

# Women's and Newborn Services

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**Tami Photinos**  
A/Executive Director  
Women's and Newborn Services

Women's and Newborn Services (WNS) offer a wide and diverse range of healthcare services to women and their babies across Queensland and beyond. The Service Line is dedicated to quality multidisciplinary healthcare which is dynamically reflected in the newly developed mission and purpose statements. WNS mission statement is: 'To hold paramount the women, babies and families within our care' followed by the purpose statement: 'To be a leader and centre of excellence in women's and newborn healthcare through collaborative patient centred care, teaching, research, partnerships and innovation'.

WNS continues to maintain an active interest in research and quality activities as well as the provision of multiple education programs for undergraduate and postgraduate health service professionals. To that end we maintain a strong connection with local universities including UQ, QUT, James Cook University and Central Queensland University and the Royal Australian and New Zealand College of Obstetrics and Gynaecology (RANZCOG).

Some major highlights from the departments in Women's and Newborn Services include:

## *Perinatal Research Centre (PRC)*

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There were two NHMRC grants which commenced in 2015. Professor Paul Colditz leads a team with a \$1.65 million grant over 5 years that represents a new collaboration with Monash University to predict neurodevelopmental disability

in babies born very preterm, earlier and more accurately than currently possible, by identifying structural and functional brain connectivity features that correlate with clinical measures of motor and neurodevelopmental function. This will lay the groundwork for new interventions to prevent or effectively treat brain injury. Dr Tracey Bjorkman leads a new NHMRC project to evaluate a novel therapy for neuroprotection in the brain injured baby. The Lion's Medical Research Foundation's support of Dr Tracey Bjorkman has allowed her to undertake and advance this vital research and to attract significant additional funding.

## *Queensland Centre for Gynaecological Cancer (QCGC)*

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In 2015 we began recruiting for the ECHO Trial which examines the benefits of exercise during chemotherapy for ovarian cancer. This study is collaboration between QUT, NHMRC Clinical Trials Centre and QCGC Research. In addition QCGC, in collaboration with the Department of Nuclear Medicine, began the IMAGE Trial which is investigating the impact of gated PET/CT on the diagnosis of distant metastases in advanced ovarian cancer. The feMMe trial, which allows a large number of women to have effective treatment of their endometrial cancer without the need for major surgery and its implications, expanded in 2015 with further sites beginning recruitment.

## *Grantley Stable Neonatal Unit (GSNU)*

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RBWH is the only public hospital in Queensland with a Pasteurised Donor Human Milk Bank. It is also home to NeoRESQ (Neonatal Retrieval Service for South East Queensland). All of the above has driven our research and for the first time, milk bank research has increased within the unit due to collaboration with UQ. GSNU continues to collaborate with the Perinatal Research Centre in clinical trials.

## *Obstetric Medicine*

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In 2015, Professor Leonie Callaway led a NHMRC funded randomised controlled trial from RBWH – the SPRING study of probiotics for the prevention of GDM. We also collaborated on the BLT (breathing for life trial) of asthma management in pregnancy, a multicentre Australian trial led by Newcastle University. Other grants included > \$160,000 in project grant funding addressing maternal metabolism, and the microbiome.

Finally I would like to thank the dedicated staff of Women's and Newborn Services who have contributed to these remarkable research outcomes and hope we can all share the achievements highlighted in this report. Many of our patients might not be aware of this fantastic work when it comes to research and quality activities as what's important to them is the care they receive here and now. I'm sure if we had the opportunity to update them with our achievements they would be particularly proud and impressed.

## Perinatal Research Centre

The Perinatal Research Centre (PRC), under the direction of Professor Paul Colditz, is committed to improving health for mothers and babies through world class biomedical and clinical research. Our multidisciplinary research team, consisting of clinicians, scientists, allied health professionals and engineers, aims to discover and translate research advances into clinical practice and better health outcomes for mothers and babies. Research within the PRC covers several related areas including seizure prevention and neuroprotection led by Dr Tracey Bjorkman, systems physiology led by Dr Barbara Lingwood and Dr Yvonne Eiby, signal processing led by Prof Boualem Boashash and clinical trials involving the RBWH.

With the support of our national and international collaborators we achieved much towards our goals in 2015. As mentioned there were two NHMRC grants which commenced in 2015. Professor Paul Colditz leads a team with a \$1.65 million grant over 5 years that represents a new collaboration with Monash University to predict neurodevelopmental disability in babies born very preterm, earlier and more accurately than currently possible, by identifying structural and functional brain connectivity features that correlate with clinical measures of motor and neurodevelopmental function. This will lay the groundwork for new interventions to prevent or effectively treat brain injury. Dr Tracey Bjorkman leads a new NHMRC project to evaluate a novel therapy for neuroprotection in the brain injured baby. The Lion's Medical Research Foundation's support of Dr Tracey Bjorkman has allowed her to undertake and advance this vital research and to attract significant additional funding.

