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This report is available on www.thewomens.org.au
OUR VISION

The Women’s vision for research is comprehensive and directly informs the care we provide to over 300,000 women and newborn babies each year across all of our services including sexual and reproductive health, mental health, maternity, gynaecology, oncology and neonatal care. As a result we continue to deliver many successful outcomes for the women and families in our care. In our Newborn Intensive Special Care Unit for over 30 years our researchers have carried out long-term assessments of the health and well-being of some of the tiniest survivors ever born in the world. Over this period, and in particular in more recent years, we have seen morbidity and mortality rates dramatically reduced, in critically ill and premature babies, and the quality of life of these babies as well as their families has significantly improved. Such research initiatives have resulted in thousands of parents gaining hope and confidence that their children have not only been granted the chance of survival but the opportunity for a quality life. The Women’s has made this possible.

OUR APPROACH

The Women’s collaborative approach to research means we include patients and their families, members of our community and other leading researchers and external organisations, as part of our in depth investigations and discoveries into all aspects of women’s health. This approach is particularly evident in our oncology unit where teams of people are working together in search of life saving treatments for women suffering different forms of cancer including breast, cervical, ovarian and gynaecological cancers. Last year these efforts were rewarded when the Royal Women’s Hospital and Royal Melbourne Hospital’s combined Breast Cancer Service won the Premier’s Award for Excellence in cancer care at the Victorian Government Health Care Awards.

OUR COMMITMENT

Our commitment to research at the Women’s is well known which is why we have been able to attract some of the world’s very best researchers and provide such high standards of specialised care to women of all ages, cultures and backgrounds, year after year. For this to continue the Women’s recognises our staff need and deserve the best possible support, training, development as well as facilities. Our move to the Parkville medical precinct last year was another step in providing world class research facilities and now that we have delivered on this we will be working hard to foster an environment and culture that is conducive to evidence based learning and practice across the entire organisation.

The Royal Women’s Hospital will continue to develop, innovate and set the world standard in women’s health and I trust that those who read this report will know that our strategic approach and long term investment in research, is and will continue to enable the best care to be provided to women and babies of Victoria.

Dale Fisher, Chief Executive
OVERVIEW
THE ROYAL WOMEN’S HOSPITAL
RESEARCH REPORT 2008

FROM THE RESEARCH OFFICE
As indicated in our inaugural report last year, to improve health outcomes for women and babies, more research studies are needed, particularly at teaching hospitals like the Women’s.

It is pleasing to see that researchers at the Women’s are responding to the challenge, increasing the number of research publications in 2007 compared with 2006 by 13% (Figure 1).

Not only are the researchers increasing their output, but the rest of the world is reading and quoting their work – the number of citations of articles by the same researchers from the Women’s increased 3% in 2007 over 2006 (Figure 2).

In this and subsequent reports for the next few years we intend to highlight the work of past researchers who contributed greatly to the Women’s. In this report we highlight the contribution of a leading researcher from early in the 20th Century, Dr Vera Krieger.

In addition we will also profile the research activities of one of the major groups within the Women’s – this year it is the Women’s Cancer Research Centre.

It is our pleasure to present the second Research Report for the Royal Women’s Hospital encompassing activity for the calendar year 2007. We thank all members of the hospital’s staff for their support and co-operation in its preparation and completion. In particular, we acknowledge the efforts of Carolyn Anderson in compiling the report.

Professor Jock Findlay
Director, Research

Professor Lex Doyle
Head, Clinical Research Development
Dr Vera Krieger DSc FRACI (1901–1992) was the first Clinical Biochemist appointed by the Women’s (in 1928) and, during nearly 40 years, headed the biochemical, and later, the serology (blood studies) sections of the hospital, building an international reputation in the process.

She oversaw the production of intravenous fluids for many years and provided invaluable biochemical and serological information on thousands of patients, which clinicians used as aids to diagnosis and treatment.

She conducted research in several areas including high blood pressure during pregnancy, Rhesus immunisation and spontaneous recurrent miscarriage. The findings contributed to a better understanding of these serious conditions and helped save numerous lives. She also educated generations of trainees working at the hospital about biochemical and serological concepts and techniques.

Vera Isabella Krieger was born in 1901 in Melbourne, the elder daughter of Louis Augustus Krieger and Marion Estella Chapman. She attended Princes Hill State School and entered Presbyterian Ladies College (PLC) as a half fee-paying student, gaining her Leaving Honours Certificate in 1920. She studied Science at the University of Melbourne, 1921-24, and completed her Master of Science degree, majoring in biochemistry, in 1926.

Soon after gaining her MSc she was appointed biochemist to the Obstetrical Research Committee established to investigate unacceptably high rates of maternal deaths and illness in Victoria. Under the direction of the head of the Committee, Dr R. Marshall Allan, she carried out biochemical investigations on body fluids from expectant mothers with normal and high blood pressures during 1926 and 1927.

Although the Committee was based at the Women’s Hospital and the hospital paid her salary and running costs, she did her investigations in the nearby biochemical laboratories of the University of Melbourne, where she had undertaken postgraduate studies encouraged by biochemistry lecturer, Dr William John Young.

For the rest of her working life, the then potentially life-threatening condition of elevated blood pressure during pregnancy (also known as toxoaemia of pregnancy or pre-eclampsia) was a subject of great interest to her. With Dr John Green and other clinicians and scientists at the Women’s she wrote numerous papers on the chemistry of blood and urine associated with this disorder. She also presented the results of her research at meetings in Australia and overseas.

**EARLY YEARS AT THE WOMEN’S**

Biochemistry was a rapidly evolving science in the 1920s, and was increasingly recognised as an important aid in the diagnosis and treatment of serious medical conditions. The Women’s appreciated this and, on 1 May 1928, the hospital’s Board of Management appointed Krieger the first Clinical Biochemist on the hospital staff at a salary of £300 a year.

The position called for initiative, energy and carried considerable responsibility which was not made any easier by the fact that the hospital lacked appropriate facilities for her work. So, from May 1928 until February 1939, her workplace continued to be the University of Melbourne, where biochemistry had by now its own Biochemistry Department under W.J. Young who had been appointed Foundation Professor. During the 1930s, several laboratory assistants were appointed to help her with routine tests measuring blood urea and urea concentration and blood sugar and glucose tolerance. They also conducted Wassermann tests for the likely presence of syphilis, did research on renal phosphate, calcium, guanidine, and uric acid, and analysed the components of mothers’ milk.

From 1934, at the request of Women’s Hospital Medical Superintendent, Dr Arthur Machen ‘Bung’ Hill, Krieger started to prepare large volumes of saline and glucose solutions for intravenous therapy. This was a considerable achievement at a time when physiological levels of chemical constituents were not always knowable and methods for achieving sterility for intravenous fluids were cumbersome. Until 1939, the fluids were prepared in the University Biochemistry Department and carried across Swanston Street to the hospital.

In the 1930s, she was also doing cerebrospinal fluid tests, blood typing, and had started to use the Ehrlich finger test in research to detect haemolysis (blood breakdown). In 1938 she gained her Doctor of Science degree (DSc) from the University of Melbourne, based on nine published papers and two more accepted for publication.

In March 1939 when a new Pathology Department at the Women’s opened, Room 10 was set aside as a Biochemistry Section for Krieger and her
multiplying staff. The hospital funded the section, with support from government agencies such as the National Health and Medical Research Council. By the late 1950s, staff in the section – additional to Krieger – included four graduates and a number of junior technicians.

During the following year Krieger started doing estimations of 17-ketosteroids, breakdown products of testosterone that gave an indication of male infertility. For some years, the Women’s was the only hospital in Melbourne doing research on the relationship between hormones and fertility.

In 1941 she introduced assay methods for chorionic gonadotrophin hormones produced by the placenta during pregnancy and therefore valuable as an indication of the progress of pregnancy. And by 1946, she was investigating several methods for the detection of pregnanediol, a breakdown product of progesterone hormone important in menstruation and pregnancy. The following year she established a research method for pregnanediol determination, using it to study recurrent miscarriage.

PREVENTION OF RH HAEMOLYTIC DISEASE

Another of Krieger’s major research interests started in 1941 when she began investigating the Rhesus (Rh) factor in blood, reports in the medical literature suggesting it provided an explanation for previously baffling severe reactions to blood transfusions, despite careful cross matching. Soon after, she commenced a program of routine Rh antibody testing of all antenatal patients at the Women’s, the first routine service of its type in Australia. In the mid-1940s, she started routine Rh testing of all gynaecological patients as well.

During the remainder of her career she contributed to the developing understanding of what became known as Rh haemolytic disease, through her teaching and research. In 1946, she produced a pamphlet called “The Rh Factor” for medical officers who had been on war service and were returning to work at the hospital. In it she outlined the discovery of the Rh factor, the production of Rh antibodies in specific circumstances such as after blood transfusions and during pregnancy, and the necessity of promptly transfusing a baby of an Rh negative mother and an Rh positive father with appropriate blood if the newborn developed jaundice or severe anaemia within a few hours of birth.

In 1961, she showed that it was possible to predict the severity of Rh haemolytic disease by carefully tracking levels of anti-Rh (D) antibodies in mothers’ blood, during pregnancy and after giving birth. Rh antibodies in maternal blood can increase with stimulation from Rh (D) fetal cells.

Krieger also played an important role in the initial world trials of anti-Rh (D) gamma globulin (RhoGAM) produced in the form of an intramuscular injection to prevent Rhesus immunisation in an Rh-negative mother after pregnancy with an Rh-positive baby. Her international profile in relation to Rhesus immunisation was such that in 1964 she was asked to take part in international trials of RhoGAM to prevent Rhesus immunisation. The Melbourne arm of the study was carried out at the Women’s from 1966 to 1968 by Krieger in the laboratory and obstetrician Dr Geoffrey Bishop, the King George V Memorial Research Scholar at the hospital, as the clinical partner. Like her interest in high blood pressure during pregnancy, her curiosity about Rhesus immunisation was long-lasting, continuing until 1970 when the last of six papers, co-authored by Bishop, was published. She was involved in the whole saga of Rhesus incompatibility and anti-D treatment and by the early 1980s, deaths in newborn due to Rh incompatibility were rare, having been the cause of numerous miscarriages and neonatal deaths in earlier years.

STRONG CONVITIONS, VERSATILITY AND PERSISTENCE

Meanwhile in 1957, the demands of serology and biochemistry having expanded, the Biochemistry Section was sub-divided. Krieger took charge of the section of serology, while retaining an “intense interest” in the biochemical causes of repeated miscarriages and associated treatment. She wrote 11 papers on the subject between 1957 and 1964, many with Dr W. J. (‘Bill’) Rawlings.

In mid-1964, the Women’s granted her leave of absence and financial support to attend the 6th International Congress of Biochemistry in New York and the 17th Annual Meeting of the American Association of Blood Banks in Washington. It provided an opportunity for her to farewell many of her international colleagues. She retired in October 1966, but was given space at the Women’s to continue her research on some aspects of Rh immunisation.

Dr Hans Bettinger, the head of the Pathology Department to whom Krieger reported for much of her career, said that early on, her opinions were not always shared by her clinical colleagues. For example, in a 1944 paper she suggested that a proportion
of miscarriages were due to Rh factor, a controversial statement at the time. Bettinger said that “more recently work in all parts of the world has confirmed her ideas, and the climax was reached when she successfully presented her results in New York in 1964.”

According to Bettinger, not only did Krieger carry out routine work at the Women’s, “she actually built up the sections of biochemistry and serology from the beginning and contributed in a remarkable way to the national and international reputation” that the Pathology Department enjoyed in the late 1960s.

Her research work was of the first order and her numerous publications testified to its quality. “All this has been achieved without pushing herself to the forefront – some think there have been times when she has been too shy and self-effacing,” Bettinger said. In addition to her research contributions, she trained a considerable number of science graduates and laboratory technicians, and “all of them, as well as many resident medical officers, have greatly benefited from the help which was always readily given”.

Bettinger’s successor, Professor Harold Attwood, said Krieger was one of “a powerful trio” who worked together in the Pathology Department from the 1930s to the 1960s, the others being Bettinger and Dr Hildred Butler. He said that Krieger was probably “the most versatile” of the three, adapting to new tasks as methods and facilities allowed.

“When the need was recognised for intravenous fluids, it was Vera Krieger and her department who had the culinary skills to prepare the vast volumes of fluid safely and with great benefit to patients,” Attwood said when giving the Tracy-Maund Memorial Lecture in 1981. He said her work was often done in the background, away from more glamorous clinical activity, but without it “quite a few patients would have died”.

Attwood described Krieger’s work with Rawlings on recurrent miscarriage as “well researched, carefully performed and equal to anything being done in the world at the time” and “grossly under-rated”. He added that when their work was done in the 1950s, it was unfortunate that the only method of establishing progesterone derivatives provided a good measure of placental function but did not always predict when the fetus was at risk. “This reduced the clinical, but not the scientific, value of the work,” he said. Only later did RWH colleague, Professor James B. Brown’s oestriol level estimations provide a better predictor of fetal-placental relationships.

Blood group serology was never an easy subject, but Attwood said that Krieger “mastered it quickly”. In sharp contrast to the more confident Hildred Butler, he said that Krieger’s characteristics were “quietness, reticence, and a tendency to remain in the background”. Small and unassuming, she could “hold her head high in this hospital or any gathering of humanitarian scientists”. Although her contribution was not “epoch-making”, she had enlarged the reservoirs of knowledge, inquired freely, invented intelligently and taught splendidly.

Dr Geoffrey Bishop, Krieger’s colleague during her final years of work on Rh haemolytic disease, found her stimulating, encouraging, a great conversationalist and a strict but fair task-master in her laboratory work. “She maintained that you should always do your best and she provided a wonderful example of this to all who trained under her,” he said.

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### AN OUTSTANDING LABORATORY SCIENTIST

Krieger produced 64 publications in the medical literature and was justifiably proud of her achievements in science. She led a life in which her scientific work was central and, according to colleague, Dr Jean Barrie, she put her career ahead of marriage and family at a time when to marry was to face automatic retrenchment. “She was a career girl and always said that her family had made big sacrifices to send her to PLC and put her through University,” Barrie said.

Barrie said Krieger deserved to be remembered because “she made a tremendous contribution”. “She was one of the first women to get a Doctor of Science degree [at the University of Melbourne] and she was engrossed in biochemistry.”

In retirement, Krieger resumed her hobby of knitting and enjoyed the occasional trip overseas with her friend, Women’s Hospital nurse, Violet Page. In her final months, she was confined to a wheelchair, and died of pneumonia.
THE WOMEN’S HAS A LONG HISTORY OF RESEARCH ON WOMEN’S CANCERS, PARTICULARLY GYNAECOLOGICAL ONCOLOGY AND MORE RECENTLY BREAST CANCER. RESEARCH IN THE WOMEN’S CANCER RESEARCH CENTRE IS FOCUSED ON BREAST AND OVARIAN CANCER, INVOLVING CLINICAL TRANSLATIONAL RESEARCH AND LABORATORY RESEARCH. THE CENTRE ALSO TRAINS POSTGRADUATE STUDENTS FROM OTHER UNIVERSITIES IN CANCER BIOLOGY. THE CLOSE INTERFACE BETWEEN THE CLINIC AND LABORATORY FACILITATES ACCESS TO CANCER TISSUES FOR RESEARCH, AS WELL AS THE OPPORTUNITY TO TRANSLATE RESEARCH FINDINGS INTO CLINICAL PRACTICE FOR THE BENEFIT OF PATIENTS.
BREAST CANCER

Over 12,000 women are diagnosed with breast cancer each year in Australia. Breast cancer is the most common cause of cancer-related death in women in Australia, with 15% of women aged 25-64 years diagnosed with breast cancer dying from this disease each year. The incidence of breast cancer has risen over 30% from 1993 to 2003.

The Breast Unit has had a very productive research year.

Clinical trials remain a key research focus led by Prof Bruce Mann. We have ~10 trials open, in the full range of breast cancer management, from prevention, through surgical trials relating to the management of the axillary lymph nodes, adjuvant trials of chemotherapy for early breast cancer, trials to reduce the impact of chemotherapy on early menopause, trials of new agents for patients with advanced disease, and trials focusing on the psychological aspects of breast cancer management.

