



Mercy Health

Care first



2018

**RESEARCH
REPORT**

CELEBRATING
100 YEARS
of **MERCY HEALTHCARE**

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1920

IN 2020, MERCY HEALTH
WILL CELEBRATE
100 YEARS OF CARING
FOR VICTORIANS

Mercy Health
Care first

When the Sisters of Mercy first entered the field of healthcare in Victoria it was in the wake of World War I and amid the deadly influenza epidemic of 1919. Spurred by the experience and with a growing Melbourne in need of better health services, the Sisters opened St Benedict's Hospital in Malvern in 1920.



Linette and baby Marcella at Mercy Hospital for Women

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Cover: Mercy Hospital for Women researcher Ping; Werribee Mercy Hospital Special Care Nursery midwife Claire with baby Flynn; Mercy Place Abbotsford resident Denise with Zen, one of the children taking part in the intergenerational program

MESSAGE FROM THE GROUP CHIEF EXECUTIVE OFFICER

I am proud to present the 2018 Mercy Health Research Report, highlighting the research projects, publications and achievements of the research teams at Mercy Health.

Our research teams continue to do inspiring work across a range of fields, including fetal and newborn health, women's health, paediatrics, mental health, aged care and allied health. The driving objective of all of our research is to improve health outcomes for those we serve. Research is central to Mercy Health's mission to deliver better outcomes for people at the very beginning of life and at the end of life, particularly for those facing significant disadvantage.

What drives our researchers to innovate is their desire to give hope to our patients, clients, residents, families and carers.

Mercy Perinatal continues with groundbreaking research into stillbirth, ectopic pregnancy and preeclampsia, always focusing on its goal of bringing mothers and babies safely home. I would like to congratulate Tu'uhevaha Kaitu'u-Lino and Natalie Hannan for their appointments to Associate Professor.

I also congratulate Harry Georgiou and Megan Di Quinzio, for their appointments to Associate Professor. Their work on preterm labour and gestational diabetes, which are both significant healthcare issues globally, seeks to improve outcomes for women and babies affected.

Our research in aged care continues to progress and grow. As we face an ageing population across diverse backgrounds, it is vitally important that we gain a better understanding of what we need to do to improve the care and services we provide.

I would like to thank our academic, government and private sector research partners, and the communities we serve, for their ongoing and invaluable support. Their support not only makes our work possible, but also ensures it will continue to benefit future generations.

As we approach 100 years of Mercy Health, I am inspired by the words of the Founder of the Sisters of Mercy Catherine McAuley, "You should remember that not to advance is to go back." This is something we strive to do every day in our research endeavours.

Adjunct Professor Stephen Cornelissen
Group Chief Executive Officer, Mercy Health



MESSAGE FROM THE CHIEF MEDICAL OFFICER

Research in 2018 has been inspiring, completing one of our most productive years. The quality of research from Mercy Hospital for Women and Werribee Mercy Hospital has been exceptional, and is set to expand.

Research collaborations and partnerships with external bodies both in Australia and overseas are increasing each year. This is leading to more national and international recognition and is significantly widening our research horizons. The University of Melbourne Department of Obstetrics and Gynaecology at Mercy Hospital for Women has achieved the highest Excellence in Research in Australia (ERA) rating of five (defined as performing above world standards), and under the guidance of our senior research leaders has built an enviable reputation as a research centre of excellence.

As the amount of research we do increases, we are also looking to increase the membership of the Mercy Health Human Research Ethics Committee (HREC). The Chair and members of the HREC are an important cog in the research wheel and we thank them for the work that they do for us.

Two of our longest-serving researchers over many years will be retiring in the next year. Professor Peter Maher (Endosurgery) and Professor Peter Dwyer (Urogynaecology) both built world class departments, and we acknowledge their contributions in both teaching and research.

I also acknowledge and thank our partners who have supported and funded our research. Our appreciation is extended to them throughout this publication.

Finally, I thank all the researchers in the many departments for their contributions to this report.

Associate Professor David Allen
Chief Medical Officer, Mercy Health





THANK YOU TO OUR SUPPORTERS AND PARTNERS

We acknowledge and celebrate the partnerships we have forged in 2018 and our shared vision for a better future through research and education.

*Baby Aurora, the first patient at Werribee
Mercy Hospital's new Paediatric Ward*

Mercy Health gratefully acknowledges funding support from the following sources in 2018:

- Academic, Research and Development Committee
Small Grants
- Austin Medical Research Foundation
- Harold Mitchell Foundation
- Mercy Health Foundation
- National Health and Medical Research Council
- Norman Beischer Medical Research Foundation
- Royal Australian and New Zealand College of
Obstetricians and Gynaecologists Foundation
- Royal Australian and New Zealand College of
Psychiatrists
- Sylvia and Charles Viertel Charitable Foundation

We also extend our appreciation to our external research partners in 2018:

- Auckland University
- Austin Health
- Deakin University
- La Trobe University
- Monash Medical Centre
- Murdoch Children's Research Institute
- Royal Women's Hospital (Melbourne)
- Stellenbosch University (South Africa)
- Stillbirth Centre for Research Excellence
- Tygerberg Hospital (South Africa)
- University of Cambridge (United Kingdom)
- University of Melbourne
- University of Papua New Guinea



“You should remember that
not to advance is to go back.”
Founder of the Sisters of Mercy Catherine McAuley

Alesia Harper

ACADEMIC RESEARCH AND DEVELOPMENT COMMITTEE SMALL GRANTS 2018

These valuable grants are an essential source of funding for start-up research and audits at Mercy Health

Dr Antoine Sawares
Pilot Randomised Controlled Trial: Exploring the benefits of the use of oxytocin nasal spray as adjunct treatment for Schizophrenia patient treated by clozapine

Dr Emma Readman, Dr Lenore Ellett and Dr Samantha Mooney
We live in a virtual world: Training the trainee using an integrated visual reality simulator training curriculum

Dr Emma Readman and Dr Samantha Mooney
Virtual Clinic for the assessment and management of women with postmenopausal bleeding

Professor Sonia Grover and Dr Samantha Mooney
The Persistent Pelvic Pain Study

Ms Anne Harrison
A qualitative exploratory study of attitudes, barriers and enablers to physical activity in women with gestational diabetes mellitus

Dr Dan Casalaz
Pilot Study : Targeted congenital CMV (congenital cytomegalovirus) screening

Dr Ian Letson
A prospective observational study of maternal supine hypotension by serial transthoracic echocardiography

Associate Professor Martha Lappas
Molecular mechanisms controlling human pregnancy and labour

Associate Professor Shiran Wijeratne, Associate Professor Shaukat Esufali and Dr Jonathan Sivakumar
Prospective Audit and Quality Assurance of laparoscopic cholecystectomy procedures at Werribee Mercy Hospital



WOMEN'S AND CHILDREN'S SERVICES

Mercy Health continues to pursue the dream of improved health outcomes for women and babies.

Danielle with baby Flynn at Werribee Mercy Hospital

UNIVERSITY OF MELBOURNE DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY, MERCY HOSPITAL FOR WOMEN

The Department coordinates teaching of medical students in obstetrics and gynaecology and plays a pivotal role in research.

Perinatal Research Group (Professor Sue Walker AO)

The Perinatal Research Group, led by Professor Sue Walker AO, is made up of maternal fetal medicine clinical researchers.

The diverse research interests of the group reflect a collaborative effort with scientists and clinicians across many disciplines and institutes. The group partners with the Translational Obstetric Group, University of Melbourne, led by Professor Stephen Tong; the Austin Health Institute for Breathing and Sleep; the Murdoch Children's Research Institute; and other University of Melbourne obstetric research groups, led by Professor Michael Permezel, Associate Professor Martha Lappas, Associate Professor Megan Di Quinzio and Associate Professor Harry Georgiou.

The group also collaborates with Austin Health, La Trobe University, Deakin University, University of Papua New Guinea, University of Stellenbosch (South Africa), the Royal Women's Hospital and Monash Medical Centre.

The research areas are ectopic pregnancy, stillbirth and preeclampsia. In 2018, Dr Dani Wilson completed her PhD on sleep disordered breathing in pregnancy, and Dr Teresa MacDonald submitted her PhD on improving assessment of fetal growth restriction to reduce preventable stillbirth.

Thank you to the funding bodies, the research midwifery team led by Gabrielle Fleming, the clinical trial coordinator Anna Middleton, the Mercy Health Human Research Ethics Committee, the obstetric and midwifery clinicians who support the research, and the patients, who all share in the dream for safer motherhood and the best possible start to life. Without them, none of this would be possible.

Research team

- Professor Sue Walker AO
- Dr Alexis Shub
- Dr Elizabeth McCarthy
- Associate Professor Lisa Hui
- Dr Alison Fung
- Dr George McGillivray
- Dr Alice Robinson
- Dr Teresa MacDonald
- Gabrielle Fleming
- Anna Middleton
- Val Kyritsis

Projects and grants

Can esomeprazole improve outcomes in women at high risk of preeclampsia? A Phase II placebo-controlled randomised, multi-centre clinical trial
S Walker
Funded by NHMRC (2018-2021)

Stillbirth Research
S Walker
Funded by University of Melbourne End of Year Appeal (2018)

Validating mRNA biomarkers to predict fetal growth restriction
T Kaitu'u-Lino, T MacDonald, S Walker, S Tong
Funded by Norman Beischer Medical Research Foundation (2018)

MicroRNA biomarkers for preeclampsia at 28 weeks' gestation
C Whigham, T Kaitu'u-Lino, T MacDonald, S Walker
Funded by Norman Beischer Medical Research Foundation (2018)

Anti-thrombotic therapy and trophoblast cell-free DNA
L Hui
Funded by Norman Beischer Medical Research Foundation (2018)

Developing potential biomarkers of fetal brain development after congenital cytomegalovirus infection
L Hui, N Hannan
Funded by Sylvia and Charles Viertel Charitable Foundation (2016-2018)

Collaborations

Cathy Cluver, Tygerberg Hospital and Stellenbosch University South Africa: Therapeutics for severe preterm preeclampsia. Walker S, Tong S.

Cathy Cluver (South Africa), Farhatulain Ahmed (Pakistan), Lina Bergman (Sweden): Improved characterization of eclampsia. Walker S, Tong S, Hastie R, De Silva R.

Gordon Smith, Cambridge University: Biomarkers to detect Fetal Growth Restriction.
Walker S, MacDonald T, Kaitu'u-Lino T, Tong S.

Sebastian Ilanes, Universidad de los Andes, Chile, South America: Biomarkers to detect Fetal Growth Restriction. Walker S, MacDonald T, Kaitu'u-Lino T, Tong S.

Lesley McCowan, Auckland University: Biomarkers to detect Fetal Growth Restriction. Walker S, MacDonald T, Kaitu'u-Lino T, Tong S.

Jenny Meyers, Manchester University: Biomarkers to detect Fetal Growth Restriction. Walker S, MacDonald T, Kaitu'u-Lino T, Tong S.

Carlos Salomon Gallo, UQ Centre for Clinical Research, Faculty of Medicine, Gestational diabetes. Pre-eclampsia. Lappas M, Shub A, McCarthy EA. Samples shared.

Safe Baby Bundle (SBB) Smoking Cessation Working Group 2018. McCarthy E. Stillbirth Centre for Research Excellence. Translating research evidence to clinical practice. Working group membership.

Advances in prenatal genomic testing. Hui L, Lindquist A, Halliday J, Murdoch Children's Research Institute.

Developing potential biomarkers of fetal brain development after congenital cytomegalovirus infection. Hui L, Hannan N, de Catte L (Belgium), Vora N (USA).

Amniotic fluid cell-free RNA: developing methods for detecting potential biomarkers of fetal development. Hui L, Rother K (USA).

Noninvasive prenatal testing (NIPT) to detect early ovarian cancer (NEO study). Hui L, Hannan N, Cohen P.

Publications

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José Figuinha Milani H, Quinderé de Sá Barreto E, Chau H, Ha To N, Fernandes Moron A, Meagher S, Da Silva Costa F, Araujo Júnior E. Prenatal diagnosis of closed spina bifida: multicenter case series and review of the literature. *J Matern Fetal Neonatal Med.* 2018 Sep 6:1–7. DOI: 10.1080/14767058.2018.1500543.

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Triplets Gennaro, Carmine and Renato with mother Melinda and sister Gemma at Mercy Hospital for Women

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Book chapters

Hui L. Noninvasive approaches to prenatal diagnosis: historical perspective and future directions. In Levy B, editor. Prenatal diagnosis. Springer Publishing, 2018. DOI: https://doi.org/10.1007/978-1-4939-8889-1_3.

Presentations

Hui L. Early prediction of adverse pregnancy outcomes. 22nd International Conference on Prenatal Diagnosis and Therapy, Antwerp, July 2018. [Invited Speaker]

Hui L. Pregnancy outcomes after in utero parvovirus infection. European Society for Clinical Infectious Diseases/Australian Society for Infectious Diseases, Sydney, September 2018. [Invited speaker]

Hui L. The evolution of ultrasound-indicated prenatal diagnosis over the past two decades: a state-wide retrospective cohort study from 1994-2016. 22nd International Conference on Prenatal Diagnosis and Therapy, Antwerp, July 2018.

Hui L. Pregnancy outcomes after parvovirus infection. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, October 2018.

Hui L. Should all women be offered diagnostic testing with chromosomal microarray? Victorian Obstetric Sonologists meeting, Melbourne, 17 April 2018.

Hui L. Prenatal screening for aneuploidy. RANZCOG membership revision course, Melbourne, 19 June 2018.

Hui L. Demystifying infections in pregnancy. Mercy Perinatal Improving Maternity Care workshop, Melbourne, 20 July 2018.

Hui L. Prenatal Screening. Future Leaders “Genes for Life” symposium and book launch, Murdoch Children’s Research Institute, Melbourne, 26 March 2018.

Hui L. Have we paid a price for abandoning diagnostic testing for NIPT? Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 21 February 2018.

MacDonald T. Improving the detection of risk factors for stillbirth: the Fetal Longitudinal Assessment of Growth (FLAG) study. Hunter Medical Research Institute, Mothers and Babies Research Centre seminar series, Newcastle, 2018.

MacDonald T. Improving the detection of risk factors for stillbirth: the Fetal Longitudinal Assessment of Growth (FLAG) study. Australia and New Zealand Placental Research Association satellite meeting, Adelaide, 2018.

MacDonald T. From tape measure to ultrasound... detecting fetal growth restriction. Improving Maternity Care (iMAC) Workshop, Melbourne, 2018.

MacDonald T. The association between the cerebral-placental-uterine ratio and fetal growth restriction: a prospective cohort study. 28th World Congress on Ultrasound in Obstetrics and Gynecology, Singapore, 2018.

MacDonald T. The cerebral-placental-uterine ratio identifies late-onset fetal growth restriction. Perinatal Society of Australia and New Zealand 22nd Annual Scientific Congress, Auckland, 2018.

MacDonald T. Increasing fetal growth velocity increases the risk of shoulder dystocia among non-macrosomic fetuses. Royal Australian and New Zealand College of Obstetricians and Gynaecologists Victorian Trainee Research Symposium, Melbourne, 2018.

MacDonald T. Increasing fetal growth velocity increases the risk of shoulder dystocia among non-macrosomic fetuses. 28th World Congress on Ultrasound in Obstetrics and Gynecology, Singapore, 2018.

MacDonald T. Increasing fetal growth velocity increases the risk of shoulder dystocia among non-macrosomic fetuses. Royal Australian and New Zealand College of Obstetricians and Gynaecologists Annual Scientific Meeting, Adelaide, 2018.