Several NHMRC supported multicentre clinical trials of international importance are also underway. One, the NEST (neonatal electrographic seizure trial) trial, with Prof Colditz a Chief Investigator, will establish the best way to manage seizures in newborn babies after they have suffered a shortage of oxygen to the brain in labour. Another led by Prof Colditz, the Prem Baby Triple P Parenting Study will determine whether this parenting intervention improves outcomes for preterm babies and their families. Other ongoing clinical trials which utilise state-of-the-art methods and techniques include predicting motor outcomes in preterm babies using MRI, establishing the effects of massage in very preterm babies, optimising adaptation of the cardiovascular system to extrauterine life in the very preterm baby, and determining the effects of different feeding regimens on development in preterm babies.

In collaboration with Professor Boashash, we were awarded over \$1.5 million in 2014 by the Qatar National Research Fund for two projects to improve EEG analysis and explore data fusion between MRI and EEG to understand how structure and function underpin normal and abnormal brain development in preterm babies.

We receive great community support and this year again the Hardcourts Butterfly Ball, organised by the RBWH Foundation and held at the Hilton, was a great success. We would like to thank RBWH Auxiliary, RBWH Foundation, LMR Foundation and the many members of the public for their generous support which has been vital to underpinning improved outcomes for mothers and babies through research.

### Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Abdul Awal	PhD, UQ (2013–2016)	Classification and localization of neonatal EEG abnormalities using time-frequency image processing based neural network and support vector machine	<b>Paul Colditz</b> , Boualem Boashash
Rebecca Caesar	PhD, UQ (2012–2016)	Early predictors for neurodevelopmental outcome and prioritisation of service delivery for at risk premature infants	Roslyn Boyd, <b>Paul Colditz</b>
Nada Al-Theyab	PhD, UQ (2012–2016)	Preterm infant body composition	Barbara Lingwood, <b>Timothy Donovan</b> , <b>Paul Colditz</b>
Tracey Evans	PhD Awarded (2015)	Improving mother and child attachment patterns following preterm birth: An RCT of Prem Triple-P	Koa Whittingham, Roslyn Boyd, Matthew Sanders, <b>Paul Colditz</b>
Matthew Fielder	MPhil, UQ (2014–2016)	Novel therapies for seizures following hypoxic-ischaemic injury in neonates	Stella Tracey Bjorkman, <b>Paul Colditz</b>
Elizabeth Forbes	MPhil, UQ (2013–2016)	Changes in cardiac structure and biochemistry during transition to extra uterine life in preterm and term piglets	Yvonne Eiby, Barbara Lingwood, Karen Moritz
Joanne George	PhD, UQ (2012–2016)	Prediction of motor outcomes based on early brain structure	Roslyn Boyd, <b>Paul Colditz</b> , Stephen Rose
Kate Goasdoue	PhD, UQ (2015–2018)	A novel therapy for neonatal seizures	Stella Tracey Bjorkman, Julie Wixey

## Perinatal Research Centre *(cont)*

### Supervised Post-graduate Research Students *(cont)*

Name	Current Studies University <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
Michael Herd	PhD Awarded 2015	Efficacy of Prem Triple P as an intervention to support families of very preterm infants	Koa Whittingham, Roslyn Boyd, Matthew Sanders, <b>Paul Colditz</b>
Luke Jardine	PhD, UQ (2015 – 2018)	Development of early predictors of long term neurodevelopmental outcome for preterm infants	<b>Paul Colditz</b> , Mark Davies
Ji Yeon Kim	PhD, UQ (2015 – 2018)	Understanding how remote application of near infrared light induces neuroprotection	<b>Paul Colditz</b> , Jonathon Stone
Kartik Iyer	PhD Awarded 2015	EEG Signatures of recovery from post-natal hypoxia	Michael Breakspear, Sampsa Vanhatalo, <b>Simon Finnigan</b>
Annice Kong	PhD, UQ (2014 – 2017)	The relationship between brain structure assessed using diffusion MRI and function assessed using dense array EEG of very preterm infants and the ability to predict neurodevelopmental outcomes	<b>Paul Colditz</b> , <b>Simon Finnigan</b> , Roslyn Boyd, Stephen Rose
Melissa Lai	PhD, UQ (2015 – 2018)	Environmental manipulation of the very preterm infant: Can dense array EEG detect developmental differences at term equivalent age	<b>Paul Colditz</b> , <b>Simon Finnigan</b> , Jurgen Frupp
Norman Ma	MPhi, UQ (2011 – 2016)	Brain injury severity in a neonatal model of hypoxic ischemia following potential neuroprotective interventions	Stella Tracey Bjorkman, Craig Winter, <b>Paul Colditz</b>
James Morong	MPhil, UQ (2015 – 2017)	A comparative study of in-hospital maternal mortality ratio (MMR) between the United States of America and Australia	<b>Paul Colditz</b>
Maryam Odabae	PhD Awarded 2015	Non-stationary signal processing methods for newborn seizure prediction	<b>Paul Colditz</b> , Boualem Boashash, Ghasem Azemi, Sampsa Vanhatalo
Abirami Ratnasingham	PhD, UQ (2016 – 2019)	Long term consequences of altered neonatal adiposity	Barbara Lingwood, <b>Timothy Donovan</b> , Marloes Nitert Dekker, Peter Davies
Sonia Sam	PhD, UQ (2011 – 2016)	Cardiovascular factors associated with poor outcome in preterm infants	Barbara Lingwood, <b>Paul Colditz</b>
Emma Schleiger	PhD, UQ (2012 – 2016)	Ameliorating functional deficits in neurological conditions via monitoring and targeting brain electrophysiological signals	<b>Simon Finnigan</b> , <b>Andrew Wong</b> , Stephen Read
Nabeel Sheikh	PhD, UQ (2011 – 2016)	Role of quantitative EEG in diagnosis, prognostication and management of acute stroke	<b>Andrew Wong</b> , <b>Simon Finnigan</b> , Stephen Read
Timothy Sherry	PhD, UQ (2015 – 2018)	Identification of brain events via electroencephalogram eeg through blind source separation	<b>Paul Colditz</b>