We have active collaborations in basic and translational science. We are involved in a Victorian Cancer Agency-funded biomarker study, lead by Assoc Prof Geoff Lindeman from the Walter and Eliza Hall Institute, where the tissue bank and clinical dataset generated in The Breast Service is being used to attempt to identify markers of both good and poor prognosis in breast cancer. We are also involved in an NHMRC-funded project with Assoc Prof Ian Campbell from the Peter MacCallum Cancer Centre. This also uses a dataset of patients diagnosed with pre-breast cancer (ductal carcinoma in-situ) whose outcome after surgical treatment has been identified in a previous research project, where we aim to identify genetic markers that indicate the risk of local recurrence – a so-called molecular ‘local recurrence signature’. Professor Bruce Mann is a co-chief investigator on both of these projects.

We have a number of clinical research projects that are using the large amount of clinical work done in The Breast Service and also in NorthWestern BreastScreen, with whom we have close associations, to answer various questions regarding the natural history of breast cancer. Dr Anita Skandarajah, who was the Breast Service Surgical Fellow in 2008, published a series of papillary lesions identified on screening mammography, demonstrating that these all require surgical excision. Mr Emil Kurniawan, an Advanced Medical Science student who completed a project in The Breast Service in 2007, published his work on prediction of surgical margins in breast conserving surgery, in 2008 in the Annals of Surgical Oncology, and subsequently presented his work at the European Society of Surgical Oncology meeting in Berlin. Mr Jonathan Fong, another AMS student in 2008 completed a study of the outcome of patients diagnosed with ductal carcinoma in-situ and presented his work at the Leura Breast meeting in Sydney in September 2008.

Supportive care and psychological research is a further interest in The Breast Service. We are taking an active part in the longitudinal study of anxiety and depression in patients after a cancer diagnosis that has been mentioned in the report from the Gynaecological oncology service. This work is done in collaboration with the Centre for Women’s Mental Health at the Women’s.

OVARIAN CANCER

Every 11 hours one woman dies of ovarian cancer in Australia. One in 67 women will be diagnosed with ovarian cancer in her life time. If the cancer is detected when still confined to ovaries, the five year survival rates are 90%. But if the diagnosis is late when the cancer has spread within the peritoneum the five year survival is reduced to 30%.

A major goal of our laboratory research is to discover ways that will stop the spread of ovarian cancer. Unfortunately, 70% of the women diagnosed with ovarian cancer are already in advanced stages of the disease when the tumour has metastasized into the peritoneal cavity. When this happens, accumulation of peritoneal tumour fluid (ascites) in the peritoneal cavity, containing aggregates of tumour cells (spheroids; Figure 3), is common. These tumours are cellular aggregates and are shed from the surface of the tumour either as cellular clusters or as single cells which later clump as spheroids. The team, led by Dr Nuzhat Ahmed, has shown that ovarian tumour spheroids are capable of growing very slowly and are extremely invasive, suggesting that they are a potential mode of ovarian cancer spread. Hence, better outcome for ovarian cancer patients is possible if methods can be found to disrupt the invasive processes of peritoneal tumour spheroids.
Most patients diagnosed with advanced-stage ovarian cancer respond favourably to debulking and surgery, followed by six cycles of chemotherapy, but recurrence is common within few months. The slow cycling cells within the spheroids are resistant to therapies that target proliferating cells and thus are a key to recurrence of chemoresistant cancer. Moreover, there is a growing consensus that ovarian cancer like many other solid tumours (and leukaemias), is a stem cell disease where a small population of cells within the tumour or spheroids have acquired the ability to self renew and reproduce characteristics of the primary tumour both in vitro and in vivo. This warrants the need to study in detail the biology of ovarian tumours, ascites spheroids and distant metastases and to evaluate the existence of ‘cancer initiating stem cells’, as identification of molecules expressed in these cells could serve as targets for the prevention of cancer dissemination and recurrence. We are pursuing these two lines of investigations. In a complementary approach, we are using gene expression array analysis in the form of Affymetrix mapping to compare the genomic profile of (a) primary tumours, (b) ascitic spheroids, and (c) macroscopic solid metastases obtained from the same advanced-stage ovarian cancer patients. This approach will help us to identify genes unique to different stages of progression of ovarian cancer, which could be used as therapeutic markers.

A model of ovarian cancer progression is illustrated in Figure 4.

**Figure 4.** During ovarian cancer progression, ovarian cancer cells shed from the surface of the ovary survive into the peritoneum as spheroids/cellular aggregates. These spheroids undergo changes into invasive chemoresistant cells to sustain survival and motility. Cancer spheroids and the surrounding mesothelial and infiltrating blood cells secrete cytokines and growth factors in the form of ascites in the peritoneum. The secreted factors sustain the growth and invasiveness of carcinoma spheroids until they find a secondary attachment site. The slow proliferating cells within the spheroids may be the source of cancer stem cells.
CLINICAL TRIALS
Clinical trials make up a large part of our research portfolio. The oncology team have contributed substantially to trials since the inception of the Australian and New Zealand Gynaecological Oncology Group in 2001. Prof Michael Quinn is the current chairman of this group which comprises over 250 clinicians Australia-wide. Currently we have 5 treatment trials open to accrual:

**PORTEC 3**
Randomized Phase III Trial, Comparing Concurrent Chemoradiation and Adjuvant Chemotherapy with Pelvic Radiation Alone in High Risk and Advanced Stage Endometrial Carcinoma.

**TRIPOD**
A Single Arm Phase II Trial of Intraperitoneal Chemotherapy with Paclitaxel and Cisplatin after Optimal Debulking Surgery for Ovarian and Related Cancers.

**ICON7**
A randomised (1:1 ratio), 2 arm, multi-centre, GCIG open-label phase III trial designed to evaluate the safety and efficacy of adding bevacizumab, a humanised monoclonal antibody against Vascular Endothelial Growth Factor (VEGF), to standard chemotherapy with carboplatin and Paclitaxel.

**SCOTROC 4**
A Prospective, Multicentre, Randomised Trial of Carboplatin Flat Dosing vs. Intrapatient Dose Escalation as First Line Chemotherapy of Ovarian, Fallopian Tube and Primary Peritoneal Cancers

Immune Cycling
This is a trial we have generated in women with recurrent ovarian cancer after failure of two lines of cytotoxic chemotherapy. We observed an 8-12 day cycling of immune cells in women with cancer of the ovary. By delivering low dose oral chemotherapy for 3 days just prior to the peak of this cycle we hope to ablate inhibitory cells that prevent a woman mounting her own immune response to destroy cancer cells.

OTHER CLINICAL STUDIES
We also have a number of studies undertaken in collaboration with other research groups including HPV research (Prof Suzanne Garland at the Women’s), T cell regulation (Prof Magda Plebanski at Monash University), endometrial cancer epidemiology (Dr Amanda Spurdle at Queensland Institute of Medical Research), and DNA methylation in malignant trophoblast disease (Prof Richard Saffery at the Murdoch Childrens Research Institute, Melbourne).

With the introduction of the Royal Women’s Hospital Centre for Women’s Mental Health, we have joined forces with Prof Fiona Judd and Dr Lesley Stafford in a number of very exciting projects including screening for psychosocial distress in patients newly diagnosed with ovarian cancer and a survey of burnout in gynaecological oncologists.

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STAFF IN THE WOMEN’S CANCER RESEARCH CENTRE
Acting Director:
Professor Jock Findlay AO PhD DSc

Joint Clinical Directors:
Professor Michael Quinn MB ChB MGO MRCP FRACOG CGO FRCOG
Professor Bruce Mann MB BS PhD FRACS

Head of the Metastasis Unit:
Dr Nuzhat Ahmed MSc PhD

CLINICAL RESEARCH STAFF
Dr Deborah Neesham, Dr Jeffrey Tan, Mr Robert Rome, Dr Serine Foo, Dr Geraldine Goss
HUMAN REPRODUCTIVE BIOLOGY

Reproductive Services at the Royal Women’s Hospital and Melbourne IVF care for a diverse population of patients with diverse fertility-related concerns. Accordingly, we place a large focus on research to facilitate and improve fertility outcomes for our patients. The full range of research activities in Reproductive Services at the Women’s and at Melbourne IVF reflects clinical, laboratory and psychosocial research interests in our unit.

Collaboration in clinical trials is supported by two major drug suppliers, Organon and Merck Serono. This ensures that the latest international and scientific technologies can be evaluated and implemented to improve the care of all patients. It is well-known that through participation in strictly controlled clinical trials there is benefit for those taking part as well as an accumulation of knowledge by those providing the treatment. Our involvement in these trials has also placed us as an important contributor to the worldwide literature on innovative and exciting advances.

Our unique contribution to several key areas of research is also expanding, particularly in the important work of Dr Debra Gook (acknowledged at the Women’s Annual General meeting and Staff Awards with the Chair’s Medal) in fertility preservation, and also the work of our Preimplantation Genetic Diagnosis team, led by Dr Leeanda Wilton. Dr David Edgar and his team continue to focus on how to identify and select embryos with the best implantation potential, and this important work has practical implications, as well as the potential to improve our results with single embryo transfer.

Professor Gordon Baker’s contribution to both Andrology and clinical research, and his tireless mentoring and advice to junior researchers, provides the backbone of our research. Professor Baker and Dr John McBain both drive our clinical and epidemiological research endeavours. Dr Leeanda Wilton and Dr John McBain also continue to drive our Preimplantation Genetic Diagnosis research and ensure that we are at the forefront, particularly with the emergence of new technologies.

We are also focusing on investigator-initiated and led projects. Dr Kate Stern leads an active research program, both clinical and scientific, in the important area of fertility preservation. The research focuses on measures to help protect ovarian function during chemotherapy or other gonadotoxic therapies, and also on ways to preserve mature oocytes or ovarian tissue prior to chemotherapy, radiotherapy or surgery.

Our long standing research program in the endocrine and metabolic field of research concentrates on improving the gynaecological, reproductive and general health for women with polycystic ovary syndrome (PCOS). The program particularly focuses on the development of permanent lifestyle changes for patients with endocrine metabolic disorders. Increasingly we also have a psychosocial research focus in this area. The Big Girls Group (BGG) facilitates this research. It is a four-month weight management and lifestyle modification program for women requiring either fertility treatment, regulation of menstruation or weight loss (particularly in women with PCOS). The program entails weekly educational sessions focusing on fertility issues and gynaecological health, nutrition, lifestyle, psychological issues and personal development. One hour of exercise, twice a week for the duration of the program is also obligatory.

A decade of the results from the program show lifestyle modification is an effective approach, and should be considered as the first line treatment for overweight women with infertility associated with PCOS.

The acknowledgement of the importance of psychosocial research has been associated with the appointment of two new counselors with specific research experience and enthusiasm, as well as the allocation of resources and time to these counselors specifically to focus on research.

The culture of commitment to research is permeating Reproductive Services at the Women’s and Melbourne IVF with increasing enthusiasm from every department to become involved in research activities.

The calibre of our research is reflected by the international recognition it receives, and also in the enthusiasm of our team for continuing to embrace the challenges of research in reproductive medicine. The combination of highly regarded specialist clinicians and scientists, with a strong, capable, well-staffed and motivated research department, ensures that we will continue to produce important research at Reproductive Services at the Women’s and at Melbourne IVF.
Andrology research

The male gametes: spermatozoa are the focus of much of the research performed by our andrology experts. The aim is to develop better methods of assessing sperm function. This should improve the management of male infertility by allowing more accurate assignment of patients to standard in-vitro fertilisation (IVF) or intracytoplasmic sperm injection (ICSI).

We also collaborate with others expert in epidemiology and sociology at the Murdoch Children’s Research Institute and the University of Melbourne’s Key Centre for Women’s Health and Monash University and Monash IVF to study the effects of treatment of infertility on the offspring and women.

Research highlights

Human sperm-oocyte interaction, male infertility and defective sperm-oocyte interaction and molecular basis of defective sperm function

De-Yi Liu, Gordon Baker in collaboration with John Aitken

During natural conception and standard IVF, motile capacitated sperm, with intact acrosomes, bind to the surface of the zona pellucida (ZP) and this binding triggers the acrosome reaction (AR). The sperm then passes through the ZP and binds to the oolemma via the plasma membrane that persists over the equatorial segment. The sperm is then engulfed into the ooplasm where decondensation of the nucleus occurs to form the male pronucleus. We have developed tests for human sperm-ZP binding, the ZP-induced AR and sperm-oolemma binding using oocytes which failed to fertilise in the clinical IVF program. The patients consent to the use of this material for testing or research. Usually the oocytes maintain their ability to bind sperm and stimulate the AR. The ZP can be preserved in concentrated salt solution at 4°C for months. Using these assays we have found defective sperm-ZP binding and disordered ZP-induced AR are common causes of failure of IVF when there are sperm defects, but can also occur with normal semen analysis.

These defects of sperm-oocyte interaction could account for about 25% of patients with idiopathic infertility and if diagnosed before IVF is attempted would allow the patients to be treated by ICSI and avoid an IVF cycle with low or zero fertilisation. In contrast, sperm-oolemma binding defects appear to be rare. Using experimental conditions in which the amount of ZP was not limiting, we showed that only a small proportion (<25%) of motile sperm in the semen of fertile men is capable of binding to the ZP and this was correlated with sperm morphology. The strong relationship between morphology and sperm ZP binding led us to study the morphological characteristics of ZP-preferred sperm and quantified this by computer image analysis of sperm morphometry.

Sentinel surveillance on semen quality and time to pregnancy

Tanya Stewart and Gordon Baker

This project was devised by the World Health Organisation in response to concerns in the 1990s that human sperm counts and fertility were declining. Women pregnant between 16 and 32 weeks were recruited to complete a questionnaire about the time taken to conceive and the factors affecting pregnancy rate. Those whose partners and their mothers had been born in Australia were asked to approach the partner about undergoing physical examination, hormone testing and semen analysis. This study provided reassurance that semen quality does not seem to be low in Australia; in fact fertile women may be conceiving more quickly than reported in the past. Many factors expected to affect pregnancy rates such as previous contraception and smoking were confirmed. Recruitment bias in the semen analysis study was less than expected but other problems with the study design were revealed, particularly the problem of dealing with unplanned pregnancies and confounding; for example if the unplanned pregnancies are included as pregnant at time zero, smoking is associated with a higher pregnancy rate, but if unplanned pregnancies are excluded the expected negative effect of smoking on pregnancy rate is highly significant. The current information about pregnancy rates and the ranges of semen analysis results in fertile couples provides useful reference data.

Automated semen analysis in the prediction of human fertility

Claire Garrett, De-Yi Liu, Gordon Baker and Gary Clarke

The use of image analysis has long been recognised as having the potential to provide reliable and quantitative evaluation in assessment of semen. Considerable progress has been made with commercial computer assisted semen analysis (CASA) systems for the assessment of sperm concentration and motion parameters but progress has been
much more limited for sperm morphology. We have experience with routine use of the Hamilton Thorn CASA system using IDENT fluorescent stain for assessment of concentration, progressive motility and straight line velocity (VSL). For concentrations \(>2 \times 10^6/\text{mL}\) the quality control is good. For sperm morphometry we have used an in-house developed CASA system and in a major study we have found that, together with female age and VSL, our morphometric assessment \%Z is related to natural pregnancies rates in 1191 subfertile couples. \%Z is derived from morphometric features preferentially selected in sperm in the sperm-zona binding process.

A randomised controlled trial of Intrauterine Insemination (IUI) and In Vitro Fertilisation (IVF) for idiopathic and mild male infertility

Gordon Baker, De-Yi Liu and John McBain

This research compares the outcomes of IVF and IUI in an effort to focus on the relative success rates of the actual techniques. The pilot phase of this trial has been completed. Couples with strictly defined idiopathic or mild male infertility were randomly assigned to treatment with IUI or IVF after FSH treatment which produced two or three ovulatory follicles. The pregnancy rate with IVF was significantly higher than for IUI and the contention that IUI is more cost effective than IVF is not supported. Patients who had fewer than two follicles or more than three follicles were not randomised, but treated by IUI and IVF respectively. This result should influence clinical practice and suggests there are abnormalities of gamete transport in patients with idiopathic infertility.