McCarthy E. Assessment of the training model ‘Desperate Debra’ +/- fetal pillow in delivery of the fetal head at low station by caesarean section. RANZCOG ASM, Adelaide, 16–19 September 2018.

McCarthy E. Miscarriage management in an Early Pregnancy Assessment Centre (EPAC). Care in a Specialist Women’s Hospital 2017: benchmarking current practice and research readiness. RANZCOG ASM, Adelaide, 16–19 September 2018.

McCarthy E. Multi-centre audit of Early Pregnancy Assessment Clinics (EPAC): The Northern Hospital, Mercy Hospital for Women and Werribee Mercy Hospital. Early Pregnancy Special Interest Group Seminar, Mercy Hospital for Women, Melbourne, 4 August 2018.

Meagher S. What is the value of a first trimester scan in 2018. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Screening for fetal malformation between 8–10 weeks gestation. 28th World Congress on



Father Mahmut, mother Sinem and sister Alara with baby Dilhan at Mercy Hospital for Women

Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. First trimester bowel obstruction. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. First trimester certificate. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Central Nervous System and Spine workshop. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Cardiac workshop. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Gastrointestinal workshop. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Genitourinary, Skeletal and Multiple Pregnancy Workshop. 28th World Congress on Ultrasound in Obstetrics and Gynaecology, Singapore, October 2018.

Meagher S. Fetal cardiac evaluation workshop, The normal heart at 11–14 weeks: Two or five sectional analysis? Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Ventricular septal defects, atrial septal defects and atrioventricular septal defects made simple. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. The small left heart. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. The fetal venous system made easy. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Borderline cardiac findings: “A headache for you and me...and a concern for the patient. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Transposition of the great arteries and TGA: Practical clues to screening and diagnosis. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. A practical approach to aortic override anomalies (TOF/DORV/CAT. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. How to differentiate tricuspid regurgitation, tricuspid dysplasia and Ebstein’s anomaly. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Right aortic arch, double aortic arch, aberrant right subclavian artery: tips, tricks and traps. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Coarctation of the aorta, interrupted aortic arch: challenges posed. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Aortic stenosis, critical aortic stenosis and bicuspid aortic valve: The new era. Indian Society of Fetal Medicine – Fetal Cardiocon 2018, New Delhi, October 2018.

Meagher S. Raising the standards in gynaecological ultrasound: the high risk fetus. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. Practice guidelines for evaluation of fetal central nervous system. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. Ventricular system: Navigating the fluid highway, a systemic approach to diagnosis and management. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. Posterior fossa: lesions in the backroom. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. The corpus callosum: normal and abnormal, clues to diagnosis of the complete and partial agenesis of the corpus callosum. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. Workshop: Learning from the experts. 3rd International Postgraduate Course, San Juan City, Philippines, July 2018.

Meagher S. 2D and 4d evaluation of the normal fetal heart. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. Borderline cardiac findings: A headache for the doctor...and a concern for the patient. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. Diagnosis coarctation of the aorta: solving the diagnostic dilemma. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. Tricuspid valve regurgitation vs tricuspid valve dysplasia vs Ebsteins: Diagnostic dilemmas. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. 2D and 3D evaluation of the fetal central nervous system. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. Cerebral ventriculomegaly – differential diagnosis. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. A systematic approach to examination of the normal fetal face. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. Hands on demonstrations. OBGYN Ultrasound Seminar, Mount Elizabeth Novena Hospital, Singapore, July 2018.

Meagher S. First trimester fetal cardiac malformation; Are we ready? The 1st ISUOG Approved Educational Course of OB/GY Ultrasound in Japan, Dept. of Perinatology and Gynecology, Kagawa University, Japan, June 2018.

Meagher S. First trimester central nervous system malformation. The 1st ISUOG Approved Educational Course of OB/GY Ultrasound in Japan, Dept. of Perinatology and Gynecology, Kagawa University, Japan, June 2018.

Meagher S. 2D and 3D examination of the first trimester fetal nervous system. Melbourne Fetal Neurology Symposium, Australian Catholic University, Melbourne, April 2018.

Meagher S. Fetal brain malformation 11–14 weeks. Melbourne Fetal Neurology Symposium, Australian Catholic University, Melbourne, April 2018.

Meagher S. Fetal cerebral ventriculomegaly – a practical guide to the differential diagnosis. Melbourne Fetal Neurology Symposium, Australian Catholic University, Melbourne, April 2018.

Meagher S. Open and closed fetal neural tube defects: a medico-legal dilemma. Melbourne Fetal Neurology Symposium, Australian Catholic University, Melbourne, April 2018.

Meagher S. Updates on ultrasound in early pregnancy and first trimester. A practical guide to the first trimester diagnosis of fetal brain malformation. ISUOG International Meeting, Guangzhou, China, March 2018.

Meagher S. Malformation of the fetal genito-urinary tract 11–14 weeks gestation. ISUOG International Meeting, Guangzhou, China, March 2018.

Meagher S. Anomalies of the fetal gastrointestinal tract, 11–14 weeks. ISUOG International Meeting, Guangzhou, China, March 2018.

Meagher S. First trimester morphology scan. ISUOG International Meeting, Guangzhou, China, March 2018.

Shub A. Eye and pregnancy symposium. RANZCOG ASM Adelaide, November 2018.

Shub A. Pregnancy after bariatric surgery. ANZMOSS meeting, Melbourne, September 2018.

Walker, S. Stillbirth Education and Research. Presentation to Senate Select Committee, August, 2018.

Walker S. Global Obstetric Update; (i) Intergrowth 21/ fetal growth/customised growth – making sense of fetal growth to improve care; (ii) Journal club on steroids – the hottest findings of 2018. Melbourne, 29 November –1 December 2018.

Walker S. Viral hepatitis in pregnancy. ASID/ ESCMID Infectious Diseases in Pregnant Women, Fetuses and Newborns Course, Sydney, 16 Sept 2018. [Invited speaker]

Walker S. Defining FGR: blind men and elephants. European Workshop on Fetal Growth Restriction, Prato, Italy, 5 July 2018. [Invited speaker]

Walker S. Increased risk of PIH in FET pregnancies: should we worry and what can we do about it? Fertility Society of Australia 2018 Conference, Melbourne, 11 Sept 2018. [Invited speaker]

Walker S. Life before Apgars: what’s new in obstetrics. Cool Topics in Neonatology, Royal Women’s Hospital, Parkville, 23 November 2018. [Invited speaker]

Walker S. ‘No one can whistle a symphony’: the value of collaboration in research. Royal Women’s Hospital research week, Parkville, 19 October 2018. [Invited speaker]

Walker S. Placenta and adverse pregnancy outcomes. 2018 Annual Stillbirth CRE Workshop, Brisbane, August 2018. [Invited speaker]

Walker S. Prenatal genetics. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 21 February 2018.

Walker S. Bones at twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 18 April 2018.

Walker S. Fetal cardiology at twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 30 May 2018.

Walker S. Preterm birth at twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 27 June 2018.

Walker S. Ethics at twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 15 August 2018.

Walker S. Viral hepatitis in pregnancy: infections at twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Heidelberg, 30 October 2018.

Walker S. Medical Disorders in Pregnancy 2018. Melbourne, 21 July 2018.

Walker S. Improving MAternity Care (iMAC) workshop. Melbourne, 20 July 2018.

Walker S. Mackenzie's Mission Workshop. Parkville, 17 July 2018.

Walker S. IUGR and fetal monitoring. FRANZCOG Revision Course, Melbourne, 20 June 2018. [Invited presentation]

Walker S. Preeclampsia and fetal surveillance in pregnancy. Ultrasound for Midwives Course, Mercy Hospital for Women, Heidelberg, 5–6 May 2018.

Awards and academic achievements

Dr Teresa MacDonald, Best Oral Communication Presentation – Fetal Growth category, 28th World Congress on Ultrasound in Obstetrics and Gynecology, Singapore, 2018.

Professor Sue Walker AO, Austin Medical Research Foundation, Distinguished Scientist Award, 2018.

Professor Sue Walker AO, Officer of the Order of Australia (AO), 2018.

Associate Professor Lisa Hui, Travelling Scholarship to visit the Eunice Kennedy Shriver National Institute of Child Health and Development (NICHD), United States April 2018.



Dr Teresa MacDonald

Obstetrics, Nutrition and Endocrinology Group (Associate Professor Martha Lappas)

The Obstetrics, Nutrition and Endocrinology Group continues to research the cellular and molecular mechanisms that govern birth, as well as maternal diabetes, obesity, and fetal growth and development.

Research team

Associate Professor Martha Lappas

Dr Ratana Lim

Caitlyn Nguyen-Ngo

Nanthini Jayabalan

Hope Eveline Carter Moylan

Projects

Preterm birth

Preterm birth is one of the most significant healthcare issues globally. An effective medical therapy that could stop idiopathic preterm labour would be a major advancement. Progress is made difficult by the fact that the human birth process is not completely understood. Over the past decade the Obstetrics, Nutrition and Endocrinology Group has identified a number of ‘master regulators’ of the mechanisms that govern birth. The team is now in the process of targeting these pathways using both in vitro and in vivo models. This research promises to offer new insights into the development of therapeutics for the management of preterm birth.

Gestational diabetes

Gestational diabetes impacts well beyond pregnancy and childbirth, with the potential for lifelong morbidity or mortality for both mother and baby. Little progress, however, has been made with interventions aimed at prevention. Numerous epidemiological studies have linked fruit and vegetable consumption with a reduced risk of various diseases. Many of these beneficial properties have been attributed to phytochemicals such as the citrus flavones that are found in citrus fruits. In this research, we are assessing whether phytochemicals can prevent the development of gestational diabetes and improve adverse fetal outcomes.

Projects and grants

The transmission of perinatal maternal mental health to preschool emotional disorders: Examining pathways and intervention points in the MPEWS study
M Galbally, A Lewis, P Boyce, M van IJzendoorn, T Oberlander, E van Rossum, M Lappas, J Ryan, M Mohebbi
Funded by NHMRC (2016–2020)

Understanding and preventing complications of pregnancy
M Lappas
Funded by the University of Melbourne (2017–2018)

Research Fellowship
M Lappas
Funded by the University of Melbourne (2017–2018)

BET proteins: Key players in the pathogenesis of gestational diabetes?
M Lappas
Funded by Diabetes Australia (2018)

Role of Bromodomain Containing Proteins BRD2-4 in GDM
M Lappas
Funded by Norman Beischer Medical Research Foundation (2018)

Publications

Galbally M, Ryan J, van IJzendoorn M, Watson SJ, Spigset O, Lappas M, Saffery R, de Kloet R, Lewis AJ. Maternal depression, antidepressant use and placental oxytocin receptor DNA methylation: findings from the MPEWS study. Psychoneuroendocrinology 2018;90:1–8.

Goradia P, Lim R, Lappas M. DREAM is involved in the genesis of inflammation-induced prolabour mediators in human myometrial and amnion cells. Biomed Res Int. 2018;2018:8237087.

Koutsakos M, Wheatley AK, Loh L, Clemens EB, Sant S, Nussing S, Fox A, Chung AW, Laurie KL, Hurt AC, Rockman S, Lappas M, Loudovaris T, Mannering SI, Westall GP, Elliot M, Tangye SG, Wakim LM, Kent SJ, Nguyen THO, Kedzierska K. Circulating TFH cells, serological memory, and tissue compartmentalization shape human influenza-specific B cell immunity. Sci Transl Med. 2018;10(428):eaan8405.

Lappas M. Expression and regulation of metallothioneins in myometrium and fetal membranes. *Am J Reprod Immunol.* 2018;80:e13040.

Lappas M. Identification of SMAD3 as a novel mediator of inflammation in human myometrium in vitro. *Mediators Inflamm.* 2018;2018:3140420.

Lappas M. Runt-related transcription factor 1 (RUNX1) deficiency attenuates inflammation-induced pro-inflammatory and pro-labour mediators in myometrium. *Mol Cell Endocrinol.* 2018;473:61–71.

Lappas M, McCracken S, McKelvey K, Lim R, James J, Roberts CT, Fournier T, Alfaidy N, Powell KL, Borg AJ, Morris JM, Leaw B, Singh H, Ebeling PR, Wallace EM, Parry LJ, Dimitriadis E, Murthi P. Formyl peptide receptor-2 is decreased in foetal growth restriction and contributes to placental dysfunction. *Mol Hum Reprod.* 2018;24:94–109.

Lim R, Barker G, Lappas M. IRF5 is increased in labouring myometrium and regulates pro-labour mediators. *Reproduction* 2018;156:207–218.

Lim R, Barker G, Lappas M. PARK7 regulates inflammation-induced pro-labour mediators in myometrial and amnion cells. *Reproduction* 2018;155:207–218.

Lim R, Barker G, Lappas M. Pellino 1 is a novel regulator of TNF and TLR signaling in human myometrial and amnion cells. *J Reprod Immunol.* 2018;127:24–35.

Lim R, Lappas M. NOD-like receptor pyrin domain-containing-3 (NLRP3) regulates inflammation-induced pro-labor mediators in human myometrial cells. *Am J Reprod Immunol.* 2018;79:e12825.

Liong S, Barker G, Lappas M. Bromodomain protein BRD4 is increased in human placentas from women with early-onset preeclampsia. *Reproduction* 2018;155:573–582.

Liong S, Barker G, Lappas M. Placental Ras regulates inflammation associated with maternal obesity. *Mediators Inflamm.* 2018;2018:3645386.

Liong S, Lappas M. Markers of protein synthesis are increased in fetal membranes and myometrium after human labour and delivery. *Reprod Fertil Dev.* 2018;30:313–329.

Liong S, Lim R, Nguyen-Ngo C, Barker G, Parkington HC, Lappas M. The immunoproteasome inhibitor ONX-0914 regulates inflammation and expression of contraction associated proteins in myometrium. *Eu J Immunol.* 2018;48:1350–1363.

Menon R, Richardson LS, Lappas M. Fetal membrane architecture, aging and inflammation in pregnancy and parturition. *Placenta* 2018;79:40-45. DOI: 10.1016/j.placenta.2018.11.003.

Nair S, Jayabalan N, Guanzon D, Palma C, Scholz-Romero K, Elfeky O, Zuniga F, Ormazabal V, Diaz E, Rice GE, Duncombe G, Jansson T, McIntyre HD, Lappas M, Salomon C. Human placental exosomes in gestational diabetes mellitus carry a specific set of miRNAs associated with skeletal muscle insulin sensitivity. *Clin Sci.* 2018;132:2451–2467.

Nguyen THO, Sant S, Bird NL, Grant EJ, Clemens EB, Koutsakos M, Valkenburg SA, Gras S, Lappas M, Jaworowski A, Crowe J, Loh L, Kedzierska K. Perturbed CD8(+) T cell immunity across universal influenza epitopes in the elderly. *J Leukoc Biol.* 2018;103:321–339.

Wijesuriya YK, Lappas M. Potent anti-inflammatory effects of honokiol in human fetal membranes and myometrium. *Phytomedicine* 2018;49:11–22.