### Research Fellows

Name	Type of Fellowship	Research Program	University <i>(years)</i>
Paul Colditz	Professor of Perinatal Medicine	Clinical neonatology, neuroscience, biomedical signal processing	UQ
Barbara Lingwood	Senior Research Fellow	Cardiovascular function in the preterm infant, infant body composition	UQ
Tracey Bjorkman	Lions Senior Medical Research Fellow	Hypoxic-ischemic brain injury and seizures in the neonate	UQ

## Perinatal Research Centre *(cont)*

### Research Fellows *(cont)*

Name	Type of Fellowship	Research Program	University <i>(years)</i>
Yvonne Eiby	Research Officer	The cardiovascular system of preterm infants	UQ
Janet Hammill	Honorary Senior Fellow	Collaboration for Alcohol Related Developmental Disorders	UQ
Timothy Donovan	Associate Professor	Improving outcomes for preterm infants particularly in the area of nutrition, growth/ body composition and development. Ongoing research in the use of telemedicine to provide outreach care of sick infants in regional hospitals. Epidemiology of gastroschisis	UQ
Boualem Boashash	Professor	Time-frequency signal analysis, biomedical signal processing, spectral estimation, signal detection and classification	UQ
Stephen Rose	Honorary Professor	Development and application of advanced MRI techniques to aid the detection and monitoring of disease processes	UQ
Nigel Barnett	Honorary Senior Fellow	The effects of hypoxia/ischaemia in visual development and disease	UQ
Simon Finnigan	Senior Research Fellow	Brain monitoring techniques to improve outcomes for critically ill patients (e.g. extremely premature babies; stroke patients)	UQ
Eugene Lumbers	Honorary Professor	Fetal origins of adult diseases, hypertension, development of control of the circulation, exercise and training, and renal development and function	UQ
Christine East	Honorary Professor	Fetal monitoring	Monash University
Michael Colditz	Honorary Fellow	Clinical neuroscience	UQ
Margo Pritchard	Honorary Senior Fellow	Child health surveillance and intervention	Australian Catholic University (ACU)
Aven Lee	Postdoctoral Research Fellow	Molecular biology and protein biology of the brain	UQ
Shiyong Dong	Research Officer	Signal processing: applications to the analysis and detection of perinatal asphyxia	UQ
Julie Wixey	Research Officer	Hypoxic-ischaemic brain injury, intrauterine growth restriction and inflammation in the neonatal brain	UQ
Melissa Lai	Senior Lecturer	EEG in preterm babies	UQ
Leanne Winter	Project Coordinator	Prem Baby Triple P	UQ
Lisa McKeowen	Research Nurse	Clinical Trials Group	UQ
Stephanie Miller	Research Assistant	Hypoxic-ischaemic brain injury and seizures in the neonate	UQ
Kirat Chand	Research Officer	Hypoxic-ischaemic brain injury, inflammation and seizures in the neonate	UQ
Karen Taylor	Research Nurse	Clinical Trials Group supporting: Enhanced parenting to improve developmental outcomes in preterm infants	UQ
Randal Moldrich	Honorary Fellow	Preterm brain outcomes	UQ
Therese De Dassel	Honorary Research Fellow	Clinical psychology, psychiatry	UQ
Donna Hovey	Adjunct Fellow	Clinical Trials	UQ