Causes and management of male infertility

Gordon Baker

This is a long standing project with a number of sections. A male infertility database and classification of diagnoses has been developed that has been useful for a number of studies on causes and outcomes of treatment. A method of fine needle tissue aspiration testis biopsy was developed for diagnosis of defects of spermatogenesis and collection of sperm for ICSI. The role of screening investigations for genetic conditions particularly Yq microdeletions and cystic fibrosis mutations was investigated. We provide samples to the National DNA repository for investigation of genetic causes of male infertility, which has contributed to work on Yq microdeletions and classification of candidate genes. Over the last 15 years it has become clear that sperm or elongated spermatids that can be used for ICSI may be found in a proportion of patients with severe testicular disorders such as Klinefelter syndrome and Sertoli cell only syndrome, either in the semen or in testis biopsy specimens. Conditions that may be treatable to increase the chances of natural conception include: gonadotropin deficiency or suppression, sperm autoimmunity, genital tract obstruction and reversible toxin exposures or illness effects and some coital disorders. However ICSI is often a better alternative for conditions such as sperm autoimmunity and genital tract obstruction. The estimation of prognosis for natural conception is also important in patients with less severe disorders of sperm production or function as they need to plan how long they should try before using treatments such as ICSI.

We have also studied the mechanisms of development of acquired sperm defects particularly necrospermia with chronic spinal cord injury and other conditions. Therapeutic trials have included multicentre studies of hormonal methods of male contraception, effectiveness of recombinant gonadotrophin treatment for hypogonadotrophic hypogonadism, and heparin and aspirin treatment for IVF implantation failure.

Current and Future Research Endeavours

The role of protein kinase C, actin and other signal transduction and membrane fusion molecules in the ZP-induced AR.

Dr De-Yi Liu, Drw Gordon Baker in collaboration with Dr John Aitken

We have been unsuccessful in producing active recombinant human ZP proteins. The project with Professor Aitken is to examine the proteome of normal sperm and sperm with defects of sperm-oocyte interaction. Currently we are trying to identify possible sperm receptors for the ZP. In the future, simpler alternative tests of sperm functional capacity that correlate with sperm-oocyte interaction will be developed that should assist in the prognosis for natural conception of couples with mild abnormalities of semen analysis, such as isolated teratozoospermia and idiopathic infertility. Such tests should also help assign patients to IVF or ICSI.

Automated semen analysis in the prediction of human fertility

Claire Garrett, De-Yi Liu, Gordon Baker and Gary Clarke

We are currently in collaboration with the University of Melbourne Department of Computer Science and Software Engineering and the Spanish company Microptic SL to incorporate \%Z in a commercially
available CASA system so that our results can be validated by other clinics. In this collaboration we are also looking at alternative analyses (such as cluster analysis) of the sperm-zona binding morphometry data and its relationship to fertility. No commercially available CASA system currently offers the objectivity of full automation or a physiological based assessment of “good” sperm morphology. We believe that these and other advances in CASA will greatly improve the clinical value of semen analysis.

Cryopreservation of small numbers of sperm for use in cases with limited sperm retrieval
Harold Bourne, Gary Clarke and Gordon Baker
An ability to cryopreserve and reliably retrieve small numbers of sperm would be beneficial to patients requiring ICSI treatment where sperm recovery is expected to be limited or could be unsuccessful. Currently in these couples, attempted sperm retrieval and egg collection are coordinated to occur at the same time, and in about half these cases the treatment is abandoned or has to be modified because sperm recovery was unsuccessful. If small numbers of sperm can be reliably frozen and retrieved, then an attempt at sperm collection could be undertaken prior to the woman starting an egg collection cycle. If sperm are recovered, then the egg collection cycle could be commenced in the knowledge that sperm are available. If sperm retrieval is not successful, then the woman is spared undergoing an invasive procedure and the couple can be directed to other treatment options. This approach would have significant advantages in managing treatment of these couples. Preliminary studies have identified a method that can reliably recover individual sperm which have been frozen and stored for short periods. The next step is to improve the post-thaw viability and validate the functional competence of those sperm which have lost their motility due to freezing damage.

Analysis of perinatal outcomes for mothers and singleton babies after ART
David Healy, Jane Halliday, James King and Gordon Baker
In this study the health of babies and mothers after assisted reproductive technology (ART) is being examined for singleton pregnancies from IVF, ICSI, frozen-thawed embryo transfer (FET) and gamete intra-fallopian transfer (GIFT). The outcomes will be compared with those from non-ART pregnancies in sub-fertile women and a random selection of control women in Victoria. The main aims are to determine if IVF/ICSI/FET singleton pregnancies have a higher incidence of antepartum haemorrhage, placenta praevia, low birth weight, preterm delivery, birth defects and caesarean section than GIFT or non-ART pregnancies in sub fertile women or control women from the general community. The method used is record linkage of 8126 singleton births from the three IVF centres in Victoria (Monash IVF, Melbourne Assisted Conception Centre and Melbourne IVF) for the years 1991-2003 merged with Perinatal Morbidity Statistics System at the Perinatal Data Collection Unit (PDCU) for all births at and after 20 weeks’ gestation occurring in Victoria in the same time period. Birth defects data will be obtained from the Victorian Birth Defects Register (BDR), which is linked to the PDCU data routinely. The BDR collects data on birth defects identified in children up to 15 years of age. This project should provide information about differences in outcomes for ART pregnancies related to ART procedures or conditions causing infertility.

Staff
Reproductive biology research
David Edgar (Scientific Director), Debra Gook (Senior Research Fellow), Janell Archer, Jenny Krapez, Stacey Gwilym (Laboratory Supervisors), Celine Lawler, Helena Jericho, Nicole Merry, Petra Wale, Riddhi Marfatia (Embryologists), Judy Borg (Research Assistant), Angela Nelson (Animal Technician).

Genetic and molecular research
Leeanda Wilton (Head of Genetic and Molecular Research), Sharyn Stock-Myer (Scientist-in-Charge, Monogenic Preimplantation Genetic Diagnosis), Pam Matthews, Mirjana Martic, Greta Gillies, Peter Coleman, Andrea Twomey, Paisu Tang, (Preimplantation Genetic Diagnosis Scientist), Kate Pope (Nurse/Genetic Counsellor).

Andrology research
Gordon Baker (Professor), Gary Clarke (Andrologist), Claire Garrett (Physicist), Harold Bourne (Laboratory Manager), De Yi Liu (Senior Research Fellow), Ming-Li Liu (Research Assistant), Tanya Stewart (PhD Student), Debbie Rushford, Heather Amiconi (Research Nurses), Boon Shih, Aida Zabidi, Maria Luviena, Nathania Hapsari (AMS Students).

Clinical research
Lyndon Hale (Chairman), John McBain (Medical Director), Kate Stern (Research Director), Rachael Knight (Head of Endocrine and Metabolic), Julie Whitehead, Manuela Toledo, Fleur Cattrall (Clinicians), Hossam Elzeiny (Fellow in Reproductive Medicine),
Franca Agresta (Clinical Research Manager), Joey Micallef (Clinical Research Coordinator), Lauren Williams (Research Fellow), Harold Bourne (Laboratory Manager), Jo Fenby (Nurse Unit Manager), Andrea Lupton, Christine Sartori, Jenny Marks, Clare Tuffley (Nurses)

**Psychosocial fertility research**
Kay Oke (Senior Counsellor), Kate Bourne (Donor Counsellor), Kate Pope (Preimplantation Genetic Diagnosis Counsellor), Catherine Nave, Hayley Matic, Kim Paleg, Merrilyn Mannerheim, Sarah Phillips (Counsellors).

**Psychosocial and epidemiology research committee members**
Kay Oke (Convenor), John McBain, Gordon Baker (Melbourne IVF)
Jane Halliday
Public Health Genetics
Murdoch Children’s Research Institute
Jane Fisher, Karin Hammarberg
Key Centre for Women’s Health in Society
David Amor
Genetic Health Victoria
Fiona Bruinsma
Latrobe University
Mother and Child Health Research
Hayley Matic, Sarah Phillips, Lauren Williams, Franca Agresta
Melbourne IVF

Reproductive Services and Melbourne IVF Research departments have many loyal supporters and strong relationships with our sponsors which they wish to thank and acknowledge.

**Key partnerships**
We wish to acknowledge the following partnerships that continue to enhance our skills in specific research areas:

> National DNA repository
> Murdoch Children’s Research Institute
> The University of Melbourne’s Key Centre for Women’s Health
> Molecular Biometrics and Yale University
> The University of Melbourne Department of Computer Science and Software Engineering
> The University of Melbourne Department of Obstetrics and Gynaecology
> Centrum Medische Genetica, Brussels, Belgium
> Microptic, Spain
> Latrobe University, Mother and Child Health Research
> Burnett Institute
> Melbourne Pathology
> Peter MacCallum Cancer Institute
> The Royal Melbourne Hospital
> Consultative Council on Obstetric and Paediatric Mortality and Morbidity, and Perinatal Data Collection Unit

The Freemason’s Hospital and the Royal Women’s Hospital ensure our patient care is of paramount standard and for this we thank them, as our patients provide us with the motivation for ensuring we are abreast with cutting edge research that will enable us to better our practices to service them completely.

**Awards in 2007**
Royal Women's Hospital
Chair's Medal (2007)
Dr D Gook
IBC, Cambridge
International Health Professional of the Year
Dr Gary Clarke
IBC, Cambridge
The Marie Curie Award
Dr Gary Clarke

**Publications**
Seventeen refereed papers, plus 24 published abstracts of scientific presentations.

**Post graduate students**
One PhD student, plus five other students.

**Research funding**
Two grants from NHMRC; one grant from British Union of Providential Associations; one grant from Organon Pty Ltd
Collaborations
Dr Paul Bello, Stem Cell Sciences Pty Ltd; Prof John Aitken, University of Newcastle; Prof David Healy, Monash University; A/Prof Jane Halliday, Murdoch Children’s Research Institute; A/Prof James King, University of Melbourne; Dr Mary-Anne Davey, La Trobe University; Dr Katie Moore, Peter MacCallum Cancer Centre.

MENTAL HEALTH
Mental health research is conducted within a population health framework that takes into account the complex influences on mental health, encourages a holistic approach to improving mental health and wellbeing, develops evidence based interventions that meet the identified need to population groups, and spans the spectrum from prevention to recovery to relapse prevention.

Recognising mental health and mental illness are on a continuum. Our research aims to improve mental health as well as reduce the prevalence and burden of mental health problems and mental illness.

Our research agenda is informed by current national and international research priorities in women’s mental health, identified gaps in research, and areas of clinical activity within the Women’s.

The establishment of the Centre for Women’s Mental Health in 2007, with the generous support of the Pratt Foundation, has enabled growth of our research activities, expansion of research opportunities for postgraduate students and strengthening of our collaboration with university partners.

During 2007 projects included:

> An exploratory qualitative investigation to assess the acceptability and feasibility of approaching mothers treated for infertility prior to 1988, and their families regarding the health and development of their ART-conceived young adult children. In total ten mothers, two fathers, and five young adults were interviewed. They described the health and development of 15 IVF-conceived young adults, six who were singletons, three sets of twins and one of triplets. Data collection was completed in late 2007, and in 2008 results were disseminated and research funding sought for a comprehensive study.

> A study describing the circumstances and experiences of women with an unplanned or unwanted pregnancy who contacted the Royal Women’s Hospital Pregnancy Advisory Service (PAS) contemplating or seeking an abortion. Data was collected by two methods. First, an audit of the electronic records of the PAS was conducted for the 12 months from 1 October 2006 to 30 September 2007. De-identified data was extracted from a comprehensive electronic database used for recording consultations; summary statistics were calculated, and factors associated with later contact with PAS determined. Second, 60 women who contacted the PAS during this time participated in a telephone interviews during which they described their experience in detail. Analysis of interview transcripts described women’s reasons for seeking abortion and the factors associated with their decision making.

> A study which aimed to characterize pregnancy and postpartum psychological functioning in women conceiving with ART and identify early risk factors for early parenting difficulties. It was a prospective longitudinal study of 183 women who were recruited after confirmation of an intrauterine pregnancy by ultrasound and followed with repeat assessments until their infants were aged 18 months.

> A project to investigate the reproductive, social, psychological and relationship consequences of a diagnosis of male infertility in the medium term. A cohort of men who consulted a specialist andrologist for evaluation of infertility in 2001 and 2002 were invited to complete a postal questionnaire about their reproductive decisions and health outcomes after a diagnosis of sub-fertility. Complete data were received from 112 men.
> A study of women with diabetes who are, or plan to become, pregnant. The study aims to improve understanding of factors which may influence whether or not women with established diabetes seek pre-pregnancy care. Despite the demonstrated advantages of pre-pregnancy care for women with diabetes, only about a third of women with diabetes seek this care. This study tests the utility of four models (health belief model, social cognitive theory, regulatory focused theory, theory of reasoned action) in predicting the seeking of medical care prior to conception in adult women with diabetes. The study also examines the influence of other psychological factors i.e. personality and coping style on the decision to seek or not seek pre-pregnancy care.

> A study examining the nature and extent of long-term quality of life difficulties and supportive care needs of survivors of gynaecological cancer and their partners. Although gynaecological cancer (as a group) occurs commonly in women, its long-term impact on the physical and emotional functioning of survivors and their partners has not been well studied. This project investigates a variety of indices of quality of life including anxiety, depression, sexual functioning, relationship satisfaction, and body image.

> Multidisciplinary discussions have been established with a view to developing and shaping a research agenda which addresses mental health issues and integrates consideration of mental health aspects with other research projects.

**Publications**

Nine publications in academic journals.

**Research funding**

Our research has been supported by the Pratt Foundation, Beyondblue, the National Depression initiative, and the Collier Charitable Fund, Melbourne IVF, Australian Research Council Linkage Grant and the Victorian Health Promotion Foundation (VicHealth)

**Collaborations**

Prof Henry Jackson, Dr Gary Robbins, School of Psychology, University of Melbourne; Dr Greg Murray, Swinburne University; A/Prof Jane Fisher, Karin Hammerberg, Heather Rowe Key Centre for Women’s Health in Society, University of Melbourne; Prof Leon Piterman, Department of General Practice, Monash University; Prof John Humphreys, School of Rural Health, Monash University; Dr Alison Nankervis, Royal Melbourne Hospital

**MICROBIOLOGY & INFECTIOUS DISEASES**

Overall, the Women’s Department of Microbiology and Infectious Diseases conducts clinical research, as well as cutting edge molecular diagnostics for detection of infections as they relate to Obstetrics, Gynaecology and Neonatology. Research focuses include cervical cancer, sexual health and mother-to-baby infections, with emphasis on providing evidence for evaluations and changes that may translate into clinical practice, affecting patient health.

Professor Suzanne Garland leads the team of nine scientists and five clinical research nurses.

**Research activities**

Currently the group holds five NHMRC project grants as well as funding from the Cancer Council, Northern Territory Government, and pharmaceutical company-initiated clinical vaccine trials, totalling over $6 million dollars to date. The following are the key areas of research for the department:

(a) Leading research on Human Papillomavirus (HPV) and its role in cervical cancer in a number of clinically based research projects, including:

> Assessment of prophylactic cervical vaccine effectiveness in the Australian population by conducting three phase three clinical trials which are ongoing;

> Evaluation of molecular markers that can predict disease recurrence after treatment of cervical abnormalities;

> Evaluation of genetic and environmental factor responsible for development of cervical cancer.
This study is conducted in a twin model;

> Determination of HPV genotypes prevalence in the Australian population (pre and post vaccination).

> (b) Our research team have been leaders in development and application of molecular testing for detection of sexually transmitted infection (STI) of marginalised, remote populations by combining sensitive molecular techniques with self-sampling methodology. The methods established have been utilised both nationally and internationally in a number of projects including STI prevalence in various populations such as antenatal patients in Vanuatu, Samoa, Thailand, China and Mongolia. For this we were awarded the Public Health Award for Excellence in Research from the Department of Human Services in Victoria in 1999.

(c) We are currently evaluating an Australia wide assessment of the impact of intrapartum chemoprophylaxis on group B streptococcus (GBS) antimicrobial resistance, the ultimate aim of which is appropriate antibiotics to prevent early onset neonatal GBS sepsis.

(d) Role of probiotics in reduction of sepsis and necrotizing enterocolitis in premature infants is being evaluated. This study is a multicentre trial and will involve 1,000 premature infants.

**International activities**

(a) World Health Organization (WHO) - One of nine worldwide Reference Laboratories for HPV detection and surveillance. Professor Garland also has been serving as an advisor to WHO for the past decade.