Presentations

Lappas M. Inflammatory activations in fetal membrane at term and preterm birth. Preterm Birth International Collaborative (PREBIC) 2018 Annual Meeting, Guangzhou, China, 22 April 2018. [Invited speaker]

Lappas M. Novel therapeutic targets to prevent preterm birth. Preterm Birth International Collaborative Australasia (PREBIC-AA) Meeting, Seoul, 1 September 2018. [Invited speaker]

Lappas M. Preventing gestational diabetes. Pontificia Universidad Católica de Chile, Santiago, 28 September 2018. [Invited speaker]

Lappas M. Role of inflammation in gestational diabetes. Universidad del Desarrollo, Santiago, 1 October 2018. [Invited speaker]

Lappas M. Extracellular Vesicles and Exosomes Symposium. Universidad de Concepcion, Concepcion, Chile, 4 October 2018. [Invited speaker]

Jayabalan N. Adipose tissue derived exosomes modulates placenta glucose metabolism in gestational diabetes mellitus. 2018 Australasian Extracellular Vesicles Conference, University of Technology Sydney, Sydney, 15 November 2018.

Awards and academic achievements

Associate Professor Martha Lappas, awarded Department of Obstetrics and Gynecology Fellowship.

Associate Professor Martha Lappas, appointed Preterm Birth International Collaborative (PREBIC) Australasian Board Director.

Associate Professor Martha Lappas, appointed to the Editorial Board of Scientific Reports and Mediators of Inflammation.

Caitlyn Nguyen-Ngo, Australian Government Research Training Program (RTP) Scholarship.

Caitlyn Nguyen-Ngo, Harold Mitchell Travel Award.

Caitlyn Nguyen-Ngo, Henry and Rachael Ackman Travelling Scholarship.

Hope Eveline Carter Moylan graduated Bachelor of Science (Honours) with a High Distinction.



Caitlyn Nguyen-Ngo

Translational Obstetrics Group
(Professor Stephen Tong)

In 2018, the Translational Obstetrics Group continued their vision of developing new therapeutics and diagnostics to treat major pregnancy complications.

Dr Fiona Brownfoot and Dr Roxanne Hastie commenced their academic tenure within the Translational Obstetrics Group. Fiona is a clinician scientist and has diverse translational interests, while Roxanne has dual interests as a laboratory researcher and an epidemiologist.

The group’s two senior scientists are Dr Natalie Hannan and Dr Tu’uhevaha Kaitu’u-Lino. Natalie’s interests are in developing new nanoparticle drug delivery technologies, identifying new drugs for preeclampsia, and exploring how preeclampsia damages maternal blood vessels. Tu’uhe investigates the biology of preeclampsia to identify new blood biomarkers of fetal growth restriction, stillbirth and preeclampsia.

Research team

- Professor Stephen Tong
- Dr Tu’uhevaha Kaitu’u-Lino
- Dr Natalie Hannan
- Dr Fiona Brownfoot
- Dr Roxanne Hastie
- Dr Carole-Anne Whigham
- Natasha de Alwis
- Dr Natasha Pritchard
- Dr Rangi De Silva
- Dr Amber Kennedy
- Dr Prathima Chowdary
- Dr Cathy Cluver
- Ping Cannon
- Vi Nguyen
- Dr Natalie Binder
- Sally Beard
- Alesia Harper
- Yeukai Mangwiro
- Laura Tuohey

Projects

Phase I clinical trial to test vinorelbine as a treatment for ectopic pregnancy (based in New Zealand).

GEM (Gefitinib and Methotexate) III trial – to test whether combination gefitinib and methotrexate can treat ectopic pregnancy (collaboration with multiple sites in the United Kingdom).

PI2 (Preeclampsia Intervention 2) trial: Randomised clinical trial to evaluate whether metformin can be used to treat preterm preeclampsia (based in Cape Town, South Africa).

ICE (Improved Characterisation of Eclampsia) study: Observational cohort, multi-country, prospective study to identify symptoms that can identify women at high risk of having an eclamptic seizure.

From pathogenesis to therapeutics: targeting two signalling pathways as a therapeutic strategy to treat preeclampsia.

New Generation Antiplatelets Therapies to Prevent Preeclampsia.

Fetal Longitudinal Assessment of Growth (FLAG) study – looking for new markers that can predict when a baby is small and at risk of stillbirth, or predict preeclampsia.

Fetal Hypoxia Study (FOX): development of a blood test to detect babies at risk of imminent stillbirth.

Placental targeted nanomedicine to treat preeclampsia.

Combination treatments to treat preeclampsia.

Identification of a new tablet based therapy to treat ectopic pregnancy.



Dr Natalie Binder

Projects and grants

Vascular pressure myograph system for assessment of whole vessels
N Hannan
Funded by Department of Obstetrics and Gynaecology, University of Melbourne Equipment Grant (2018)

Novel therapeutic agents to treat preeclampsia in obese mice models
N Pritchard, N Hannan
Funded by RANZCOG Foundation Arthur Wilson Scholarship (2018–2019)

Medium and long-term outcomes for children conceived via Assisted Reproductive Techniques (ART) in Victoria
A Kennedy
External funding

Up-regulating placental growth factor to treat preeclampsia
T Lino, F Brownfoot, N Hannan, S Tong
Funded by Trevor Basil Kilvington Bequest Foundation (2018)

Validating mRNA biomarkers to predict fetal growth restriction
T Lino, T MacDonald, S Walker, S Tong
Funded by Norman Beischer Medical Research Foundation (2018)

An international investigation into the prevention and treatment of hypertensive disorders of pregnancy
R Hastie
Funded by Department of Obstetrics and Gynaecology, University of Melbourne ECR Fellowship (2018)

Postdoctoral Travel Fellowship
R Hastie
Funded by Harold Mitchell Foundation (2018)

PhD Student Travel Fellowship
C Whigham
Funded by Harold Mitchell Foundation (2018)

Developing a biomarker to prevent stillbirth
T Lino
Funded by Austin Medical Research Foundation (2018)

MicroRNA biomarkers for preeclampsia at 28 weeks gestation
C Whigham, T Lino, T MacDonald, S Walker
Funded by Norman Beischer Medical Research Foundation (2018)

Developing new diagnostics for preeclampsia and fetal growth restriction
T Lino
Funded by MHDS Research Fellowship Project Support (2018)

Development of novel therapeutics to prevent or treat preeclampsia
N Hannan
Funded by NHMRC R.D.Wright Biomedical Career Development Fellowship Level 1 Fellowship (2018–2021)

Systematic screening approach to identify new therapeutics for preeclampsia
S Tong, T Lino, N Hannan
Funded by NHMRC Project Grant (2016–2019)

From pathogenesis to therapeutics: targeting two signaling pathways as a therapeutic strategy to treat preeclampsia
T Lino, S Tong, N Hannan
Funded by NHMRC Project Grant (2017–2019)

Development of vinorelbine as a tablet based therapy to cure ectopic pregnancies
S Tong, A Horne, T Lino, E Lim
Funded by NHMRC Project Grant (2017–2019)

New generation anti-platelet therapies to prevent preeclampsia
N Hannan, S Tong, T Kaitu’u-Lino
Funded by NHMRC Project Grant (2017–2019)

Nanomedicine targeted delivery of therapeutics to the placenta to treat preeclampsia
N Hannan, L Harris, S Tong
Funded by NHMRC Project Grant (2017–2019)

A multi-centre double-blind randomised trial of a combination of methotrexate and gefitinib versus methotrexate alone as a treatment for ectopic pregnancy (GEM 3)
S Tong (Second principle investigator)
Funded by National Institute for Health Research, United Kingdom (2016-2018).

Investigating mechanisms of preeclampsia and developing novel therapeutics

N. Hannan
Funded by Veski Inspiring Women Fellowship (2016-2018)

Developing a novel device to continuously monitor fetal hypoxia in labour

F Brownfoot
Funded by NHMRC Project Grant (2018-2021)

Rapid prototyping a novel device to continuously and accurately detect fetal distress in labour

F Brownfoot
Funded by Norman Beischer Medical Research Foundation 2018

Bench to bedside translational studies to develop treatments for preeclampsia

F Brownfoot
Funded by NHMRC Early Career Fellowship (2018-2022)

Publications

Acharya G, Aplin J, Brownbill P, Bulmer J, Burton G, Chamley L, Chernyavsky I, Clark A, Collins S, Cottrell E, Dilworth M, Elad D, Filoche M, Hannan N, Heazell AEP, Jensen O, Johnstone ED, Leach L, Lewis R, Morgan T, Myers J, Nye G, Oyen M, Salafia C, Schneider H, O'Tierney-Ginn P. IFPA meeting 2017 workshop report: clinical placentology, 3D structure-based modeling of placental function, placental bed, and treating placental dysfunction. Placenta 2018;64(Suppl 1):S4-S8. DOI: 10.1016/j.placenta.2017.12.011.

Brownfoot FC, Iacobaeus C, Kahan T, Jörneskog G, Bremme K, Andolf E, Thorsell M. Re: Pregnancy-associated plasma protein-A is positively correlated with first-trimester skin microvascular reactivity. Ultrasound Obstet Gynecol. 2018;51:361–367.

Brownfoot FC, Tong S, Hannan NJ, Cannon P, Nguyen V, Kaitu'u-Lino TJ. Effect of sildenafil citrate on circulating levels of sFlt-1 in preeclampsia. Pregnancy Hypertens. 2018;13:1–6.

Cluver C, Hannan NJ, Van Papendorp E, Hiscock R, Beard S, Mol BW, Theron G, Hall DR, Decloed EH, Stander M, Adams KT, Rensburg M, Schubert P, Walker SP, Tong S. Esomeprazole to treat women with preterm preeclampsia: a randomised placebo controlled trial. Am J Obstet Gynecol. 2018; 219(4):388.e1–388.e17.

Hannan NJ, Binder NK, Beard S, Nugyen T, Kaitu'u-Lino TJ, Tong S. Melatonin enhances anti-oxidant molecules in the placenta, reduces secretion of soluble fms-like tyrosine kinase 1 (sFLT-1) from primary trophoblast but does not rescue endothelial dysfunction: an evaluation of its potential to treat preeclampsia. PLoS One 2018;13:e0187082.

Hastie R, Lim E, Sluka P, Campbell L, Horne AW, Ellett L, Hannan NJ, Brownfoot F, Kaitu'u-Lino TJ, Tong S. Vinorelbine potently induces placental cell death, does not harm fertility and is a potential treatment for ectopic pregnancy. EBioMedicine 2018;29:166–176.

Hastie R, Ye L, Hannan NJ, Brownfoot FC, Cannon P, Nguyen V, Tong S, Kaitu'u-Lino TK. Disulfiram inhibits placental soluble FMS-like tyrosine kinase-1 and soluble endoglin secretion independent of the proteasome. Pregnancy Hypertens. 2018;14:125–130.

Kaitu-u-Lino TJ, Brownfoot FC, Beard S, Cannon P, Hastie R, Nguyen TV, Binder NK, Tong S, Hannan NJ. Combining metformin and esomeprazole is additive in reducing sFlt-1 secretion and decreasing endothelial dysfunction-implications for treating preeclampsia. PLoS One 2018;13:e0188845.

May J, Duncan C, Mol B, Bhattacharya S, Daniels J, Middleton L, Hewitt C, Coomarasamy A, Jurkovic D, Bourne T, Bottomley C, Peace-Gadsby A, Tong S, Horne AW. A multi-centre, double-blind, placebo-controlled, randomised trial of combination methotrexate and gefitinib versus methotrexate alone to treat tubal ectopic pregnancies (GEM 3): trial protocol. Trials 2018;19(1):643.

MacDonald T, Hui L, Robinson AJ, Dane KM, Middleton AL, Tong S, Walker SP. The cerebral-placental-uterine ratio as a novel predictor of late fetal growth restriction: a prospective cohort study. Ultrasound Obstet Gynecol. 2018 Oct 18. DOI: 10.1002/uog.20150.

MacDonald T, Tran C, Kaitu'u-Lino TJ, Brennecke SP, Hiscock R, Hui L, Dane KM, Middleton AL, Cannon P, Walker SP, Tong S. Assessing the sensitivity of placental growth factor and soluble fms-like tyrosine kinase 1 at 36 weeks gestation to predict small-for-gestational-age infants or late-onset preeclampsia: a prospective nested case-control study. BMC Pregnancy Childbirth 2018;18(1):354.

Palmer K, Tong S. Accurately predicting the risk of serious maternal morbidity in preterm preeclampsia: can it be done? Hypertension 2018;71:569–571. [Invited Editorial]

Pritchard N, Kaitu'u-Lino TJ, Gong S, Dopierala J, Smith GC, Charnock-Jones DS, Tong S. ELABELA/APELA levels are not decreased in the maternal circulation of placenta among women with preeclampsia. Am J Pathol. 2018;188:1749–1753.

Skubisz M*, Tong S*, Doust A, Mollison J, Johns TJ, Neil P, Robinson M, Bhattacharya S, Wallace E, Krzys, Duncan WC, Horne AW. Gefitinib and methotrexate to treat ectopic pregnancy with a pre-treatment serum hCG 1000-10,000 IU/L: Phase II Open label, single arm multi-centre trial. EBioMedicine 2018;33:276–281. *Equal 1st author

Whitehead CL, Kaitu'u-Lino TJ, Binder NK, Beard S, De Alwis N, Brownfoot S, Tong S, Hannan NJ. EGFL7 gene expression is regulated by hypoxia in trophoblast and altered in the plasma of patients with early preeclampsia. Pregnancy Hypertens. 2018;14:115–120.

Presentations

Brownfoot F. A novel device to detect fetal distress in labour. SPARK mentors pitch night, Melbourne.

Brownfoot F. A novel device to detect fetal distress in labour. Translating Research at Melbourne (TRAM), University of Melbourne.

Brownfoot F. Novel therapeutics to treat preeclampsia. RANZCOG ASM, Adelaide.

Brownfoot F. Anemia in pregnancy. Shared Care GP presentation, Melbourne.

Brownfoot F. Hypertension in pregnancy. Midwife presentation, Melbourne.

Brownfoot F. Medical disorders of pregnancy. GP presentation, Melbourne.

Brownfoot F. Novel treatments for preeclampsia. Wodonga research meeting, Wodonga.

Hannan N. Therapeutic development for preeclampsia. Annual meeting for the Society for Reproductive Biology, Adelaide.

Hannan N. Novel approaches to prevent or treat preeclampsia: from nanoparticles to new generation anti-platelet drugs. Society of Obstetric Medicine of Australia and New Zealand, Cairns.

Hastie R. Disulfiram reduces placental soluble fms-like tyrosine kinase-1 secretion. The International Society for the Study of Hypertension in Pregnancy, Amsterdam.

Hastie R. Treating, preventing and understanding preeclampsia. Karolinska Institute, Stockholm. [Invited presentation]

Hastie R. Treating, preventing and understanding preeclampsia. Centre for Clinical Research, Falun, Sweden. [Invited presentation]

Hastie R. Identifying new medical therapeutics for ectopic pregnancy and preeclampsia. Uppsala University, Uppsala, Sweden.

Lino T. New markers for placental insufficiency. European Workshop of Fetal Growth Restriction, Prato, Italy.

Lino T. Two pathways that contribute to the pathogenesis of preeclampsia. St Vincent's Research Institute, Melbourne.

Lino T. Benchtop to bedside. Catholic Hospital Australia Research Symposium, Mater Hospital, Brisbane.

Lino T. Searching for new diagnostics for pregnancy complications. Centre of Research Excellence in Stillbirth meeting, Brisbane.

Lino T. Identifying new markers of placental insufficiency; The FLAG study. International Federation of Placental Associations, Tokyo, Japan.

Lino T. Identifying new markers of placental insufficiency; The FLAG study. University of Keio Medical Society, Tokyo, Japan.

Lino T. Taking ideas from the lab to the clinic. Society for Reproductive Biology, Adelaide.

