



Mercy Health

Care first



2019

## RESEARCH REPORT

CELEBRATING  
**100 YEARS**  
*of* **MERCY HEALTHCARE**  
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CELEBRATING  
**100 YEARS**  
*of* MERCY HEALTHCARE  
1920 – 2020

# *Celebrating 100 years of Mercy Health*

On 9 March 1920, St Benedict's Hospital in Malvern — Melbourne's first private hospital run by the Sisters of Mercy — was officially opened and blessed by the Most Reverend Daniel Mannix, Archbishop of Melbourne.



Coonil House in Malvern, which became the site of St Benedict's Hospital.

The Sisters of Mercy established St Benedict's Hospital in the wake of the deadly pneumonic influenza pandemic, also known as the 'Spanish flu', which began in 1918. In our centenary year, Mercy Health is once again at the frontline of a global health crisis, caring for some of the most vulnerable people amid the coronavirus pandemic.

St Benedict's was housed in a rambling Victorian mansion, formerly known as Coonil House, surrounded by a vast expanse of established gardens. The Sisters bought the property in 1919 for £25,000 and converted it to a stately and comfortable hospital, accommodating 70 patients and an operating theatre.

On the day the Archbishop came to bless the building, the leadlight panel above the front door caught his eye. It featured the word 'Pax', which is Latin for 'peace', to illuminate the Sisters' desire that all patients recovering at St Benedict's "would be restored to peace in mind and body."<sup>^</sup>

The Sisters' holistic, compassionate and person-centred approach to care has continued to shape Mercy Health's mission over the past century as the organisation has established health, aged and home care services across Australia. In this centenary year, Mercy Health is celebrating important milestones and honouring the many people who have and continue to work tirelessly to provide exceptional care and bring God's mercy to those in need.

### The Founder of the Sisters of Mercy

Catherine McAuley was born in Dublin, Ireland in 1778. Dedicating her life to caring for the poor, particularly women, Catherine established the House of Mercy in 1823 to house and educate poor women. In 1831 Catherine made her Profession of Vows and created the Order of the Sisters of Mercy.



*When I think we are done we seem to be beginning again.*

— Catherine McAuley

Mercy Health gratefully acknowledges the role that the Good Shepherd Sisters, Family Care Sisters (Grey Sisters), Holy Spirit Missionary Sisters and the Knights of the Southern Cross (Victoria) have played in our mission to bring God's mercy to those in need.



Good Shepherd Sisters



Family Care Sisters



Holy Spirit Missionary Sisters



Knights of the Southern Cross (Victoria)

**1:** Watercolour of Catherine McAuley, reproduced with the permission of artist Sr Marie Henderson RSM

<sup>^</sup> Priestley, S 1990. *Melbourne's Mercy: A History of Mercy Private Hospital*, Hyland House Publishing, Melbourne, p. 27.





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## Mercy in Australia

The Sisters of Mercy went on to found convents, schools and hospitals around the world. They arrived in Perth in 1846, led by Mother Ursula Frayne, and established schools, hospitals and convents across Australia.

Since arriving in Melbourne in 1857, the Sisters of Mercy have been at the forefront of healthcare and advocacy in Victoria. With the opening of St Benedict's Hospital, they established a reputation for excellence in care and hospitality that has grown in strength to this day. The success of St Benedict's enabled the Sisters to open Mercy Private Hospital in East Melbourne in 1934, Mercy Maternity Hospital (later

renamed Mercy Hospital for Women) in 1971 and Werribee Mercy Hospital in 1994.

In recognition of society's changing needs, and to continue the Sisters' mission of care, the organisation expanded to care for older people. In 1997 we added Mercy Health Bethlehem Home for the Aged (Bendigo) and Mercy Place Rice Village (Geelong), followed by mental health services in 1998 and home care in 2007.

You are invited to celebrate Mercy Health's 100-year milestone by sharing your mercy memories and stories on our centenary website: [mercyhealth100years.com.au](http://mercyhealth100years.com.au)



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2: Nurses from Mercy Private Hospital, circa 1940 3: The impressive Art Deco façade of Mercy Private Hospital 4: Mother Ursula Frayne (source: Institute of Sisters of Mercy of Australia and Papua New Guinea Archives) 5: Mercy nurses inspect the architectural model for the new Mercy Maternity Hospital, circa 1970 6: The nursery at Mercy Private Hospital, circa 1960

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**Cover:** Sister Hildegarde McAnuff demonstrating oxygen therapy to students (c.1960); Mercy Hospital for Women researcher Caitlyn, from the Obstetrics, Nutrition and Endocrinology Group; Students in class in 1955  
**Back cover:** Preparation of neonatal intravenous solution under the laminar air flow hood (c.1981–82)

# MESSAGE FROM THE GROUP CHIEF EXECUTIVE OFFICER

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Research is central to Mercy Health's mission — to bring God's mercy to those in need. Our researchers are motivated by the desire to give hope to our patients, clients, residents, families and carers at every stage of life.

The research endeavours of Mercy Health researchers are always a source of inspiration to me. The emergence of a worldwide coronavirus pandemic at the end of 2019 has focused the world on the importance of advances in academic and clinical research as never before. It was as a result of the last global pandemic in 1917 that the Sisters of Mercy established our health ministry in Victoria 100 years ago, and it is on the back of this that a great research, teaching and care legacy has been built.

With research across a range of fields, including fetal and newborn health, women's health, paediatrics, mental health, aged care and allied health, Mercy Health researchers always keep in mind those who will benefit from the work they are doing.

Mercy Perinatal seeks to give hope to those wishing to have a family and continues world-leading education, practice and research into stillbirth, ectopic pregnancy and preeclampsia. Its focus is always on its goal of bringing mothers and babies safely home.

Research in the area of aged care continues to expand. With an ageing population from diverse backgrounds, understanding what we need to do to improve the care and services we provide is essential. Similarly, continuing our research into mental health means that we can better help people living with mental illness and provide the care and support they need.

I would like to congratulate Alexis Shub from the Perinatal Research Group on her Associate Professorship. I also congratulate Harry Georgiou and his team, the Biomarker Discovery Group, for their achievement of obtaining a provisional patent for their work in the area of biomarkers of preterm birth. Preterm labour is a significant healthcare issue globally and their research seeks to improve outcomes for women and babies affected.

I would like to thank our academic, government and private sector research partners, and the communities we serve, for their ongoing and invaluable support.

As we approach a milestone, marking 100 years since the Sisters of Mercy first opened St Benedict's Hospital



in Malvern, I am reminded of the words of the Founder of the Sisters of Mercy Catherine McAuley, "When I think we are done we seem to be beginning again." I am certain this is something Mercy Health researchers think about every day as they continue their very important innovation and discovery work.

**Adjunct Professor Stephen Cornelissen**  
Group Chief Executive Officer, Mercy Health



# MESSAGE FROM THE CHIEF MEDICAL OFFICER

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Through a patient-centred approach, Mercy Health hopes our research endeavours deliver better health outcomes for those we serve and care for.

I am proud to present the *Mercy Health Research Report* highlighting the research projects, publications and achievements of the Mercy Health research teams in 2019.

I would like to acknowledge the clinical leaders and researchers who are driving this incredible work. There are too many people to mention all of them individually in this short message, but I would like to thank Professor Sue Walker, Professor Stephen Tong, Associate Professor Lisa Hui and their respective teams for their tireless work, especially in perinatal medicine.

I also recognise the members of the Mercy Health Human Research Ethics Committee and I thank the Chair, Tim O'Leary, for his leadership.

Nursing and midwifery continue to flourish under the leadership of Professor Christine East, who joined Mercy Health in May 2019 as the inaugural Professor of Nursing and Midwifery.

