung cancer (Barnes N)

MA.20 (TROG 03.05) - A Phase III Study of Regional Radiation Therapy in Early Breast Cancer ([Harvey J)

Merkel Cell - Efficacy Study of Synchronous Weekly Carboplatin and Radiation in Merkel Cell Carcinoma of the Skin (Harvey J)

Pmab - Open-Label, Uncontrolled, Phase II Study to Evaluate the Efficacy and Toxicity of Single-Agent Panitumumab in Patients with Incurable Cutaneous Squamous Cell Carcinoma (Porceddu S)

Positioning in Breast RT - Patient Education Brochure to Increase Comfort and Ease of Positioning for Patients Undergoing Radiation Therapy for Breast Cancer (O’Gorman H)

POST (TROG 05.01) - Post-Operative Concurrent Chemoradiotherapy versus Post Operative Radiotherapy in High-Risk Cutaneous Squamous Cell Carcinoma of the Head and Neck (Porceddu S)

PROFIT (TROG 08.01) - A Randomised Trial of Shorter Radiation Fractionation Schedule for the Treatment of Localised Prostate Cancer (Prostate Fractionation Irradiation Trial) (Lehman M)

QUARTZ (TROG 07.02) - A Phase III Multi-Centre Randomised Controlled Trial to Assess Whether Optimal Supportive Care Alone (Including Dexamethasone) is as Effective as Optimal Supporting Care (Including Dexamethasone) plus Whole Brain Radiotherapy in the Treatment of Patients with Inoperable Brain Metastases from Non-Small Cell Lung Cancer (Mai T)

RADAR (TROG 03.04) - A Randomised Trial Investigating the Effect on Biochemical (PSA) Control and Survival of Different Durations of Adjuvant Androgen Deprivation
Radiation Oncology Centre – PAH (continued)

in Association with Definitive Radiation Treatment for Localised Carcinoma of the Prostate (Lehman M)

RadioHum (TROG 07.03) - Radiotherapy with Humidification in Head and Neck Cancer: A Randomised Phase III Trial of the Trans Tasman Radiation Oncology Group in Collaboration with Fisher and Paykel Healthcare (Porceddu S)

RAVES (TROG 08.03) - A Phase III Multi-Centre Randomised Trial Comparing Adjuvant Radiotherapy (RT) With Early Salvage RT in Patients With Positive Margins or Extraprostatic Disease Following Radical Prostatectomy (Lehman M)

RTN2 (TROG 08.09) - A Randomised Trial of Post-Operative Radiation Therapy following Wide Excision of Neurotropic Melanoma of the Head and Neck (Burmeister B)

STARS Pilot - Pilot for a Randomised Comparison of Anastrozole Commenced Before and Continued During Adjuvant Radiotherapy for Breast Cancer versus Anastrozole and Subsequent Anti-Oestrogen Therapy Delayed Until After Radiotherapy (Harvey J)

TOAD (TROG 03.06) - A Collaborative Randomised Phase III Trial: The Timing of Intervention with Androgen Deprivation in Prostate Cancer Patients with a Rising PSA (Lehman M)

TROG 01.04 - A Randomised Trial of Preoperative Radiotherapy for Stage T3 Adenocarcinoma of the Rectum. (Burmeister B)

TROG 02.01 - A Randomised Clinical Trial of Surgery versus Surgery plus Adjuvant Radiotherapy for Regional Control in Patients with Completely Resected Macroscopic Nodal Metastatic Melanoma (Burmeister B)

TROG 03.01 - A Randomised Phase III Study in Advanced Oesophageal Cancer to Compare Quality of Life and Palliation of Dysphagia in Patients Treated with Radiotherapy versus Chemoradiotherapy (Harvey J)

TROG 03.02 - A Feasibility Study to Evaluate Adjuvant Chemoradiotherapy for Gastric Cancer (Burmeister B)

TROG 03.07 - A Randomised Phase II Study of Two Regimens of Palliative Chemoradiation Therapy in the Management of Locally Advanced Non Small Cell Lung Cancer (Burmeister B)

TROG 06.01 - Primary chemotherapy with Temozolomide vs radiotherapy in patients with low grade gliomas after stratification for genetic 1p loss: a phase III study (Lehman M)

TROG 07.04 - A Phase II Study of Cetuximab, Carboplatin and Concomitant Boost Radiotherapy for Locally Advanced Head and Neck Squamous Cell Carcinoma (Porceddu S)

TROG 08.02 - A Randomized Phase III Study of Temozolomide and Short-course Radiation versus Short-course Radiation Alone in the Treatment of Newly Diagnosed Glioblastoma Multiforme in Elderly Patients (Lehman M)

TROG 99.03 (ALLG NHLLOW5) - A Randomised Multicentre Trial of Involved Field Radiotherapy versus Involved Field Radiotherapy plus Chemotherapy for Stage I-II Low Grade Follicular Lymphoma (Porceddu S)

TROG 99.04 - A Prospective, Non-Randomised Study of Chemotherapy and Radiotherapy for Osteolymphoma (Mills A)
Unmet Needs: Development and psychometric evaluation of two measures of perceived need: one for young people with cancer; one for carers (Marlton P)

WBRT (TROG 08.05) - Whole Brain Radiotherapy following local treatment of intracranial metastases of melanoma (Burmeister B)