Lino T. Identifying new markers of placental insufficiency; The FLAG study. University of Liverpool, Liverpool, UK.

Awards and academic achievements

Professor Tong received two international awards for research presented from the Society for Maternal Fetal Medicine meeting in Orlando.

Associate Professor Tu’uhevaha Kaitu’u-Lino, Society for Reproductive Biology, Robinson Institute Award for Excellence in Reproductive Research winner.

Associate Professor Tu’uhevaha Kaitu’u-Lino, International Federation of Placental Associations, Gabor Than Award for Placentology winner.

Dr Roxanne Hastie, Norman Beischer Medical Research Foundation, 2018 PhD Prize Awarded to outstanding candidates who have recently completed a PhD in the field of obstetrics and gynaecology.

Dr Natasha Pritchard, Grant in Aid.

Natasha de Alwis, Henry and Rachael Ackman Travelling Scholarship.

Natasha de Alwis, International Society for Study of Hypertension in Pregnancy Preeclampsia Foundation Travel Award.

Natasha de Alwis, Society for Reproductive Biology Student Travel Award.

Dr Carole-Anne Whigham, SRI President’s Presenter Award.

Dr Carole-Anne Whigham, RANZCOG Victorian Trainee Research Award.

Dr Fiona Brownfoot, Dean’s Innovation Grant finalist.

Dr Fiona Brownfoot, Health Tech Innovation Grant finalist.

Biomarker Discovery Group (Associate Professor Harry Georgiou)

The Biomarker Discovery Group continues to study perinatal morbidity and mortality, with the aim of identifying better prognostic biomarkers of preterm labour and bringing these discoveries to commercial production and clinical application.

Research team

Associate Professor Harry Georgiou

Associate Professor Megan Di Quinzio

Claire Grant

Tal Amitay

Belinda Bozykowsk

Lucinda Kuhnd

Alison Abboud

Gabrielle Pell

Ramin Khanabdali

Ruth Escalona

Joan Wijaya

Chelsea Perera

Shixuan Zheng

Projects

Preterm birth

Preterm birth is a major pregnancy complication and the cause of perinatal mortality and morbidity. Preterm birth, defined as birth before 37 completed weeks of gestation, occurs in about 15 million pregnancies each year, with more than one million infants dying due to complications of prematurity. In most countries, including Australia, the preterm birth rate has increased over the past 20 years. The lack of a rapid and reliable screening test to identify women who are at risk of experiencing preterm birth limits the early detection of disease onset and the implementation of preventative and therapeutic treatments.

There is a study being conducted, called the PPeTaL study, which aims to deliver a rapid, cost-effective prognostic test kit. The kit will comprise a panel of protein biomarkers found in human cervicovaginal fluid that can predict impending preterm labour, which will then allow preventative and treatment strategies to be implemented to reduce preterm birth. The project is sponsored by an international venture-backed Biotech company, Carmentix, with an aim to achieving this goal.

Gestational diabetes

More than 10 per cent of women develop gestational diabetes mellitus (GDM) during their pregnancy, and about half of these women will subsequently develop type 2 diabetes later in life. The objective of the studies is two-fold: to identify biomarkers in early pregnancy



Natasha de Alwis

that are predictive of impending GDM before the onset of hyperglycaemia, and to follow-up with women who have been diagnosed with GDM during their pregnancy to identify blood-borne biomarkers that can predict those women who will develop type 2 diabetes. Knowing who is likely to develop type 2 diabetes will help with the implementation of preventative strategies.

Projects and grants

Prognostic biomarkers of preterm labour: Development of a predictive test kit for preterm labour
H Georgiou, M Di Quinzio, S Brennecke, N Arbel
Funded by Carmentix (2018–2020)

Publications

Khanabdali R, Shakouri-Motlagh A, Wilkinson S, Murthi, Georgiou HM, Brennecke SP, Kalionis B. Low dose aspirin treatment enhances the adhesion of preeclamptic decidual mesenchymal stem/stromal cells and reduces their production of pro-inflammatory cytokines. *J Mol Med.* 2018;96(11):1215–1225. DOI: 10.1007/s00109-018-1695-9

Lappas M, Georgiou HM, Willcox JC, Permezel M, Shub A. Do postpartum levels of apolipoproteins prospectively predict the development of type 2 diabetes in women with previous gestational diabetes mellitus? *Exp Clin Endocrinol Diabetes.* 2018;127(6):353–358. DOI: 10.1055/a-0577-7700.

Presentations

Georgiou H. Prognostic biomarkers of preterm birth. Preterm Birth International Collaborative Australasia Branch (PREBIC-AA) Meeting, Seoul, 1 September 2018. [Invited speaker]

Awards and academic achievements

Dr Harry Georgiou appointed Associate Professor
Dr Megan Di Quinzio appointed Associate Professor (Clinical)



Some of the Research Midwives Team: (L-R) Gabrielle Pell, Rachel Murdoch, Alex Roddy Mitchell, Alex Harders, Alison Abboud, Jackie Free
Absent: Genevieve Christophers, Belinda Bozykowski, Valerie Kyritsis, Anna Middleton

DEPARTMENT OF GYNAECOLOGICAL ONCOLOGY, MERCY HOSPITAL FOR WOMEN

Many of the group’s research projects are part of national and international collaborations. Members of the department continue to present papers at both national and international meetings.

The Department of Gynaecological Oncology is a quaternary referral service, providing comprehensive holistic and patient centred gynaecological cancer care in a multidisciplinary setting. Team members are involved in many international and national collaborative trials. They also participate in an extensive array of national cancer and pre-invasive organisation committees, for the betterment of the care of women and their families with gynaecological pre-invasive and invasive disease. They are committed to progressing and continuing research in this field, and to the education of the medical community, patients, families and carers.

Research team

- Dr Simon Hyde
- Associate Professor Peter Grant
- Dr Julie Lamont
- Dr Adam Pendlebury
- Associate Professor Linda Mileshekin
- Dr George Au-Yeung
- Dr Serene Foo
- Associate Professor David Allen
- Dr Kristen Moloney
- Janiece Williams

Projects and grants

- Ovarian Cancer Prognosis and Lifestyle Study (OPAL)*
P Webb, M Friedlander, P Grant, A Obermair, A deFazio
Funded by NHMRC
- PARAGON – Phase 2 study of aromatase inhibitors in women with potentially hormone responsive recurrent/metastatic gynaecological neoplasms*
P Grant, S Hyde, L Mileshekin
Funded by ANZGOG
- ARIEL 2. Phase 2, Open-Label Study of Rucaparib in Patients with Platinum-Sensitive, Relapsed, High-Grade Epithelial Ovarian, Fallopian Tube or Primary Peritoneal Cancer*
P Grant, L Mileshekin, D Rischin, S Hyde, J Lamont, D Allen, S Foo
Funded by Clovis Oncology
- Cascade. A cancer tissue collection after death (cascade) programme to improve our understanding of the progression from primary stage cancer to metastatic disease*
D Bowtell, P Grant, J Lamont, S Hyde, L Mileshekin, G Au Yeung
- ICON8 – An international phase III randomised trial of dose-fractionated chemotherapy compared to standard three-weekly chemotherapy, following immediate primary surgery or as part of delayed primary surgery, for women with newly diagnosed epithelial ovarian, fallopian tube or primary peritoneal cancer*
L Mileshekin, G Au Yeung, P Grant, S Hyde, S Foo, J Lamont

Ovarian ctDNA study. Circulating Tumour DNA as a Marker of Residual Disease and Response to Adjuvant Chemotherapy in Stage I–III Optimally Debulked Epithelial Ovarian, Fallopian Tube and Primary Peritoneal Cancer
S Ananda, L Mileshtkin, G Au Yeung, P Grant, S Hyde, S Foo, J Lamont, A Pendlebury

Phaedra. A Phase 2 Trial of Durvalumab in Advanced Endometrial Cancer
L Mileshtkin, G Au Yeung, P Grant, S Hyde, S Foo, J Lamont
Funded by ANZGOG

National Gynaecological Oncology Registry (NGOR): Ovarian Registry Pilot project
P Grant, S Hyde, J Lamont, A Pendlebury
In collaboration with Monash University, the Royal Women's Hospital, Monash Health and Epworth HealthCare

SOLO 1 – Phase III, Randomised, Double Blind, Placebo Controlled, Multicentre Study of Olaparib Maintenance Monotherapy in Patients with BRCA Mutated Advanced (FIGO Stage III–IV) Ovarian Cancer following First Line Platinum Based Chemotherapy
L Mileshtkin, G Au Yeung, P Grant, S Hyde, S Foo, J Lamont, A Pendlebury

SOLO 2 – A Phase III Randomised, Double Blind, Placebo Controlled, Multicentre Study of Olaparib Maintenance Monotherapy in Platinum Sensitive Relapsed BRCA Mutated Ovarian Cancer Patients who are in Complete or Partial Response Following Platinum Based Chemotherapy
L Mileshtkin, G Au Yeung, P Grant, S Hyde, S Foo, J Lamont, A Pendlebury

CATCHE – Conservative approach to treatment of carcinoma and atypical hyperplasia of the endometrium
K Ireland-Jenkin, K Moloney, M Newman, P Grant, S Hyde, J Lamont, A Pendlebury
Funded by Norman Beischer Medical Research Foundation

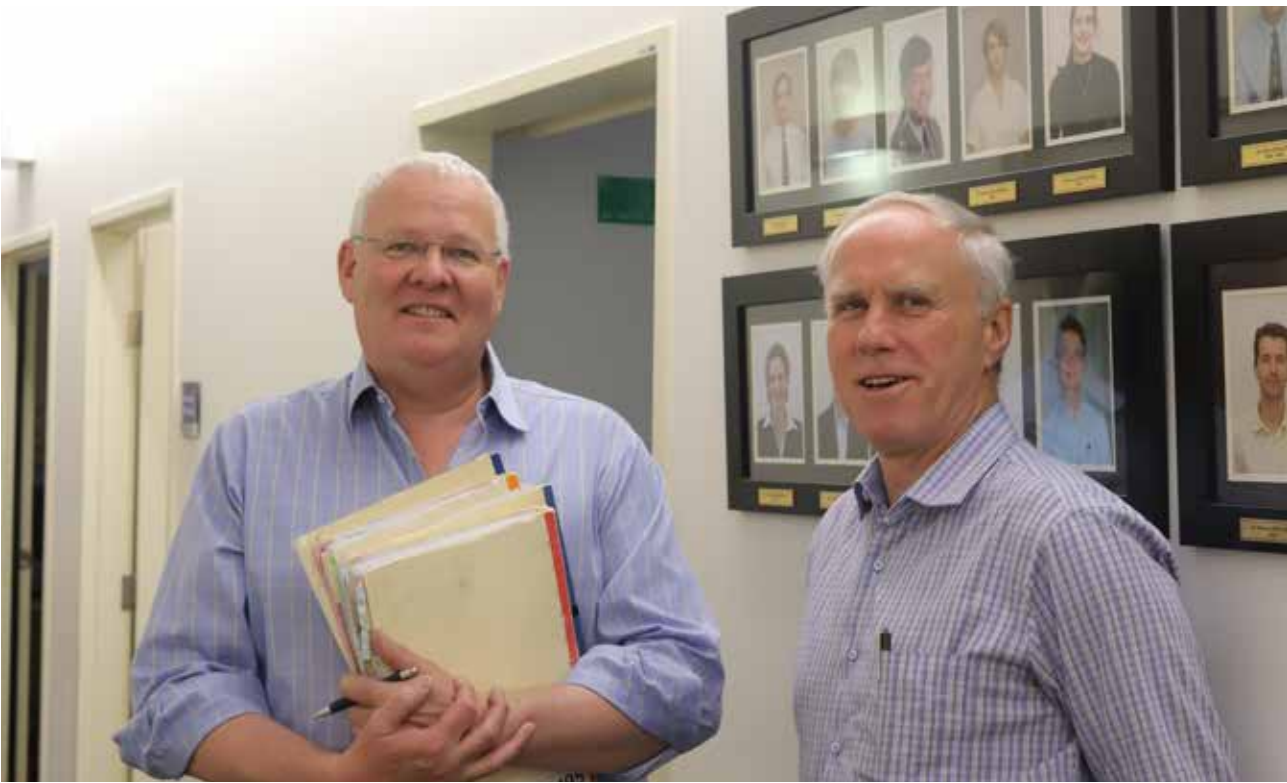
LACISBCF – Longitudinal assessment of chemotherapy-induced structural brain changes and its correlation with impaired cognitive functioning
K Caeyenberghs, S Hyde, L Mileshtkin, G Au Yeung, P Grant, S Foo, J Lamont, A Pendlebury
Funded by Australian Catholic University and Deakin University

Publications

Beesley VL, Smith DD, Nagle CM, Friedlander M, Grant P, DeFazio A, Webb PM, OPAL Study Group. Coping strategies, trajectories and their associations with patient-reported outcomes among women with ovarian cancer. *Support Care Cancer*. 2018;26(12):4133–4142.

Block MS, Vierkant RA, Rambau PF, Winham SJ, Wagner P, Traficante N, Tołoczko A, Tiezzi DG, Taran FA, Sinn P, Sieh W, Sharma R, Rothstein JH, Ramón Y Cajal T, Paz-Ares L, Oszurek O, Orsulic S, Ness RB, Nelson G, Modugno F, Menkiszak J, McGuire V, McCauley BM, Mack M, Lubiński J, Longacre TA, Li Z, Lester J, Kennedy CJ, Kalli KR, Jung AY, Johnatty SE, Jimenez-Linan M, Jensen A, Intermaggio MP, Hung J, Herpel E, Hernandez BY, Hartkopf AD, Harnett PR, Ghatage P, García-Bueno JM, Gao B, Fereday S, Eilber U, Edwards RP, de Sousa CB, de Andrade JM, Chudecka-Głaz A, Chenevix-Trench G, Cazorla A, Brucker SY; Australian Ovarian Cancer Study Group, Alsop J, Whittemore AS, Steed H, Staebler A, Moysich KB, Menon U, Koziak JM, Kommoss S, Kjaer SK, Kelemen LE, Karlan BY, Huntsman DG, Høgdall E, Gronwald J, Goodman MT, Gilks B, García MJ, Fasching PA, de Fazio A, Deen S, Chang-Claude J, Candido Dos Reis FJ, Campbell IG, Brenton JD, Bowtell DD, Benítez J, Pharoah PDP, Köbel M, Ramus SJ, Goode EL. MyD88 and TLR4 expression in epithelial ovarian cancer. *Mayo Clin Proc*. 2018;93(3):307–320.

Kondrashova O, Topp M, Nesic K, Lieschke E, Ho GY, Harrell MI, Zapparoli GV, Hadley A, Holian R, Boehm E, Heong V, Sanij E, Pearson RB, Krais JJ, Johnson N, McNally O, Ananda S, Alsop K, Hutt KJ, Kaufmann SH, Lin KK, Harding TC, Traficante N.; Australian Ovarian Cancer Study Group, deFazio A, McNeish IA, Bowtell DD, Swisher EM, Dobrovic A, Wakefield MJ, Scott CL. Methylation of all BRCA1 copies predicts response to the PARP inhibitor rucaparib in ovarian carcinoma. *Nat Commun*. 2018;9(1):3970.



Dr Simon Hyde and Associate Professor Peter Grant

Presentations

Hyde S. Interactive Panel Q&A Tumour Board. Australian Society for Colposcopy and Cervical Pathology (ASCCP) Update Course, Canberra, 17–18 March 2018.