I acknowledge and thank Professor Peter Maher, Professor Peter Dwyer and Associate Professor Peter Grant, who have left their mark in gynaecological research over many years.

Our medical libraries at Mercy Hospital for Women and Werribee Mercy Hospital also contribute to the research effort and I thank the librarians who are always ready to help.

Over the past few years, Werribee Mercy Hospital has expanded and grown. It is exciting to see the increasing amount of research they are conducting with even more forecast in the coming years.

Of course, our successes would not be possible without the support of our funding bodies, donors, supporters, partners and collaborators. We thank you all.

I encourage you to read this report to appreciate the depth and breadth of our research.

**Associate Professor David Allen**  
Chief Medical Officer, Mercy Health





# THANK YOU TO OUR SUPPORTERS, PARTNERS AND COLLABORATORS

We acknowledge and celebrate the partnerships we have forged in 2019 and our shared vision for a better future through research and education.





Academic Research and Development Committee Small Grants  
Austin Health Institute for Breathing and Sleep  
Austin Medical Research Foundation  
Australia New Zealand Gynaecological Oncology Group (ANZGOG)  
Australian Catholic University  
Australian Gynaecological Endosurgery Society (AGES) Research Grant Program  
Catherine McAuley College  
Clovis Oncology  
Deakin University  
Diabetes Australia  
Ferring Pharmaceuticals  
La Trobe University  
Monash Medical Centre  
Murdoch Children's Research Institute  
National Health and Medical Research Council (NHMRC)  
Norman Beischer Medical Research Foundation  
North West Melbourne Primary Health Network  
Northern Health  
Royal Women's Hospital (Victoria)  
University of Melbourne  
University of Papua New Guinea  
University of Stellenbosch (South Africa)  
Department of Premier and Cabinet (Victoria)  
Foundation House: Victorian Foundation for Survivors of Torture Inc.  
Maternal and Child Health Services Wyndham City (Victoria)

*Mahmut, Sinem and Alara with baby Dilhan at Mercy Hospital for Women*



“When I think we are done we seem to be beginning again.”

Catherine McAuley, Founder of the Sisters of Mercy

*Mercy Hospital for Women researcher Ping*



# ACADEMIC RESEARCH AND DEVELOPMENT COMMITTEE SMALL GRANTS 2019

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

[Anne Harrison](#)

Does a consumer co-created infographic improve knowledge and self-efficacy about physical activity for women during a GDM pregnancy?

[Dr Catherine Krejany and Professor Moyez Jiwa](#)

Nudge theory and obesity: a systematic review of decision making contexts that influence adult eating behaviour

[Mary McCarthy](#)

Review of the Obstetric Triage Decision Aid in the Werribee Mercy Hospital Maternity Assessment Unit and the Emergency Department — two years post implementation

[Dr Lisa Rasmussen](#)

A two-centre prospective cohort trial, involving the Royal Women's Hospital and Mercy Hospital for Women, comparing the addition of mifepristone to the medical management of miscarriages with misoprostol only

[Dr Ariel Zilberlicht](#)

Vaginal Cuff Suspension for stage 3–4 uterine prolapse at the time of vaginal hysterectomy. What is the best surgical approach? A long term follow up and audit

[Dr Monica McGauran](#)

Outcomes and management of those referred with pHSIL at the time of cervical screening test

[Professor Christine East](#)

Exploratory mapping of the characteristics of women undergoing induction of labour to clinical outcomes and the potential implications for women, maternity and neonatal services

[John Stafford](#)

Residential Aged Care Facility Decision Making Tool



# WOMEN'S AND CHILDREN'S SERVICES

Mercy Health is dedicated to improving the lives of women and babies.

*Catherine and baby Franklin at Mercy Hospital for Women Neonatal Intensive Care Unit*



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

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The department coordinates teaching of medical students in obstetrics and gynaecology and plays a pivotal role in innovative perinatal research and care.

## **Perinatal Research Group (Professor Sue Walker AO)**

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

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.

## **Research team**

Professor Sue Walker AO

Associate Professor Alexis Shub

Dr Alison Fung

Dr Anthea Lindquist

Dr Elizabeth McCarthy

Associate Professor Lisa Hui

Dr Simon Meagher

Dr Teresa MacDonald

Dr Dani Wilson

Gabrielle Pell

Anna Middleton

Alexandra Roddy Mitchell

Valerie Kyritsis

Jacqueline Free

Alexandra Harders

## Projects and grants

*Single cell RNA sequencing of amniotic fluid: a novel approach to understanding fetal development*

L Hui

Funded by Norman Beischer Medical Research Foundation (2019)

*Prevention of fetal cytomegalovirus infection after maternal infection: developing novel therapeutic approaches using primary trophoblast and placental explant cultures*

L Hui

Funded by University of Melbourne Department of Obstetrics and Gynaecology Innovation Grant (2019)

*Northern Centre for Health Education and Research Reproductive Health Biobank*

L Hui

Funded by Northern Health (2019 – 23) and Melbourne Academic Centre for Health Seed Grant (2019)

*Anti-thrombotic therapy and trophoblast cell-free DNA: exploring mechanisms for failed cell-free DNA screening and therapeutic potential*

L Hui

Funded by Northern Health Small Research Grant (2019)

*Is elevated Endothelin-1 a reliable marker of preeclampsia and fetal growth restriction?*

T MacDonald

Funded by Norman Beischer Medical Research Foundation (2019)

*Metabolomics to identify pregnancies at risk of fetal growth restriction or preeclampsia*

T MacDonald, S Walker

Funded by Norman Beischer Medical Research Foundation (2019)

*'Find and Follow': scoping the data capture, reporting and follow-up of (i) pregnancies complicated by congenital abnormalities, (ii) health and development among 'high risk' newborns*

S Walker

Funded by Melbourne Academic Centre for Health National System Level Initiatives (2019)

*Identification of the optimal growth standards to identify infants at risk of adverse perinatal outcomes*

S Walker

Funded by RANZCOG Travel and Research Grant supported by Ferring Pharmaceuticals (2019)

*A Prospective Preeclampsia/Eclampsia Prevention Intervention ('APPLE PIE') study: a Flagship Trial for the MACH Women's and Newborn Clinical Trial Network*

S Walker

Funded by Melbourne Academic Centre for Health Medical Research Future Fund, Rapid Applied Research Translation (2019)

*Using biomarkers and ultrasound in late pregnancy to minimise preventable stillbirth: the BUMPs study*

S Walker

Funded by NHMRC Project Grant (2019)

*Can esomeprazole improve outcomes in women at high risk of pre-eclampsia? A Phase II placebo-controlled randomised, multi-centre clinical trial*

S Walker

Funded by NHMRC (2018 – 21)

*Maternal, neonatal and childhood outcomes following the use of unregulated, adjunct medications in IVF pregnancy*

A Lindquist

Funded by University of Melbourne Department of Obstetrics and Gynaecology Innovation Grant (2019)

## Collaborations

C Cluver, Stellenbosch University South Africa: Preeclampsia therapeutics.

S Walker, Translational Obstetrics Group

J Hyett, University of Sydney; R Smith, University of Newcastle; S Illanes, University of the Andes; G Smith, University of Cambridge; J Myers, University of Manchester: Improved detection of Fetal Growth Restriction and pregnancies at risk of stillbirth.

S Walker

J Said, Murdoch Children's Research Institute; M Wake, Murdoch Children's Research Institute: Gen V: contribution of pregnancy to childhood outcomes: development of a state-wide birth cohort.

S Walker

M Delatycki, Murdoch Children's Research Institute: McKenzie's Mission: a population-based approach to reproductive carrier screening.