## Perinatal Research Centre *(cont)*

### Research Fellows *(cont)*

Name	Type of Fellowship	Research Program	University <i>(years)</i>
Gillian Lack	Adjunct Fellow	Clinical Trials	UQ
Kellie McGrory	Research Nurse	Clinical Trials	UQ
Anja Frew	Research Nurse	Clinical Trials	UQ
Keren Elfverson	Research Nurse	Clinical Trials	UQ
Kylie Smart	Research Nurse	Clinical Trials	UQ

### Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers <i>(RBWH staff in bold)</i>	Research Project Title
Paul Colditz	Yvonne Eiby, <b>Sonia Sam</b> , Susan Sullivan	Effective volume expansion in preterm neonates: Cardiovascular and Cerebral outcomes
Sonia Sam	Yvonne Eiby, <b>Paul Colditz</b>	Is angiotensin II a better inotrope than dopamine in preterm infants?
Melissa Lai	Stella Tracey Bjorkman	Defining the mechanisms of hypothermic neuroprotection in the HIE newborn
Paul Colditz	Roslyn Boyd, Atul Malhotra, Stephen Rose, Boualem Boashash, Michael Ditchfield, Michael Fahey, Kerstin Pannek, Randal Moldrich	Neurodevelopment of the preterm infant
Paul Colditz	Matthew Sanders, Roslyn Boyd, Margo Pritchard, Peter Gray, Michael O'Callaghan, Virginia Slaughter, Koa Whittingham	Enhanced parenting capacity to improve developmental outcomes in preterm infants
Paul Colditz	Barbara Lingwood, Kathryn Buller	BRAIN – Brain Research Advances In Newborns

### Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Stella Tracey Bjorkman	Paul Colditz	Carbon dioxide as a treatment for seizures in the newborn
Boualem Boashash	Paul Colditz	Automated Neonatal EEG Quality Assessment and Improvement using Artefact Filtering and Signal Segmentation
Boualem Boashash	Paul Colditz	Localization of EEG Abnormalities for Improving Brain Monitoring of Newborn Babies at Risk of Brain Injury using a multichannel time-frequency signal processing approach
Rebecca Pelekanos	Paul Colditz, Nicholas Fisk	Stem cell therapy and neurostimulation repair of white matter injury to prevent cerebral palsy
Roslyn Boyd	Paul Colditz	PPREMO: Prediction of preterm early motor and neurodevelopmental outcomes using advanced brain imaging and an early assessment toolbox
Roslyn Boyd	Paul Colditz	PPREMO: Prediction of Preterm Early Motor and neurodevelopmental Outcomes
Rodney Hunt	Paul Colditz	A study of the impact of treating electrographic seizures in term or near-term infants with neonatal encephalopathy

## Perinatal Research Centre *(cont)*

### Research Awards and Achievements

Recipient	Award	Event
Nada Al-Theyab	Most innovative poster	RBWH Symposium
Stephanie Miller, Kate Goasdoue, Doreen Awabdy, Tracey Bjorkman	Publication of the month (December) award winner	2015 UQCCR Awards
Paul Colditz	2014 Reviewer Thank you	(2015) PLOS ONE
Paul Colditz	Graduate	Australian Institute of Company Directors



## Obstetrics and Gynaecology Services

The Department of Obstetrics and Gynaecology continues to increase its activity and provides tertiary and quaternary obstetrics and gynaecology services. The aim of the department is to conduct multidisciplinary research to ensure the care of the women we treat and manage is contemporary and evidenced based.

The multidisciplinary services include:

- Birthing Services and Birthing Centre
- Antenatal Day Assessment Service
- Obstetric Review Centre
- Obstetric Medicine Services and Obstetric Telehealth Services
- Maternal Fetal Medicine and Centre for Advanced Prenatal Care
- Maternity Outpatients Service
- Endocrine Service
- Young Parents Program
- General Practitioner Maternity shared care program
- Team midwifery models in conjunction with obstetric care
- Midwifery group practice
- Eligible Private Practice Midwives
- Inpatient Unit and Lactation Service
- General gynaecology
- Colposcopy
- Advanced laparoscopic surgery and endometriosis services
- Gestational trophoblastic disease
- Acute and emergency care
- Early pregnancy assessment unit
- Reproductive Endocrinology and Infertility services
- Prolapse and incontinence surgery
- Statewide paediatric and adolescent gynaecology
- Multidisciplinary BRAC 1 clinic.

Maternity Services collaborate closely with the Perinatal Research Centre and UQ CCR for ongoing multi-centre research projects. The Maternal Fetal Medicine unit provides a comprehensive and competitive environment for prospective and retrospective research and audits and undertakes collaborative research with other centres in Australia and New Zealand.

The Statewide Paediatric and Adolescent Gynaecology Services have received a number of research grants and are active in research. The service now provides outreach services to the Lady Cilento Childrens Hospital. Reproductive endocrinology and infertility is a division of the Department of Gynaecology. A fertility service is provided and includes investigations, medication and counselling, but does not include IVF /Assisted Reproductive Technology.