› Major Grants and Financial Support

| Funding from commercial studies: | $91,090 |
| Funding from other sources:      | $144,000 |
Radiation Oncology Mater Centre

The centre has seen continued expansion of radiation oncology services, with 2085 treatment courses delivered during the year. The installation of two new Varian linear accelerators has enabled the introduction of Image Guided Radiotherapy and Intensity Modulated Radiotherapy which allows improved accuracy in delivering radiation therapy while allowing reduced side effects of treatment. This exciting technology has had a noticeable impact in head and neck cancer radiotherapy and will be expanded to other tumour sites. The centre has continued to participate in a range of clinical research and is currently involved in 14 Phase III and three Phase II clinical trials. The vast majority of these have been national trials run by the Trans-Tasman Radiation Oncology Group.

The clinical trials office has continued to provide outstanding assistance in the conduct of clinical trials on the campus and has received favourable feedback from all of the audits. An exchange was arranged with the trials office at the Royal Marsden Breast Cancer Research Unit in London resulting in a 6 month exchange of positions between Adrienne See and Hannah Moore. This will provide an exciting exchange of research ideas for all participants.

Dr David Pryor passed his final exams in radiation oncology and will continue as a research fellow at the hospital in 2010. Dr Poulsen submitted his MD thesis which summarised 13 years of research in the area of Merkel cell carcinoma of the skin. Dr Hickey and Dr Daly have continued in reviews for the Cochrane data base. Dr Holt has been invited to participate in an international committee looking at palliative radiotherapy programs. Pauline Rose has submitted her PhD thesis on Radiation Oncology Nursing practice.

There has been continued close collaboration with the Medical Oncology, Haematology and palliative care staff at the Mater which has assisted in providing integrated cancer care to patients.

Associate Professor Michael Poulsen
Director

Current Research Activities

Clinical Projects
Investigation of Image Guidance Methods for Improved Localisation in External Beam Radiotherapy of the Prostate (Deagan T). This study prospectively investigates the use of two methods of image-guidance, kV imaging and cone beam CT imaging, for localisation of the prostate during radiation treatment.

Clinical Trials
TROG 02.01 - Randomised clinical trial of surgery versus surgery plus adjuvant radiotherapy for regional control in patients with completely resected macroscopic nodal metastatic melanoma

TROG 02.03 - A randomised phase III study comparing radical chemo/radiotherapy versus radiotherapy alone in the
definitive management of localised muscle invasive TCC of the urinary bladder

TROG 03.01 - A randomised phase III study in advanced oesophageal cancer to compare quality of life and palliation of dysphagia in patients treated with radiotherapy versus chemo-radiotherapy

TROG 03.04 - A randomised trial investigating the effect on survival and PSA control of different durations of adjuvant androgen deprivation in association with definitive radiation treatment for localised carcinoma of the prostate (RADAR)

TROG 03.05 - A phase III study of regional RT in early breast cancer (NCIC MA20)

TROG 03.06 - A phase III study of the Timing of Intervention with Androgen Deprivation in prostate cancer patients with a rising PSA (TOAD)

TROG 03.08 - A Phase III international randomised trial of Single vs. Multiple Fractions for Re-Irradiation of Painful Bone Metastases

TROG 05.01 - Post-operative Concurrent Chemo-Radiotherapy vs. Post-operative Radiotherapy in High-Risk cutaneous Squamous Cell Carcinoma of the Head and Neck (POST)

TROG 07.02 - QUARTZ – Quality of life after radiotherapy and/or steroids (MRC LU24)

Merkel Cell - A phase I study of synchronous weekly carboplatin and radiation in Merkel Cell Carcinoma of the skin – a collaborative study between Brisbane, Melbourne and Newcastle departments

Merkel Cell Ph II - Efficacy Study of Synchronous Weekly Carboplatin and Radiation in Merkel Cell Carcinoma of the Skin

Dex for Mets - Dexamethasone for the Radiation-Induced for Pain Flare following Palliative Radiotherapy for Bone Metastases – A Phase II Study

TROG 08.03 - A phase III multi-centre randomised trial comparing adjuvant radiotherapy (RT) with surveillance and early salvage RT in patients with positive margin or extraprostatic disease following radical prostatectomy (RAVES)

TROG 08.04 - Randomized Phase III Trial Comparing Concurrent Chemoradiation and Adjuvant Chemotherapy with Pelvic Radiation Alone in High Risk and Advanced Stage Endometrial Carcinoma (PORTEC-3)

TROG 06.01 - Primary chemotherapy with Temozolomide vs radiotherapy in patients with low grade glioma after stratification for genetic 1p loss: a Phase III study (EORTC 22033-26033)

TROG 07.01 - A randomised Phase III study of radiation doses and fractionation schedules in non-low risk ductal carcinoma in situ (DCIS) of the breast

TROG 07.03 - Radiotherapy with Humidification in Head and Neck Cancer (RadioHum)

IGRT- Investigation of Image Guidance Methods for Improved Localisation in External Beam Radiotherapy of the Prostate

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**Major Grants & Financial Support**

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**Awards & Prizes**

Dr Catherine Bettington
C.E. Eddy prize, RANZCR, Part 1 RANZCR exam results

Pauline Rose
Travel Scholarship, Robert Bourne Scholarship, PAH, Role of nurse practitioner in Radiation Oncology

**National & International Invited Presentations**

Dr Tanya Holt
60th Annual Scientific Meeting of the Royal Australian and New Zealand College of Radiologists, Brisbane, Australia, October
Respiratory and Sleep Medicine

The Department of Respiratory Medicine, and the Lung and Allergy Research Centre (UQ School of Medicine) has an active research program focussing on the role of viral infections and allergy in airways disease, in finding better ways to diagnose sleep apnoea and in the mechanisms of dyspnoea.