S Walker

M Howard, Institute of Breathing and Sleep, Austin Health: Sleep disordered breathing and its impact on perinatal outcomes.

S Walker



Victorian Fetal Therapy Service, Royal Women's Hospital, Monash Medical Centre: Outcomes of fetal surgery.  
S Walker

M Lappas, Mercy Hospital for Women: Long-term follow up of women with gestational diabetes.  
A Shub

Safer Care Victoria: Diabetes in pregnancy and long-term childhood outcomes.  
A Shub

S Thangaratnam, Queen Mary University of London: International weight management in pregnancy (i-WIP) collaborative group: Individual patient analysis of weight management in pregnancy trials.  
A Shub

Royal Darwin Hospital: Evaluation of perinatal telehealth program.  
A Shub

Australian Diabetes in Pregnancy Society (ADIPS) as member ADIPS Clinical Audit interest group: Gestational diabetes and perinatal outcomes.  
A Shub

L Lim, Centre for Eye Research Australia (CERA), Austin Hospital, Royal Women's Hospital: Diabetic retinopathy in pregnancy.  
A Shub

T Kok Hian (Singapore): GDM in Asia and Australia — the project aims to demonstrate similarities and difference in GDM diagnosis, management and outcomes across Asia.  
A Shub

## Publications

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\*Joint first authors.

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## Presentations

Hui L. Carrier screening: a 2019 update for the generalist. Global Obstetric Update, Melbourne, 30 November 2019 [Invited speaker]

Hui L. Cell-free RNA and DNA: where are we heading? Mercy Perinatal Australian Reproduction Update, Melbourne, November 2019 [Invited speaker]

Hui L. Chromosome and genetic conditions and congenital heart disease. 2nd Australian Fetal Cardiology Conference, Bio 21, Melbourne, March 2019 [Invited speaker]

Hui L. Circulating nucleic acids in plasma and serum, cell-free nucleic acids and prenatal screening. Jerusalem, September 2019 [Session chair]

Hui L. First trimester screening for preeclampsia. International Society for Prenatal Diagnosis and Therapy, Singapore, September 2019 [Debate moderator]

Hui L. From chromosomes to exomes — a beginner’s guide. Melbourne First Trimester Symposium, Melbourne, 4 May 2019 [Invited speaker]

Hui L. From pre-conception to the cradle, NIPT: the advances and future concerns. Houston, 11–12 November 2019 [Invited speaker]

Hui L. Genetics and reproduction. Ivanhoe Girls’ Grammar School Seminar, Melbourne, 2019 [Invited speaker]

Hui L. NIPT in twins. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 9 October 2019 [Invited speaker]

Hui L. NIPT: everything you wanted to know but were afraid to ask. World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–9 September 2019 [Invited speaker]



Hui L. Prevention and management of congenital cytomegalovirus infection — the role of the obstetrician. RANZCOG Provincial Fellows Clinical Webinar Series, Melbourne, 28 May 2019 [Invited speaker]

Hui L. RANZCOG International Women in Science panel, Melbourne, 2019 [Invited panelist]

Hui L. Reducing mother to child transmission of CMV in pregnancy. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 21 August 2019 [Invited speaker]

Hui L. State-wide performance of traditional and cell-free DNA-based prenatal testing pathways: the Victorian Perinatal Record Linkage (PeRL) study. International Society for Ultrasound in Obstetrics and Gynecology, Berlin, October 2019 [Invited speaker]

Hui L. Steroids at Twilight: steroids for HELLP syndrome. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 31 July 2019 [Invited speaker]

Hui L. The role of the midwife in prevention of congenital CMV infection. Midwifery Challenges 2019, Melbourne, 30 April 2019 [Invited speaker]

Hui L. Update on NIPT. Monash IVF Group seminar, Melbourne, November 2019 [Invited speaker]

Hui L. What you need to know about prenatal screening and genetic carrier screening. RANZCOG membership revision course, Melbourne, 1 April 2019 [Invited speaker]

MacDonald T. Improving the detection or risk factors for stillbirth: the Fetal Longitudinal Assessment of Growth (FLAG) study. RANZCOG Annual Scientific Meeting, Melbourne, 16 October 2019 [Invited speaker]

MacDonald T. New ideas about doppler assessment — the CPUR. 17th World Federation for Ultrasound in Medicine and Biology Congress, Melbourne, 9 September 2019 [Invited speaker]

MacDonald T. Optimal timing of birth for twins: truths for the trenches. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 9 October 2019 [Invited speaker]

MacDonald T. The cerebral-placental-uterine ratio as a novel predictor of late fetal growth restriction. Australian Association of Obstetrical and Gynaecological Ultrasonologists Annual Scientific Meeting, Melbourne, April 2019 [Invited speaker]

McCarthy E. A bumpy start: pregnancy of unknown location. RANZCOG Annual Scientific Meeting, Melbourne, 16 October 2019 [Invited speaker]

McCarthy E. Adult immunisation forum. Immunisation Coalition, Pertussis Immunisation in Pregnant Women and Other Adults, Melbourne, 1 November 2019 [Invited speaker]

McCarthy E. Decision-making, clinical management and care during subsequent pregnancies. Annual Global Conference on Perinatal Mortality and Bereavement Care, International Stillbirth Alliance, Madrid, 5–6 October 2019 [Invited speaker]

McCarthy E. Ensuring history doesn't repeat itself: recurrent miscarriage. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 27 March 2019 [Invited speaker]

McCarthy E. First trimester: miscarriage and ectopic pregnancy. RANZCOG membership revision course, Melbourne, 1 April 2019 [Invited speaker]

McCarthy E. First trimester pregnancy. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 13 February 2019 [Session Chair]

McCarthy E. Grand Round: stillbirth and reproductive loss. StaR clinic, Mercy Hospital for Women, Melbourne, 4 April 2019 [Invited speaker]

McCarthy E. One beat at a time... critical obstetric cardiac care. ACCCN Victoria Cardiac Seminar, Melbourne, 15 November 2019 [Invited speaker]

McCarthy E. Pregnancy after loss. Northern Centre for Health Education and Research: Midwifery Update Day, Melbourne, 22 February 2019 [Invited speaker]

McCarthy E. Pregnancy after stillbirth. Perinatal Psychology Conference, Melbourne, 25 October 2019 [Invited speaker]

McCarthy E. Pregnancy after stillbirth. PSANZ XXIII Annual Conference, Gold Coast, 18 March 2019 [Invited speaker]

McCarthy E. Steroids and recurrent miscarriage +/- implantation failure: perinatal steroids. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 31 July 2019 [Invited speaker]

Meagher S. Advanced course in obstetrics and gynaecology. ISUOG, Harbin, 14–15 December 2019 [Invited speaker]

Meagher S. Advanced OB-GYN ultrasound course. ISUOG, Bangkok, 2–3 November 2019 [Invited speaker]

Meagher S. Ask the expert: 3D ultrasound in gynaecology: a practical guide. ISUOG World Congress, Berlin, 12–17 October 2019 [Invited speaker]

Meagher S. Borderline cardiac findings: a practical management outline. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. Clinical advantages of 3D/4D in routine gynaecology practice. World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–10 September 2019 [Invited speaker]

Meagher S. Clinical update, the importance of the pre NIPT scan: lessons to be learnt. Monash IVF and Monash Ultrasound for Women, Melbourne, 4 December 2019 [Invited speaker]

Meagher S. CNS malformations detectable in the first trimester. World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–10 September 2019 [Invited speaker]

Meagher S. Le coeur au 1er trimestre Détection précoce des anomalies foetales anomalies du cerveau aux 3 trimestres LIVE: Le cerveau aux 3 trimestres. Congrès annuel du Collège Français d'Echographie Foetale, Paris, 30 May–1 June 2019 [Invited speaker]