Hyde S. Management of high grade cervical abnormalities. ASCCP Update Course, Canberra, 17–18 March 2018.

Hyde S. Interactive Panel Q&A/Tumour Board. ASCCP Update Course, Surfers Paradise, 20–21 July 2018.

Hyde S. Management of high grade cervical abnormalities. ASCCP Update Course, Surfers Paradise, 20–21 July 2018.

Posters

Beesley VL, Nagle CM, Grant PT, DeFazio A, Obermair A, Friedlander M, Webb PM, the OPAL Study Group. When will I feel normal again? Quality of life trajectories after first-line chemotherapy for ovarian cancer. ASCO Cancer Survivorship Symposium, Orlando, 16–17 Feb 2018.

Potenza S, Moloney K, Foo S, Au Yeung G, Hyde S, Lamont J, Pendlebury A, Mileshtkin I, Grant P. Intraperitoneal chemotherapy in advanced ovarian cancer. ANZGOG Annual Scientific Meeting, Sydney, March 2018.

Webb PM, Beesley VL, DeFazio A, Obermair A, Grant PT, Nagle CM, Friedlander M, the OPAL Study Group. The hidden burden of anxiety and depression in ovarian cancer: a prospective longitudinal study from diagnosis. ASCO Cancer Survivorship Symposium, Orlando, 16–17 Feb 2018.

Webb PM, DeFazio A, Obermair A, Grant PT, Friedlander M, Beesley VL, Nagle CM, the OPAL Study Group. The Ovarian cancer Prognosis and Lifestyle (OPAL) Study. ASCO Cancer Survivorship Symposium, Orlando, 16–17 Feb 2018.

Awards and academic achievements

Dr Simon Hyde, Masters of Surgical Education, University of Melbourne.

DEPARTMENT OF UROGYNÆCOLOGY, MERCY HOSPITAL FOR WOMEN

Women with disorders of the bladder and pelvic floor are referred to the Department of Urogynaecology for specialist care.

The department treats women with urinary incontinence pelvic organ prolapse and other complex pelvic floor disorders, such as urinary and bowel fistula. In addition, it conducts research and collaborates with international colleagues.

Research team

Professor Peter Dwyer OAM

Dr Yik Lim

Dr Lore Schierlitz

Dr Alison DeSouza

Dr Kris Cvach

Dr Lin Li Ow

Dr Nikki Dykes

Dr Deb Karmakar

Dr Ariel Ziberlicht

James Keck

Dr Alex Wong

Elizabeth Thomas

Christine Murray

Christine Conway

Loretta Barbuto

Julia Miller

Frances Verigos

Shelley Macmillan

Amy Steventon

Elise Fraser

Publications

Duarte TB, Bonacin MAP, Brito LGO, Frawley H, Dwyer PL, Thomas E, Ferreira CHJ. Does pelvic floor muscle maximum voluntary contraction improve after vaginal pelvic organ prolapse surgery? A prospective study. *Neurourol Urodyn*. 2018;37(5):1744–1750.

Karmakar D, Dwyer PL. High impact exercise may cause pelvic floor dysfunction. *BJOG*. 2018;125(5):614. DOI: 10.1111/1471-0528.15025.

Nikpoor P, Karmakar D, Dwyer P. Female voiding dysfunction: a practical approach to diagnosis and treatment. *Curr Obstet Gynecol Rep*. 2018;7(2):74–83. DOI: <https://doi.org/10.1007/s13669-018-0238-2>.

Ow LL, Lim YN, Lee J, Murray C, Thomas E, Leitch A, Rosamilia A, Dwyer PL. RCT of vaginal extraperitoneal uterosacral ligament suspension (VEULS) with anterior mesh versus sacrocolpopexy: 4 year outcome. *Int Urogynecol J*. 2018;29(11):1607–1614. DOI: 10.1007/s00192-018-3687-2.

Book chapters

Cvach K, Dwyer PL. Open abdominal approach to supporting the vaginal apex. In Cardoza L, Staskin D, editors. *Textbook of Female Urology and Urogynaecology* (4th ed). CRC Press, 2018.

Lee J, Dwyer PL. Selection of mid-urethral slings for women with stress urinary incontinence. In Santoro P, Wiczorek C, Sultan BAH, editors. *Pelvic Floor Disorders: a Multidisciplinary Textbook*. Springer-Verlag Italia, 2018.

Presentations

Cvach K, Dwyer PL. Efficacy of cloripactin in bladder pain syndrome/interstitial cystitis: a randomised controlled trial. International Urogynecological Association Annual Scientific Meeting, Vienna, 2018.

Dwyer PL. Repair and reconstruction for apical defects in vaginal prolapse. International Urogynecology Association and Urogynaecology and Reconstructive Pelvic Surgery Society of India, Chennai, 2018.

Dwyer PL. The abdominal sacrocolpopexy. International Urogynecology Association and Urogynaecology and Reconstructive Pelvic Surgery Society of India, Chennai, 2018.

Dwyer PL. Repair of posterior compartment prolapse. International Urogynecology Association and Urogynaecology and Reconstructive Pelvic Surgery Society of India, Chennai, 2018.

Karmakar D, Dwyer PL. Bilateral extraperitoneal uterosacral vault suspension technique for post hysterectomy vault prolapse – surgical complications and long-term outcome. International Urogynecological Association Annual Scientific Meeting, Vienna, 2018.

Karmakar D, Dwyer P, Nikpoor P. Simple closure with conservation of the sling versus excision for tape extrusion; which provides the best outcome? International Urogynecological Association Annual Scientific Meeting, Vienna, 2018.

Awards and academic achievements

Professor Peter Dwyer, Medal of the Order of Australia (OAM).

Dr Deb Karmakar, awarded Best Presentation at the International Urogynecological Association Annual Scientific Meeting in Vienna Austria for his presentation ‘Simple closure with conservation of the sling versus excision for tape extrusion; which provides the best outcome?’



Dr Lore Schierlitz

DEPARTMENT OF GYNAECOLOGY, MERCY HOSPITAL FOR WOMEN

Within the Department of Gynaecology, the Plenty gynaecology team has been actively involved in a number of research projects, reflecting the range of specialised skills and services they provide to patients.

The Plenty gynaecology team provides general gynaecology care, but has additional skills in the provision of pelvic pain services, gender services, and congenital anomalies. It has links and research collaborations locally, with two team members working at the Royal Children's Hospital and Austin Health, and internationally with other hospitals and universities. Medical students have also had the opportunity to undertake research projects, with the Plenty team providing support and guidance.

Plenty gynaecology team

Professor Sonia Grover

Dr Claire Peterson

Dr Vanessa King

Dr Kent Kuswanto

Dr Charlotte Elder

Publications

Elder C. Surgery for transgender individuals. O&G Magazine 2018;20(4). <https://www.ogmagazine.org.au/20/4-20/surgery-for-transgender-individuals/>.

Girling JE, Hawthorne SCJ, Marino JL, Nur Azurah AG, Grover SR, Jayasinghe YL. Paternal understanding of menstrual concerns in young women. J Pediatr Adolesc Gynecol. 2018;31(5):459–467.

McQuillan S, Jayasinghe YL, Grover SR. Audit of referrals for concern regarding labial appearance at the Royal Children's Hospital: 2000–2012. J Paediatr Child Health. 2018;54:439–442.

Norris J, Elder C, Dunford A, Rampal D, Cheung C, Grover SR. Spontaneous resolution of labial adhesions in pre-pubertal girls. J Paediatr Child Health 2018;54(7):748–753.

Nurkhairulnisa AI, Chew KT, Zainudin AA, Lim PS, Shafiee MN, Kampan N, Ismail W, Salwina W, Grover S, Abdul Ghani NA. Management of menstrual disorder in adolescent girls with intellectual disabilities: a blessing or a curse? Obstet Gynecol Int. 2018;2018:9795681. DOI: 10.1155/2018/9795681.

Sachedina A, Chan K, MacGregor D, M Campbell, Grover SR. Rhabdomyosarcoma, more than just grapes and bleeding. J Pediatr Adolesc Gynecol. 2018;31(5):522–525.

Sewell M, Churilov L, Mooney S, Ma T, Maher P, Grover SR. Chronic pelvic pain – pain catastrophizing, pelvic pain and quality of life. Scan J Pain 2018;18(3):441–448.

Tucker E, Grover SR, Robevska G, van der Bergen J, Hanna C, Sinclair A. Identification of variants in pleiotropic genes causing “isolated” premature ovarian insufficiency: implications for medical practice. Eur J Hum Genet. 2018;26(9):1319–1328. DOI: 10.1038/s41431-018-0140-4.

Book chapters:

Bryan S, Grover S. Paediatric and adolescent gynaecology. In Cameron E, Browne GJ, Mitra B, Dalziel S, Craig S, editors. Textbook of Paediatric Emergency Medicine. Churchill Livingstone, 2018.

Abstracts

Elder CV, King V, Kuswanto K, Porter JF, Grover SR. Gynaecological care for transgender individuals – the Mercy Hospital experience. RANZCOG Annual Scientific meeting, Adelaide, 2018.

Chan K, Grover SR. An audit of satisfaction and failures with the use of the levonorgestrel IUS when treating dysmenorrhea or pelvic pain in adolescents. APS/NZPS annual meeting 2018, Sydney, 8–11 April 2018.



Dr Charlotte Elder

Dunford A, Rampal D, Grover SR. Adolescent and paediatric vulval pain: an underrecognized problem. APS/NZPS annual meeting 2018, Sydney, 8–11 April 2018.

Fitzgerald A, Mooney S, Madden S, Mirowska-Allen K, Sewell M, Grover SR. A fine line between pleasure and pain: management, outcomes and associated features in women with dyspareunia. APS/NZPS annual meeting 2018, Sydney, 8–11 April 2018.

Grover SR. Putting a gynaecologist/pain specialists' spotlight on period and pelvic pain in young women: compiling the evidence, learning from others, shifting the focus, changing the future. APS/NZPS annual meeting 2018, Sydney, 8–11 April 2018.

Grover SR. Adolescent endometriosis related pain in adolescents. Philippines Obstetric and Gynaecology Society Scientific meeting, Manila, November 2018.

Grover SR. Surgery on the reproductive tract in adolescents. Philippines Obstetric and Gynaecology Society Scientific meeting, Manila, November 2018.

Grover SR. Atypical sexual development. Paediatric and Adolescent Gynaecology Society of the Philippines, Manila, November 2018.

Grover SR. Dealing with pain and preserving fertility: endometriosis in the adolescent. Paediatric and Adolescent Gynaecology Society of the Philippines, Manila, November 2018.

Grover SR. Paediatric and adolescent pelvic and perineal pain. FIGO, Rio de Janeiro, October 2018.

Grover SR. Why paediatric and adolescent gynaecology? Malaysian International Scientific Congress in Obstetrics and Gynaecology, Kuala Lumpur, July 2018.

Hadden R, Grover S, Chuen J, Coles-Black J. Assessing the utility of 3D printed models of mullerian tract anomalies for clinical education. RANZCOG Annual Scientific meeting, Adelaide, 2018.

Knox B, Abu Bakar M, Ong Y, Grover S. What does longterm follow-up of adolescents with dysmenorrhoea tell us about endometriosis in young women? RANZCOG Annual Scientific meeting, Adelaide, 2018.

Knox B, Abu Bakar M, Ong Y, Grover S. Adolescent dysmenorrhoea into adulthood: predictors and outcomes. RANZCOG Annual Scientific meeting, Adelaide, 2018.

DEPARTMENT OF ENDOSURGERY, MERCY HOSPITAL FOR WOMEN

The endosurgery unit specialises in providing advanced laparoscopic surgery to women. The primary research focuses of the team include surgical safety, junior doctor training and improving surgical techniques.

Research team

Professor Peter Maher

Dr Emma Readman

Dr Lenore Ellett

Dr Kate McIlwaine

Dr Janine Manwaring

Dr Kate Stone

Dr Natalie Yang

Dr Prathima Chowdary

Dr Tony Ma

Dr Samantha Mooney

Dr Hannah Gordon

Dr Lauren Hicks

Dr Stephanie Jackson

Dr Rilka Lee

Dr Sue-Ann Loh

Dr Shagun Narula

Jennifer Porter

Dr Amy Stewart

Dr Kate Tyson

Projects and grants

What Lies Beneath: Umbilical adhesions following abdomino-pelvic surgery

Funded by AGES Research Grant Program (2018)

We Live in a Virtual World: Training

Funded by AGES Research Grant Program (2018) and Mercy Health Academic Research and Development Committee Small Grants (2018–2019)

Virtual Clinics in Gynaecology:

Can we shorten the wait?

Funded by Mercy Health Academic Research and Development Committee Small Grants (2018–2019)

Adnexal torsion following laparoscopic hysterectomy with salpingectomy

Determining a threshold measurement of endometrial thickness in asymptomatic postmenopausal women

Publications

Chowdary P, Maher P, Ma T, Newman M, Ellett L, Readman E. The role of the Mirena Intrauterine Device (LNG-IUD) in the management of endometrial polyps – a pilot study. J Minim Invasive Gynecol. 2018;S1553-4650(18)31429–8. DOI: 10.1016/j.jmig.2018.12.013.

Chowdary P, Stone L, Ma T, Readman E, McIlwaine K, Druitt M, Ellet L, Cameron M, Maher P. Multicentre retrospective study to assess diagnostic accuracy of ultrasound for superficial endometriosis – are we any closer? Aust N Z J Obstet Gynaecol. 2018;59(2);279–284. DOI: 10.1111/ajo.12911.

De Bortoli J, Chowdary P, Nikpoor P, Readman E. Clinical approach to vulvovaginal cysts and abscesses, a review. Aust N Z J Obstet Gynaecol. 2018;58(4):388–396. DOI: 10.1111/ajo.12822.

Ma T, Chowdary P, Eskander A, Ellet L, McIlwaine K, Manwaring J, Readman E, Maher P. Can narrowband imaging improve the laparoscopic identification of superficial endometriosis? A prospective cohort trial. J Minim Invasive Gynecol. 2018;S1553-4650(18)30261–9. DOI: 10.1016/j.jmig.2018.05.007.

Sewell M, Churilov L, Mooney S, Ma T, Maher P, Grover SR. Chronic pelvic pain – pain catastrophizing, pelvic pain and quality of life. Scand J Pain. 2018;18(3):441–448. DOI: 10.1515/sjpain-2017-0181.

Presentations

Chowdary P. Dyspareunia – find the sore spot. AGES ASM, Melbourne, 8–10 March 2018.

Ellett L. Ablation and the new burn. AGES ASM, Melbourne, 8–10 March 2018.

Jackson S. The use of a multimedia module to aid junior doctors' knowledge and confidence to consent patients for total laparoscopic hysterectomy: A randomised controlled trial. AGES ASM, Melbourne, 8–10 March 2018.

Jackson S. The use of a multimedia module to aid junior doctors' knowledge and confidence to consent patients for total laparoscopic hysterectomy: a randomised controlled trial. 47th American Association

of Gynecologic Laparoscopists Global Congress on Minimally Invasive Gynecologic Surgery, Las Vegas. [Invited speaker]

Lee R. Uterovesical ectopic ovary – A case report and review of the literature. AGES ASM, Melbourne, 8–10 March 2018.

Maier P. Hysterectomy – does it still have a place? 19th APAGE/IndonesianGyn Endoscopy Society ASM, Surabaya, 2018. [Keynote]

McIlwaine K. Clomid: ovulation for everyone. AGES ASM, Melbourne, 8–10 March 2018.