(For further information visit http://www2.som.uq.edu.au/som/Research/ResearchCentres/LARC/Pages/default.aspx)

Professor John Upham
Head, Lung and Allergy Research Centre

Current Research Activities

Clinical Projects

Host defence against virus infections in asthma and COPD (Upham J, Yerkovich S, Pritchard A, Bertin-Maghit S). A variety of projects are examining immunity to rhinoviruses in asthma, the effectiveness of influenza vaccination in chronic obstructive pulmonary disease, and the importance of novel viruses in acute exacerbation of chronic lung disease.

Defining grass pollen allergy in sub-tropical regions of Australia (Davies J, Upham J). Most information regarding grass pollen allergy in Australia has been derived from cooler temperate regions of southern Australia. This project with define the role of sub-tropical grasses such as Bahia and Johnson grass in relation to grass pollen allergy in Queensland, and how this triggers asthma and allergic rhinitis.

Inflammatory markers in COPD (Upham J, Smith D, Yerkovich S). This project has examined blood levels of an anti-inflammatory molecule, the soluble receptor for advanced glycation end products (sRAGE). Plasma sRAGE levels were significantly reduced in patients with COPD, but not in healthy subjects (both smokers and non-smokers). Ongoing work is examining the mechanisms behind this observation.

Innate immune function in children with protracted bronchitis. (Upham J, Yerkovich S in collaboration with Dr Anne Chang, Royal Children’s Hospital). Recurrent or protracted bacterial bronchitis is a common clinical problem in children. The project is examining immune function in these children.

More efficient diagnosis of obstructive sleep apnoea (C. Hukins). This project is looking at the using of automated snoring and EEG analysis to diagnose and manage obstructive sleep apnoea in a more cost-effective manner.

Other Projects

Using components of bacteria to treat asthma and allergies (Upham J, Davies J). Some components of the cell walls of bacteria have powerful immune modulating properties. This project exploits the use of bacterial lipoproteins to inhibit allergic immune responses in vitro. Initial studies show this to be effective for house dust mite allergy.

Effects of allergens on dendritic cell function in asthma (Upham J, Yerkovich S). The ability of allergens to trigger allergic inflammation is mediated partly via dendritic cells.
This project is examining the molecular mechanisms involved. Thrombomodulin has been identified as a novel protein expressed in dendritic cells after allergen exposure.

**Awards & Prizes**

**Melissa Argent**
Best nursing poster presentation, Thoracic Society of Australia & New Zealand annual scientific meeting.

**Dr Stephanie Yerkovich**
Best research presentation, Thoracic Society of Qld.

**National & International Invited Presentations**

**John Upham**


**Major Grants & Financial Support**

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Rheumatology

The department is actively involved in Rheumatoid arthritis trials, mostly Phases 2, 3 and 4. To date, the majority have been biologic therapy of various types. The department will support the clinical work for a PhD project in osteoarthritis.

Dr Phillip Vecchio
Director

Research Activities

Post-Marketing Observational Study (PMOS). A five year, post-marketing observational study to follow up patients with rheumatoid arthritis formally treated in a previous study and subsequently prescribed HUMIRA.

Prospective multi centre randomised, double blind, active comparator controlled parallel group study comparing the fully human monoclonal anti-TNFα antibody D2E7 given every second week with Methotrexate given weekly and the combination of D2E7 and Methotrexate administered over 2 years in patients with early rheumatoid arthritis (PREMIER).

A multi-centre, randomised, double-blind, placebo-controlled, parallel group, phase 2a clinical trial to assess the efficacy and safety of Cpn10 administered as twice weekly subcutaneous injections in participants with rheumatoid arthritis.

A Multi-centre, long term follow-up, open label trial to assess the efficacy and safety of Cpn10 in subjects with Rheumatoid Arthritis.

Long-term extension study of safety during treatment with Tocilizumab (MRA) in patients completing treatment in MRA core studies.

A randomised, double-blind, parallel group, international study to evaluate the safety and efficacy of ocrelizumab compared to placebo in patients with active rheumatoid arthritis who have an inadequate response to at least one anti-TNF alpha therapy.

A Phase 2a, Randomized, Double-Blind, Placebo-Controlled, Multicentre Study to Evaluate the Efficacy, Safety, and Tolerability of BG00012 When Given with Methotrexate to Participants with Active Rheumatoid Arthritis who have had an Inadequate Response to Conventional Disease-Modifying Anti-Rheumatic Drug Therapy.

A Multicentre, Randomized, Double-Blind, Placebo-controlled Trial of Golimumab, an Anti-TNF Monoclonal Antibody, Administered Intravenously, in Subjects with Active Rheumatoid Arthritis Despite Methotrexate Therapy.