There have been multiple publications from the Statewide Paediatric and Adolescent Gynaecology Service (PAG), Gynaecology Department, MFM unit, Statewide Maternity and Neonatal Clinical Guidelines. The unit has been successful in obtaining numerous research grants across PAG, MFM and Clinical Guidelines.

The Obstetrics and Gynaecology department collaborates with numerous other departments within Metro North Hospital and Health Service (MNHHS) as well as with UQ, UQCCR, Mater Hospital, interstate hospitals and New Zealand.

### Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Dareen Almohammadi	Masters thesis, UQ (2015–2016)	Fetal-Maternal interaction using exosomes in GDM pregnancies	Carlos Salomon Gallo, Greg Rice, <b>Greg Duncombe</b>
Suzanna Majok	BMSc, UQ (2014–2015)	The effect of artificial sweeteners on the bioactivity of placenta-derived exosomes.	Carlos Salomon Gallo, Greg Rice, <b>Greg Duncombe</b>
Omar Elfeky	Med Student (2014–2016)	Placenta-derived exosomes, a possible biomarker for early detection of complication of pregnancies	Carlos Salomon Gallo, Greg Rice, <b>Greg Duncombe</b>

## Obstetrics and Gynaecology Services *(cont)*

### Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers <i>(RBWH staff in bold)</i>	Research Project Title
Paul Colditz	<b>Gregory Duncombe</b>	Inotrope treatment in preterm neonates

### Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Fran Boyle (UQ), Vicki Flenady (TRIP – Mater Research)	Yogesh Chadha Deborah Birthisel	The Stillbirth Autopsy Consent Study
Vicki Flenady (TRIP – Mater Research), ANZ Stillbirth Alliance Research Consortium	Yogesh Chadha Deborah Birthisel	The Stillbirth Causes Study
Vicki Flenady (TRIP – Mater Research), Glenn Gardener (MFM–Mater Mothers)	Yogesh Chadha	My Baby's Movements Multicentre Trial
Carlos Salomon Gallo, Greg Rice	Gregory Duncombe	Exosomes in Pregnancy Complications
Elizabeth Sullivan and AMOSS group	Gregory Duncombe	Vasa praevia incidence, diagnosis, management and affect on pregnancy (AMOSS collaboration formerly based at UNSW now UTS based, NSW, QLD and overseas collaborators)
Elizabeth Sullivan, C Saunders, J Dickinson, F Boyle, A Ives, L Halliday, N Rose-Humphreys, AMOSS group	Gregory Duncombe	Breast Cancer diagnosis in pregnancy, incidence and management (to extend to pregnancy after breast cancer)
Katie Groom (Auckland)	Renuka Sekar	Sildenafil therapy in dismal prognosis fetal growth restriction Randomised trial STRIDER NZ study
Murray Mitchell	Renuka Sekar	Placental microsomes in PTD

### Research Awards and Achievements

Recipient	Award	Event
Felicity Fox	Outstanding Site Award (NHMRC funded studies)	PaCCSC Annual Research Conference, 21st February 2015



# Queensland Centre for Gynaecological Cancer

The Queensland Centre for Gynaecological Cancer (QCGC) is a state-wide service for the management of women with gynaecological cancer. QCGC Research is the research branch of QCGC. The Director of QCGC Research is Professor Andreas Obermair who leads and develops the unit to produce meaningful research outcomes.

QCGC Research's mission is to research and develop the best standard of care for women experiencing gynaecological cancer. This may include finding causes for and preventing gynaecological cancer; and finding better treatment options to cure women affected by gynaecological cancer.

QCGC Research's focus is on conducting surgical clinical trials in the field of gynaecological cancer but also perform ground-breaking work outside the conventional clinical trials framework.

Our research is funded partly by competitive research grants (NHMRC project grants, smart state research grants, Cancer Australia), by support from individual and corporate donors as well as from fundraising events.

These research activities help improve patient outcomes by researching the most effective treatment for women with gynaecological cancers.

In 2015 we began recruiting for the ECHO Trial which examines the benefits of exercise during chemotherapy for ovarian cancer. This study is collaboration between QUT, NHMRC Clinical Trials Centre and QCGC Research. Also in 2015 QCGC, in collaboration with the Department of Nuclear Medicine, began the IMAGE Trial which is investigating the impact of gated PET/CT on the diagnosis of distant metastases in advanced ovarian cancer. The feMMe trial, which allows a large number of women to have effective treatment of their endometrial cancer without the need for major surgery and its implications, expanded in 2015 with further sites beginning recruitment.