(b) Establishment of the Asian-Oceania Research Organization on Genital Infection and Neoplasia (AOGIN) - brings together clinicians and scientists within the Asian and Oceania regions and whose work is related to genital infections and neoplasia. The aims AOGIN are to promote and develop, at an Asia-Oceania level, research, training, screening, prevention and information concerning genital infections, pre-cancers and cancers in women. Professor Garland was the inaugural President of this organisation. AOGIN meetings are held biennially with the 2007 meeting being held in Korea, where over 500 clinicians and scientists from the region attended.

**Post graduate students**

Four students are continuing their post-graduate research.

**Publications**

12 peer-reviewed publications.

**Presentations**

The department has presented research data at 45 scientific and clinical meetings, of which 20 were national and 25 were international meetings: of these 20 were invited lectures.

**NEONATAL PAEDIATRICS**

**Main research areas**

Neonatal research is driven by knowledge of the problems that exist for newborn babies, before, during and after birth, including through the rest of their lives. The major issues confronting newborn babies involve their lungs and their brains. Broadly speaking we have three major research groups, the Respiratory Research Group, the Brain Research Group, and the Premature Infant Follow-up Programme. The last group collaborates with the other three level-III neonatal units, as well as the Newborn Emergency Transport Service and the Victorian Perinatal Data Collection Unit, is known collectively as the Victorian Infant Collaborative Study Group, and collects data and evaluates outcomes for the tiniest and most immature babies born in the state of Victoria. In addition, through collaboration with the Murdoch Children’s Research Institute we hope to identify some genetic and epigenetic factors which may predispose premature infants to both respiratory and brain injury, and we have also established a molecular genetic study of embryogenesis in mice in collaboration with the Walter and Eliza Hall Institute. The overlap between all the paediatric groups and their research is large.

The goal of our research is to reduce long-term health problems in newborn infants, whether they are born too early or very tiny, or whether they are born on time or of normal size at birth. We aim to improve the health of all babies, not just those born at the Women’s. Consequently we collaborate with many other researchers throughout Victoria, Australia and the world. We also follow the outcomes of some of our babies for many years, even into adulthood, so we can determine the extent of the problems they
may face in later life. We are guided by knowledge from animal and laboratory research, as well clinical research in pregnancy, the newborn period and later in life, in both childhood and early adulthood. The clinical research arises from numerous observational and epidemiological studies, clinical trials, and the synthesis of data from many different trials.

The respiratory group investigated the following areas in 2007:

> Recording how babies respond in the first minutes after birth in the delivery room – this includes not only healthy babies but also babies who may need help to breathe after birth with ventilators, including very tiny or preterm babies.

> Several large international trials of different treatments, including the following:

  > A comparison of two different techniques for supporting breathing after birth in very preterm babies from 25-28 weeks gestational age (15-12 weeks too early). This trial eventually enrolled 600 babies worldwide, and has led to a gentler form of assistance with breathing that will reduce lung injury in these very immature babies.

  > A trial of caffeine in very tiny babies (<1250g birthweight). This trial has enrolled 2,000 babies worldwide and results reported in 2007. We now know that caffeine not only reduces short-term problems with breathing and oxygen dependence, but also improves developmental outcomes of babies in early childhood. Consequently caffeine increased the number survivors free of developmental problems, and it is now routinely given to tiny babies who have or will have apnoea (pauses in breathing of very immature infants) in the first few weeks after birth.

  > A comparison of different oxygen levels in very preterm babies (<28 weeks gestational age). In conjunction with several similar trials around the world, there will eventually be over 5,000 babies involved in this study.

> Several other smaller trials involve different techniques of helping babies to breathe, including how best to do some of the technical procedures involved.

> Animal studies in sheep, including in the uterus, of the effects of breathing techniques on lung injury – these studies involve our collaborators in the Department of Physiology at Monash University.

> The brain research group investigated the following areas in 2007:

  > How specialised magnetic resonance imaging of the brain of very tiny or preterm babies can be used to predict long-term outcome.

  > A clinical trial of helping parents of very preterm babies understand their baby’s behaviour and development in the first year of life.

  > Understanding the causes of brain injury in very preterm babies.

  > Evaluation of newborn baby behaviour in the nursery, what causes abnormal behaviour, and how newborn behaviour leads to developmental problems in later life.

  > An evaluation of different hormone levels in very preterm babies in the first 6 weeks of life, how those levels affect brain growth and development, and how the hormones affect later development.

  > A multicentre international trial of cooling in babies who have suffered from a lack of oxygen around the time of birth.
The Premature Infant Follow-up Programme investigated the following areas in 2007:

> Continued to evaluate a cohort of 2-year old children who were born in 2005 in the state of Victoria with either birth weights <1000g or gestational ages <28 weeks. Their outcomes will be compared with similar cohorts born in the state in the late 1970s, middle 1980s, early 1990, and 1997.

> Participated in evaluating the outcomes for many perinatal and neonatal randomised controlled trials, the results several of whom were reported in 2007, including repeated courses of antenatal corticosteroids given to women who remained at risk of very preterm delivery, and a randomised trial of caffeine to treat apnoea (pauses in breathing of very immature infants). The primary reports of these trials appeared in the New England Journal of Medicine.

The molecular genetic study of embryogenesis conducted with the Molecular Medicine Division of the Walter and Eliza Hall Institute since 2005:

Within western countries congenital abnormalities are the second most common cause of neonatal death. Despite this the causes of these conditions are often not understood, significantly limiting both the precision of genetic counseling and the prospects for diagnosis before birth. Genetic studies are a very powerful investigative approach to understanding human diseases, including birth abnormalities. Given the similarity between the genetic material of the human and the mouse, the mouse has become the preeminent model for genetic tests to try to understand the causes of birth abnormalities. Recently, the Hilton, Alexander and Kile groups have used gene screens in mice to successfully develop a program of gene discovery for processes fundamental to the development of mammals in the uterus. Through this program we were able to identify the Erg transcription factor and show, in work published in Nature Immunology, that this gene had a distinct and essential role in the molecular regulation of blood formation.

Publications

Twenty six articles in peer-reviewed international journals, including renowned journals such as the New England Journal of Medicine, Nature Immunology, and the Lancet.

Postgraduate students

Dr Tony De Paoli, Dr Megan Probyn, Dr Colm O’Donnell, Dr Rod Hunt, Dr Naomi McCallion, Dr Omar Kamlin, Dr David Tingay, Dr Susan Jacobs, Jennifer Dawson, Dr Louise Owen, Dr Alicia Spittle, Dr Gehan Roberts, Dr Nisha Brown, Michelle Wilson-Ching, Carly Molloy, Eleanor Dea’th, Dr Erick Kan, Dr Anastasia Pellicano, Liz Westrup, Deanne Thompson.

Theses passed

Dr Nisha Brown. PhD. University of Melbourne. Very Preterm Infant Neurobehaviour at Term, Concurrent MRI and Two Year Development. Supervisors Prof Lex Doyle, A/Prof Terrie Inder.

Advanced medical science students

Lucy McBride, Melissa Vile, Laura Papillo, Eton Lim, Marianne Mok, Kate Robertson.

Collaborations

Prof Richard Harding, A/Prof Stuart Hooper and Dr Megan Wallace in the Physiology Department at Monash University; Prof Suzanne Garland, Microbiology Royal Women’s Hospital; Dr Barbara Schmidt, Neonatal Services, McMaster; Prof Doug Hilton and Dr Ben Kile, Molecular Medicine Division of the Walter and Eliza Hall Research Institute; A/Prof Peter Dargaville, Neonatal Unit, Hobart, Tasmania; Prof William Tarnow-Mordi, Westmead Hospital and the University of Sydney Clinical Trials Centre; Prof John Carlin, Dr Susan Donath and Dr Kate Lee, Clinical Biostatistics and Epidemiology Unit, Royal Children’s Hospital, Melbourne; Prof Luc Brion, Montefiore Medical Centre, New York, USA Prof Jean-Michel Hascoet, Regional Neonatal Centre, Nancy, France, A/Prof Terrie Inder and Prof Jeff Neil, Washington University, St Louis; Dr Simon Warfield, Harvard University, Boston.

Research staff

Respiratory research

Brenda Argus, A/Prof Peter Davis, Jennifer Dawson, Dr Omar Kamlin, Bernice Mills, Prof Colin Morley, Dr Liam O’Connell, Dr Colm O’Donnell, Dr Louise Owen, Dr Arjan Te Pas, Dr Kevin Wheeler, Connie Wong.
Brain research
Dr Peter Anderson, Dr Nisha Brown, Dr Noni Davis, Prof Lex Doyle, Dr Sue Jacobs, Dr Geoff Ford, Ms Kate Callanan, Cinzia de Luca, Dr Gahan Roberts, Dr Sheryle Rogerson, Dr Alicia Spittle

Premature Infant Follow-up Programme
Dr Peter Anderson, Dr Noni Davis, Prof Lex Doyle, Dr Julianne Duff, E Kelly, Dr Geoff Ford, Ms Kate Callanan, Cinzia de Luca, Dr Gahan Roberts

Molecular and Population Genetics
Dr Doug Hacking

PHARMACY
It is essential to have an enquiring mind when dealing with therapeutic agents to ensure we are following protocols and guidelines that are supported by evidence presented from good clinical research.

The Pharmacy Department is involved in all research where there is a therapeutic agent involved. Besides assisting investigators in their research projects, the other area of pharmacy research is to achieve a quality use of all medicines. This may be done by carrying out quality activities like performing audits and surveys to provide vital information of our local scene.

Vision for research
To lead the state and nation in the quality use of medicines in our specialty areas – maternity, gynaecology and care of the neonates.

Pharmacy involvement in research projects in 2007

- Proprems Study (use of PRObiotics to reduce the incidence of sepsis in PREMature infants)
- Fluconazole Study (oral fluconazole in breast/ nipple thrush)
- lessMAS study (exogenous surfactant in meconium aspirated syndrome)
- OVATURE study (OVArian TUmour REsponse)
- Phenoxodiol Study (phenoxodiol as a chemosensitising agent)
- CALYPSO (CAeLYx® in Platinum Sensitive Ovarian patients)
- TARCEVA – randomized multicentre phase III study of erlotinib in gynaecological cancers
- SCOTROC4 – Scottish randomized trial of carboplatin in gynaecological cancers
- ICON7 – randomised multicentre trial of adding bevacizumab to standard chemotherapy in ovarian cancer
- TRIPOD (TRial of IntraPeritoneal chemotherapy in Ovarian Disease)
- PROGRESS (PROGesterone after previous preterm birth for preventing neonatal RESpiratory distress Syndrome)
- TIPPS study (Thrombophilia In Pregnancy Prophylaxis Study)
- Review of prescription waiting times in pharmacy
- Review of prescription scanning process in pharmacy as an accuracy check
- Audit of restricted antimicrobials dispensed by pharmacy
- Audit the endorsement in patient medicine charts by clinical pharmacists
- Prescribing methotrexate in the medical management of ectopic pregnancy – an audit
- Survey mothers in maternity units on medicines usage
- Drug usage reviews on Mirena®, Implanon®, tramadol and tolterodine.

Drug usage audits are carried out for all new medicines added to the RWH formulary, high cost items and high risk items.

Outputs
Findings are presented locally in the clinical newsletter and at the annual conference organized by the Society of Hospital Pharmacists of Australia.
RESEARCHING PREGNANCY, BIRTH AND BEYOND

Main research areas
Pregnancy research at the Women’s encompasses a wide range of topics and subject areas. Pregnancy research has been subdivided into smaller more specific groupings to enable us to best present and describe our work, and to provide some reflection of how the various research teams work. At present these subgroups are:

- Pregnancy Research Centre (see separate report)
- Diabetes
- Multiple pregnancy
- Ultrasound
- Antenatal care
- Intrapartum care
- Postnatal care and breastfeeding

Our aim is that these groups reflect a multidisciplinary approach to researching a range of specific research areas. Some of these groups have well established research programs, whereas others are in their infancy, and there may be areas of pregnancy research that do not fit specifically into one category.

Researching maternity service provision, women’s views and breastfeeding
The Women’s is building a program of research exploring how we provide care for women attending here for pregnancy care. We are using a variety of approaches, including implementing and evaluating new models of care; conducting surveys and focus groups with women and engaging with staff about their views and ideas. There is also a focus on building research capacity among midwives, nurses and allied health clinicians, groups who have traditionally been less involved in actually undertaking research at the Women’s. We aim to ensure that how we provide care for women and babies is done in the best way, using up-to-date evidence. We also want to improve outcomes where we can, for example we aim to increase the percentage of women who initiate and continue breastfeeding, and we want to explore the best way to provide support for women during pregnancy, birth and the early postnatal period.

Current projects
Caseload midwifery trial
Investigators: Helen McLachlan, Della Forster, Mary-Ann Davey, Tanya Farrell, Prof Jeremy Oats, Ulla Waldenström, Lisa Gold, Judith Lumley. A randomised controlled trial comparing one to one midwifery with the other standard options of care. The trial is called COSMOS (‘COmparing Standard Maternity care with One on one midwifery Support’). We will recruit about 2,000 women to the trial in total. Funding: NHMRC Project Grant. Collaborations: Royal Women’s Hospital, La Trobe University. Status: 2007 – recruiting women to the study.

Exploring an alternative approach to early postnatal care
Investigators: Della Forster, Helen McLachlan, Jane Yelland, Joanne Rayner, Lisa Gold, Tanya Farrell, Tracey Savage
Demand for postnatal beds is high, and the Women’s is exploring alternative ways to care for women after they have had their baby. We are undertaking a pilot study where 100-200 women are recruited at 26 weeks gestation and offered the opportunity to go home earlier after the birth and receive increased numbers of domiciliary home visits at a time that is convenient to them. Funding: Department of Human Services and La Trobe University. Collaborations: Royal Women’s Hospital, La Trobe University, Murdoch Children’s Research Institute. Status: 2007 – recruiting women to the study.

Other projects
There are a number of projects related to breastfeeding that are commencing and being planned. We are exploring women’s attitudes to and experiences of breastfeeding for women who are above their ideal weight (Lisa Amir, Della Forster, Kate Stern, Rachael Ford). Another multisite study will look at breastfeeding outcomes for women who leave hospital feeding mainly expressed breast milk (as opposed to attaching and breastfeeding). The Women’s also collaborated with the Mercy Hospital for Women in a pilot study of antenatal milk expressing for women with diabetes/gestational diabetes and on insulin during pregnancy. This is a widespread practice with no evidence around efficacy or harm. Our aim is that the pilot leads to a randomised controlled trial.

Research funding
NHMRC project grant; DHS specific funding; La Trobe University small grants; Royal Women’s Hospital Foundation

Publications
Eight articles in peer-reviewed international journals
PREGNANCY RESEARCH CENTRE

The blueprint for a healthy life is largely determined by events which take place in the uterus before we are even born. The relationship between a mother and her baby is quite literally therefore a partnership for life.

The focus of the Pregnancy Research Centre is to better understand the causes of pregnancy disorders which compromise the health of mothers and their babies.

We are extremely fortunate to be able to undertake our work in a maternity hospital of the size of the Royal Women’s Hospital which cares for more than 6,000 pregnant women each year.

Many of these women have pregnancies troubled by complications such as miscarriage, pre-eclampsia, fetal growth restriction, gestational diabetes and preterm labour.

These common pregnancy complications create significant medical, emotional, social and economic costs within our community. Any decline in the incidence or severity of these pregnancy complications significantly reduces these costs.

The principal beneficiaries of the outcomes of the research we undertake are mothers and their babies.

Our work on human pregnancy and its disorders ranges from basic biomedical laboratory research through to clinical studies, treatment trials and public health initiatives.

Our mission is “to apply contemporary research techniques to the investigation of clinically important problems in maternal and fetal medicine and related fields, promulgate the findings of such investigations and to use such findings as the basis for evidence-based clinical practice”.

Laboratory projects

> Professor Shaun Brennecke collaborated with Dr Eric Moses and Dr John Blangero of the South West Foundation for Biomedical Research in San Antonio, Texas, USA on a NIH funded study searching for the genes responsible for pre-eclampsia. Dr Bill Kalionis, Dr Padma Murthi, Dr Neil Gude and Professor Shaun Brennecke explored the isolation, growth and characterisation of human placental stem cells with a view to establishing their clinical utility in the management of disorders of human health.

> Dr Joanne Said, Dr Padma Murthi and Professor Shaun Brennecke, in collaboration with Professor Paul Monagle and Dr Vera Ignjatovic of the University of Melbourne Department of Pathology, studied the role of placental coagulation factors in the pathogenesis of human pregnancy disorders such as fetal growth restriction and pre-eclampsia.