Major Grants & Financial Support

Funding from commercial studies: $90,867
Speech Pathology Research

The department continued to develop the evidence base for clinical practice in the areas of communication and swallowing caused by illness, injury, or treatment through research. The areas of acquired brain injury and head and neck cancer remain strong foci for research as well as the emerging areas of critical care and aging. While many projects focus on speech pathology specific clinical practice, staff continued to be actively involved in a number of multidisciplinary research projects and the development of the new Centre for Functioning Disability and Health Research in Metro South District.

The research profile continues to develop both nationally and internationally. Research outcomes have been disseminated in peer-reviewed publications and presentations at key national and international conferences, while continuing to attract research funding to the department. In November Dr Petrea Cornwell resigned from the conjoint research role after six years. She was responsible for successfully consolidating this position over that period, building a research base across a range of speech pathology and multidisciplinary allied health areas.

Wendy McCallum
Director

Research Activities

Clinical Trials
Randomized controlled cross-over Phase 3 trial comparing the new indwelling Provox Vega voice prosthesis with the currently used Blom-Singer Classic Indwelling voice prosthesis for voice rehabilitation after total laryngectomy (Hancock K, Ward E, Lawson N). Thirty-one patients with laryngectomy trialled and compared two indwelling voice prostheses. Subjective and objective data was collated from participants and clinicians involved in the study to determine patient and clinician preferences when selecting voice prosthesis type and whether or not new design features had factored into this clinical decision making. Key data was collected, underwent analysis and was presented at international forums.

Other Research
Long-term swallowing outcomes in head and neck cancer patients: comparing non-surgical treatment regimens (Riddle B, Cornwell P, Porceddu S, Stuckey S, Ward E, Davidson W). This multidisciplinary project has examined swallowing, nutrition and quality of life in patients who have undergone non-surgical treatments for oropharyngeal cancer (namely altered fractionation radiotherapy with concomitant boost and chemoradiotherapy). Patients have been assessed along the continuum of care from pre-treatment to 2 years post-treatment. This year, participant recruitment was completed as well as the majority of data collection. Data analysis for the prospective study has also been completed. The research team is in the final stages of preparing the first publication.
Communicate with Confidence. Examining the effectiveness of a group intervention for self-awareness and social communication skills in people with acquired brain injury (Cornwell P, Fleming J, Freebairn C, Watter K, Addis P, Bay J). A pragmatic group program was created, focussing on social communication skills and integrating cognitive/self awareness activities to facilitate changes in insight, awareness and ultimately community integration. The outcomes from the 9 week pilot were then analysed using a case study approach and showed promising results. These results were presented at a national conference. It is planned to include this program routinely as part of the clinical service to acquired brain injured patients.

From hospital to home: transition experiences and outcomes for individuals with ABI (Turner B, Fleming J, Ownsworth T, Cornwell P)


Investigations of care requirements of people with brain tumour (Haines T, Cornwell P, Fleming J, Olsen S, Omerod A)

Abdominal Binders – giving breath and voice to people who have suffered a spinal cord injury (Wadsworth B, Haines T, Paratz J, Cornwell P)

Factors affecting dysphagia management in Malaysia (Mustaffa R, Ward E, Cornwell P, Ahmad K)

What helps people live successfully with Aphasia (Grohn B, Worrall L, Simmons-Mackie N)

Investigating the communication and swallowing needs of older patients in acute medical wards (Ng A, Cornwell P)

Neuropsychological substrates of naming facilitation in aphasia (Copland D, Heath S)

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**Major Grants & Financial Support**

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**National & International Invited Presentations**

**Riddle Bena, Lawson N**

Speech Pathology Australia, National Continuing Professional Development one-day workshop on management of head and neck cancer, Perth, December

**Hancock, Ward L, Lawson N**

American Speech and Hearing Association Conference, New Orleans, November

Australian and New Zealand Head & Neck Society, Perth, August
The group investigates the effect of drug and vehicle properties on their distribution within the skin, with the aim of understanding and improving topical drug delivery. The first of a new series of major papers in this area was published. A major thrust of our recent work involves the controversial area of nanoparticle penetration, focusing on targeted delivery and toxicological aspects. The multiphoton microscope has been crucial to these studies.

Important contributions to defining the correct antibiotic dosing regimen in critically ill patients were made. A phase II randomised controlled trial of atorvastatin therapy in intensive care patients with severe sepsis progressed well, with over 200 patients being randomised. Chief Investigator, Dr Peter Kruger, was invited to speak at two major international intensive care meetings as an invited expert on statin use in sepsis. The burns research team examined the effect of burns on the distribution of antibiotics in skin tissue, with the aim of optimising infection control in burns patients. Dr Kanchana Ranasinghe submitted her PhD thesis in this area.

The group began a new NHMRC funded project, Pharmacodynamics in Liver Disease and in Liver Surgery (with Professor Michael Weiss of Germany). It continues to focus on drug disposition and metabolism in the liver, and the effects of pathologies on liver function. Ms Camilla Thompson began a PhD project in the area. Research highlights include: imaging fluorescent drug and nanoparticle disposition in the liver with multi-photon microscopy.