Meagher S. Continuum of care for fetal newborn and child health. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. Diagnosis of pregnancy failure: current guidelines. National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Examination of the normal first trimester brain: essentials and non-essentials fetal brain malformation overview: 11–14 weeks. National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Fetal cardiac malformation at 11–14 weeks: what is and what is not possible? National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Fetal CNS pathologies: a systematic approach to diagnosis and management. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. Fetal gastrointestinal and genitourinary at 11–14 weeks: tips, tricks and traps. National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Fetal genitourinary tract malformation 11–14 weeks gestation. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. First trimester diagnosis of fetal heart malformations: are we ready? World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–10 September 2019 [Invited speaker]

Meagher S. First trimester doppler assessment of the uterine arteries. National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. First trimester fetal malformation diagnosis: are we ready? National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Frontiers of ultrasound: malformations detected at 8–10 weeks. World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–10 September 2019 [Invited speaker]

Meagher S. Live demo. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. Live demo. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Live scanning demonstration. World Federation of Ultrasound in Biology Medicine/Australian Society of Ultrasound in Medicine Congress, Melbourne, 6–10 September 2019 [Invited speaker]

Meagher S. Live scanning: the ISUOG '2 minute' heart examination. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. Lobar and semi lobar holoprosencephaly at 11–14 weeks gestation — a practical guide to diagnosis. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Malformation of the fetal spine and skeletal system at 11–14 weeks. National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Masterclass: The first trimester fetal anatomy scan: basics and beyond. ISUOG World Congress, Berlin, 12–17 October 2019 [Invited speaker]

Meagher S. Meet the expert — fetal malformations 8–10 weeks — the dawn of a new era. ISUOG World Congress, Berlin, 12–17 October 2019 [Invited speaker]

Meagher S. Non-invasive prenatal screening and diagnosis — frequently asked questions. Melbourne First Trimester Symposium, Melbourne, 4 May 2019 [Invited speaker]

Meagher S. Orofacial malformation 11–14 weeks. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Prenatal diagnosis of aortic coarctation: challenges and solutions. Seventh International Congress on Fetal Medicine and Gynecological Diagnosis of Córdoba and XIII Scientific Meeting of the Argentine Society for Prenatal Diagnosis and Treatment, Córdoba, 21–23 November 2019 [Invited speaker]

Meagher S. Prenatal ultrasound diagnosis: from the second trimester to the first trimester in 2019. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Routine examination of the cervix at 11–14 weeks: why, when and how? National University Hospital Singapore, First Trimester Fetal Malformation Symposium, Singapore, 9–10 March 2019 [Invited speaker]

Meagher S. Screening for fetal central nervous system malformation, 11–14 weeks gestation. Seventh International Congress on Fetal Medicine and

Gynecological Diagnosis of Córdoba and XIII Scientific Meeting of the Argentine Society for Prenatal Diagnosis and Treatment, Córdoba, 21–23 November 2019 [Invited speaker]

Meagher S. Screening for fetal malformation between 8–10 weeks gestation: 'The dawn of a new era'. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 5 February 2019 [Invited speaker]

Meagher S. Screening for major fetal cardiac malformation 11–14 weeks. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Screening for minor fetal cardiac malformation 11–14 weeks, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. Screening for open spina bifida at 11–14 weeks: challenges and solutions. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. The cerebral 4th ventricle — a landmark for many things. Xiamen Medical Association and Xiamen City Women and Child Care Hospital, Xiamen City, 27–28 July 2019 [Invited speaker]

Meagher S. The first trimester scan guidelines and beyond. 11th Indonesian PICU NICU Update in conjunction with 2019 Fetomaternal Update, Bali, 29–30 June 2019 [Invited speaker]

Meagher S. The power of ultrasound. Challenge the 2018 champion: top images from top experts. ISUOG World Congress, Berlin, 12–17 October 2019 [Invited speaker]

Meagher S. The practical application of 3D/4D Imaging in routine gynaecological practice. ISUOG World Congress, Berlin, 12–17 October 2019 [Invited speaker]

Meagher S. The value of the first trimester scan. Eastern European Society of Obstetrics and Gynaecology, Kiev (via Live Stream), 7 December 2019 [Invited speaker]

Meagher S. Transposition of the great arteries: first, second and third trimester screening and diagnosis. Seventh International Congress on Fetal Medicine and Gynecological Diagnosis of Córdoba and XIII Scientific Meeting of the Argentine Society for Prenatal Diagnosis and Treatment, Córdoba, 21–23 November 2019 [Invited speaker]



Meagher S. What is the value of first trimester scan. Seventh International Congress on Fetal Medicine and Gynecological Diagnosis of Córdoba and XIII Scientific Meeting of the Argentine Society for Prenatal Diagnosis and Treatment, Córdoba, 21–23 November 2019 [Invited speaker]

Shub A. Maternal weight and pregnancy complications. Australia and Oceania Federation of Obstetrics and Gynaecology Congress, Manila, 13 November 2019 [Invited speaker]

Shub A. Obstetrics on the Go. Mercy Hospital for Women and Ambulance Victoria Seminar, Mercy Hospital for Women, Melbourne, April 2019. [Invited speaker]

Shub A. Overworked perfectionists in the pressure cooker: mental health in health care workers. Mercy Perinatal Mental Health Symposium 2019, Melbourne, 3 August 2019 [Invited speaker]

Shub A. Pregnancy and the Eye. Royal Australian New Zealand College Ophthalmology (Vic) Annual Scientific Meeting, Melbourne, 21 March 2019 [Invited speaker]

Walker S. Five common structural abnormalities of the fetal heart and what to do during pregnancy. Global Obstetric Update, Melbourne, 28–30 November 2019 [Co-convenor and speaker]

Walker S. A rocky start: high-risk newborns at Twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 6 November 2019 [Convenor and Chair]

Walker S. ASID/ESCMID Infectious diseases in pregnant women, fetuses and newborns course. Viral Hepatitis in Pregnancy, Sydney, 28 September 2019 [Invited speaker]

Walker S. Bereavement at Twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 15 May 2019 [Convenor and Chair]

Walker S. Defining fetal growth restriction: blind men and elephants. PSANZ XXIII Annual Conference, Gold Coast, 20 March 2019 [Invited speaker]

Walker S. Prenatal genetics: the new frontiers vs life at the coalface. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 13 February 2019 [Convenor and Chair]

Walker S. First trimester: multiple pregnancies. Fetal Scan BOOTCAMP 123, Panorama Perinatology, Parow, 30 August–1 September 2019 [Invited speaker]

Walker S. Forgotten but not gone: syphilis and HIV in pregnancy. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 21 August 2019 [Convenor and Chair]

Walker S. Grand Rounds: improving detection of fetal growth restriction to reduce preventable stillbirth. Mater Mothers' Hospital, Brisbane, 1 March 2019 [Invited speaker]

Walker S. Grand Rounds: investing well: the first nine months. Mercy Hospital for Women, Melbourne, 7 March 2019 [Invited speaker]

Walker S. Grand Rounds: Professor Sue Walker wants to know "RU OK?" Mercy Hospital for Women, Melbourne, 11 September 2019 [Invited speaker]

Walker S. Grand Rounds: women in medicine. Royal Women's Hospital, Melbourne, 22 March 2019 [Invited speaker]

Walker S. Induction of labour. RANZCOG Annual Scientific Meeting, Melbourne, 16 October 2019 [Chair]

Walker S. Put a stop to preventable stillbirth, start the conversation and continue care in stillbirth. RANZCOG Annual Scientific Meeting, Melbourne, 15 October 2019 [Chair]