Readman E. Complications of hysteroscopy: how much of a problem is it anyway? AGES ASM, Melbourne, 8–10 March 2018.

Readman E. The new world of simulation in Gynaecology Surgery – How can it help me upskill? AGES ASM, Melbourne, 8–10 March 2018.

Stone K, Yang N. The many faces of adenomyosis – how medical imaging can assist the gynaecologist. AGES ASM, Melbourne, 8–10 March 2018.

Tyson K. A combined cystoscopic and laparoscopic approach to excision of a nodule of endometriosis within the urinary bladder. AGES ASM, Melbourne, 8–10 March 2018.



Dr Lenore Ellett (L) demonstrating to Dr Fiona Stenning (R) how to use the Virtual Reality Laparoscopic Simulator – LapSim™

DEPARTMENT OF PAEDIATRICS, MERCY HOSPITAL FOR WOMEN

Research focuses on a number of themes: respiratory management and preventing chronic lung disease; nutrition; brain injury; infection and immunity and long-term neurodevelopmental outcomes.

The Neonatal Intensive Care Unit (NICU) at Mercy Hospital for Women (MHW) is continuing its commitment to research, collaborating with large scale, multi-centre projects while also working on local projects.

As part of large, randomised, multi-centre trial the NICU is involved with the PAEAN study, led by Dr Jim Holberton. This study aims to assess the use of erythropoietin, in addition to total body cooling, for the treatment of babies with hypoxic ischaemic encephalopathy.

The NICU has been recruiting for the OPTIMIST trial under Dr Ajit Aiyappan, exploring novel ways to deliver surfactant to babies born prematurely.

Dr Arun Sasi is the lead site investigator for the PEBBLES study, investigating the development of allergies in the premature population.

Research Nurse Elizabeth Noble has been collecting follow-up data for the Chronic Lung Disease in Preterm Infant (Cytokine) Study.

Data is being collected in follow-up from the LIFT trial, investigating the effects of bovine lactoferrin dietary supplementation in neonates. Dr Gillian Opie co-ordinates long term neurodevelopmental follow-up research, including the VICS study group of the cohort recruited in 2016-17, the LIFT and Magenta trials and Wave 6 of MPEWS cohort. Gillian also has several collaborations with external research scientists involving breastmilk.

Dr Dan Casalaz continues to oversee the MISBAIR study.

Dr Clare Collins and Dr Arun Sett have been conducting the NICHE trial, using near infra-red spectroscopy to monitor our population of low birthweight and premature infants as they transition between different types of respiratory support.

Dan and Dr Bron Hennebry will be monitoring the stool microbiome of premature and low birthweight infants to track changes associated with necrotising enterocolitis and common medical interventions on the unit.

Arun has been overseeing cardiology research in NICU, with a retrospective study on whether treatment of a patent ductus arteriosus (a common structural heart abnormality) alters the outcomes of premature babies. Arun is also planning a prospective study assessing myocardial function in babies with chronic lung disease.

Dr Asiyath Rasheed presented data at the Paediatric Society of Australia and New Zealand (PSANZ) on the developmental outcomes of babies extubated to different forms of non-invasive respiratory support.

Dr Andrew Watkins chaired a symposium at PSANZ on 'Perinatal Care of the Woman and Family in a Multicultural World' and presented 'The stories we tell: An overview of culture and religion in perinatal practice'. Andrew is also Chair of the Perinatal Palliative Care Special Interest Group, which is currently preparing guidelines for paediatric palliative care.

Gillian continues to be invited to present at conferences on lactation topics. In 2018 these included – the inaugural meeting for the Asia-Pacific Academy of Breastfeeding Medicine on 'Breastfeeding the later preterm and IUGR infant'; a presentation on management of tongue-tie to the Home Care Midwifery group, auspiced by the Australian Nursing and Midwifery Federation; Neonatal Hot Topics to the Victorian Statewide Maternal Child Health Nurses (MCHN) conference; and to the Medical Parents Australia and New Zealand (MPANZ) annual conference on 'Hot Topics in Breastfeeding'.

Dr Philip Henschke continues his outreach work lecturing and training in neonatology in Indonesia and Fiji.



(L-R) Elizabeth Noble, Dr Ajit Aiyappan, Bronwyn Novella

Research team

Dr Ajit Aiyappan

Dr Dan Casalaz

Dr Clare Collins

Dr Bron Hennebry

Dr Jim Holberton

Dr Gemma Nesbitt

Elizabeth Noble

Dr Gillian Opie

Dr Asiyath Rasheed

Dr Arun Sasi

Dr Arun Sett

Bronwyn Novella

Publications

Cheong JLY, Lee KJ, Boland RA, Spittle AJ, Opie GF, Burnett AC, Hickey LM, Roberts G, Anderson PJ, Doyle LW, Victorian Infant Collaborative Study Group. Changes in long-term prognosis with increasing postnatal survival and the occurrence of postnatal morbidities in extremely preterm infants offered intensive care: a prospective observational study. *Lancet Child Adolesc Health* 2018;2(12):872–879. DOI: 10.1016/S2352-4642(18)30287-6.

Doyle LW, Anderson PJ, Burnett A, Callanan C, McDonald M, Hayes M, Opie G, Carse E, Cheong JLY; Victorian Infant Collaborative Study Group. Developmental disability at school age and difficulty obtaining follow-up data. *Pediatrics* 2018;141(2):e20173102. DOI: 10.1542/peds.2017-3102.

MIDWIFERY PROFESSORIAL UNIT, MERCY HOSPITAL FOR WOMEN AND LA TROBE UNIVERSITY

A successful partnership between Mercy Hospital for Women and La Trobe University means that staff are supported to be leaders in innovation, education, clinical care and research.

Nurses and midwives are encouraged to explore clinical and service delivery issues. They are supported by research and academic experts to develop research skills and make a difference for women and babies.

Research team

Professor Sue McDonald

Wendy Pollock

Projects

The overall program of research includes issues faced by women having their labour induced, the processes around care in labour (for example, water immersion, use of a 'peanut' shaped support ball, prevention of perineal trauma during childbirth and facilitating smooth transition through the emergency department.

Publications

Ayala Quintanilla BP, Pollock WE, McDonald SJ, Taft AJ. Impact of violence against women on severe acute maternal morbidity in the intensive care unit, including neonatal outcomes: a case-control study protocol in a tertiary healthcare facility in Lima, Peru. *BMJ Open*. 2018;8:1–7.

Daly LM, Gardener G, Bowring V, Burton W, Chadha Y, ... McDonald SJ, et al. Care of pregnant women with decreased fetal movements: update of a clinical practice guideline for Australia and New Zealand. *Aust N Z J Obstet Gynaecol*. 2018;58:463-468.

Flood M, McDonald SJ, Pollock W, Cullinane F, Davey M-A. Incidence, trends and severity of primary postpartum haemorrhage in Australia: a population-based study using Victorian perinatal data collection data for 764,244 births. *Aust N Z J Obstet Gynaecol*. 2018;59.

Flood M, Pollock W, McDonald SJ, Davey M. Accuracy of postpartum haemorrhage data in the 2011 Victorian Perinatal Data Collection: results of a validation study. *Aust N Z J Obstet Gynaecol*. 2018;58:210-216.

Flood M, Pollock WE, McDonald SJ, Davey M. Monitoring postpartum haemorrhage in Australia: opportunities to improve reporting. *Women Birth*. 2018;31:89-95.

Wallace HJ, McDonald S, Belton S, Miranda A, da Costa E et al. Body Mapping to Explore Reproductive Ethno-Physiological Beliefs and Knowledge of Contraception in Timor-Leste. *Qualitative Health Research*. 2018;28:1171-1184.

Wallace HJ, McDonald S, Belton S, Miranda A, da Costa E, et al. What influences a woman's decision to access contraception in Timor-Leste? Perceptions from Timorese women and men. *Culture, Health and Sexuality*. 2018;20:1317-1332.

Wallace HJ, McDonald S, Belton S, Miranda A, da Costa E, et al. The decision to seek care antenatally and during labour and birth – who and what influences this in Timor-Leste? A qualitative project exploring the perceptions of Timorese women and men". *Midwifery*. 2018;65:35-42.

Whitburn LY, Jones LE, Davey MA, McDonald S. The nature of labour pain: an updated review of the literature. *Women Birth*. 2018;32.

Wild KJ, Gomes L, Fernandes Ade Araujo G, Madeira I, ... McDonald SJ, et al. Responding to violence against women: a qualitative study with midwives in Timor-Leste. *Women Birth*. 2018;32.



Mercy Hospital for Women midwife Siobhan with patient Nicole

RESEARCHING TO MAKE A DIFFERENCE

Dr Roxanne Hastie and Dr Rangi De Silva both share a passion for research and they hope their research helps women achieve the safest pregnancy and birth experience possible.

Roxanne is an early career researcher who recently completed her PhD in maternal health in childbirth. Rangi is an obstetric doctor and is currently completing her PhD under Roxanne's supervision. Together they hope their research will improve the health of mothers and babies globally.

Roxanne grew up in South Africa and the experience continues to inspire her to make a difference. Roxanne's research spans laboratory discovery to epidemiology, using health data and observational human studies to uncover patterns and trends in disease at a population level.

Combining these research streams, Roxanne develops new concepts in the laboratory and

then tests them at a population level; this helps speed up clinical innovation for major pregnancy complications. The research looks at maternal health in both developed countries, such as Australia, and developing countries, so that all women have the same opportunity to bring their babies home safely.

Roxanne's research is currently focused on two very different fields: improving the management of mental health during pregnancy and eclampsia, a life-threatening complication of preeclampsia.*

While these two fields of research are different, what drives Roxanne is the same for both. "Our vision is to use our skills to improve maternal health and neonatal outcomes."



Dr Roxanne Hastie

"Our vision is to use our skills to improve maternal health and neonatal outcomes."

Dr Hastie



Dr Rangi De Silva with patient Kerstin

Mental health

Pregnancy is considered a time of increased vulnerability to psychiatric disorders, with a prevalence of 15–30 per cent in pregnant women. These women are at increased risk of considerable psychological morbidity, including suicide, and are likely to be in need of medication, such as antidepressants or antipsychotics. However, many women simply stop taking their medication during pregnancy because of the unknown degree of risk to their unborn babies. Although these medications are widely prescribed during pregnancy, their effects on the placenta and fetus, and long-term childhood outcomes, are poorly understood.

In order to improve the care of psychiatric disorders during pregnancy, Roxanne is examining birth, childhood health and educational outcomes among children whose mothers have used medication during pregnancy. Additionally, complementary laboratory research is being done to test the effects of these medications on placental function. Given the current scarcity of data regarding fetal exposure to a number of medications, this study will help to inform clinicians and patients about the risks related to taking these medications during pregnancy.

Ultimately, this work may have a direct impact by improving the care of women with mental illnesses during pregnancy and minimise risk to their babies.

Preventing eclampsia

Roxanne and Rangi are working together on research into eclampsia.

For Rangi this is very personal. "My mother had an eclamptic fit when she was pregnant with me. To this day my mother and father still talk about how scary the experience was for them."

Rangi and Roxanne are involved in a large study across three countries in the developing world (Pakistan, the Solomon Islands and South Africa). The aim is to develop a simple tool to predict which pregnant women are at risk of an imminent eclamptic fit, with the hope of preventing it.

*Preeclampsia is a pregnancy complication where the mother has high blood pressure and can go into organ failure if the baby is not delivered, resulting in many premature births. Every year the lives of 70,000 women and 500,000 babies across the globe are lost to preeclampsia.



MEDICAL, SUBACUTE AND PALLIATIVE CARE SERVICES

This program provides specialist clinical services to optimise health outcomes and support patient care.

Werribee Mercy Hospital Emergency Department registrar Simon and nurse Tayla

WERRIBEE MERCY HOSPITAL, EMERGENCY DEPARTMENT

The Emergency Department at Werribee Mercy Hospital provides urgent assessment and treatment for people of all ages, and for all conditions.

Open 24 hours a day, seven days a week, the department is staffed by specialist emergency nurses and specialist emergency doctors. It sees a wide spectrum of issues, including obstetrics and gynaecology, mental health, general surgical, medical and paediatric.

Presentations

J. Gallagher and H. Akhlaghi. DKA management in the Emergency Department. Poster presentation at ASM ACEM 2018.

ENDOCRINOLOGY AND DIABETES EDUCATION SERVICE, MERCY HOSPITAL FOR WOMEN AND WERRIBEE MERCY HOSPITAL

This service cares for women with Type 1 or Type 2 diabetes who are either pregnant or planning a pregnancy, who develop gestational diabetes or have other endocrine (gland related) disorders.

Research team

- Dr Balasubramanian Krishnamurthy
- Dr Jessie Teng
- Associate Professor David O’Neal
- Dr May Lea Ong
- Dr Nisha Khot
- Dr Sheetal Tipnis
- Linda Jackson
- Jan Lin
- Dr Christine Houlihan
- Dr Alexis Shub
- Rachel Miller
- Anna Peters
- Karen Moulton

Projects and grants

Incorporating Continuous Glucose Monitoring (CGM) into a Gestational Diabetes Mellitus (GDM) Model of Care to Enhance the Efficient Use of Health Care Resources: Pilot
Associate Professor David O’Neal
Funded by Medtronic

WERRIBEE MERCY HOSPITAL, INTENSIVE CARE UNIT

Opening in August 2018, the unit has links with the University of Notre Dame's graduate medical training program and the University of Melbourne's postgraduate Critical Care Nursing program.

The Werribee Mercy Hospital (WMH) Intensive Care Unit (ICU) is one of the newest entrants to the Australia and New Zealand Intensive Care Society's Clinical Trials Group (ANZICS-CTG), which is one of the most prominent and renowned critical care research groups internationally. At a state level, the ICU is involved with several projects with Safer Care Victoria's Critical Care Network. The Director of Research for the ICU at WMH is Dr Umesh Kadam.

Research team

Dr Mainak Majumdar

Dr Umesh Kadam

Hemant Minhas

Joanne Pickford

Projects

Inotropes and Vasopressors Program: a statewide Quality and Safety program to standardise the usage of vasoactives and inotropes in Victoria

Dr Mainak Majumdar is on the steering committee and the project lead for WMH. WMH ICU is one of the pilot sites in Victoria for implementation of the program.

PADS: a statewide Quality and Safety program to standardise assessment and medical management of pain, agitation, delirium and sedation in ICU

Dr Mainak Majumdar is on the steering committee for the project, and Dr Umesh Kadam and Hemant Minhas are the project leads. WMH ICU is a pilot site for this project in Victoria.

Rapid Response Systems

Joanne Pickford has had a long association with the Critical Care Network's project on rapid response systems and presented her data at the regional ANZICS conference at Bendigo in 2018.

Infection Control

Dr Mainak Majumdar, Joanne Pickford and Lorraine Whelan were part of the initial statewide quality and safety project to standardise infection control procedures across all hospitals in Victoria based on evidence and best practice data recommendations from Safer Care Victoria.

Dr Umesh Kadam is involved with a multi-centre quality and safety project to measure patient and family satisfaction following a stay in ICU.

Dr Majumdar collated a multicentre examination of long term outcomes for critical care patients with cancer (COCA2) with ANZICS and the Department of Health and Human Services.

Dr Majumdar supervised an MD (Doctor of Medicine) Research Project with the University of Notre Dame, examining the relationship between delirium and melatonin.