> Dr Penny Sheehan undertook studies into the metabolism of steroid hormones in pregnancy to discover how such hormones may contribute to the onset of labour (pre-term labour in particular) and various complications of pregnancy (especially in obese women).

> Dr Padma Murthi, Dr Bill Kalionis and Professor Shaun Brennecke investigated placental growth control genes at a molecular level. The studies will lead to a better understanding of how the growth of the placenta and therefore the fetus is controlled at the molecular level.

> Dr Neil Gude, Dr Bill Kalionis and Professor Shaun Brennecke employed proteomics methodology to identify placental protein ‘signatures’ characteristic of each of the major pregnancy complications (pre-eclampsia, fetal growth restriction, preterm labour and gestational diabetes). This work will help in the development of blood tests to predict and diagnose these pregnancy disorders.

Clinical projects

> Dr Joanne Said was invited to conduct the Thrombophilia in Pregnancy Prophylaxis Study (TIPPS) at the Women’s. The TIPPS study is an international, multicentred, randomised controlled trial in which pregnant women with a history of pregnancy complications or venous thromboembolism, and a known thrombophilia, will be randomly allocated to self inject low molecular weight heparin (Dalteparin) throughout their pregnancy to determine the safety and efficacy of this treatment in preventing venous thromboembolic events (VTE), pre-eclampsia, fetal growth restriction and miscarriage/stillbirth.

> Dr Penny Sheehan trialled the use of the new generation fetal fibronectin detection units to improve the management of women presenting to the Women’s with symptoms and signs of preterm labour. This study will set the scene for the cost-effective use of this technology in Australia.
> Dr Nicola Bryan, Dr Bill Kalionis and Professor Shaun Brennecke used clinical and laboratory techniques to study the regulation of fetal growth in twin pregnancies, especially those in which the growth of one twin is impaired compared to the other twin. This project will shed light on the reasons for this common complication of twin pregnancies.

> Dr Anne Poliness, Dr Martin Healey and Professor Shaun Brennecke in collaboration with Dr Eric Moses, used proteomic methods to investigate proteins in peritoneal fluid and endometrial washings of women with and without endometriosis. The aim of this study was to identify protein biomarkers of clinical use in screening and diagnosing women with endometriosis.

> Dr Joanne Said completed an investigation into the impact of thrombophilia disorders on human pregnancy outcomes. These findings will help identify those women with thrombophilia disorders who may benefit from specific anticoagulant treatment during pregnancy.

**Research funding**

Research funding has been provided from many different sources, including the Royal Women’s Hospital; the Royal Women’s Hospital Foundation; the University of Melbourne; Australian National Health and Medical Research Council; the National Institutes of Health (NICHD), USA; RANZCOG Research Foundation; Society of Reproductive Biology; Stem Cell Society; the Wenkart Foundation; Perpetual Trustees; Eirene Lucas Foundation; DHS/Victorian Quality Council

**Publications**

Thirteen articles in highly-ranked, peer-reviewed international journals, including The Cochrane Database of Systematic Reviews, Placenta, Anesthesia & Analgesia, Human Molecular Genetics, Federation of American Societies for Experimental Biology, British Journal of Clinical Pharmacology, and Molecular Human Reproduction

**PhD theses passed**

Dr Elizabeth Fitzpatrick
PhD University of Melbourne
“Identification of pre-eclampsia/eclampsia susceptibility gene(s) at the PREG1 locus on chromosome 2”

Supervisors: Dr Eric Moses, Dr Sue Forrest, Prof Shaun Brennecke

Dr Renu Shankar, PhD University of Melbourne
“Markers of spontaneous preterm labour”

Supervisors: Dr Eric Moses, Dr Tony Purcell, Prof Shaun Brennecke

**MD thesis passed**

Dr Anne Poliness
“Differentially expressed proteins in the peritoneal fluid and endometrial washings of women with and without endometriosis using proteomics”

Supervisors: Professor Shaun Brennecke, Dr Martin Healey, Dr Eric Moses

**Awards**

Gayathri Rajaraman
Australia and New Zealand Placental Research Association Young Investigator Award, for 1st Prize for best oral presentation, ESA / Society of Reproductive Biology Conference, 2-5 September 2007, Christchurch, NZ.

Natalie (nee Lovrek) Castrechini
Loke New Investigator Travel Award, 13th International Federation of Placenta Associations Conference, 17-21 August 2007, Kingston, Canada

Poster of Merit Award 13th International Federation of Placenta Associations Conference, 17-21 August 2007, Kingston, Canada

Bonnie Swan
Young Investigator Award, 21st International Society on Thrombosis and Haemostasis Congress, 6-12 July 2007, Geneva

**Translation of research into clinical practice**

Research undertaken by the staff of the PRC continues to guide clinical practice in areas such as preterm labour management (eg the use of fetal fibronectin testing and the use of tocolytic therapy), pre-eclampsia management (eg the role of low-dose aspirin therapy) and the care of pregnant women with thrombophilia disorders.
Pregnancy research centre staff
Prof Shaun Brennecke, Dr Bill Kallionis, Dr Neil Gude, A/Prof James King, Dr Christine East, Anthony Borg, May Grgrurinovic, Dr Padma Murthi, Dr Maria Kokkinos, Sue Nisbet, Sue Duggan, Dr Nicola Bryan, Dr Anne Poliness, Dr Joanne Said, Dr Penny Sheehan, Janet Stevenson, Jo Bruhn, Penny Ashley

Visiting researcher
Dr Haiying Liu, A/Prof, Department of Obstetrics and Gynaecology, Qilu Hospital of Shandong University, Shandong, People’s Republic of China

Postgraduate students
Amy Chui, Kimberley Crawford, Elizabeth Fitzpatrick, Natalie Lovrek, Jie Men, Cameron Nowell, Sarah Peek, Sharon Qin, Gayathri Rajaraman, Renu Shankar, Penelope Sheehan, Joanne Said, Anne Poliness, Nicola Bryan

Advanced medical science students
Aliya Azlan, Azni Abdul Wahab, Vivien Gu, Murnihayati Hassan, Bonnie Swan, Ruoxin Tsui, Melissa Chong, Fazlin Faisal, Vanisri Muniyandi, Charmaine Tay, Clara Yip

Collaborations
International
Prof Rigmor Austgulen, Faculty of Medicine, Institute of Cancer Research & Molecular Biology, Norwegian University of Science & Technology, Trondheim, Norway; Dr John Blangero, Dr Harald Göring, Dr Eric Moses and Dr Katy Freed, Southwest Foundation for Biomedical Research, San Antonio, Texas, U.S.A.; Professor Gernot Desoye, Clinic of Obstetrics and Gynaecology, University of Graz, Graz, Austria; Dr Jan Jaap Erwich, Department of Obstetrics & Gynaecology, University Hospital Groningen, Groningen, the Netherlands; Prof John Higgins, Head, Department of Obstetrics & Gynaecology, University College, Cork, Ireland; Dr Jeff Keelan, Liggins Institute, Auckland, New Zealand; Dr Martin Knofler, Medical University of Vienna, Vienna, Austria; Prof Borghild Roald, Faculty of Medicine, University of Oslo, Oslo, Norway; Prof Lloyd Ruddock, Biocenter Oulu and Department of Biochemistry, University of Oulu, Oulu, Finland; Prof Joe Ternwilliger, Columbia Genome Center & New York State Psychiatric Institute, Columbia University, New York, U.S.A.

National
Dr Kathy Andrews, Clinical Tropical Medicine, Queensland Institute of Medical Research, Brisbane; Prof Gordon Baker and Dr Martin Healey, Department of Obstetrics & Gynaecology, University of Melbourne, Royal Women’s Hospital; Prof James Best and Dr Suzanne Rogers, Department of Medicine, University of Melbourne, St Vincent’s Hospital, Melbourne; Assoc Prof Stephanie Brown, Murdoch Children’s Research Institute, RCH; Prof Paul Colditz and Dr Christine East, Perinatal Research Centre, Royal Women’s Hospital, Brisbane; Prof Des Cooper, School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney; Dr Kate Elliott, Autogen Pty Ltd, Melbourne; Dr Susan Forrest, Director, Australian Genome Research Facility, Melbourne; Prof Lyn Griffeths, Director, Genomics Research Centre, Griffith University, Gold Coast Campus, Brisbane; Assoc Prof Stan Gronthos and Assoc Prof Andrew Zannettino, Institute of Medical and Veterinary Science/Hanson Institute, Adelaide, South Australia; Dr Ursula Manuelpillai, Monash Institute of Medical Research, Melbourne; Prof Paul Monagle and Dr Vera Ignjatovic, Department of Pathology, University of Melbourne; Prof Roger Nation and Dr Craig Rayner, Department of Pharmacy Practice, Victorian College of Pharmacy, Monash University, Melbourne; Assoc Prof Helena Parkington and Dr Marianne Tare, Department of Physiology, Monash University, Melbourne; Dr Tony Perkins, Heart Foundation Research Centre, School of Health Science, Griffith University, Southport; Dr Claire Roberts, Department of Obstetrics and Gynaecology, University of Adelaide, Adelaide; Prof Roy Robins-Browne, Microbiology and Infectious Diseases, Murdoch Children’s Research Institute; Dr Simon G Royce, Genetic Epidemiology Unit, Department of Pathology, University of Melbourne;
RESEARCH FUNDING IN 2007
FUNDING FROM GOVERNMENT SOURCES
National Institutes of Health USA
Fraser IS, Weilberg E, Hickey M, O’Connor MV,
Palmer D, Salamonsen LA, Findlay JK. Menstrual
disturbances in women $273,000
Moses E, J Biangero, Brennecke S, Identification
of pre-eclampsia susceptibility genes $3,700,000
Metzger BE, Oats JIN, Trimble E, Hadden D,
Coustan D, Hod M, Dyer A. Hyperglycemia and adverse
pregnancy outcome $20,000,000
Mullholland E, Carapetis J, Russell R, Pryor J.
Garland SM (Associate Investigator). Appropriate
pneumococcal vaccination of infants in Fiji
$2,000,000

National Health and Medical Research
Council of Australia
Program grants
No. 394100. Harding R, Morley CJ, Hooper S,
Davis PG, Cole T. Novel strategies for improving
respiratory support and outcomes for very preterm
babies $8,050,000
No. 234418. Bruinsma F, Tan J, Quinn M, Lumley J.
Perinatal outcomes following treatment for cervical
dysplasia.
Metaformin and insulin in treatment of GDM. $81,500
No. 251632. Galea M, Sherburn M, Carey M,
Bird M. The effect of pelvic floor muscle training
for the management of incontinence in older women:
a single blind randomised trial $305,490
Randomised trial of preventative care at home for preterm
infants $621,000
No. 332202. Flenady V, King J. The Epidemiology of
Unexplained Fetal death in Australia $442,476
No. 339435. Spurdle A, Webb P, Purdie D, Obermaier
A, Quinn M. Molecular epidemiology of endometrial
cancer $1,452,000
No. 350326. Doyle LW, Haslam R, Hiller J. School-
age outcomes of very preterm infants and antenatal
magnesium sulphate therapy – a randomised
controlled trial $675,000
No. 436897. Meadows G, Judd F, Martin P,
Segalm Z, Piterman L. Effectiveness of mindfulness
based cognitive therapy for preventing depressive
relapse in subjects at very high risk $611,775
No. 353386. Tarnow-Mordi W, Morley CJ, Davis PG,
Doyle LW, Askie L. Which oxygen saturation should
we use for very premature infants? A randomised
controlled trial $2,200,000

Project grants
No. 203200. Jacobs S, Morley C, Inder T,
Doyle L, Stewart M, Gluckman P. Randomised
controlled trial of systemic hypothermia in asphyxiated
newborn infants $385,500
Metaformin and insulin in treatment of GDM. $81,500
No. 234418. Bruinsma F, Tan J, Quinn M, Lumley J.
Perinatal outcomes following treatment for cervical
dysplasia.
Metaformin and insulin in treatment of GDM. $81,500
Randomised trial of preventative care at home for preterm
infants $621,000
No. 332202. Flenady V, King J. The Epidemiology of
Unexplained Fetal death in Australia $442,476
No. 339435. Spurdle A, Webb P, Purdie D, Obermaier
A, Quinn M. Molecular epidemiology of endometrial
cancer $1,452,000
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age outcomes of very preterm infants and antenatal
magnesium sulphate therapy – a randomised
controlled trial $675,000
No. 436897. Meadows G, Judd F, Martin P,
Segalm Z, Piterman L. Effectiveness of mindfulness
based cognitive therapy for preventing depressive
relapse in subjects at very high risk $611,775
No. 353386. Tarnow-Mordi W, Morley CJ, Davis PG,
Doyle LW, Askie L. Which oxygen saturation should
we use for very premature infants? A randomised
controlled trial $2,200,000

No. 400069. Liu DY, Baker HWG. Male infertility and
defective sperm-oocyte interaction $239,700
No. 401267. Altken RJ, Baker HWG. Molecular basis
of defective sperm function $232,500
No. 433040. McLachlan H, Forster D, Davey M-A,
Lumley J, Farrell T, Oats J, Gold L, Waldenstroem U.
Caseload midwifery for women at low risk of medical
complications: a randomised controlled trial $583,125
No. 436013. Garland S, Condon J, Rumbold A,
Stankovitch J, Brown N. An epidemic of vulvar cancer
in young women; investigating the role of human
papillomavirus and genetic susceptibility $476,625
No. 453663. Crowther C, Doyle LW, Anderson
PD, Haslam R, Robinson J, Harding J. Early school
age outcomes after exposure to repeat prenatal
corticosteroids $1,023,590
No. 454413. Doyle LW, Anderson P J. Evaluating
neonatal intensive care for tiny babies in the 2000s –
is it still effective, efficient and available? $239,226
No. 454620. Garland SM, Tabrizi SN, Fairley
CK, Donovan BJ. Surveillance of LGV Chlamydia
tachomatis types among men who have sex with men
(MSM) $186,875
No. 454629. Garland SM, Tobin J, Pirotta M,
Jacobs S, Chatham E, Tabrizi SN, Morley C.
The use of Probiotics to reduce the incidence of sepsis
and necrotising enterocolitis (NEC) in premature
infants $773,625
No. 454644. Garland SM, Fairley CK,
Bradshaw S, Pirotta M. Treatment and prevention
of bacteria vaginosis: a randomised controlled trial
$255,425
No. 455935. P Colditz, SP Brennecke, C East, C Sullivan, S Crozier, S Wilson. Ambulatory fetal activity monitoring predicts clinical outcome $381,875

Enabling grant
No. 350326. Crowther C, Doyle LW, Flenady V, Roberts C, Lumley J. Interdisciplinary maternal perinatal action on clinical trials (IMPACT) Collaboration $2,000,000

Personal support
Davis PG
Practitioner Fellowship
Garland SM
Practitioner Fellowship
Hacking D
Health Professional Research Fellowship
Roberts G
PhD Scholarship
Spittle A
PhD Scholarship

OTHER GOVERNMENT GRANTS

Department of health and aging


Victorian centre of excellence in depression and related disorders
Murray G, Judd F. Automated longitudinal monitoring to predict and counter relapse in bipolar disorder: a pilot investigation of effectiveness. $46,000

FUNDING FROM INDUSTRY

BHP Billiton Community Program Grant. Rice G, Ahmed N, Quinn M. Development of an early screening test for ovarian cancer. $200,000

CSL and GlaxoSmithKline. Garland SM, Smith D, Condon J, Brotherton J, Tabrizi SN, McIntyre P. HPV genotype prevalence study in Australian women (indigenous, nonindigenous, rural, urban) WHINURS study (women, HPV prevalence, indigenous, nonindigenous, urban, rural study). $1,110,167


Dako CytoIoration – Denmark. Tabrizi S, Garland SM. Assessment of p161NK4a (p16) as a progression marker on Thinprep cytoprep samples of patient undergoing treatment for cervical intraepithelial neoplasia (CIN). $80,000

GlaxoSmithKline Australia Pty Ltd. Garland SM, Tan J. HPV 015 VIVIANE Study: A phase III, double-blind, randomised controlled study to evaluate the safety, immunogenicity and efficacy of GlaxoSmithKline Biological’s vaccine administered intramuscularly according to a 3-dose schedule in healthy adult female subjects aged 26. $595,127