## Research Fellows

Name	Type of Fellowship	Research Program	University (years)
Nigel Armfield	Research	Gynaecological Oncology	UQ (2011–present)

## Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers	Research Project Title
Andreas Obermair	<b>Jim Nicklin (Gyn Onc), Russell Land (Gyn Onc), Andrea Garrett (Gyn Onc)</b> , Lewis Perrin (Mater), Tom Manolitsas (Monash), Deb Neesham (The Women's), Stuart Salfinger (SJOG), Yee Leung (KEMH), Russell Hogg (Westmead), Geoff Otton (JHH), Selvan Pather (RPA), Rhonda Farrell (Royal Hosp Women), Martin Oehler (Royal Adelaide Hosp), Peter Sykes (Christchurch), Hextan Ngan (Hong Kong), Graeme Walker (Scotland)	Laparoscopic Approach to Carcinoma of the Endometrium. An International Multicentre Randomised Phase 3 Clinical Trial
Andreas Obermair	<b>Jim Nicklin, Russell Land, Andrea Garrett, Amy Tang (Gyn Onc)</b> , Lewis Perrin (Mater), Marcelo Nascimento (GCUH), Jonathan Carter (Chris O'Brien), Orla McNally (The Women's), Kym Reid (Monash), Yee Leung (KEMH), Stuart Salfinger (SJOG), Peter Sykes (Christchurch), Cecile Bergzoll (Wellington), Lois Eva (Auckland)	A Phase II Randomised Clinical Trial of Mirena® ± Metformin ± Weight Loss Intervention in Patients with Early Stage Cancer of the Endometrium
Andreas Obermair, Paul Thomas	<b>Jim Nicklin, Russell Land, Andrea Garrett, Amy Tang</b>	Impact of gated PET/CT on the diagnosis of distant metastases of advanced epithelial ovarian, fallopian tube, and primary peritoneal cancer
Andreas Obermair	Monika Janda (QUT)	What would it take to reduce the proportion of women who have a hysterectomy via an open abdominal approach in Australia?

## Queensland Centre for Gynaecological Cancer *(cont)*

### Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Sandi Hayes (QUT)	Andreas Obermair, Jim Nicklin, Russell Land, Andrea Garrett, Amy Tang	A Phase III randomised controlled trial of exercise during chemotherapy for patients commencing first line treatment for ovarian cancer.
Pedro Ramirez (MD Anderson USA)	Andreas Obermair, Jim Nicklin, Russell Land, Andrea Garrett	A Phase III Randomized Clinical Trial Comparing Laparoscopic or Robotic Radical Hysterectomy versus Abdominal Radical Hysterectomy in Patients with Early Stage Cervical Cancer.



## Grantley Stable Neonatal Unit

The Department of Neonatology with 71 beds is one of the largest neonatal units in Australia. Our patient demographics changed in 2015 due to all surgical patients transferring to the Mater Mother's Hospital post opening of the Lady Cilento Children's Hospital. More preterm infants and infants with hypoxic ischaemic encephalopathy are now being looked after in our Department. RBWH is the only hospital in Queensland with a Pasteurised Donor Human Milk Bank. It is also home to NeoRESQ (Neonatal Retrieval Service for South East Queensland). All of the above has driven our research and for the first time, milk bank research has increased in the unit due to collaboration with UQ.

RBWH Neonatology is also active in multi-centre trials as a valued member.

A large body of work is underway to increase blended learning for our staff with multi-media engagement.

Our aim for the future is to provide a reliable research base for all staff, focusing on clinical areas such as the retrieval service and the milk bank. We will continue to collaborate on multi-centre trials while increasing our own output.

### Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Donna Franklin	PhD, UQ	High flow nasal cannula treatment in bronchiolitis.	John Fraser, <b>Mark Davies</b>
Luke Jardine	PhD, UQ	General movements and prediction of neuro-developmental outcome.	Paul Colditz, <b>Mark Davies</b>
Michelle Paliwoda	PhD, UQ	Newborn early warning tool development	Karen New, <b>Mark Davies</b>
Didier Tshamala	Advanced training research project RACP	The effect of pasteurised donor human milk availability and breast feeding	<b>Mark Davies</b>
Janet Sharpe	Advanced training research project RACP	The effect of pasteurised donor human milk and probiotics availability on mortality/infection and NEC	<b>Mark Davies, Pieter Koorts, Mandy Way</b>
Janet Sharpe	Advanced training research project RACP	Does earlier arrival of the retrieval team improve outcomes in outborn infants born before 29 weeks gestation?	<b>Mark Davies, Pieter Koorts</b>
Janet Sharpe	Advanced training research project RACP	Transition of care from the Neonatal Intensive Care Unit to a tertiary paediatric facility for infants with chronic medical conditions	<b>Mark Davies</b>
Deb Gilmour	Advanced training research project RACP	Exposure to sound, vibration and light during neonatal retrievals	<b>Mark Davies</b>
Deborah Gilmour	Advanced training research project RACP	Adequacy of Neonatal Palliative Care in a Single Neonatal Unit	<b>Mark Davies, Anthony Herbert</b>
Alex Kanon	Honours, BSc, UQ	Preterm infant nutrient intake and cerebral MRI outcome	<b>Tim Donovan</b> , Barbara Lingwood
Nada Al Theyab	PhD, UQ	The Effect of Macronutrient Intake on Ex- Utero Growth and Body Composition in Preterm Infants	<b>Tim Donovan</b> , Barbara Lingwood, Paul Colditz
Fabio Gomes	PhD, UQ	To investigate vitamin D and vitamin D analogues levels in breast milk	Amitha Hewavitharana, Nick Shaw, <b>Pieter Koorts, Karen Whitfield</b>
Nor Taufek	PhD, UQ	To investigate trace element levels in Human Breast Milk	<b>Karen Whitfield</b> , Amitha Hewavitharana, Nick Shaw
Erin Moody	Masters, UQ	Antimicrobial stewardship in the Neonatal Intensive Care Unit and Special care units	<b>Karen Whitfield</b>