Walker S. Reducing stillbirth through improved detection of fetal growth restriction. Visiting Professor Lecture Tygerberg Hospital, Stellenbosch University, 3 September 2019 [Invited speaker]

Walker S. Second trimester: abdomen: abdominal wall, intestinal tract, kidneys and urinary tract. Fetal Scan BOOTCAMP 123, Panorama Perinatology, Parow, 30 August–1 September 2019 [Invited speaker]

Walker S. Setting the sails at Twilight: optimising pre-pregnancy care to improve pregnancy outcomes, Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 27 March 2019 [Convenor and Chair]

Walker S. Setting the scene — mental health in pregnancy: a two-edged sword — bigger challenges, better solutions? Mercy Perinatal Mental Health Symposium 2019, Melbourne, 3 August 2019 [Co-convenor and Speaker]

Walker S. Steroids at Twilight: the good, the bad and the ugly. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 31 July 2019 [Convenor and Chair]

Walker S. Stories from four researchers, The Moth-style. Melbourne Medical School Research Symposium, Melbourne, 5 December 2019 [Invited speaker]

Walker S. The ROC redefined: optimising sensitivity and specificity to the lived reality of cancer, ASPOG Congress 2019, Melbourne, 1 August 2019 [Invited speaker]

Walker S. The Society for Maternal-Fetal Medicine, 39th Annual Pregnancy Meeting, Las Vegas, 13–16 February 2019 [Invited speaker]

Walker S. Third trimester: deliver or refer? Hydrops, arrhythmia and hydramnios. Fetal Scan BOOTCAMP 123, Panorama Perinatology, Parow, 30 August – 1 September 2019 [Invited speaker]

Walker S. Twins at Twilight. Fetal Medicine at Twilight, Mercy Hospital for Women, Melbourne, 9 October 2019 [Convenor and Chair]

Walker S. What is the best chart to predict perinatal outcome? 17th World Federation for Ultrasound in Medicine and Biology Congress, Melbourne, 9 September 2019 [Invited speaker]

## Awards and academic achievements

Dr Alexis Shub appointed Associate Professor

Dr Teresa MacDonald awarded PhD

Dr Teresa MacDonald, Austin Medical Research Foundation Young Investigator Award, Austin ResearchFest

Dr Anthea Lindquist, NHMRC Ideas Grant

Dr Anthea Lindquist, Harold Mitchell Postdoctoral Health Fellowship (2019)

Associate Professor Lisa Hui, Clinical Trials and Cohort Studies Grant

## Translational Obstetrics Group (Professor Stephen Tong)

In 2019, the Translational Obstetrics Group (TOG), led by Professor Stephen Tong, continued their vision of developing new therapeutics and diagnostics to treat major pregnancy complications.

The group successfully secured \$5.2 million in funding (the majority as Chief Investigator), produced 25 publications either as lead or contributing author, and presented at 22 conferences/seminars across five continents.

## Research team

Professor Stephen Tong

Associate Professor Tu'uhevaha Kaitu'u-Lino

Associate Professor Natalie Hannan

Dr Fiona Brownfoot

Dr Roxanne Hastie

Dr Carole-Anne Whigham

Natasha DeAlwis

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

Tess Cruishack

Preet Singh

## Projects and grants

### *Biomarker discovery to prevent stillbirth*

T Kaitu'u-Lino

Funded by Mercy Health Foundation (2019)

### *New diagnostics to predict preeclampsia and fetal growth restriction*

T Kaitu'u-Lino

Funded by NHMRC Career Development Fellowship (2019)

### *Cobas e411 analyser*

T Kaitu'u-Lino

Funded by Melbourne Medical School (2019)

### *Metabolomics to identify pregnancies at risk of fetal growth restriction or preeclampsia*

T Kaitu'u-Lino

Funded by Norman Beischer Medical Research Foundation (2019)

### *Developing a novel device to accurately assess fetal distress in labour*

F Brownfoot

Funded by NHMRC Project Grant (2019–22)

### *pH sensor to better detect fetal distress in labour*

F Brownfoot

Funded by Norman Beischer Medical Research Foundation (2019)

### *Long term maternal cardiovascular disease risk associated with preeclampsia: is prevention possible?*

N Hannan

Funded by Trevor B Kilvington Bequest (2019)

### *Placental targeted nanomedicine to silence toxins of preeclampsia*

N Hannan

Funded by Melbourne Medical School Mid-Career Seed Grant Scheme (2019)

### *Can esomeprazole improve outcomes in women at high risk of preeclampsia? A phase II placebo controlled randomised, multi-centre clinical trial*

S Tong, N Hannan

Funded by NHMRC Project Grant (2019–21)

### *Vinorelbine as a tablet based therapy to cure ectopic pregnancies*

S Tong, T Kaitu'u-Lino

Funded by NHMRC Project Grant (2017–19)

### *Nanomedicine targeted delivery of therapeutics to the placenta to treat preeclampsia*

S Tong, N Hannan

Funded by NHMRC Project Grant (2017–19)

## Publications

Brownfoot F, Hannan NJ, Cannon P, Nguyen V, Hastie R, Parry LJ, et al. Sulfasalazine reduces placental secretion of antiangiogenic factors, up-regulates the secretion of placental growth factor and rescues endothelial dysfunction. *EBioMedicine*. 2019;41:636–648.

Cluver C, Walker SP, Mol B, Hall D, Hiscock R, Brownfoot FC, et al. A double blind, randomised, placebo-controlled trial to evaluate the efficacy of metformin to treat preterm preeclampsia (PI2 Trial): study protocol. *BMJ Open* 2019;9(4):e025809. DOI: 10.1136/bmjopen-2018-025809.

Crowther CA, Ashwood P, Andersen CC, Middleton PF, Tran T, Doyle LW, et al. Maternal intramuscular dexamethasone versus betamethasone before preterm birth (ASTEROID): a multi-centre, double-blind, randomised controlled trial. *Lancet Child Adolesc Health*. 2019;3(11):769–780. DOI: 10.1016/S2352-4642(19)30292-5.

Cruickshank T, Kaitu'u-Lino TJ, Cannon P, Harper A, Nguyen TV, Dane KM, et al. Screening circulating proteins to identify biomarkers of fetal macrosomia. *BMC Res Notes* 2019;12(1):587.

De Silva M, Brownfoot F, Hannan NJ, Walker SP, Cluver CA, Lindquist A, et al. A systematic review of proton pump inhibitors for the prevention and treatment of preeclampsia and gestation hypertension. *Open J Obstet Gynecol*. 2019;9:21–28.

De Silva M, Panisi L, Brownfoot FC, Lindquist A, Walker SP, Tong S, et al. Systematic review of areca (betel nut) use and adverse pregnancy outcomes. *Int J Obstet Gynecol*. 2019;147(3):292–300.

Evans J, Hannan N. Effects of superovulation on the endometrium. In Kovacs G, Salamonsen L, Editors. *How to prepare the endometrium to maximize implantation rates and IVF success* (pp. 43–53). Cambridge University Press, 2019.

Fleiss B, Wong F, Brownfoot F, Shearer I, Baud O, Walker D, et al. Knowledge gaps and emerging research areas in intrauterine growth restriction-associated brain injury. *Frontiers in Endocrinology*. 2019;10:188. DOI: 10.3389/fendo.2019.00188.



Hastie R, Bergman L, Cluver CA, Wikman A, Hannan NJ, Walker SP, et al. Proton pump inhibitors and preeclampsia risk among 157,720 women. *Hypertension* 2019;73(5):1097–1103.