GlaxoSmithKline Pharmaceuticals. Garland SM. Multicentre HPV vaccine clinical trial. A phase III double blind randomised controlled multicentre study to evaluate the efficacy of GSK Biological’s HPV-16/18 VLP/AS04 vaccine compared to hepatitis A vaccine as control in prevention of persistent HPV-16. $512,425.00

Grants in aid: CSL (Cwealth Serum Labs Victoria) and GSK (GlaxoSmithKline). Garland SM, Smith D, Condon J, Brotherton J, Tabrizi S, McIntyre P. HPV genotype prevalence study in Australian women (indigenous, nonindigenous, urban, rural) study (WHINURS). $1,110,167

Merk Sharp Dohme (MSD) Pharmaceuticals. Garland SM. Multi-centre HPV vaccine clinical trial: Immunogenicity and safety of quadrivalent HPV (Types 6, 11, 16, 18) L1 virus-like particle (VLP) vaccine in 16-23 year old women with an immunogenicity bridge between the HPV 16 components of the quadrivalent vaccine. $1,165,613.00


Roche Molecular Systems. Tabrizi S, Garland SM. Amplicor and LA assay tests; Evaluation of line blocks in HPV DNA detection. $18,600

Roche Molecular systems. Tabrizi S, Garland SM. 1500 Amplicor and 1700 LA assay tests. Retail kits HPV DNA genotype in patients with dysplasia and cervical cancer. $230,000

Roche Molecular Systems. Tabrizi S, Garland SM. Evaluation and comparison of HPV detection and typing system on Thinprep cytorep samples of patient undergoing treatment for cervical intraepithelial neoplasia (CIN). $250,000

Serono, Australia. Baker HWG, Liu DY, McBain JC. A controlled trial of ovulation stimulation with intrauterine insemination or in vitro fertilisation. $240,000


**OTHER RESEARCH GRANTS**

Australian Rotary Health Research Award. Rice G, Ahmed N, Quinn M. Early detection of ovarian cancer. $240,000

Angior Family Foundation. Garland SM, Tobin JM, Pirotta M. Jacobs S, Tabrizi SN. The use of probiotics to reduce infections in premature neonates. $60,000

Beyondblue. Baird D, Bryant C, Bagga H. An investigation into the effectiveness of CBT Group on anxiety and depression in a disease specific versus a generic chronic disease management model. $42,000

Bonnie Babes Foundation. Colditz PB, Brennecke SP, East CE. Sullivan CE, Wilson S. Ambulatory fetal activity monitoring predicts clinical outcomes. $20,000

British Union of Providential Associations. Healy DL, Halliday J, King J, Baker HWG. Analysis of perinatal outcomes for mothers and singleton babies after ART. $39,875

Brockoff Foundation. Morley CJ. Neonatal resuscitation equipment. $100,000

Campbell Edwards Trust Grant. Said J, Murthi P, Brennecke S. Identification and characterisation of placental coagulation markers in normal pregnancies and in pregnancies complicated by pre-eclampsia and fetal growth restriction. $25,000

Cancer Council of Victoria, Postgraduate Cancer Research Scholarship. Garland SM, Grover SR, Tabrizi SN, Jayasinghe Y. Title. $27,250

Cecilia Kilkeary. Kalionis B, Murthi P, Freed K, Gude N, Brennecke S. Human stem cells from the placenta; a non-controversial, plentiful source for progressing medical research and developing new medical therapies. $5,344

Clive & Vera Ramaciotti Foundation Major Equipment Grant. Brennecke S. Equipment grant. $25,000

Eirene Lucas Foundation Grant. Said J, Murthi P, Brennecke S. Identification and characterisation of placental coagulation markers in normal pregnancies and in pregnancies complicated by pre-eclampsia and fetal growth restriction. $9,000


Harold and Cora Brennen Benevolent Trust Grant (Equity Trust). Kalionis B, Gude N, Murthi P, Brennecke S. Human stem cells from the placenta and umbilical cord; a non-controversial, plentiful source for progressing medical research and developing new medical therapies. $19,974

Jack Brockhoff. Kalionis B, Murthi P, Gude N, Brennecke S. Human stem cells from the placenta and umbilical cord; a non-controversial, plentiful source for progressing medical research and developing new medical therapies. $59,000

Keith Fitzmaurice Bursary, RANZCOG/ Victorian Managed Insurance Authority. Sheehan P. Prevalence and risk factors for negative birth experiences and adverse mental health outcomes at the RWH. $25,000

La Trobe University Faculty Grant. McLachlan H, Forster D, Yelland J, Rayner J, Gold L. The feasibility and development of a patient preference package of postnatal care. $9,517

La Trobe University Faculty Grant. Amir L, Forster D, Rayner J, Stern K. Women’s attitudes to and experiences of breastfeeding – does normal weight make a difference. $31,772

La Trobe University Faculty Grant. Amir L, Pirotta M, Wong S, Daly J. Medicines and breastfeeding women: knowledge, attitudes and practices of GPs. $5,000

Laboratory and Communities Genetics. Rowlands S, Lewis S, McGillvray G, Halliday J. Follow-up of prenatal detection and management of fetal abnormality. $15,000

L.E.W. Carty Charitable Fund, Sheehan P. Obesity and its effect on pregnancy. $9,020

Marion & EH Flack. Murthi P, Kalionis G, Brennecke S. Understanding the molecular mechanism of fetal growth restriction; a pregnancy disorder that prevents a healthy start to life. $26,100

MCHR, La Trobe University. Yelland J, Forster D, McLachlan H, Rayner J, Gold L. The feasibility and development of a patient preference package of postnatal care. $25,000

MCHR, La Trobe University. Rayner J, Forster D, McLachlan H, Yelland J. A state-wide review of postnatal care in private hospitals in Victoria. $25,000

MCHR, La Trobe University. Forster D, McLachlan H, Davey MA, Amir L, Gold L, Rayner J. A feasibility study for telephone peer support in the early postnatal period to increase breastfeeding duration. $25,000

Murdoch Childrens Research Institute (MCSI) project grant. Rowlands S, Lewis S, McGillvray G, Halliday J. Follow-up of prenatal detection and management of fetal abnormality. $30,000

Murdoch Children’s Research Institute (MCR). Garland S. Title. $27,750

Ophthalmic Research Institute of Australia. Robman L, Guymr F, Garland SM, Tabrizi SN. Identification of chlamydia pneumoniae in macular tissue from the eyes affected by age-related macular degeneration. $31,550

Perpetual. Sheehan P. The effect of obesity on the endocrinology of pregnancy. $15,588

RANZCO Eye Foundation Grant. Garland SM, Tabrizi S, Guymr R, Taylor H. Chlamydia pneumoniae infection and age-related macular degeneration. $31,500


RANZCOG Brown Craig Travelling Fellowship. Said J. To attend the ISSHP conference in Portugal in 2006. $2,500

RANZCOG Glyn White Research Fellowship. Said J. Identification and characterisation of placental coagulation markers in normal pregnancies and in pregnancies complicated by pre-eclampsia and fetal growth restriction. $30,000

Royal Women’s Hospital Foundation. Bines J, Short R, Forster D, Yow M. Measuring the Somatic Cell Counts in Breast milk from Birth to Weaning. $50,000

Royal Women’s Hospital Foundation. Forster D, Findlay J. Building research capacity in midwifery, nursing and allied health. $50,000

Royal Women’s Hospital Foundation. Kalionis B, Murthi P, Gude N. Liquid Nitrogen Equipment. $5,000

Royal Women’s Hospital Foundation. Kalionis B, Murthi P, Gude N. Purchase of hypoxia/hyperoxia incubator. $5,000

Royal Women’s Hospital Foundation. Forster D, Findlay J. Building research capacity in midwifery, nursing and allied health. $50,000

Royal Women’s Hospital Foundation. Kalionis B, Murthi P, Gude N. Liquid Nitrogen Equipment. $5,000

Royal Women’s Hospital Foundation. Kalionis B, Murthi P, Gude N. Hypoxia Incubator Equipment Grant. $22,500

Royal Women’s Hospital Foundation. Garland SM, Tobin J, Pirolta M, Jacobs S, Chatham E, Tabrizi SN. Proprem – The use of probiotics to reduce the incidence of sepsis in premature infants. $50,000

Royal Women’s Hospital Foundation. Hardiman A, Shortland LL, Burgen G. Intellectual disability and unplanned pregnancy and abortion. $29,000

Royal Women’s Hospital Postgraduate Scholarship for PhD Research. Hardiman A. Models of service delivery to women experiencing unplanned/unwanted pregnancy and abortion. $11,000

Sunshine Foundation. Sheehan P. Fetal fibronectin. $2,500

Sunshine Foundation. Murthi P, Kalionis B, Gude N. Brennecke S. Understanding the molecular mechanism of fetal growth restriction; a pregnancy disorder that prevents a healthy start to life. $4,100

University of Melbourne, Melbourne Research Grant. Brennecke S, Kalionis B, King R. Pathogenesis of pre-eclampsia: effects of microparticle-derived proteins on microvascular endothelial cells. $23,834

University of Melbourne, Melbourne Research Grant. Murthi P, Kalionis B, Gude N. Brennecke S. The role of placental transcription factors in the pathogenesis of fetal growth restriction. $26,500

University of Melbourne, Melbourne Research Grant. Kalionis B, Murthi P, Gude N. Brennecke S. The role of microparticle-derived proteins in microvascular endothelial cells. $23,834

VQC Victorian Travelling Fellowship 2006-2008. Sheehan P. Distressing birth and its impact on mental health. $30,000

VQC Victorian Travelling Fellowship 2007-2008. Sheehan P. A study of postnatal review services in tertiary maternity centres. $30,000

World Health Organization. Garland SM, Tabrizi SN. Establishment of global HPV Lab Network Centre for surveillance/monitoring. US $20,000
Students in 2007

The Royal Women's Hospital Research Report 2008

40 students in 2007
POSTGRADUATE DEGREES

PhD

Alfia Al-Ghafra. Expression and regulation of adrenomedullin in human placenta and fetal membranes. University of Melbourne. Supervisors Prof Shaun Brennecke, Dr Neil Gude

Catriona Bradshaw. Randomised controlled trial of metronidazole treatment of asymptomatic bacterial vaginosis (BV) in non-pregnant women. University of Melbourne, Department of Public Health. Supervisors Prof Suzanne M Garland, Dr Sepehr Tabrizi

Phillis Chua. A longitudinal study of genotype and phenotype correlations in Huntington’s disease. University of Melbourne. Supervisor Prof Fiona Judd

Amy Chui. The role of homeobox gene DLX3 and DLX4 in human trophoblast cells. University of Melbourne. Supervisors Prof Shaun Brennecke, Dr Bill Kalionis, Dr Padma Murthi

Kimberley Crawford. Interactions between trophoblast-derived proteins and microvascular endothelial cells in the development of pre-eclampsia. University of Melbourne. Supervisor Prof Shaun Brennecke

Jenifer Dawson. Studies of pulse oximetry during neonatal resuscitation. University of Melbourne. Supervisors Prof Colin Morley, A/Prof Peter Davis

Mary-Ann Davey. Induction of labour. LaTrobe University. Co-supervisor A/Prof James King

Elizabeth Fitzpatrick. Identification of the pre-eclampsia/eclampsia susceptibility gene(s) at the PREG1 locus on Chromosome 2. University of Melbourne. Supervisor Prof Shaun Brennecke

Alice Forwood. Social networks in pregnancy and depression. University of Melbourne. Supervisor Prof Fiona Judd

Michelle Giles. Women, HIV and reproduction in Australia and the Asia Pacific Region. Monash University. Supervisor Prof Suzanne M Garland

Margaret Hefferman. What do women understand about human papillomavirus (HPV)? University of Melbourne, Department of Paediatrics. Supervisor Prof Suzanne M Garland

Jane Hocking. Prevalence of Genital Chlamydia using postal home-sampled urine test kits. Macfarlane Burnett Centre for Medical Research. Supervisor Prof Suzanne M Garland

Annarella Hardiman. Women’s views about services for unplanned / unwanted pregnancy and abortion — recommendations for best practice models of service delivery


Alex Holmes. Prevention of psychological disturbances in patients following major trauma too early. University of Melbourne. Supervisor Prof Fiona Judd

Rod Hunt. The relationship of the neuroendocrine axis to brain development in infants less than 30 weeks’ gestation. University of Melbourne. Supervisors Prof Lex W Doyle, A/Prof Terrie Inder

Yasmin Jayasinghe. Sexual abuse and human papillomavirus infection in children. University of Melbourne. Supervisors Prof Suzanne M Garland, Dr Sepehr Tabrizi

J J-C. Neonatal lung recruitment. University of Queensland. Supervisor Dr Chris East

Angela Komiti. Pre pregnancy counseling in diabetic women. University of Melbourne. Supervisor Prof Fiona Judd


Ratana Lim. Identification and characterisation of biomarkers involved with ovarian cancer progression. University of Melbourne. Supervisors Prof Greg Rice, Dr Nuzhat Ahmed, Prof Michael Quinn

Nicole Lister. Evaluation of Bacterial STI Acquisition by MSM in Melbourne: Implications for STI and HIV Control. University of Melbourne, Department of Public Health. Supervisors Prof Suzanne M Garland, Dr Sepehr Tabrizi

Natalie Loverek. Isolation and characterisation of placental stem cells. University of Melbourne. Supervisors Dr Bill Kalionis, Dr Padma Murthi, Prof Shaun Brennecke, Dr Neil Gude
Jie Men. Investigating biochemical differences between women with high BMI and normal BMI in pregnancy. University of Melbourne. Supervisors Prof Shaun Brennecke, Dr Penny Sheehan

Carly Molloy. Visual processing in very preterm children in adolescence. University of Melbourne. Supervisors Dr Peter Anderson, Prof Lex W Doyle

Cameron Nowell. Apoptosis in human fetal membranes: a critical cue for extracellular matrix proteolysis. Supervisors, Prof Shaun Brennecke

Colm O’Donnell. Studies of Neonatal Resuscitation. University of Melbourne. Supervisors Prof Colin Morley, Dr Peter Davis

Anastasia Pellicano. The effect of different pressure strategies on lung function during high frequency oscillatory ventilation (HFOV) in animal models of lung disease. University of Melbourne. Supervisor Prof Lex W Doyle

Pollard A. The effectiveness of a randomised controlled trial of a behavioural intervention to promote adoption of and adherence to health behaviours in breast cancer survivors. University of Melbourne. Supervisor Dr Christina Bryant

Wendy Pollock. Obstetric Admissions to ICU and HDU in Melbourne. University of Melbourne. Supervisor A/Prof James King

Gayathri Rajaraman. The role of homeobox gene HLX1 in human trophoblast cells. University of Melbourne. Supervisors Prof Shaun Brennecke, Dr Bill Kalionis, Dr Padma Murthi

Gehan Roberts. Bridging the gap: identification of academic vulnerability and intervention in the preschool period for very preterm children. University of Melbourne. Supervisor Prof Lex W Doyle

Joanne Said. Inherited thrombophilia and adverse pregnancy outcome. University of Melbourne. Supervisor Prof Shaun Brennecke

Renu Shankar. Markers of spontaneous labour. University of Melbourne. Supervisor Prof Shaun Brennecke

Penny Sheehan. The role of progesterone metabolites in human parturition. University of Melbourne. Supervisor Prof Shaun Brennecke

Kristy Shield. Characterisation of ovarian cancer spheroids: a model of cancer progression. Deakin University. Supervisors Dr Nuzhat Ahmed, A/Prof Leigh Ackland, Prof Greg Rice

Alicia Spittle. A randomised controlled trial of the effects of preventative care program at home for premature infants on motor outcome. University of Melbourne. Supervisor Prof Lex W Doyle

Tanya M Stewart. Sentinel surveillance on semen quality and time to pregnancy. University of Melbourne. Supervisor Prof HW Gordon Baker

Arjan te Pas. The breathing patterns of newly born babies. Supervisors Prof Colin Morley, A/Prof Peter Davis


Deanne Thompson. Understanding neurodevelopmental outcomes in preterm infants utilizing diffusion tensor MRI. University of Melbourne. Supervisor Prof Lex W Doyle


Lyn Watson. Early births: a case-control study of very preterm birth. LaTrobe University. Supervisor Dr Della Forster

Elizabeth Westrup. Adult psychiatric outcomes of very low birth weight survivors. University of Melbourne. Supervisors Dr Peter Anderson, Prof Lex W Doyle