Publications

Majumdar M. Personal Fear of Death Affects Healthcare Workers' Ability to Discuss End of Life Issues with Patients. *Am J Resp Crit Care Med* 2018;197:A4881



The new Werribee Mercy Hospital Intensive Care Unit team on opening day

IMPROVING CARE IN EMERGENCY DEPARTMENTS

Dr Anh Tran has worked in the Emergency Department at Werribee Mercy Hospital for over 12 years. He was attracted to the community nature and wants to improve patient care and outcomes.

Until recently, Anh was the Director of Emergency Medicine Training. In this role, he was responsible for training newly graduated emergency doctors. While enjoying this role, Anh also wanted to pursue his passion for research and quality improvement.

This led Anh to taking a six-month sabbatical where he could focus on three specific research projects.

One project looked at ways to improve the care of patients with sepsis in the emergency department. Another project looked into what could be done to reduce unnecessary imaging of patients with back pain presenting to the emergency department.

Anh's third project involved working with Safer Care Victoria. The objective of the first project was to develop much-needed guidelines for emergency care clinicians across the state. The project delivered 12 guidelines that have been endorsed by an expert working group as fit-for-purpose for use by emergency care clinicians throughout the state, which now also includes urgent care centres. Apart from the guidelines, the inclusion of these centres is another great achievement. Until 12 months ago, the focus of emergency care was on emergency departments only, which are in metropolitan areas, but a lot of emergency care in the state is delivered in urgent care centres, which are found in regional areas.

"I'm really thrilled that my research and resulting guidelines have been shared across the state, and that now there is a framework and a 'single source of truth' for everyone who works in emergency care, regardless of location," Anh said.



Dr Anh Tran

UNIVERSITY OF NOTRE DAME, MELBOURNE CLINICAL SCHOOL

The collaboration between the University of Notre Dame Australia, Melbourne Clinical School and Mercy Health provides opportunities for staff and students to undertake research.

The research program is led by Associate Dean and Professor of Health Innovation, Moyez Jiwa. In 2018, the university was involved in a number of staff and student research projects. Many of the research projects were conducted on site at Werribee Mercy Hospital, under the supervision of tutors who are staff members of Mercy Health.

Melbourne Clinical School research team

Dr Catherine Krejany

Epi Kanjo

Lee Sulkowska

Jocelyn Dixon

Mercy Health student tutors

Dr Jonathan Darby

Associate Professor Shaukat Esufali

Dr Michael Lograsso

Dr John Pasco

Dr Jacqueline Van Dam

Projects

*Is there a wealth to work absenteeism correlation?
The influence of local and national economic prosperity
on the incidence of sickness absence in the
Wyndham locale*
M Jiwa, C Krejany, H Cull

*The impact of photo-aging intervention on promoting
smoking cessation among pregnant women or in
postpartum women who are not breastfeeding*
M Jiwa, J Van Dam

*The patterns and acuity of paediatric presentations
at Werribee Mercy Hospital Emergency Department*
M Jiwa, C Krejany, J Pasco

*Patients suffering from substance and their use of
the Emergency Department*
M Jiwa, C Krejany, J Pasco

*Patterns of sickness absence from an Australian
secondary hospital in metropolitan Melbourne:
a ten year longitudinal study*
M Jiwa, C Krejany, E Kanjo, L Sulkowska, H Cull



AMBULATORY, COMMUNITY AND ALLIED HEALTH SERVICES

This program includes dietetics, occupational therapy, pastoral care, pharmacy, physiotherapy, radiography, social work, sonography and speech pathology.

Werribee Mercy Hospital patient Bernie

ALLIED HEALTH

The Department of Allied Health provides specialist clinical services to support patient care and optimise patient health outcomes.

Allied Health staff work within multidisciplinary teams and departments across a range of clinical specialty areas, with inpatients and outpatients. Allied Health is committed to improving patient care through research and projects focused on evaluating current practice and implementing new service initiatives. This work is achieved through collaboration with our internal partners, and with external organisations such as universities.

Projects and grants

A Qualitative study of attitudes, barriers and enablers to physical activity in women with gestational diabetes mellitus

A Harrison

Funded by Mercy Health Academic Research and Development Committee Small Grants (2018)

Sensory-dysfunction in carpal tunnel syndrome: relationship between static touch, texture discrimination and hand dexterity

U Baskaran, L Carey

Funded by Mercy Health Academic Research and Development Committee Small Grants (2018)

Effectiveness of an Allied Health Emerging Clinical Leaders Pilot Program

J Leo, A Harrison

What are the benefits of pastoral care to hospital patients and aged care residents?

M Klasen, T Keur, in collaboration with Australian Catholic University

Non Invasive Transcutaneous Tibial and Sacral Nerve Stimulation as a Treatment for Overactive Bladder – a pilot study

E Fraser, A Steventon, L Schierlitz

Publications

Barradell S, Blackstock F, Mastwyk S, Tang C, Leo J, McConville J. Betwixt and between: a pilot study exploring the experiences of clinical educators teaching in a dispersed model of entry-level physiotherapy curriculum. *Int J Practice-based Learning Health Social Care*. 2018;6(2). <https://doi.org/10.18552/ijpblhsc.v6i2.511>

Harrison AL. Critically appraised papers: an aerobic and resistance exercise program can improve glycaemic control in women with gestational diabetes mellitus. *Commentary. J Physiother*. 2018;64:124.

Harrison AL, Taylor NF, Shields N, Frawley HC. Attitudes, barriers and enablers to physical activity in pregnant women: a systematic review. *J Physiother*. 2018;64:24–32.

Book

Allen D, Green G. *Lives Interrupted: Women and Gynaecological Cancer*. Fremantle WA, Vivid Publishing, 2018.



Mercy Hospital for Women Oncology Social Worker Dr Genevieve Green

Presentations

Chancellor E. Telephone reviews in lymphoedema: Encouraging health independence and avoiding unnecessary visits. Australasian Lymphology Association Conference, Sydney, 17–19 May 2018.

Hardman R. Mercy Health Lymphoedema Service – redesigning a model of care. Australasian Lymphology Association Conference, Sydney, 17–19 May 2018.

Harrison A. Move baby move: exercise improves glycaemic control in women with gestational diabetes mellitus. Australasian Diabetes in Pregnancy Society conference, Adelaide, 24–26 August 2018.

Harrison A. Move baby move: physical activity ‘messaging’ needs of women with gestational diabetes. Australasian Diabetes in Pregnancy Society conference, Adelaide, 24–26 August 2018.

Harrison A. A learning lens on clinical leadership – building organisational leadership capabilities with a patient focus. International Forum for Quality and Safety in Healthcare, September 2018.

Posters

Hardman R, Grabsch S. TeleHealth: streamline ongoing care for lymphoedema patients. Australasian Lymphology Association Conference, Sydney, 17–19 May 2018.

Hardman R, Grabsch S. Changing clinical demographics: Mercy Lymphoedema Clinic – the past 10 years. Australasian Lymphology Association conference, Sydney, 17–19 May 2018.



SURGICAL AND SPECIALIST SERVICES

The program involves general surgical and surgical sub-specialist services, including the anaesthetic service at Mercy Hospital for Women and Werribee Mercy Hospital.

Werribee Mercy Hospital surgical team

DEPARTMENT OF ANAESTHESIA, MERCY HOSPITAL FOR WOMEN

The Department of Anaesthesia continues to expand its research activities through greater involvement with Werribee Mercy Hospital.

In 2018, the department added to the current research theme, involving the use of transthoracic echocardiographic (TTE) assessment of cardiac output in pregnancy, with a newly approved study evaluating cardiovascular changes due to posture and at different gestations in pregnant women. The department also developed and initiated a number of audits of its clinical practice, leveraging its access to a large number of patient within the maternity service.

Projects and grants

Time point audit for improving the provision of analgesia in labour

S Simmons, H Loane, R Hiscock, E Casey, M Pliska, J DeGabriele

Elective Caesarean section analgesia audit Mercy Hospital for Women, January–February 2018 – Audit only

J Clarke, R Hiscock, J Gledde

Caesarean section post-discharge analgesia audit – Audit only

S Ilyas, V Nicholson

A prospective observational study of maternal supine hypotension by serial transthoracic echocardiography studies over the course of pregnancy in healthy women

S Simmons, I Letson, R Hiscock, L Verco, N Taghizadeh, K Hersbach, B Wong, C Craggs

Code White at Mercy Hospital for Women – a 4 year audit (2013-2017)

N Jegathesan, S Simmons, C Pease, F Parker

EpiCCS – Australasia: Epidemiology of Critical Care provision after Surgery

S Simmons, R Hiscock, H Loane, I Letson, M Nguyen

Transthoracic echocardiographic assessment of cardiac output in healthy women at elective caesarean section under spinal anaesthesia with Ephedrine and Metaraminol hypotension prophylaxis: An observational cohort study

S Simmons, R Hiscock, S Ilyas, E Casey, S MacColgain, L Cardoso

General Anaesthesia for caesarean section at Mercy Hospital for Women (Period 2011–2015), follow on research from R07-31)2015

I Letson, S Simmons, J McGuire

Management of ectopic pregnancies requiring surgical care – a 3-year audit

S Simmons, H Loane, L Ellett, R Hiscock

Publications

Chia PH. Anaesthetic management and the role of sugammadex in a patient with Churg-Strauss syndrome. *Indian J Anaesth.* 2018;62:400–2.

Presentations

Ross A. The Anaesthetist and Post-Partum Haemorrhage. Eastern Health Multidisciplinary Meeting on Post-Partum Haemorrhage, Box Hill Hospital, Melbourne, 4 August 2018. [Invited speaker]

Ross A. Gas embolism and gynaecology. Alfred ICU morbidity meeting, Melbourne, December 2018.

Simmons SW. Communicating clinical risk – what's in a word? Australian Society of Anaesthetists, Adelaide, October 2018. [Invited speaker]

Simmons SW. Critical incident – what happens next? Communication in Anaesthesia SIG Session, Combined Communication, Education, Welfare, Leadership and Management SIG Meeting, Turning potential into performance, Byron Bay, September 2018.



Werribee Mercy Hospital anaesthetist Andres



MERCY MENTAL HEALTH

Mercy Mental Health is committed to providing safe and respectful care and seeks to make improvements through our research endeavours.

DEPARTMENT OF PERINATAL MENTAL HEALTH

The Department of Perinatal Mental Health at Mercy Hospital for Women provides clinical care for women experiencing symptoms of mental illness during and after pregnancy.

The Perinatal Mental Health (PMH) services are a part of Mercy Mental Health. Growing awareness of the perinatal period as a time of increased maternal vulnerability to mental illness, as well as a critical period of human development, drives the ongoing research and education activities of this department.

Outpatient services are offered to all pregnant women at Mercy Hospital for Women, and for the postpartum year after delivery. PMH also provides 24-hour psychiatric care for all inpatients admitted to the hospital. Specialty services are provided to vulnerable populations, including women with major mental illnesses such as bipolar affective disorder and schizophrenia, women with substance abuse issues, younger mothers, and those identifying as Aboriginal and/or Torres Strait Islander. Services are also offered to patients of Perinatal Medicine, Transitions Clinic, and families with a baby admitted to the Neonatal Intensive Care unit. Outpatient psychiatric services are also provided for women undergoing treatment with the Department of Gynaecological Oncology.

The unit continues to have strong and active education links. Education is provided for medical students on rotation, psychiatry trainees, GPs and midwives, with regular presentations held for all staff.

Projects

Mercy Pregnancy and Emotional Wellbeing Study (MPEWS)

Professor Megan Galbally, now based in Perth where she is Foundation Chair of Perinatal Psychiatry at Murdoch University, continues to oversee this longitudinal study of the effect of perinatal depression and its treatment on women and their children. The original Mercy Health-based cohort of 282 women is close to completing wave six assessment at four years postpartum, and a further 200 women recruited have now undertaken all wave four assessments at

six months postpartum. The project has expanded to include a cohort based in South Perth, and rural and regional Western Australia.

MPEWS is a national and international interdisciplinary collaboration with data collected from early pregnancy onwards. The scope of the project encompasses biological, social and psychological measures to comprehensively assess the complex ramifications of perinatal depression.

The Melbourne-based cohort assessments are coordinated by Tina Vaiano. Dr Gaynor Blankley continues as an investigator on the project and Dr Josephine Power is undertaking a PhD examining child outcomes in the original cohort.

Grants

Dr Josephine Power was awarded the Pat and Toni Kinsman Research Scholarship by the Royal Australian and New Zealand College of Psychiatrists. The grant will be used to examine the relationship between maternal oxytocin levels during pregnancy and the subsequent attachment between mother and infant.

Mercy Perinatal collaboration

PMH and Mercy Perinatal have formed a collaborative research link. Funding has been approved to investigate the direct effect of psychotropic medication on placental tissue. These research techniques are a strength of the team at Mercy Perinatal, but have not been applied to medications used to treat psychiatric disorders. It is hoped that this approach will increase the evidence regarding the impact of treatment of mental illness on pregnancy and fetal development, and thereby the information available to clinicians and families when decisions are made about antenatal treatment.

Publications

Galbally M, Frayne J, Watson SJ, Snellen M. Aripiprazole and pregnancy: a retrospective, multicentre study. J Affect Disord. 2018;238:593–596. DOI: 10.1016/j.jad.2018.06.004.

Galbally M, Frayne J, Watson SJ, Snellen M. Psychopharmacological prescribing practices in pregnancy for women with severe mental illness: A multicentre study. Eur Neuropsychopharmacol. 2018;29(1):57-65. DOI: 10.1016/j.euroneuro.2018.11.1103.

Galbally M, Crabb C, Snellen M. Designing research that can untangle the effects in pregnancy of pharmacological treatments for mental disorders. Lancet Psychiatry 2018;5(8):608–610.

Snell M, Power J, Blankley G. PMT, PMS and PMDD: is there a difference? O&G Magazine 2018;20(3):323–6.

Presentations

Power J. Psychiatric medication in pregnancy: balancing risks and benefits. Medical Disorders in Pregnancy, Melbourne, July 2018.



Dr Josephine Power



AGED CARE

Mercy Health continues to progress research in aged care, which is essential as we face an ageing population with diverse backgrounds.

Mercy Place Abbotsford resident Bobby with Sam, one of the children taking part in the intergenerational program

GAINING A BETTER UNDERSTANDING

Research in this field is gaining momentum and will help drive improvements to the care and services we provide.

Talk2Me Technology

Collaboration with National Ageing Research Institute

Funded by the Australian Government Department of Health – Dementia and Aged Care Services Research and Innovation Funding

People living at home, including those with dementia, from culturally and linguistically diverse (CALD) backgrounds do not always receive care from ethno-specific organisations or from people who speak the same language. Yet effective communication relating to everyday issues is essential for older people — particularly those with dementia — to support orientation, safety and essential care needs. It also gives them the confidence they need to remain at home for as long as possible.

Existing technology supporting voice-to-voice translation has not been specifically designed with the needs of older people in mind.

The Talk2me project involves development of a tablet-based app that will allow people from CALD backgrounds to easily communicate with carers who do not speak the same language.

Process and outcome evaluation will be conducted at several stages throughout the project. This will inform the effectiveness of the design, the validity of the technology for translating everyday communication and the usefulness of the technology.

Socio-Spatial Analysis of the Design and Lived Experiences of Residential Aged Care Models: A Qualitative Study of Traditional and Small Household Typologies

Collaboration with University of Notre Dame (WA)

Funded by Mercy Health Foundation, Mercy Health and the University of Notre Dame

The objective of this research project is to reveal the socio-spatial factors within case study buildings that may enhance or inhibit quality of care and contribute to residents' quality of life.