Hastie R, Brownfoot FC, Cannon P, Nguyen TV, Tuohy L, Hannan NJ, et al. Sulfasalazine decreases soluble fms-like tyrosine-kinase 1 secretion potentially via inhibition of upstream placental epidermal growth factor receptor signalling. *Placenta* 2019;87:53–57.

Hastie R, Brownfoot FC, Cluver CA, Walker SP, Hesselman S, Tong S, et al. Predictive value of the signs and symptoms preceding eclampsia: a systematic review. *Obstet Gynecol.* 2019;134(4):677–684.

Hastie R, Brownfoot FC, Pritchard N, Hannan NJ, Cannon P, Nguyen V, et al. EGFR (Epidermal Growth Factor Receptor) signalling and the mitochondria regulate sFlt-1 (soluble Fms-like tyrosine kinase-1) secretion. *Hypertension* 2019;73(3): 659–670.

Kaitu'u-Lino, TJ. Therapeutic interventions: the importance of including diseased and healthy samples in preclinical studies. *EBioMedicine.* 2019;45:5–6.

Kennedy A, Stern CJ, Tong S, Hastie R, Agresta F, Walker SP, et al. Incidence of hypertensive disorders of pregnancy after sperm donation in IVF. *Hum Reprod.* 2019;34(12):2541–2548.

Paul TD, Hastie R, Tong S, Keenan E, Hiscock R, Brownfoot FC. Prediction of adverse maternal outcomes in preeclampsia at term. *Pregnancy Hypertens.* 2019;18:75–81.

Pritchard N, Lindquist A, Hiscock R, Ruff S, Tong S, Brownfoot FC. High-dose compared to low-dose oxytocin for induction of labour of nulliparous women at term. *J Matern Fetal Med.* 2019;32(3):362–368.

Thilakasiri P, Huynh J, Poh AR, Tan CW, Nero TL, Tran K, et al. Repurposing the selective estrogen receptor modulator bazedoxifene. *EMBO Mol Med.* 2019;11(4):e9539. DOI: 10.15252/emmm.201809539.

Tong S, Kaitu'u-Lino TJ, Walker SP, MacDonald TM. Blood-based biomarkers in the maternal circulation associated with fetal growth restriction. *Prenat Diagn.* 2019;39(11):947–957.

Whigham CA, MacDonald TM, Walker SP, Hannan NJ, Tong S, Kaitu'u-Lino TJ. The untapped potential of placenta-enriched molecules for diagnostic and therapeutic development. *Placenta.* 2019;84:28–31.

Whigham CA, MacDonald TM, Walker SP, Pritchard N, Hannan NJ, Cannon P, et al. Circulating GATA2 mRNA is decreased among women destined to develop preeclampsia and may be of endothelial origin. *Sci Rep.* 2019;9(1):235.

Whigham CA, MacDonald TM, Walker SP, Pritchard N, Hannan NJ, Hastie R, et al. Adrenomedullin mRNA is decreased in women destined to develop term preeclampsia. *Pregnancy Hypertens.* 2019;16:16–25.

Yung C, MacDonald TM, Walker SP, Cannon P, Harper A, Pritchard N, et al. Death associated protein kinase 1 (DAK-1) is increased in preeclampsia. *Placenta.* 2019;88:1–7.

## Presentations

Brownfoot F. Developing novel devices to better detect fetal distress in pregnancy and labour. Australian Reproduction Update, Melbourne, November 2019 [Invited speaker]

Brownfoot F. Developing novel devices to better detect fetal distress in pregnancy and labour. Convergence Series, University of Melbourne, Melbourne, Australia, August 2019 [Invited speaker]

Brownfoot F. Developing novel devices to better detect fetal distress in pregnancy and labour. Society of Reproductive Biology, Sydney, August 2019 [Invited speaker]

Brownfoot F. Preventing preeclampsia recurrence. Mercy Perinatal Twilight Seminar Series, March 2019 [Invited speaker]

Brownfoot F. The risk of pelvic floor injury with instrumental delivery. Global Obstetric Update, Melbourne, November 2019 [Invited speaker]

Hastie R. Two poster presentations. The European International Society for the Study of Hypertension in Pregnancy, Lund, October 2019 [Presenter]

Hastie R. Is maternal aspirin use associated with bleeding complications? Gothenburg University Presentation, Gothenburg, October 2019 [Invited speaker]

Hastie R. Is maternal aspirin use associated with bleeding complications? Austin Doyle Research Seminar, Melbourne, October 2019 [Invited speaker]

Hannan N. The European International Society for the Study of Hypertension in Pregnancy, Lund, October 2019 [Workshop convenor and presenter]

Hannan N. From Pre-conception to the Cradle Meeting, Houston, November 2019 [Conference convenor and presenter]

Hannan N. Seminar. University of Cambridge, Department of Physiology and Development, Cambridge, March 2019 [Invited speaker]

Hannan N. International Federation Placental Associations, Buenos Aires, September 2019 [Invited speaker]

Hastie R. Poster presentation. Society for Reproductive Investigation, Paris, March 2019 [Presenter]

Hastie R. The effects of psychotropics on human placental function. Society for Reproductive Biology, Sydney, August 2019 [Presenter]

Hastie R. The improved characterisation of eclampsia. The Cape Town Preeclampsia Update, Cape Town, March 2019 [Invited speaker]

Kaitu'u-Lino T. Diagnostics discovery for pregnancy complications. University of Cambridge Seminar, Cambridge, March 2019 [Invited speaker]

Kaitu'u-Lino T. Discussion. Spark your Curiosity meeting, Merck Pharmaceuticals, Sydney, June 2019 [Invited speaker]

Kaitu'u-Lino T. The untapped potential of placental enriched molecules to diagnose pregnancy complications. Society for Reproductive Investigation Placenta Satellite meeting, Paris, March 2019 [Invited speaker]

Kaitu'u-Lino T. Identifying new biomarkers of placental insufficiency. Society for the Study of Reproduction, San Jose, July 2019 [Invited speaker]

Kaitu'u-Lino T. Achieving success in academia. Society for Reproductive Biology, Sydney, August 2019 [Invited speaker]

Kaitu'u-Lino T. Preeclampsia and fetal growth restriction, similar or different. International Federation of Placental Associations, Buenos Aires, September 2019 [Invited speaker]

Kaitu'u-Lino T. Circulating placental biomarkers in preeclampsia and FGR. DoHAD pre-meeting preeclampsia workshop, Melbourne, October 2019 [Invited speaker]

## Awards and academic achievements

Dr Roxanne Hastie, NHMRC Fellowship

Dr Fiona Brownfoot, Norman Beischer Medical Research Foundation Clinical Research Fellowship

Dr Fiona Brownfoot, University of Melbourne Dame Kate Campbell Fellowship

Dr Fiona Brownfoot, Arthur Nyulasy Prize for outstanding doctoral thesis

Dr Fiona Brownfoot, Henry and Rachel Ackman Post-doctoral Travel Fellowship

Associate Professor Natalie Hannan, International Federation Placental Associations Outstanding Female Mid-Career Investigator Andrée Gruslin Award

Associate Professor Natalie Hannan, announced Associate Dean of Diversity and Inclusion, Faculty of Medicine, Dentistry and Health Sciences University of Melbourne

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

The research undertaken by the Obstetrics, Nutrition and Endocrinology (ONE) Group focuses on understanding two common and important problems in obstetrics that lead to an increased risk of short and long-term decline in health: spontaneous preterm birth and gestational diabetes mellitus (GDM).