## Grantley Stable Neonatal Unit *(cont)*

### Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers <i>(RBWH staff in bold)</i>	Research Project Title
Didier Tshamala	<b>Mark Davies</b>	The effect of pasteurised donor human milk availability and breast feeding
Janet Sharpe	<b>Mark Davies, Pieter Koorts</b> , Mandy Way	The effect of pasteurised donor human milk and probiotics availability on mortality/infection and NEC
Janet Sharpe	<b>Mark Davies, Pieter Koorts</b>	Does earlier arrival of the retrieval team improve outcomes in outborn infants born before 29 weeks gestation?
Janet Sharpe	<b>Mark Davies</b>	Transition of care from the Neonatal Intensive Care Unit to a tertiary paediatric facility for infants with chronic medical conditions
Deborah Gilmour	<b>Mark Davies</b>	Exposure to sound, vibration and light during neonatal retrievals
Deborah Gilmour	<b>Mark Davies</b> , Anthony Herbert	Adequacy of Neonatal Palliative Care in a Single Neonatal Unit
Pieter Koorts	<b>Rebecca Kimble</b> , Brent Knack, Jacinta Lee, Lucy Cooke, Kelly Dixon	Perinatal viability: consensus survey
Pieter Koorts	<b>Paul Colditz</b>	SuPreme study
Pieter Koorts	<b>Margo Pritchard</b>	LIFT- Does lactoferrin improve survival free from morbidity in very low birth weight infants? Lactoferrin Infant Feeding Trial: a randomised controlled trial
Pieter Koorts	Delene Thomas	Neonatal Screening for Congenital CMV / BEST Q
Adam Hoellering	<b>Mark Davies, Didier Tshamala</b>	Study of UVC movement over time
Karen Whitfield	<b>Pieter Koorts, Mark Davies, David Cartwright</b>	To investigate the safety and efficacy of the current gentamicin dosage regimen prescribed to infants at the RBWH Neonatal Unit

### Other Current Collaborative Research Activity

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Fran Boyle (UQ), Vicki Flenady (TRIP – Mater Research)	Yogesh Chadha, Deborah Birthisel	The Stillbirth Autopsy Consent Study
Vicki Flenady (TRIP – Mater Research), ANZ Stillbirth Alliance Research Consortium	Yogesh Chadha, Deborah Birthisel	The Stillbirth Causes Study
Vicki Flenady (TRIP – Mater Research), Glenn Gardener (MFM–Mater Mothers)	Yogesh Chadha	My Baby's Movements Multicentre Trial
Carlos Salomon Gallo, Greg Rice	Gregory Duncombe	Exosomes in Pregnancy Complications
Elizabeth Sullivan and AMOSS group	Gregory Duncombe	Vasa praevia incidence, diagnosis, management and affect on pregnancy (AMOSS collaboration formerly based at UNSW now UTS based, NSW, QLD and overseas collaborators)
Elizabeth Sullivan, C Saunders, J Dickinson, F Boyle, A Ives, L Halliday, N Rose-Humphreys, AMOSS group	Gregory Duncombe	Breast Cancer diagnosis in pregnancy, incidence and management (to extend to pregnancy after breast cancer)
Katie Groom (Auckland)	Renuka Sekar	Sildenafil therapy in dismal prognosis fetal growth restriction Randomised trial STRIDER NZ study
Murray Mitchell	Renuka Sekar	Placental microsomes in PTD

## Department of Obstetric Medicine

The Obstetric Medicine research group has been successful in numerous research grant/funds. The department intends to improve the outcomes of complex pregnancy for women and their infants through basic and clinically applied research. We have a broad interest in maternal health, with studies addressing areas from anaesthetics, maternal obesity and diabetes as well as asthma and psychological status. Our research laboratory is currently focussing on placental metabolism in maternal diabetes and preeclampsia as well as the relationship between the maternal gut microbiome and pregnancy outcomes.