(For further information visit http://www.uq.edu.au/uqresearchers/unit/therapeutic.html)

Professor Michael Roberts
Director

Research Activities

Clinical Trials

A phase II randomised controlled trial of atorvastatin therapy in intensive care patients with severe sepsis (Kruger P, Venkatesh B, Bellomo R, Kostner K, Cooper D, Roberts M). The aim of the project is to conduct a controlled phase II trial to assess the effects of atorvastatin on the biological and clinical outcomes of adult intensive care patients with severe sepsis. Patient enrolment reached 202 from a required 250. An independent Data Safety and Monitoring Committee (DSMC) completed interim analysis of the data of the first 125 patients enrolled and found no safety issues.

Other Research

Toxicology of Nanomaterials (Minchin R, Martin D, Smith S, Monteiro M, Gahan L, Roberts M). This application will investigate the potential for nanomaterials to have adverse effects on human health and to formulate approaches to screen nanomaterials for potential health risks.

Pharmacodynamics in Liver Disease and in Liver Surgery (Roberts M, Weiss M, Macdonald G, Fawcett J, Vitetta L, Fletcher L). The overall goal is to improve drug therapies for patients with liver diseases and during liver surgery.
Therapeutics Research Centre (continued)

including transplantation. The focus is on quantifying the spatial distribution of drugs and their metabolites in the liver over time in normal and diseased livers in vivo using multi-photon microscopy.

Targeted delivery by topical application (Roberts M). In vitro and in vivo studies will be carried out to quantify the rate and extent that topically applied solutes and nanotechnologies are absorbed into and retained in human skin and its substructures. The goal is to improve topical therapeutics and minimise potential toxicity after xenobiotic exposure.

† Major Grants and Financial Support

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† Awards & Prizes

**Professor Michael S Roberts**
The Professor Barry L. Reed Distinguished Lectureship, Faculty of Pharmacy & Pharmaceutical Sciences, Monash University

† National & International Invited Presentations

**Professor Michael Roberts**
Novartis Pharma AG: Development, Modelling & Simulation, Basel, Switzerland, March

The Australian College of Dermatologists 42nd Annual Scientific Meeting, Gold Coast, Qld, May

Nanotechnology Training Program, Discovery Centre, CSIRO, Canberra, May

4th Workshop on Advanced Multiphoton and Fluorescence Lifetime Imaging Techniques (FLIM 2009), Saarland University, Saarbrucken, Germany, June

12th Canadian Society for Pharmaceutical Sciences (CSPS) Annual Symposium, Toronto, Canada, June

Invited Lecture, Monash University, Melbourne, Vic, August

12th Annual Force Health Protection Conference, Albuquerque, New Mexico, USA, August

International Skin Pharmacology Conference, Boston, USA, August

Invited Lecture, University of South Australia, Adelaide, SA, October

Light in Life Sciences Conference 2009, Melbourne, Vic, November

**Dr. Tarl Prow**
Nanotechnology Training Program, Discovery Centre, CSIRO, Canberra, May

Gordon Research Conferences, Waterville Falls, New Hampshire, USA, July

Nanotechnology Training Program, Discovery Centre, CSIRO, Canberra, May

**Professor Michael Whitehouse**
Society for Free Radical Research, Sydney University, December
Trauma Service

The service was able to accomplish many successes in respect to expanding clinical service delivery, education and research.

In collaboration with General Surgery, the service convened the first RACS Definitive Surgical Trauma Care course in Queensland at the Queensland University of Technology facility of Medical Engineering Research Facility and Prince Charles Hospital. In addition to the high profile international faculty (Professor Don Trunkey, USA and Professor Ken Boffard, South Africa) more than 20 national faculty members contributed to three very successful days of training in trauma management.

Professor Michael Schuetz was the Sub-convenor for the Trauma Section of the Royal Australasian College of Surgeons Annual Scientific Meeting held in Brisbane. Together with the Military Section multiple well attended interdisciplinary sessions took place. The international invited guests were Professor Bill Schwab (Director of the Trauma Department, Philadelphia, US) and Professor Tim Pohlemann (Director of the Trauma Department, Homburg, Germany).

The service completed and implemented the Trauma Service Database which captures a variety of information for multi-trauma patients admitted and managed by the service and is the only one of its kind in Queensland.

Key research fields of the service are in the clinical management of multi-trauma patients which includes a benchmarking study with Trauma Centres in Europe and a costings analysis for multi-trauma patients. Further clinical studies include participation in an evaluation project of the newly introduced “Massive Transfusion Protocol in Exsanguinating Trauma Patients”, and the process analysis of the initial resuscitation period of multi-trauma patients.

The basic research components focus on fracture healing and the influence of severe soft tissue injuries, which are predominately carried out at Queensland University of Technology’s Institute of Health and Biomedical Innovation.

Professor Michael Schuetz
Director

Dr Tom O’Rourke
Deputy Director
Research Activities

Clinical Trials

Development and characterization of a technology platform to study the mechanisms of scaffold/BMP augmented large segmental bone healing (Hutmacher DW, Schuetz MA, Epari DR, Saifzadeh S, Knackstedt MA, Duda G). Large bone defects remain a challenging situation in orthopaedic trauma and tumor management. The field of tissue engineering has already demonstrated its enormous potential with the successful transplantation in humans. The field is a multidisciplinary one relying heavily on biomaterials and cellular processes. Tissue engineering of bone is one of the favoured topics in the research community. Bone Morphogenic Proteins (BMPs) are currently under clinical evaluation. However, the costs associated with high doses required to stimulate healing are likely to be unsustainable to overburdened healthcare systems. The applicants propose that by greater understanding of tissue regeneration using BMP loaded scaffolds the clinical dose and hence cost of using BMPs may be reduced, consequently making the system more feasible.