The project aims to:

- document, analyse and interpret the design, layout and lived experiences of residential aged care design models against key social-spatial themes
- compare the architecture, layout and lived experiences of traditional and small household living approaches through a socio-spatial lens
- improve our understanding of the key attributes and backgrounds of our aged care employees.



Mercy Place Ballarat resident Rose enjoying the garden

The project will use standard tools and practices that are in common use within the architectural and qualitative research sectors. The research will support Mercy Health to understand the different building types and how these impact on care. It will influence the briefing and design requirements of proposed capital building investment.

Program to Enhance Adjustment to Residential Care (PEARL)

Collaboration with Swinburne University (initial project with Australian Catholic University)

Funded by National Health and Medical Research Council

Residents and their families can find the transition to aged care extremely difficult. Residents who have just moved into aged care are at greater risk of experiencing depression. This research project focuses on that transition period as an opportunity for early intervention. The project is designed to enhance the adjustment of older adults newly admitted to residential aged care, improve their emotional wellbeing and enhance their sense of autonomy, relationships, meaningful activities and quality of life.

The project is a cluster, randomised, controlled trial of a psychological intervention, made up of five individual sessions with residents. Staff are supported to tailor care to residents' needs, interests, aptitudes and backgrounds. The sessions aim to support residents' adjustment to permanent residential aged care, improving new residents' quality of life and reducing the severity and incidence of depression.

The project will evaluate the efficacy of the PEARL intervention in reducing symptoms of depression among newly admitted aged care residents. The study will determine whether PEARL plus usual care (intervention group) is superior to usual care alone (control group). We will also evaluate whether exposure to indoor and outdoor greenery within the residential care environment is protective to mental health, quality of life and wellbeing of new residents.



Mercy Place Mount St Joseph resident Reg buying supplies from the home's new grocery store

Palliative Care Needs Round Project

Collaboration with Calvary Health Care Bethlehem Ltd

Funded by Calvary Health Care Bethlehem Ltd

Mercy Health is partnering with Calvary Health Care Bethlehem in Victoria to deliver the Palliative Care Needs Round project.

The study seeks to generate an evidence-based checklist to support the integration of specialist palliative care clinicians into residential aged care during palliative care needs rounds. Needs rounds are monthly clinical meetings that can help identify and prioritise care for people most at risk for unplanned dying with inadequately controlled symptoms. The aim is to describe the activities, thought processes and subsequent staff activities that are generated within and from needs rounds, to develop a model that explains what occurs in needs rounds, and from that create a checklist that can be used in routine practice.

The pilot study, which provided the basis for the checklist, has led to the larger trial (integrating specialist palliative care into residential care) being undertaken across other residential homes. The primary aim of the randomised trial is to reduce the time residents spend in acute care, with secondary outcomes focused on improving staff knowledge and confidence in palliative care, better controlled symptoms of people at end of life and enabling more people to die in their preferred place.

The aim of this project is that residents and families have a better and more positive experience at the end of life, increase staff confidence and reduced hospitalisation.



PROJECTS APPROVED BY MERCY HEALTH HUMAN RESEARCH ETHICS COMMITTEE 2018

Werribee Mercy Hospital Intensive Care Unit nurse Shupi

Project Title	Principal Investigator(s)
A comparison of cerebral haemodynamics in preterm infants receiving nasal Continuous Positive Airway Pressure (nCPAP) with nasal High Flow Therapy (nHFT)	Dr Clare Collins, Mercy Hospital for Women
PAEAN – Preventing Adverse Outcomes of Neonatal Hypoxic Ischaemic Encephalopathy with Erythropoietin: A Phase III Randomised Placebo Controlled Multicentre Clinical Trial	Associate Professor Helen Liley, NHMRC Clinical Trial Centre, and Dr Clare Collins, Mercy Hospital for Women
Non-invasive Transcutaneous Tibia and Sacral Nerve Stimulation as a treatment for refractory overactive bladder	Dr Lore Schierlitz, Mercy Hospital for Women
Improving the Integration and Communication of End of Life Care Services – A Pilot Study	Sue Williams, National Ageing Research Institute, and Wendy Dunn, Mercy Health
Talk2Me Technology: Enabling older people at home from CALD backgrounds to communicate their everyday needs	Dr Frances Batchelor, National Ageing Research Institute, and Wendy Dunn, Mercy Health
Sodium Glucose Transporter 2 Inhibitor (SGLT2i) Associated Diabetic Ketoacidosis	Dr Rinky Giri, St Vincent’s Hospital, and Associate Professor David O’Neal, Werribee Mercy Hospital
Longitudinal assessment of chemotherapy induced structural brain changes and its correlation with impaired cognitive functioning	Dr Karen Caeyenberghs, Australian Catholic University
The effect of intrauterine growth restriction on the growth trajectory of newborns in the Neonatal Intensive Care Unit and Special Care Nursery (NICU/SCN)	Dr Fiona Brownfoot, Mercy Hospital for Women
Adnexal Abscess: Tubo-ovarian or appendiceal in origin?	Dr Monica McGauran, Mercy Hospital for Women
Is Preterm – pre-labour rupture of membranes associated with macrosomia?	Dr Annaliese Woods, Mercy Hospital for Women
What lies beneath: Laparoscopy after previous laparotomy, and the incidence of intra-abdominal adhesions	Dr Lenore Ellett, Mercy Hospital for Women
We live in a virtual world: Training the trainee using an integrated Visual Reality Stimulator training curriculum	Dr Samantha Mooney, Mercy Hospital for Women
Identifying the predictors for risk of absconding from an inpatient psychiatric unit. A Retrospective Audit study	Dr Raja Sadhu, Mercy Mental Health
Roll Out and Evaluation of the Victorian Healthy Homes Program (at Werribee Mercy Hospital)	Brigitte Grant, Werribee Mercy Hospital
Evaluation of the Allied Health Emerging Clinical Leaders Pilot Program	Anne Harrison, Werribee Mercy Hospital
Is a mild bleeding disorder the explanation for bleeding at the time of cystoscopy?	Professor Sonia Grover, Mercy Hospital for Women
The PEBBLES study – Testing a strategy for preventing eczema and food allergy in high risk infants	Associate Professor Adrian Lowe, University of Melbourne
Natural History of Diabetic Retinopathy in Pregnant Women	Felicia Widyaputri, Centre for Eye Research Australia
Harnessing Neuroplasticity to Improve Motor Performance in Infants with Cerebral Palsy. A Pragmatic Randomised Controlled Trial. (GAME Trial)	Dr Gillian Opie, Mercy Hospital for Women
Massive Transfusion Protocol Utilization Indications Study	Dr Daniela Zantomio, Austin Health
Neonatal Outcomes in Extremely Premature Neonates with Varying Management Strategies for Patent Ductus Arteriosus	James Dwyer, Mercy Health
Compliance with peripheral intravenous cannula re-site protocol in neonatal intensive care unit/special care nursery	Dr Katherine Fuller, Mercy Hospital for Women

The effect of donor gametes on risk of hypertensive disorders of pregnancy and fetal growth restriction.	Dr Amber Kennedy, Mercy Hospital for Women
Intraoperative Nausea and Vomiting During Elective Caesarean Section Surgery Under Spinal Anaesthesia	Dr Morris Alexander, Werribee Mercy Hospital
Prevalence, Determinants and Pregnancy Outcomes of Metabolic Disorders during Pregnancy: the IPRAMHO International Collaborative/ Collaboration Study	Dr Alexis Shub, Mercy Hospital for Women
Medium and long-term outcomes for children conceived via Assisted Reproductive Techniques (ART) in Victoria	Dr Amber Kennedy, Mercy Hospital for Women
The CATCH-E Pilot Study: Conservative Approach to Treatment of Carcinoma and Atypical Hyperplasia of the Endometrium	Associate Professor Peter Grant, Mercy Hospital for Women
Factors influencing induction of labour success at a single tertiary centre	Dr Alexis Shub, Mercy Hospital for Women
Screening for Preterm Preeclampsia: In patients that have developed preterm preeclampsia, what proportion would have been considered high risk for preeclampsia using the ACOG or NICE guideline?	Dr Fiona Brownfoot, Mercy Hospital for Women
Virtual Clinics in Gynaecology: An attempt to streamline investigation and management of postmenopausal bleeding	Dr Samantha Mooney, Mercy Hospital for Women
Postmenopausal Bleeding: A retrospective audit of a common presentation to an outpatient gynaecology clinic	Dr Samantha Mooney, Mercy Hospital for Women
Prospective Audit and Quality Assurance of Laparoscopic Cholecystectomy Procedures at Werribee Mercy Health	Dr Jonathan Sivakumar, Werribee Mercy Hospital
A post-implementation evaluation of Code Pink – obstetric escalation of care process	Sarah Hudson, Mercy Health
A qualitative study of inpatient experiences of the Circle of Security Parenting group at the Werribee Mercy Hospital Mother Baby Unit. A thematic analysis	Jess Barnes, Werribee Mercy Hospital
How does mindfulness impact the learning experience of students studying a Post Graduate Certificate in Neonatal Intensive Care Nursing?	Carolyn Morrissey, Mercy Hospital for Women
Medical treatment at the borderline of viability, Victorian Ethics Survey 2018	Dr Dominic Wilkinson, Oxford University
Exploring the benefits of the use of a support aid, Peanut Ball, in the First and/or Second stage of Labour for the management of pain and the effect of its use on birth outcomes	Magdalena Pliszka, Mercy Hospital for Women
A Qualitative Exploration of Father-Inclusive Practices in an Early Parenting Centre	Catherine Wood, Swinburne University
How do sonographers detect vasa praevia in the mid trimester ultrasound?	Ffion Humphries-Hart, Werribee Mercy Hospital
Expansion of midwives scope of practice through facilitation of Balloon Induction of Labour (IOL) insertion education and evaluation: a midwife, medical and woman's perspectives	Caroline Carr, Mercy Hospital for Women
Efficacy and safety of docosahexaenoic acid supplementation in preterm infants: childhood follow-up of the N3RO randomised controlled trial (N3RO@5)	Jacqueline Gould, South Australian Health and Medical Research Institute
Clinician awareness of Australian drinking guidelines during the antenatal period	Chloe Whatley, Mercy Hospital for Women
Natural History and complications of vaginal prolapse management in the elderly patient	Dr Nicola Dykes, Mercy Hospital for Women
Medicolegal risk in mental health care	Kellie Grant, Monash University

Evaluation of introduction of a dedicated antenatal ward: The patient experience	Carolyn Russell, Mercy Hospital for Women
Thalassaemia screening audit	Dr Charmian Eng, Mercy Hospital for Women
A Breath of Fresh Air: Assessment of the Impact of Inhaled Oxygen Concentrations on the Neonatal Gut Microbiome (bowelMOTION: MOnitoring The mlcrobiome Of Neonates)	Dr Bron Hennebry, Mercy Hospital for Women
The association between health literacy and patient satisfaction with consultation: an observational study	Christine Murray, Mercy Hospital for Women
Design of an Allied Health Education Strategy	Joan Leo, Mercy Hospital for Women
Fathers’ wellbeing and sleep: investigating fathers’ experiences and health care providers’ views at Mercy Health O’Connell Family Centre	Dr Karen Wynter, Deakin University
Point prevalence survey of delirium in Victorian public hospitals	Associate Professor Ann Maree Keenan, Safer Care Victoria
Management of Late Preterm Preeclampsia: A comparison of maternal and fetal indicators for delivery	Dr Fiona Brownfoot, Mercy Hospital for Women
Continuous fetal heart rate monitoring using non-invasive fetal electrocardiography	Dr Fiona Brownfoot, Mercy Hospital for Women
A Prospective Preeclampsia/Eclampsia Prevention Intervention (APPLE PIE)	Professor Stephen Tong, Mercy Hospital for Women
Methotrexate for the treatment of ectopic pregnancy and time to resolution: Experience at Mercy Hospital for Women	Dr Roxanne Hastie, Mercy Hospital for Women
Victorian Safewards Trial Evaluation	Dr Bridget Hamilton, University of Melbourne
Hearing Screening for Congenital CytoMegaloVirus (HearScCMV)	Dr Bron Hennebry, Mercy Hospital for Women
To review the use of oseltamivir prescribed for pregnant women with influenza or influenza like symptoms to determine the rate of consistence with laboratory-confirmed influenza and current prescribing options	James Dwyer, Mercy Health
Time points audit for improving the provision of analgesia in labour	Associate Professor Scott Simmons, Mercy Hospital for Women
Occupational therapy in community health: An investigation of referral patterns and outcomes	Trina Phuah, Charles Sturt University

Mercy Hospital for Women staff
(L-R) Loretta Barbuto, Dr Alex Wong, Dr Madhu Bhamidipaty and Elizabeth Thomas



Implementing a sepsis bundle of care in emergency departments and urgent care centres	Dr Anh Tran, Werribee Mercy Hospital
Projects utilising samples collected under the Mercy Tissue Bank ethics	Dr Tu'uhevaha Kaitu'u-Lino, Mercy Hospital for Women
Evaluation of the Victorian Stroke Telemedicine service at Werribee Mercy Hospital	Professor Dominique Cadilhac, Florey Institute of Neuroscience and Mental Health, Austin Health
Changing indications for perinatal genetic services over the past decade: implications for genetic counselling practice in a tertiary referral centre	Melissa Graetz, Mercy Hospital for Women
Improve the care and reduce the unnecessary imaging of back pain patients in the emergency department	Khym Barber, Werribee Mercy Hospital
Determining a threshold measurement of Endometrial Thickness for Asymptomatic Postmenopausal Women	Dr Samantha Mooney, Mercy Hospital for Women
Ovarian Torsion following Laparoscopy hysterectomy with Bilateral Salpingectomy: a case series and discussion of mechanism	Dr Lenore Ellett, Mercy Hospital for Women
Use of the Monica AN24® monitor in fetal supraventricular tachycardia: A new approach to surveillance and treatment	Dr Lindsay Edwards, Mercy Hospital for Women
Retrospective analysis of anaesthetic technique and impact on PONV (post-operative nausea and vomiting) in laparoscopic surgery conducted at Werribee Mercy Hospital	Dr Hussein Ahmed, Werribee Mercy Hospital
Gestational Diabetes Online Educational Video Focus Groups	Rachel Miller Mercy Hospital for Women
Restacking the Odds	Caitlin McMillan, Murdoch Children's Research Institute, Royal Children's Hospital
Gefitinib; A Novel Therapy for Ectopic Pregnancy	Dr Stella Italiano, Mercy Hospital for Women
Multi-centre observational descriptive study of current practice; The Australasian Resuscitation In Sepsis Evaluation: FLUID or Vasopressors In Emergency Department Sepsis observational study	Professor Gerben Keijzers, Gold Coast University Hospital
Headache in the Emergency Department (HEAD Study)	Dr John Pasco, Werribee Mercy Hospital
The influence of lying versus standing on pelvic floor muscle performance in women with and without pelvic floor dysfunction	Associate Professor Helena Frawley, La Trobe University
Intensive Care Unit pain, agitation and delirium standardised assessment and monitoring practice project	Dr Umesh Kadam, Werribee Mercy Hospital



Werribee Mercy Hospital pastoral carer Pan Hoe (Victor)



Mercy Palliative Care client Luke with his mother and carer Sandra

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Mercy Hospital for Women midwife Liana with patient Laura



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Mercy Health acknowledges Aboriginal and Torres Strait Islander Peoples as the first Australians. We acknowledge the diversity of Indigenous Australia. We respectfully recognise Elders past, present and emerging. This report was produced on Wurundjeri Country.