Michelle Wilson-Ching. Attention in very preterm children in adolescence. University of Melbourne. Supervisors Dr Peter Anderson, Prof Lex W Doyle

MD

Nicola Bryan. The molecular basis of idiopathic growth restriction: the role of homeobox genes in the placentas of twins discordant for growth. University of Melbourne. Supervisors Prof Shaun Brennecke, Dr Bill Kalionis, Dr Padma Murthi

Anthony DePaoli. Studies of neonatal CPAP. University of Melbourne. Supervisor Prof Colin Morley

Susan Jacobs. Whole body hypothermia in severe perinatal asphyxia. University of Melbourne. Supervisors Prof Lex W Doyle, Prof Colin Morley

Naomi McCallion. Volume guarantee ventilation. University of Bristol. Supervisor Prof Colin Morley

Louise Owen. Nasal intermittent positive pressure ventilation. Supervisors Prof Colin Morley, A/Prof Peter Davis

Other postgraduate degrees
Jessica Collins, D Psych. The role of collective community factors in the promotion and prevention of youth suicide in Australian communities. University of Melbourne. Supervisor Prof Colin Morley

Dennis Mazalin, D Psych. Social phobia and the internet: an investigation into online usage, self reported effects, anxiety and cognitive factors. Monash University. Supervisor Prof Fiona Judd

Marcus Gabrielsen, joint thesis with Marie Nerhus. Placentation of expression of homeobox genes in extravillous trophoblasts in first trimester pregnancies. Faculty of Medicine University of Oslo, Norway. Supervisors Dr Bill Kalionis, Dr Padma Murthi

Barbara Lach, MA. Development of a scale to assess adolescents’ readiness for transfer from paediatric to adult services. University of Melbourne. Supervisor Dr Christina Bryant

Ana Torres, MA. Impact of gynaecological cancer on partners. University of Melbourne. Supervisor Dr Christina Bryant

Ana Torres, M Clin Psych. The influence of unmet needs and attachment styles on the perception of relationship satisfaction in gynaecological cancer patients and their partners. University of Melbourne. Supervisor Dr Lesley Stafford

Rebecca Collins, M Midwifery, PinC: A new way of supporting postnatal care. LaTrobe University. Supervisor Dr Della Forster

Tracey Savage, M Midwifery. A review of postnatal documentation in Victoria. LaTrobe University. Supervisor Dr Della Forster

Emily Ashby, M Physio. Effect of a postnatal exercise and education program “Mother & Baby Program” on risk of post natal depression. University of Melbourne. Supervisor Margaret Sherburn


Eleanor Dea’th, M Psych. Speech and language in very preterm children. University of Melbourne. Supervisors Dr Peter Anderson, Prof Lex W Doyle

Christine Lazzar, Master Public Health. Creating champions: a workshop evaluation. LaTrobe University. Supervisor Marg D’Arcy


Li, X. Postgraduate Diploma in Psych. Cross-cultural differences in students’ attitudes towards older adults. Supervisor Dr Christina Bryant

Adiseputro V, BA (Hons). Cross-cultural differences in students’ attitudes towards care arrangements for older adults. University of Melbourne. Supervisor Dr Christina Bryant


Post doctoral fellows
Niroshani Pathirage. The role of placental transcription factors in fetal growth restriction. Supervisor Dr Padma Murthi

Rishika Pace. Isolation and characterization of placental mesenchymal stem cells. Supervisors Dr Padma Murthi, Dr Bill Kalionis

UNDERGRADUATE DEGREES
BA (Hons)
Adiseputro, V. Cross-cultural differences in students’ attitudes towards care arrangements for older adults. University of Melbourne. Supervisor Dr Christina Bryant

BSc (Hons)
Sarah Peek. Identification and characterization of placental coagulation markers in uncomplicated pregnancies and in pregnancies complicated by fetal growth restriction. University of Melbourne. Supervisors Dr Jo Said, Prof Shaun Brenneck, Dr Padma Murthi, Dr Paul Monagle, Dr Vera Ignjatovic
Qin (Sharon) Qin. The functional role of the homeobox gene HLX in placental and chorionic decidual mesenchymal stem cells. University of Melbourne. Supervisors Dr Padma Murthi, Prof Shaun Brennecke, Dr Bill Kalionis, Dr Neil Gude

**B Med Sc**

Azni Abdulwahab. The effect of obesity on cortisol metabolism in adipose tissue in pregnancy. Supervisor Dr Penny Sheehan

Marlina Abrahman. Polycystic Ovarian Syndrome in a normal and overweight population is a risk factor for cardiovascular disease compared to weight matched controls. University of Melbourne. Supervisors Dr Rachael Knight, Dr Kate Stern

Aliya Azlan. The role of the PXR in human parturition. University of Melbourne. Supervisor Dr Penny Sheehan

Li Yen Chen. Satisfaction survey of the Breastfeeding Education and Support Services, Royal Women's Hospital, Melbourne. University of Melbourne. Supervisor Dr Lisa Amir

Melissa Chong. Pregnane X Receptor (PXR) in human parturition. Supervisor Dr Penny Sheehan

Michelle Colomiere. Epidermal growth factor induced epithelial mesenchymal transition in epithelial ovarian carcinoma cells. Deakin University. Supervisors Dr Nuzhat Ahmed and A/Prof Leigh Ackland.


Vivien Gu. Calreticulin expression in pregnancy and pre-eclampsia: its effects on microvascular cells. University of Melbourne. Supervisor Dr Neil Gude

Murnihayati Hassan. IGFBP1 and FSTL3 expression in human fetal growth restriction. University of Melbourne. Supervisors Dr Bill Kalionis, Dr Padma Murthi

Eton Lim. Cardiovascular health in very low birth weight subjects in early adulthood. University of Melbourne. Supervisor Prof Lex W Doyle

Lucy McBride. Lung function and respiratory health of very low birth weight survivors in early adulthood. University of Melbourne. Supervisor Prof Lex W Doyle

Marianne Mok. Lung function and respiratory health of very low birth weight survivors in early adulthood. University of Melbourne. Supervisor Prof Lex W Doyle

Aliya Murshida. Pregnane X Receptor (PXR) in human parturition. Supervisor Dr Penny Sheehan

Vanisri Muniyandi. Identification of down-stream target genes of homeobox gene HEX in placental microvascular endothelial cells. Supervisor Dr Padma Murthi

Laura Papillo. Self-esteem, self-perceived health status, and health-related quality of life in very low birth weight young adults. University of Melbourne. Supervisor Prof Lex W Doyle

Kate Robertson. Pneumothorax in very low birth weight infants. University of Melbourne. Supervisor Prof Lex W Doyle

Puti Adla Runisa. Comparison of various sugar-containing cryoprotective agents on human sperm motility recovery. Supervisor Dr Gary Clarke


Charmaine Enqi Tay. Level of expression of 3BHSD enzyme in human idiopathic fetal growth restriction. Supervisor Dr Padma Murthi

Ruo Xin Tsui. The 4G/5G polymorphism of the plasminogen activator -1 gene and adverse pregnancy outcomes. Supervisor Jo Said

Melissa Vile. Exercise testing in very low birth weight, premature survivors in early adulthood. University of Melbourne. Supervisor Prof Lex W Doyle

Azni Abdul Wahab. The effect of obesity on 11BetaHSD Type 1 expression in adipose tissue in pregnancy. University of Melbourne. Supervisor Dr Penny Sheehan


Clara Yip. Homeobox gene TGF expression in human idiopathic fetal growth restriction. Supervisor Dr Padma Murthi

**Other undergraduate degrees**

Lauren Astall, Bachelor of Social Work. University of Melbourne. Supervisor Brenda Burgen

Hannah Dodwell, MB BS. Audit of gynaecological patients’ analgesia. University of London attachment to Royal Women’s Hospital. Supervisor Dr Phillip Popham
PUBLICATIONS IN 2007
THESES PASSED

PhD

Dr Cynthia Holland. A comprehensive medical, emotional and psycho-social investigation of the impact of gynaecological malignancy on 79 women and their families, particularly patient dependent children. Department of Obstetrics and Gynaecology, University of Melbourne. Supervisor Prof Michael Quinn.

Alex Holmes. The prevention of psychological disturbances in patients following major trauma through early intervention. University of Melbourne. Supervisors Prof F Judd, Prof B Singh

Dr Rod Hunt. The relationship of the neuroendocrine axis to brain development in infants less than 30 weeks’ gestation. Department of Obstetrics and Gynaecology, University of Melbourne. Supervisors Prof Lex W Doyle, A/Prof Terrie Inder

Dr Colm O’Donnell. Studies of Neonatal Resuscitation. Department of Obstetrics and Gynaecology, University of Melbourne. Supervisors Prof Colin Morley, Dr Peter Davis

MD

Dr Anthony DePaoli. Studies of neonatal CPAP. Department of Obstetrics and Gynaecology, University of Melbourne. Supervisor Prof Colin Morley

Other

Adiseputro V. Cross-cultural differences in students’ attitudes towards care arrangements of older adults. Honours thesis, School of Behavioural Science, University of Melbourne. Supervisor Dr Christina Bryant

Lin X. Cross-cultural differences in students’ attitudes towards older adults. Postgraduate Diploma thesis, School of Behavioural Science, University of Melbourne. Supervisor Dr Christina Bryant

Dr Dennis Mazlin. Social phobia and the internet: An investigation into online usage, self-reported effects, anxiety and cognitive factors. D Psych. Monash University. Supervisors Prof F Judd, J Richards, K Jones, B Klein

REFEREEED INTERNATIONAL JOURNAL ARTICLES

Amir LH, Donath S. A systematic review of maternal obesity and breastfeeding intention, initiation and duration. BMC Pregnancy and Childbirth 7:9


Clucas L, Doyle LW, Dawson J, Donath S, Davis PG. Compliance with alarm limits for pulse oximetry in very preterm infants. Pediatrics. 119(6):1056-60. PMID: 17545370

Coley HM, Shotton CF, Kokkinos MI, Thomas H. The effects of the CDK inhibitor seliciclib alone or in combination with cisplatin in human uterine sarcoma cell lines. Gynecologic Oncology 105(2):462-9


Costa AM, Garland SM, Tabrizi SN. Evaluation of Light Cycler as a platform for nucleic acid sequence-based amplification (NASBA) in real-time detection of enteroviruses. Current Microbiology 56:1655-1662


Davis NM, Ford GW, Anderson PJ, Doyle LW. Developmental coordination disorder at 8 years of age in a regional cohort of extremely-low-birthweight or very preterm infants Developmental Medicine & Child Neurology 49:325-330


Duley L, Henderson-Smart DJ, Meheer S, King JF. Antiplatelet agents for preventing pre-eclampsia and its complications. Cochrane Database of Systematic Review 2: CD 004659


East CE, Chan FY, Colditz PB, Begg LM. Fetal pulse oximetry for fetal assessment in labour. Cochrane Database of Systematic Reviews Issue 2. Art. No.: CD004075. DOI: 10.1002/14651858.CD004075. pub3.(Substantive amendment)


Edgar DH, Gook DA. How should the clinical efficiency of oocyte cryopreservation be measured? Reproductive Biomedicine Online 14:430-435


Fisher J, Hammarberg K, Baker G, Antenatal mood and fetal attachment after assisted conception, Fertility and Sterility, 2007; doi: 10.1016/j.fertnstert.2007.05.22


Haddow LJ, Sullivan EA, Taylor J, Abel M, Cunningham AL, Tabrizi SN, Mindel A. Herpes simplex virus type 2 (HSV-2) infection in women attending antenatal clinics in Vanuatu. Sexually Transmitted Diseases 34:258-61


Jacobs S, Hunt R, Tarnow-Mordi W, Inder T, Davis PG. Cooling for newborns with hypoxic ischaemic encephalopathy. Cochrane Database of Systematic Reviews Issue 4, Art No.:CD003311.DOI: 10.1002/14651858.CD003311.pub2


Liu DY, Baker HWG. Human sperm bound to the zona pellucidae have normal nuclear chromatin as assessed by acridine orange fluorescence. Human Reproduction 22:1597-602


Murthy P, So M, Gude NM, Doherty VL, Brennecke SP, Kalionis B. Homeobox genes are differentially expressed in macrovascular human umbilical vein endothelial cells and microvascular placental endothelial cells. Placenta 28(2-3):219-23


Ohlsson A, Jacobs SE. Metaregression kan visa om fler NIDCAP-studier är motiverade [Metregression can indicate if further NIDCAP-studies are justified]. Läkartidningen 104:134-7


Rajaraman G, Murthy P, Leo B, Brennecke SP, Kalionis B. Homeobox gene HLX1 is a regulator of colony stimulating factor-1 dependent trophoblast cell proliferation. Placenta. 28(5-6):429-36


Stafford L, Berk M, Jackson H. Validity of the Hospital Anxiety and Depression Scale and Patient Health-Questionnaire-9 to screen for depression in patients with coronary artery disease. General Hospital Psychiatry 29:417-24


Stevens MP, Garland SM, Rudland E, Tan J, Quinn MA, Tabrizi SN. Comparison of the Digene Hybrid Capture 2 assay and Roche AMPLICOR and LINEAR ARRAY HPV tests in detecting high-risk HPV genotypes in women with previous abnormal Pap smear results. Journal of Clinical Microbiology 45(7):2130-7


REVIEW ARTICLES IN INTERNATIONAL JOURNALS


Chamley LW, Clarke GN. Antisperm antibodies and conception. Seminars in Immunopathology 29:169-84


Giles E, Doyle LW. Copper in extremely low birth weight (ELBW) or very preterm (<28 weeks) infants. Neoreviews 8:e159-e164

Giles E, Doyle LW. Zinc in extremely low birth weight (ELBW) or very preterm (<28 weeks) infants. Neoreviews 8:e165-e172


AUSTRALIAN REFEREED JOURNAL ARTICLES


Hodgins G, Judd F, Davis J, Fahey A. An integrated approach to GP mental health training: the importance of context. Australasian Psychiatry 15:52-57


James EL, Fraser C, Anderson K, Judd F. Use of research by the Australian Health Promotion Workforce. Health Education Research 22:561-570

Judd F, Jackson H, Komiti A, Murray G, Fraser C. Service utilisation by rural residents with mental health problems. Australasian Psychiatry 15:185-190


Pitts M, Dyson S, Rosenthal D, Garland SM. Knowledge and awareness of human papillomaviruses (HPV): attitudes towards HPV vaccination among a representative sample of women in Victoria, Australia. Sexual Health 24:177-180


REVIEW ARTICLES IN AUSTRALIAN REFEREED JOURNALS

NON-REFEREED AUSTRALIAN JOURNAL ARTICLES

Giles M, Tabrizi SN, Grabsch E, Friedman ND, Kotsanas D, Li H, Korman TM, Daley A. A Comparison of Three Molecular Typing Methods for Serratia Marcescens during an Outbreak across four Neonatal Intensive Care Units. Australian Infection Control 12:20-24

Sheehan P. Hyperemesis gravidarum — Assessment and management. Australian Family Physician 36(9):698-701

BOOK CHAPTERS

Baker HWG, Clarke GN, Liu DY, Stewart TM, Garrett C. Semen analysis and sperm function testing in Pathophysiology and treatment of male sexual and reproductive dysfunction. Pages 293-300

Baker HWG, Clarke GN. Management of immunological factors in male infertility in Pathophysiology and treatment of male sexual and reproductive dysfunction. Pages 419-430

Clarke GN, Baker HWG. Immunological evaluation in Pathophysiology and treatment of male sexual and reproductive dysfunction. Pages 271-283


Judd F. Mental Health Policy in Analysing Health Policy: a Problem Orientated Approach. Pages 225-239


Oats J. Pregnancy and Diabetes in Matt Cohen’s Handbook of Diabetes Management, 8th edition. Pages 139-149

REPORTS

Forster DA, Rayner S, McLachlan H, Rayner J, Yelland J, Gold L. Alternative approaches to early postnatal care: exploring women’s views. Mother and Child Health Research. La Trobe University, Melbourne. September


OTHER PUBLICATIONS

Amir LH. Medicines and breastfeeding: information is available on safe use (Letter). Medical Journal of Australia 186(9):485 (letter); correction published 186(11):606


Garland S, Koutsky LA, Human Papillomavirus Vaccine. NEJM 357:11 (letter to editor)

Hardiman A. Are we there yet? Working towards a vision of real choices, rights and access to reproductive rights for all women. Instinct (28) Sexual and Reproductive Health Edition, Royal Women’s Hospital, Melbourne