An innovative system for accurate bending of fracture fixation plates in orthopaedic surgery (Yarlagadda PK, Schmutz B, Gu Y, Schuetz MA). The novel system developed in this project will not only shorten surgical procedures but also result in anatomically better fitting plates which will improve the functional outcome and reduce the need for surgical implant removal. It will further lessen degenerative changes in adjacent joints as a result of incorrect fracture alignment. It can be expected that these improvements in surgical techniques will translate into reduced healthcare expenditure and ensure patients quality of life.

Understanding the biomechanical effects of fixation strategies to improve the technology of fracture management (Chen G, Mishra S, Schuetz M, Perren S M). This project will study the regulation of fracture healing by fixation devices, using finite element analysis to characterise their biomechanical effects. While the mechanical environment is critical to the healing process, neither the optimal conditions nor those created by each fixation strategy have been defined. Hence, the innovative, validated models created will be a major step towards practical applications of the technology, enabling refinements in fixation methods and device design.

Inter-fragmentary movement in callus formation in early phase of fracture healing (Pettet G, Epari D, Steck R, Gregory L, Schuetz M). This project aim employs a novel integrated multidisciplinary approach incorporating in silico and in vivo studies to identify key regulatory processes in this early phase of fracture healing. The computational models developed, and the mathematically literate young researchers are being trained in, will constitute a unique platform for illuminating the role inflammatory processes play in successful fracture healing.

Development of Integrated Trauma Management System for Head Injury (Chattopadhyay G, Mishra S, Rashford S, Schuetz M, Kemsley J, Halder S, Toft Y). The project aims to develop a risk and cost assessment model and Decision Support System (DSS) based on real time patient condition, resource, logistics and environmental conditions for head injury trauma cases. It also aims to provide timely and relevant information and help in decision making with ‘what if’ scenarios for better coordination and planning for optimal management under competing risk conditions based on real time information. This will be achieved by developing a prototype for an Integrated Trauma Management System for multi injured patients.

Business Process Management Analysis of Trauma Patients in an Emergency Department (Clements S, Schuetz M, Rosemann M, Sinnott M, Hofstede A). The project aims to use established process modelling techniques and tools to design an intuitive end-to-end process model that facilitates the re-design of current trauma practices. The objective is to understand and comprehensively improve the processes involved with multi-trauma patients, and the main outcome will be a highly intuitive reference model encapsulating guidance for the re-design of the current processes leading to measurable improvements for all involved stakeholders.

Dependence of Angiogenesis on Mechanical Conditions and Patient Age (Kasper G, Epari D, Schuetz M). The objective of this study is to identify a range of strain magnitudes
in which angiogenesis is favoured, and to demonstrate a reduced responsiveness to mechanical stimuli in cells from aged patients. The result may indicate a variation in the stabilisation requirements for the elderly.

3D reconstruction of the orbita from 3T MRI as an alternative to CT. AO CranioMaxilloFacial Clinical Priority Grant, Switzerland (Schmutz B, Lynham A, Coulthard A, Rahnel B, Schuetz M). The aim of this project is to establish and validate a method for correcting the step-like artefacts associated with MRI scanning of long bones using 3D modelling targeted at the Orbita region.

Development and Validation of a Novel 3D-Ultrasound (3D-U) System for the Quantitative Assessment of Long Bones (Schmutz B, Langton C). The aim of this project is to develop and validate a novel portable 3D ultrasound (3D-U) system for the quantitative assessment of long bones.

Establishing a non-invasive method for assessing the musculoskeletal loading of the lower limb during the golf swing (Epari DR, Cole M, Kerr G). The primary aim of this study is to establish a non-invasive method to determine the musculoskeletal loading of the lower limb (hip and knee contact forces) during the golf swing.

Prevention of bacterial bone infections in ice with implant coatings for delivery of antibiotics, demonstrated by in vivo biophotonic imaging part 2 (Schuetz M, Stemberger M, Goss B, Steck R, Sommerville S). The main goal of this project is to demonstrate that implant coatings (thin layers added to the implants surface) which contain highly effective antibiotics, for orthopaedic and trauma implants, can effectively prevent Staphylococcal bone infections in a mouse infection model that closely mimics post-surgical human infection. This reduces pain hospitalisation time for the individual patients and significantly cuts the high costs associated with prolonged hospitalisation and delayed return to work. It also considerably reduces the burden on the healthcare system and society.