In 2015, Professor Leonie Callaway led a NHMRC funded randomised controlled trial from RBWH – the SPRING study of probiotics for the prevention of GDM. We also collaborated on the BLT (breathing for life trial) of asthma management in pregnancy, a multicentre Australian trial led by Newcastle University. Other grants included > \$160,000 in project grant funding addressing maternal metabolism, and the microbiome.

The Obstetric Medicine Unit is active in clinical and basic science research across all medical problems which occur throughout pregnancy. A number of PhD candidates are currently undertaking research in all areas of Obstetrics and Gynaecology.

### Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Catherine Kilgour	PhD (completed 2015)	Communication between Hospital Clinicians, General Practitioners and Women: Postpartum Follow-up of Mothers with Gestational Diabetes Mellitus	Fiona Bogossian, <b>Leonie Callaway</b> , Cindy Gallois, David McIntyre
Helen Robinson	PhD 2015 –	Carbohydrate Restriction in the Management of Gestational Diabetes	<b>Leonie Callaway</b> , <b>Helen Barrett</b> , Marloes Dekker Nitert
Fiona Britten	PhD 2014 –	Breastfeeding in women with Type 2 diabetes	<b>Leonie Callaway</b> , <b>Emma Duncan</b>
Naomi Achong	PhD 2010 –	Insulin requirements in pregnant women with type 1 diabetes mellitus during late pregnancy and the peripartum period	<b>Leonie Callaway</b> , <b>Emma Duncan</b> , David McIntyre
Victoria Eley	PhD 2013 –	Clinical guidelines relating to the anaesthetic management of obese parturients: An evaluation of their clinical utility and supporting evidence	<b>Leonie Callaway</b>
Luisa Gomez Arango	PhD 2014 –	Microbiome in pregnancy	<b>Leonie Callaway</b> , Marloes Dekker Nitert
Cara Odenthal	MPhil 2013 –	Can MRI at 3 and 5 years after first demyelinating event detect reduction in rain volume in patients who progress to clinically definite MS compared to those who do not?	<b>Leonie Callaway</b>
Kristine Matusiak	MPhil 2012 –	Effects of preconception weight loss on the HPA axis.	Marloes Dekker Nitert, <b>Leonie Callaway</b>
Angela North	MPhil 2015 –	Therapeutic heparin antenatal and peripartum	<b>Karen Whitfield</b> , <b>Karin Lust</b> , <b>Helen Barrett</b>
Sarah Kugelman	MBBS (Hons) Class I (completed 2015)	Mitochondrial transcription factor dysregulation in placenta from women with preeclampsia	<b>Helen Barrett</b> , Marloes Dekker Nitert
Charlotte Ramin	MBBS (Hons) Class I (completed 2015)	Increased placental expression of hexosamine signalling pathway genes in women with GDM	<b>Helen Barrett</b> , Marloes Dekker Nitert
William Carrey-Foster	BSc (Hons)	Prevalence of antibiotic resistance genes in the gut microbiome of pregnant women	<b>Helen Barrett</b> , Marloes Dekker Nitert

### Research Fellows

Name	Type of Fellowship	Research Program	University (years)
Helen Barrett	ADS-Skip Martin Early Career Fellowship	Triglycerides in pregnancy	UQ (2015–2016)

## Department of Obstetric Medicine *(cont)*

### Research Fellows *(cont)*

Name	Type of Fellowship	Research Program	University <i>(years)</i>
Helen Robinson	NHMRC PhD scholar	Carbohydrate Restriction in the Management of Gestational Diabetes	UQ (2015–2018)
Helen Robinson	RBWH foundation research higher degree scholarship	Carbohydrate Restriction in the Management of Gestational Diabetes	UQ (2015–2018)
Fiona Britten	RBWH foundation research higher degree scholarship	Breastfeeding in women with Type 2 diabetes	UQ (2015–2018)
Fiona Britten	Diabetes QLD scholarship	Breastfeeding in women with Type 2 diabetes	UQ (2015–2018)

### Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers	Research Project Title
	<i>(RBWH staff in bold)</i>	
Leonie Callaway	David McIntyre, Marloes Dekker Nitert, J Tobin, P O'Rourke, S Wilkinson, C McSweeney, <b>Helen Barrett</b>	SPRING trial

### Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Katherine Poulsen (TPCH), Claire Barrett (Redcliffe), Laurel Young (Redcliffe)	Helen Barrett	Pregnancies Exposed to Biological (PEB) Study

### Research Awards and Achievements

Recipient	Award	Event
Helen Robinson	ADIPS Novo Nordisk Grant 2015	ADIPS Annual Scientific Meeting