Hardiman A. Making Good — a service response to women dealing with unplanned pregnancy and abortion as a result of sexual assault. Women Against Violence (19), Centre Against Sexual Assault, Melbourne

Holland C, Edwards-Jensen C. Relieving Emotional Distress and Vulnerability for Gynae-Oncology Patients: A paper detailing the need for practitioners to attend to body image and self-esteem as key features of coping with gynae malignancy; Use of massage as a Key stakeholder in effective Multi-disciplinary treatment planning for symptomology (consultation with PMCI). WCMICS Report submissions in July and October
Holland C. Article summarising PhD thesis. Melbourne University Magazine April:15-6

Holland C. Evidence based Psycho-social practice in Gynae-Oncology; Combining Emotional Distress and Vulnerability Instruments for effective assessment in Gynae-Oncology (consultation with PMCI); Multi-site Psycho-emotional Care for Patients (planning/presentation shared casework and methodology between sites: PMCI/RWH Carlton). OSWA Interim Reports submitted to Executive Education sub-committee June, September and October 2007


Holland C. The Family Court continues to battle with adequate protection of children exposed to family violence and abuse. The ‘unacceptable risk’ test and its interaction with the newly enacted Family Law Amendment (Shared Parental Responsibility) Act 2006 provide the best way forward to finding a test that is reliably predictive. Post-graduate LLM Paper Monash University

INVITED INTERNATIONAL PRESENTATIONS

**A/Prof Gary Clarke**
Semen Analysis, co-author. Iran. 2007

**A/Prof Peter Davis**


Neonatal resuscitation - new insights. Northern Neonatal Forum, James Cook University Hospital, Middlesbrough, UK. October 2007

BPD - pathogenesis and management. Northern Neonatal Forum, James Cook University Hospital, Middlesbrough, UK. October 2007

Introduction to systematic reviews and meta-analysis. Calman Training Day, James Cook University Hospital, Middlesbrough, UK. October 2007

Caffeine for Apnea of Prematurity. Postgraduate Clinical Meeting, Nancy, France. October 2007


Hot topics in clinical research. 2nd Annual Neonatal Meeting, National Maternity Hospital, Dublin, Ireland. November 2007

How to read a clinical journal. Fifth National Pediatric Update, Kuwait. November 2007

How to design a clinical trial. Fifth National Pediatric Update, Kuwait. November 2007

Introduction to systematic reviews and meta-analysis. Paediatric Training Day, Dublin, Ireland. December 2007

**Prof Lex Doyle**

Neonatal intensive care for very tiny or preterm babies – is it worth it? Grand Rounds, Duke University, Durham, North Carolina, USA. March 21 2007


**Dr Christine East**

**Dr David Edgar**


**Prof Suzanne M Garland**

**Dr Debra Gook**

**Prof James King**
Performance Indicators in Obstetrics. National Maternity Hospital, Dublin, Ireland. April 2007

Postnatal corticosteroids – is there a baby who might benefit? Wake Forest University, Winston-Salem, North Carolina, USA. March 21 2007

Neonatal intensive care for very tiny or preterm babies – is it worth it? Wake Forest University, Winston-Salem, North Carolina, USA. March 21 2007

Outcomes into adulthood of ELBW infants – respiratory function, blood pressure, growth. Wake Forest University, Winston-Salem, North Carolina, USA. March 21 2007

Neonatal intensive care for very tiny or preterm babies – is it worth it? Grand Rounds, University of North Carolina, Chapel Hill, North Carolina, USA. March 22 2007

Neonatal intensive care for very tiny or preterm babies – is it worth it? Neonatal Rounds, Duke University, Durham, North Carolina, USA. March 23 2007


Plenary lecture: Long-term outcomes of very tiny or preterm infants. World Congress of Perinatal Medicine, Florence, Italy. September 2007
Dr De Yi Liu
Application of sperm function tests in clinical ART.
The 9th Chongqing ART Workshop, Chongqing, China, 19-21.

Prof Colin Morley
Respiratory management of preterm infants at birth.
Lung Club lecture, Society for Pediatric Research.
Toronto, Canada. May 2007
Go with the flow. Rainbow Babies Hospital. Cleveland, Ohio, USA. May 2007
The COIN trial. Rainbow Babies Hospital. Cleveland, Ohio, USA. May 2007
Lectures to the IPOKRATES symposium on Resuscitation and respiratory Assistance. Bangalore, India. November 2007:
> Respiratory management of the preterm infant during resuscitation.
> CPAP the best form of respiratory support for very premature to mature infants.
> Pros and Cons of using oximetry during resuscitation.
> Practical Aspects of resuscitation.
> Volume guarantee ventilation.
> Predicting successful extubation of very preterm infants.
> The ICE trial.
> Pulmonary graphics monitoring.

Prof Jeremy Oats

Dr Padma Murthi

Prof Michael Quinn

Dr Sepehr Tabrizi
Human papillomavirus genotype prevalence in women diagnosed with cervical intraepithelial neoplasia. Eurogin 2007, Monte Carlo, Monaco

Dr Leanda Wilton
Detection of aneuploidy in preimplantation embryos using comparative genomic hybridisation (CGH). 1st International Symposium on Genetics and Assisted Reproduction, Athens, Greece
INVITED AUSTRALIAN PRESENTATIONS

Prof Shaun Brennecke
Searching for maternal genes which predispose to pre-eclampsia. RANZCOG Annual Scientific Meeting. Gold Coast, Queensland. October 2007

A/Prof Peter Davis


What have we learned from videos and physiological recordings? Spark of Life, Australian Resuscitation Council Annual Meeting. Gold Coast, QLD. April 2007

Prof Lex Doyle

Dr Christine East
Intrapartum fetal oxygen saturation (The FOREMOST Trial). RANZCOG Annual Scientific Meeting. Gold Coast, QLD. October 2007

Della Forster
Postnatal care: how can we make a difference? Nepean Midwives Annual Conference. March 2007

Selecting the research design to suit your question. School of Nursing and Midwifery, La Trobe University, Melbourne. June 2007

Postnatal care – how can we make a difference? Mother and Child Health Seminar Series. La Trobe University, Melbourne. June 2007


Prof Suzanne M Garland

Sexually transmitted infections (STIs) and pregnancy. Australasian Sexual Health Conference. Gold Coast, Queensland. 8-10 October 2007

Dr Debra Gook

Fertility Society of Australia Annual Scientific Meeting. Hobart, Tasmania. September 2007

> Human oocyte cryopreservation: a comparison of slow freezing and vitrification.

> Follicular survival following cryopreservation and grafting.

> The science of oocyte cryopreservation.

> Cryopreservation of gametes.

Dr Annarella Hardiman
Having a chat or hijacking rights and respect – counselling options for unplanned pregnancy Conference: “Abortion in Victoria – Where are we now? Where do we want to go?” co-hosted by KCWHS University of Melbourne, Women’s Health Victoria, Royal Women’s Hospital and Family Planning Victoria. November 2007

Dr Cynthia Holland

Prof Colin Morley

CPAP or intubation during resuscitation. Spark of Life, Australia Resuscitation Council biannual meeting. April 2007


Dr Padma Murthi
Healthy start to life. The Royal Women’s Hospital Health Conference. Melbourne, VIC. March 2007
Prof Jeremy Oats
Grand Round – HAPO Outcomes. Mater Mothers’ Hospital, Brisbane. 10 August 2007
Plenary Lecture – The HAPO findings. ADIPS/ADS. Christchurch, NZ. 6 September 2007
HAPO Outcomes. RANZCOG ASM. Gold Coast, QLD. 3 October 2007
Translating the HAPO findings. SOMANZ. Sydney, NSW. 17 November 2007

Prof Michael Quinn
Confrontation, Confusion and Challenges In Oncosexology – A Practical Workshop For Clinicians And Sex Therapists. 18th World Congress of WAS, the 1st World Congress of Sexual Health. Sydney, NSW. 15 April 2007

Dr Jo Said
Thrombophilia disorders and pregnancy outcomes. The Royal Women’s Hospital Health Conference. Melbourne, VIC. 31 March 2007

Dr Kate Stern
Protection of the Ovary from Damage During Cancer Therapy. Serono Symposia International: Progress of Fertility Protection in Malignant Disease.

Ms Bonnie Swan (medical student)
The expression of decorin in human idiopathic fetal growth restriction. XXlst International Society on Thrombosis and Haemostasis Congress, 6-12 July 2007, Geneva

Dr Sepehr Tabrizi
HPV DNA-what are the latest tests available? Asia Oceanic Research Organisation on Genital Infections and Neoplasia (AOGIN) Conference, Melbourne. June 23 2007
HPV testing in detection of HR-HPV genotypes in women with previous abnormal Pap smears. ASM Clinical Serology and Molecular Special Interest Group, Sydney. May 22 2007
Laboratory contribution to control of Chlamydia. Australasian Sexual Health Conference. Gold Coast October 2007

Dr Leeanda Wilton
Diagnosis of genetic abnormalities in early human embryos. 11th Annual Congress of Perinatal Society of Australia and New Zealand, Melbourne, Australia.
Preimplantation Genetic Diagnosis, Royal Women’s Hospital Health Conference, Melbourne, Australia
Chromosomal status of early human embryos. 7th Preimplantation Genetic Diagnosis International Society Conference Melbourne, Australia.
OTHER INTERNATIONAL PRESENTATIONS

Dr Christina Bryant
International Psychogeriatric Association Congress, Osaka, Japan

Dr Christine East

Dr David Edgar

Impact of blastomere lysis on sibling blastomere cleavage in frozen/thawed embryos; Fertilisation and development of in-vitro matured metaphase I oocytes; Prevalence and significance of mononucleated blastomeres in human 4 cell embryos on day 2 of development; Comparison of slow freezing and vitrification of human oocytes. Fertility Society of Australia, Annual Scientific Meeting. Hobart, TAS. September 2007

Prof Suzanne M Garland
Phase 3 clinical trials of HPV vaccine; Vulvar/vaginal cancer and penile/anal cancer; Future indications for prophylactic HPV vaccines. Pre-interim AOGIN Meeting, Korea. May 2007


Absence of a Chlamydia trachomatis variant, harbouring a deletion in the cryptic plasmid, among clients of a STI clinic in Melbourne Australia. 17th International Society for Sexually Transmitted Diseases Research, Seattle, USA. July 2007


Methods for HPV detection: HPV DNA testing; PCR methods; Efficacy of quadrivalent (TYPES 6, 11, 16, 18) L1 VLP vaccine against external genital disease: FUTURE 1 analysis; Immunogenicity and safety of HPV Prophylactic Vaccines in Clinical Practice. EUROGIN 7th International Multidisciplinary Congress, Monte-Carlo, Monaco. October 2007

HPV presentations. 24th International Papillomavirus Conference and Clinical Workshop, Beijing, China. November 2007

Cervical cancer: treatment to prevention with the quadrivalent [GARDASIL] vaccine. Local launch symposium for GARDASIL, Manila & Cebu City, Philippines.

Dr Neil Gude
38th Annual Scientific Meeting. Society for Reproductive Biology. Christchurch, NZ. September 2007

Dr Bill Kalionis
Presentations in Kingston, Ontario, Canada. August 2007:

> Downstream targets of homebox gene HLX are significantly altered in idiopathic human fetal growth restriction;
> STAT3 Expression is decreased in human fetal growth restriction and preeclampsia;
> Mesenchymal stem cells from term human choriodecidua: Characterisation and in vivo niche;
> Expression is decreased in human fetal growth restriction and preeclampsia;
> Mesenchymal stem cell populations differ in human term and fetal growth restriction-affected placentae.
Homeobox gene HLX1 is a Mediator of Hepatocyte Growth Factor – Stimulated Trophoblast Migration. ESA/SRB Combined Meeting. Christchurch, NZ. September 2007

HEX expression is increased in human fetal growth restriction. ESA/SRB Combined Meeting. Christchurch, NZ. September 2007

**A/Prof James King**


**Dr Annarella Hardiman**


**Prof Colin Morley**


How Accurate Is Pulse Oximetry in Measuring the Heart Rate (HR) of Newly Born Infants? Society for Pediatric Research. Toronto, Canada. May 2007


Nasal CPAP or ventilation for very preterm infants at birth. 15th European Workshop on Neonatology. France. September 2007

**Dr Sepehr Tabrizi**

Absence of a Chlamydia trachomatis variant, harbouring a deletion in the cryptic plasmid, among clients of a STI clinic in Melbourne Australia. 17th International Society for Sexually Transmitted Diseases Research. Seattle, USA. July-August 2007


> HPV genotype prevalence and distribution among a cohort of women previously diagnosed with abnormal Pap smears in Melbourne, Australia.

> Evaluation of p16INK4a immunostaining as a surrogate biomarker for the detection of high-grade cellular changes, in a series of cervical cytology specimens.

> Will HPV vaccination prevent cervical cancer and related disease in Indigenous & non-Indigenous Australian women?
OTHER AUSTRALIAN PRESENTATIONS

Dr Christina Bryant

Dr Gary Clarke

Dr Christine East
Local cooling for relieving pain from perineal trauma during childbirth: A systematic review. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007

Dr Della Forster
What interventions help increase the proportion of women commencing and continuing breastfeeding: results of a systematic review and meta-analysis. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007

Prof Suzanne M Garland
The natural history of HPV – your questions answered. Women’s Health Seminar. Sydney, Australia. 2007
Bacterial vaginosis and Microbiology of the female genital tract. ANZVS. Sydney, NSW. March 2007
Natural history and Immunology of HPV and vaccination. ANZGOG. Noosa, QLD. March 2007
HPV Vaccine. Women in Engineering, Melbourne, VIC. 2007
Sexually transmitted infections in immunocompromised host. Viruses in May. Blue Mountains, NSW. May 2007
HPV infection, disease and HPV vaccine; future vaccine programme implementation challenges. RACP Congress. Melbourne, VIC. May 2007
Primary Prevention of Cervical Cancer and beyond with bivalent and quadrivalent Human Papillomavirus (HPV) vaccines; Cervical Cancer: can it be beaten? AOGIN Australia Clinical Symposium. Melbourne, VIC. June 2007
Presentations at Australasian Sexual Health Conference. Gold Coast, QLD. October 2007:
> Sexually transmitted infections (STIs) and pregnancy
> Patterns Of Treatment And Resource Utilisation In The Treatment Of Genital Warts In Australian Sexual Health Clinics
> The Australian Women’s Health Survey: Assessing The Psychosocial Burden of HPV Related Illness and Preventive Interventions
> High Efficacy Of an HPV-16/18 L1 Virus-Like Particle (VLP) Vaccine Adjuvant With Aso4 Against Cin2+:Caused By HPV 16/18 Infection In A Broad Population Of Young Women
> Chlamydia Screening of Antenatal Women In Melbourne Between 16-25 Years
> Genital warts and associated health care use in general practice in Australia
> Why not already? Young antenates’ views of chlamydia screening as part of routine care

Dr Cynthia Holland
Children as Young Carers; Staying in Touch through the experience of Gynae Malignancy. Victorian Oncology Social Workers Group. Victoria. April 2007

Dr Bill Kalionis
Localisation and characterisation of human mesenchymal stem cells from the first trimester and term placenta. ISSCR. Cairns, QLD. June 2007

A/Prof James King

Prof Colin Morley
A Randomised Controlled Trial of Nasal CPAP or Intubation and Ventilation for Very Preterm Infants at Birth: The COIN Trial. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007


In-Utero Ventilation Studying the Timeline of Injury. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007


How Accurate is Pulse Oximetry in Measuring the Heart Rate of Newly Born Infants? PSANZ 11th Annual Congress. Melbourne, VIC. April 2007


Parental Expenses in Neonatal Care. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007

The Effect of Mechanical Ventilation on Alveolar Epithelial Cells and Global Lung Injury in Near Term and Very Preterm Sheep. PSANZ 11th Annual Congress. Melbourne, VIC. April 2007


Louise Peters
The use of folic acid and other vitamins before and during pregnancy in a group of women in Melbourne, Australia. Australian College of Midwives, 15th National Conference. Canberra, ACT. September 2007

Tracey Savage

Dr Sepehr Tabrizi
Australasian Sexual Health Conference. October 2007

> Why not already? Young antenates’ views of Chlamydia screening as part of routine care
> Chlamydia screening of antenatal women in Melbourne between 16-25 years