Awards & Prizes

Dr Beat Schmutz Senior, Dr Kanchana Rathnayaka, Dr Martin Wullschleger, Professor Michael Schuetz
Joint winner, Wilhelm-Roux-Preis 2009, German Society for Orthopaedics and Trauma Surgery Berlin, Best paper in basic research
Dr Martin Wullschleger, Dr Roland Steck, Professor Michael Schuetz
1st Prize, Free Paper, Royal Austral-Asian College of Surgeons, Free paper for the Trauma Section

National & International Invited Presentations

R Steck
German Conference for Orthopaedic & Trauma Surgery (DGU), Berlin, Germany, October
SGC (Swiss Surgical Conference), Montreux, Switzerland, November
OTA (Orthopaedic Trauma Association), San Diego, USA, October
K Rathnayaka
4th Asia Pacific Conference on Biomechanics, Christchurch, New Zealand, April
R Steck, D Epari
55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, Nevada, February
Professor Michael Schuetz
AUS Trauma 2009, Sydney, Australia, February
COE 2009 Annual Meeting, Melbourne, Australia, October
Professor Michael Schuetz, S Beo, R Steck
AOA 2009 Annual Meeting, Cairns, Australia, October

Major Grants & Financial Support

| Funding from NHMRC/ARC Linkage | $911,694 |
| Competition funding from other sources: | $276,276 |
Upper Gastro-intestinal and Soft Tissue

The Upper Gastro-intestinal unit treats patients with oesophagogastric disease, including oesophageal and gastric cancer, and benign conditions such as gastro-oesophageal reflux, Barrett’s oesophagus and achalasia. It is the largest referral unit for oesophagogastric cancer in Australia. A special interest is minimally invasive surgery, and as a consequence the department has the largest experience of minimally invasive oesophagectomy in the world, totalling over 500 cases.

A large proportion of patients seen within the department have a malignant cancer. Multi-disciplinary meetings and clinics are held for these patients, in conjunction with General Surgeons, Medical Oncologists, Radiation Oncologists and Allied Health. All data on these patients are collected in a prospective database. The department is involved in local, national and international clinical trials and in 2009 began recruiting in a phase II clinical trial in oesophageal cancer that has been initiated by one of a hospital clinician.

The department is also experienced in laparoscopic surgery for gastro-oesophageal reflux, hiatus hernia and achalasia, data relating to which is recorded (including progressive quality of life assessment) and stored.

Associate Professor B Mark Smithers
General Surgeon, Senior Lecturer The University of Queensland Department of Surgery
Chairman Queensland Melanoma Project Princess Alexandra Hospital
Chairman Upper GI and Soft Tissue Unit Princess Alexandra Hospital

Research Activities

Clinical Trials

Intermediate and high risk localized, completely resected, gastro-intestinal stromal tumours (GIST) expressing KIT receptor: a controlled randomized trial on adjuvant Imatinib mesylate (Glivec) versus no further therapy after complete surgery. Intergroup study (EORTC 62024) (Smithers BM, Gotley D, Barbour A, Walpole E, Thomson D, Woodward N, Joubert W, Atkinson V)

A randomised Phase II trial of pre-operative Cisplatin, 5 Fluorouracil and Docetaxel or Cisplatin, 5 Fluorouracil, Docetaxel plus radiotherapy based on poor early response to standard Chemotherapy for resectable adenocarcinoma of the oesophagus and/or OG Junction. (Barbour A, Walpole E, Mai T, Smithers BM, Gotley D, Martin I, Thomson D, Woodward N, Joubert W, Atkinson V, Burmeister B, Harvey J)

Basic Research Projects
Whether inhibition of the ssh pathway represents a potential therapeutic target in gastric cancer (Barbour A, Gotley D, Woodhall E)

The identification and characterisation of cancer stem cells in oesophago gastric cancer cell lines (Barbour A, Gotley D, Woodhall E)

Other Research
Oesophageal Cancer Database and Quality of Life. Established in 1997, the database currently has 1690 patients who have been diagnosed with cancer of the oesophagus or OG Junction. Quality of Life has been conducted on all curative intent patients at baseline, 3, 6, 9, 12, 18, 24, 36, 48, 60 months (Smithers BM, Gotley D, Martin I, Barbour A)

Gastric Cancer Database. Established in 2006, data has been collected both retrospectively and prospectively since 2000. The database currently has 380 patients who have been diagnosed with gastric cancer (Barbour A, Smithers BM, Gotley D, Martin I)

Gastro-intestinal Stromal Tumour Database. Established in 2006, data has been collected both retrospectively and prospectively since 2000. The database currently has 88 patients diagnosed with GISTs (Smithers BM, Gotley D, Martin I, Barbour A)

High Grade Dysplasia Database. Established in 2006, data has been collected both retrospectively and prospectively since 2000. The database currently has 87 patients diagnosed with HGD (Smithers BM, Gotley D, Martin I, Barbour A)

Laparoscopic Fundoplication Database. Established in 1991, data has been collected prospectively on all patients undergoing a Laparoscopic Fundoplication. The database currently has 4189 patients with quality of life on approximately 88% of patients (Gotley D, Smithers BM, Martin I, Barbour A)

Para-oesophageal Hernia Repair Database. Established in 1991, data has been collected prospectively on all patients who have undergone a repair of a para-oesophageal hernia.