### Research team

Associate Professor Martha Lappas

Dr Ratana Lim

Caitlyn Nguyen-Ngo

Nanthini Jayabalan

Polin Haghvirdizadeh

Dineli Kalansuriya

Rebecca Roy

### Projects and grants

*Understanding and preventing complications of pregnancy*

M Lappas

Funded by the Department of Obstetrics and Gynaecology, University of Melbourne (2019)

*Short chain fatty acids as a novel therapeutic for gestational diabetes*

M Lappas

Funded by the Austin Hospital Medical Research Foundation (2019)

*Predicting the development of type 2 diabetes in women with previous gestational diabetes*

M Lappas

Funded by Diabetes Australia

*The GDM Follow-Up Study: Predicting the development type 2 diabetes*

M Lappas

Norman Beischer Medical Research Foundation (2019)

*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 (2016–20)

### Publications

Haywood CJ, Prendergast LA, Lim R, Lappas M, Lim WK, Proietto J. Obesity in older adults: effect of degree of weight loss on cardiovascular markers and medications. *Clin Obes.* 2019;9(4):e12316. DOI: 10.1111/cob.12316.

Hoh J-K, Lappas M, Liu C, Qiao C, Pallavi K, Takeda J, et al. Preterm birth rate and dilemma of preterm labor treatment in Asia. *Placenta.* 2019;79:68–71. DOI: 10.1016/j.placenta.2019.01.005.

Jayabalan N, Lai A, Ormazabal V, Adam S, Guanzon D, Palma C, et al. Adipose tissue exosomal proteomic professorile reveals a role on placenta glucose metabolism in gestational diabetes mellitus. *J Clin Endocrinol Metab.* 2019;104(5):1735–52.

Lappas M. Maternal obesity and gestational diabetes decrease Metrnl concentrations in cord plasma. *J Matern-Fetal Neonatal Med.* 2019 Oct 13; 1–5. DOI: 10.1080/14767058.2019.1676713.

Lappas M, Georgiou HM, Velagic A, 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.* 2019;127(6):353–8.

Lappas M, Georgiou HM, Willcox JC, Permezel M, Shub A, Maynard C-L, et al. Postpartum circulating cell-free insulin DNA levels are higher in women with previous gestational diabetes mellitus who develop type 2 diabetes in later life. *J Diabetes Res.* 2019; Jul 24; 1–5.

Lim R, Lappas M. Expression and function of macrophage-inducible C-type lectin (Mincle) in inflammation driven parturition in fetal membranes and myometrium. *Clin Exp Immunol.* 2019;197(1):95–110.

Lim R, Lappas M. GIT2 deficiency attenuates inflammation-induced expression of pro-labor mediators in human amnion and myometrial cells. *Biol Reprod.* 2019;100(6):1617–29.

Lim R, Lappas M. Novel anti-inflammatory actions of TIPE2 in human primary amnion and myometrial cells. *Reproduction.* 2019;158(1):95–107.

Lim R, Nguyen-Ngo C, Lappas M. Targeting bromodomain-containing proteins to prevent spontaneous preterm birth. *Clin Sci (Lond).* 2019;133(23):2379–400.



Menon R, Richardson LS, Lappas M. Fetal membrane architecture, aging and inflammation in pregnancy and parturition. *Placenta*. 2019;79:40–5.

Nguyen-Ngo C, Jayabalan N, Salomon C, Lappas M. Molecular pathways disrupted by gestational diabetes mellitus. *J Mol Endocrinol*. 2019; 63(3):R51–72.

Nguyen-Ngo C, Willcox JC, Lappas M. Anti-diabetic, anti-inflammatory, and anti-oxidant effects of naringenin in an in vitro human model and an in vivo murine model of gestational diabetes mellitus. *Mol Nutr Food Res*. 2019;63(19):1900224.

Nussing S, Koay H-F, Sant S, Loudovaris T, Mannering SI, Lappas M, et al. Divergent SATB1 expression across human life span and tissue compartments. *Immunol Cell Biol*; 97(5):498–511.

Sant S, Jenkins MR, Dash P, Watson KA, Wang Z, Pizzolla A, et al. Human  $\gamma\delta$  T-cell receptor repertoire is shaped by influenza viruses, age and tissue compartmentalisation. *Clin Transl Immunology*. 2019;8(9):e1079. DOI: 10.1002/cti2.1079.

Shub A, Churilov L, Miranda M, Georgiou HM, Lappas M. Postpartum maternal adipokines and infant weight for length at 1 year in women with gestational diabetes. *J Matern Fetal Neonatal Med*. 2019;32(9):1571–4.

Shub A, Miranda M, Georgiou HM, McCarthy EA, Lappas M. The effect of breastfeeding on postpartum glucose tolerance and lipid profiles in women with gestational diabetes mellitus. *Int Breastfeed J*. 2019;(1):1.

Simpson RJ, Greening DW, Jayabalan N, Lai A, Nair S, Guanzon D, et al. Quantitative proteomics by SWATH-MS suggest an association between circulating exosomes and maternal metabolic changes in gestational diabetes mellitus. *Proteomics*. 2019;19(1–2):e1800164. DOI: 10.1002/pmic.201800164.

## Presentations

Jayabalan N. Adipose tissue-derived exosomes and placental nutrient uptake. International Federation of Placenta Associations and the Latin American Society for Maternal-Fetal Interaction and Placenta 2019 meeting, Buenos Aires, 10–13 September 2019 [Invited speaker]

Jayabalan N. Adipose tissue derived exosomes modulates placental nutrient uptake in cultured human

primary trophoblast cells in gestational diabetes mellitus (GDM) pregnancies. Queensland Perinatal Consortium, Gold Coast, 1 November 2019 [Invited speaker]

Jayabalan N. Maternal adipose tissue derived exosomes modulates glucose and fatty acid uptake in human primary trophoblast cells. Annual Scientific Meetings of the Endocrine Society of Australia, the Society for Reproductive Biology, and the Asia and Oceania Thyroid Association, Sydney, 18–21 August 2019 [Invited speaker]

Lappas M. Adipose tissue exosomes regulate placental glucose metabolism and fetal growth in gestational diabetes. 2019 International Congress on Obesity and Metabolic Syndrome and Asia-Oceania Conference on Obesity, Seoul, 29–31 August 2019 [Invited speaker]

Lappas M. Role of adipose tissue derived mediators in regulating placental function in gestational diabetes. Australasian Diabetes in Pregnancy Society Annual Scientific Meeting, Sydney, 23–25 August 2019 [Invited speaker]

Lappas M. Role of adipose tissue derived mediators in regulating placental function in gestational diabetes: implications for fetal growth. International Federation of Placenta Associations and the Latin American Society for Maternal-Fetal Interaction and Placenta 2019 meeting, Buenos Aires, 10–13 September 2019 [Invited speaker]

Lappas M. Targeting inflammation to prevent preterm birth. Fondecyt II Joint meeting, Universidad de Concepcion, 16 September 2019 [Invited speaker]

Lappas M. Targeting inflammation to prevent preterm birth. Preterm birth international collaborative Australasia branch (PREBIC-AA) Meeting, Shenyang, 18–20 June 2019 [Invited speaker]

Nguyen-Ngo C. Polyphenols as preventatives for gestational diabetes mellitus. Australian Society for Medical Research (ASMR) conference, Melbourne, 31 May 2019 [Invited speaker]

Nguyen-Ngo C. Pomegranate polyphenol punicalagin: a potential novel prevention therapy for preterm birth. Annual Scientific Meetings of the Endocrine Society of Australia, the Society for Reproductive Biology, and the Asia and Oceania Thyroid Association, Sydney, 18–21 August 2019 [Invited speaker]

Nguyen-Ngo C. Pomegranate polyphenol punicalagin: a potential novel prevention therapy for preterm birth. MDHS ECR Network, Melbourne, 31 August 2019 [Invited speaker]