The database currently has 684 patients with quality of life in over 88% of patients (Gotley D, Smithers BM, Martin I, Barbour A)

Redo Hiatal Surgery Database. Established in 1991, data has been collected prospectively on all patients who have undergone a redo hiatus hernia repair. The database currently has 504 patients with quality of life in over 85% of patients (Gotley D, Smithers BM, Martin I, Barbour A)

Major Grants & Financial Support

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Awards & Prizes

Dr Andrew Barbour
International Scholarship, American College of Surgeons (ACS)

National & International Invited Presentations

Associate Professor B Mark Smithers
Royal Australasia College of Surgeons, Brisbane, May

Radiation Oncology Trainees Weekend, Gold Coast, March

The Australasian Gastro-intestinal Trials Group, Brisbane, August

Australian Gastroenterology Week, Sydney, October

Professor David Gotley
International Society for diseases of the esophagus – Australian Section, Sunshine Coast, February

World Congress of Surgery, Adelaide, September

Australian Gastroenterology Week, Sydney, October

Dr Andrew Barbour
Royal Australasia College of Surgeons, Brisbane, May

Society of Upper GI Surgeons, Sydney, September

The Australasian Gastro-intestinal Trials Group, Brisbane, August
Vascular Medicine Research

The department continued to provide clinical and diagnostic services for patients with disorders of the arterial, venous and lymphatic circulations.

The financial year saw an increased throughput in the vascular laboratory, with 6353 vascular ultrasound tests. Outpatient attendances were similar to the previous year with 1080 attendances at the Vascular Medicine and Wound clinics.

The department continued to provide clinical support to the Lymphoedema clinic in collaboration with the Division of Cancer Services and the Departments of Occupational Therapy and Physiotherapy, offering comprehensive care for cancer-related lymphoedema. There was continued improvement in adherence to venous thromboembolism (VTE) prophylaxis in medical and surgical patients after implementation of the VTE prevention program in 2005.

The department also experienced strong representation and requests to present at national and international meetings. Dr Harry Gibbs presented in Boston, Athens, Singapore, New Zealand, Gold Coast, Noosa, Bangkok, Sydney and Adelaide on a variety of topics, including VTE prophylaxis and preventative guideline implementation. Renea Collins presented in Boston, Sydney and Melbourne. She was a regular presenter in Brisbane and coastal conferences on VTE prevention within a tertiary hospital and founded a VTE special interest group for models of care in VTE.

Dr Harry Gibbs resigned late in the year after 17 years of service to the Princess Alexandra Hospital. He was responsible for not only establishing clinical vascular medicine services within the hospital but also for the subsequent development of a dedicated vascular diagnostic and ultrasound service. His high level of clinical expertise and research interest gained him recognition at local, national and international levels. His resignation saw the appointment of Dr Andrew McCann as Acting Director and Dr Gerard Connors as a Visiting Medical officer.

Dr Harry Gibbs (retired)
Director

Dr Andrew McCann
Acting Director
Research Activities

Inter-observer variability at detecting the proximal and distal extent of acute thrombus within the calf veins. Vascular Laboratory PAH.

Clinical Trials

Apixaban Dosing to Optimize Protection from Thrombosis. A phase 3 Randomized, Double-blind, Parallel-group, Multi-centre Study of the Safety and Efficacy of Apixaban for Prophylaxis of Venous Thromboembolism in Acutely Ill Medical Subjects During and Following Hospitalization.

A multicentre, randomized, double-blind safety and efficacy trial evaluating the use of Apixaban in the treatment of symptomatic deep vein thrombosis and pulmonary embolism.

A multicentre, randomized, double-blind, placebo-controlled study evaluating the safety and efficacy of the use of Apixaban for the extended treatment of deep vein thrombosis and pulmonary embolism.

ASPIRE - NHMRC: CTC0005 (ASPIrin to prevent Recurrent venous thromboembolism). A multi-centre, randomized, double-blind, placebo-controlled clinical trial examining the efficacy and safety of low-dose aspirin after initial oral anticoagulation to prevent recurrent venous thromboembolism.

A multi-centre, randomized, open-label, assessor-blind, non-inferiority program for efficacy 3, 6 or 12 month treatment for acute symptomatic DVT or PE, comparing the safety and efficacy of Rivaroxaban compared to standard treatment of Warfarin/Enoxaparin.

A multicentre, randomized, double-blind, placebo-controlled superiority study for efficacy. To evaluate whether Rivaroxaban 20mgs is superior to placebo in the long-term prevention of recurrent symptomatic VTE in patients with symptomatic DVT or PE who completed 6 to 14 months of treatment with VKA or rivaroxaban. Protocol No 11899.

A phase III, randomised, double blind, parallel-group study of the efficacy and safety of oral dabigatran etexilate (150 mg bid) compared to warfarin (INR 2.0-3.0) for 6 month treatment of acute symptomatic venous thromboembolism, following initial treatment (5-10 days) with a parenteral anticoagulant approved for this indication.

A phase III, randomised, multicenter, double-blind, parallel-group, active controlled study to evaluate the efficacy and safety of oral dabigatran etexilate (150 mg bid) compared to warfarin (INR 2.0-3.0) for the secondary prevention of venous thromboembolism.

A Multicenter, Randomized, Double-blind, Placebo controlled Study to Evaluate the Safety and Efficacy of Care in Subjects with a History of Atherosclerotic Disease: Thrombin Receptor Antagonist in Secondary Prevention of Atherothrombotic Ischaemic Events/

A Randomized Double-blind Placebo-Controlled Parallel Group Study of the Efficacy and Safety of 4 Administrations of XRP0038/NV1FGF 4mg at 2 week intervals on Amputation or any Death in Critical Limb Ischaemia Patients with skin Lesions.