Nguyen-Ngo C. The polyphenols punicalagin and gallic acid may be novel therapeutics for preterm birth. 66th Annual Meeting of the Society for Reproductive Investigation, Paris, 12–16 March 2019 [Invited speaker]

## Awards and academic achievements

Associate Professor Martha Lappas, elected President of the Fetal Membrane Society

Associate Professor Martha Lappas, appointed to Editorial Board of Placenta

Associate Professor Martha Lappas, ADIPS Graz Clock Award

Caitlin Nguyen-Ngo, Society for Reproductive Investigation Travel Award

Caitlin Nguyen-Ngo, Australian Society for Medical Research Best 3rd year PhD poster award

Caitlin Nguyen-Ngo, Society for Reproductive Biology Travel Award

Nanthini Jayabalan, YW Loke New Investigator Travel Award

Nanthini Jayabalan, University of Queensland Domestic Travel Award

Polin Haghvirdizadeh, Melbourne Research Scholarship

Dineli Kalansuriya, awarded Bachelor of Science (Honours) with a High Distinction

Rebecca Roy, awarded Bachelor of Science (Honours) with a High Distinction

## 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 other pregnancy complications and bringing these discoveries to commercial production and clinical application.

A major achievement for 2019 saw the group obtain a provisional patent for its work in biomarkers of preterm birth.

### *Preterm birth*

Preterm birth is a major pregnancy complication and the cause of perinatal mortality and morbidity. 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.

### *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.

## Research team

Associate Professor Harry Georgiou

Associate Professor Megan Di Quinzio

Professor Shaun Brennecke

Claire Grant

Gabrielle Pell

Belinda Bozykowski

Alison Abboud

Lucinda Kuhnd

Genevieve Christophers

Rachel Murdoch

Tal Amitay

Dr Ramin Khanabdali

Ruth Escalona

Joan Wijaya

Chelsea Perera

Shixuan Zheng

## Projects and grants

*Prognostic biomarkers of preterm labour:  
Development of a predictive test kit for preterm labour*  
H Georgiou, M Di Quinzio, S Brennecke S, N Arbel  
Funded by Carmentix (2018–20)

## Publications

Al-Sowayan B, Keogh RJ, Abumaree M, Georgiou HM, Kalionis B. Valproic acid simulates in vitro migration of the placenta-derived mesenchymal stem/stromal cell line CMSC29. *Stem Cell Investig.* 2019;6:3. DOI: 10.21037/sci.2019.01.01.

Al-Sowayan B, Keogh R, Abumaree M, Georgiou HM, Kalionis B. An ex-vivo human placental vessel perfusion method to study mesenchymal stem/stromal cell migration. *Stem Cell Investig.* 2019;6:2. DOI: 10.21037/sci.2018.12.03.

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.* 2019;127(6):353–358. DOI: 10.1055/a-0577-7700.

Lappas M, Georgiou HM, Willcox JC, Permezel M, Shub A, Joglekar M, et al. Postpartum circulating cell-free insulin DNA levels are higher in women with previous gestational diabetes mellitus who develop type 2 diabetes in later life. *J Diabetes Res.* 2019; Jul 24; 1–5. DOI: 10.1155/2019/3264184.

Shub A, Churilov L, Manisha M, Georgiou HM, Lappas M. Postpartum maternal adipokines and infant weight for length at 1 year in women with gestational diabetes. *J Matern Fetal Neonatal Med.* 2019;32(9):1571–1574. DOI: 10.1080/14767058.2017.1410126.

Shub A, Miranda M, Churilov L, Georgiou HM, McCarthy EA, Lappas M. The effect of breast feeding on postpartum glucose tolerance and lipid profiles in women with gestational diabetes mellitus. *Int Breastfeeding J.* 2019;14:46. DOI: 10.1186/s13006-019-0238-5.

## Presentations

Georgiou H. Poster presentation. Society for Maternal Fetal Medicine 39th Annual Pregnancy Meeting, Las Vegas, 11–16 February 2019 [Presenter]

Georgiou H. Oral presentation. 2nd World Congress on Maternal Fetal Neonatal Medicine, London, 4–6 April 2019 [Invited speaker]

Georgiou H. Oral presentation. 10th International Symposium on Diabetes, Hypertension, Metabolic Syndrome and Pregnancy, Florence, 29 May–1 June 2019 [Invited speaker]

Georgiou H. Oral presentation. Preterm Birth International Collaborative (PREBIC)-Australasia, Shenyang, 18–20 June 2019 [Invited speaker]

Georgiou H. Oral presentation. RANZCOG Annual Scientific Meeting, Melbourne, 13–16 October 2019 [Invited speaker]

## Awards and academic achievements

Associate Professor Harry Georgiou, member of the Animal Research Ethics Committee, The Royal Women's Hospital

Associate Professor Harry Georgiou, member of the Research Subcommittee of the Norman Beischer Medical Research Foundation

Associate Professor Harry Georgiou, University of Melbourne Graduate Research Coordinator for the Department of Obstetrics and Gynaecology



# DEPARTMENT OF GYNAECOLOGICAL ONCOLOGY, MERCY HOSPITAL FOR WOMEN

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The department is committed to progressing and continuing research in the field, and to the education of the medical community, patients, families and carers.

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 and research projects. They also participate in an extensive array of national cancer and pre-invasive organisation committees, to help improve the care of women and their families with gynaecological pre-invasive and invasive disease.

## Research team

Dr Simon Hyde

Associate Professor Peter Grant

Dr Julie Lamont

Dr Adam Pendlebury

Dr Antonio Jones

Associate Professor Linda Mileshekin

Dr George Au-Yeung

Dr Serene Foo

Associate Professor David Allen

Dr Shaun McGrath

Janiece Williams

Dr Anna Morton

Dr Carolin Poon

## 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 Mileshekin, 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, Multi-centre 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, Multi-centre 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 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 Hyde, S Foo, J Lamont, A Pendlebury

Funded by Australian Catholic University and Deakin University

*Outcomes and management of those referred with pHSIL at the time of cervical screening test*

M McGauran, S Hyde, K Pham

Mercy Health Academic Research and Development Committee Small Grants

## Publications

Kok PS, Beale P, O'Connell RL, Grant P, Bonaventura T, Scurry J, et al. PARAGON (ANZGOG-0903): a phase 2 study of anastrozole in asymptomatic patients with estrogen and progesterone receptor-positive recurrent ovarian cancer and CA125 progression. *J Gynecol Oncol.* 2019;30(5):e86.

Mileshtkin L, Edmondson R, O'Connell RL, Sjoquist KM, Andrews J, Jyothirmayi R, et al. Phase 2 study of anastrozole in recurrent estrogen (ER)/progesterone (PR) positive endometrial cancer: the PARAGON trial — ANZGOG 0903. *Gynecol Oncol.* 2019;154(1):29–37.

Tang M, O'Connell RL, Amant F, Beale P, McNally O, Sjoquist KM, et al. PARAGON: a Phase II study of anastrozole in patients with estrogen receptor-positive recurrent/metastatic low-grade ovarian cancers and serous borderline ovarian tumors. *Gynecol Oncol.* 2019;154(3):531–538.

## Presentations

Hyde S, Allen D. Australian Society for Colposcopy and Cervical Pathology Update Course, Sydney, July 2019

# DEPARTMENT OF UROGYNAECOLOGY, MERCY HOSPITAL FOR WOMEN

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The department provides specialist care to women with disorders of the bladder and pelvic floor.

Team members are actively involved in medical student education through the University of Notre Dame and junior doctor training, including unaccredited and SIMG RANZCOG accredited trainees. The department is currently focused on research and audit.

## 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 Kamakar

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

Dwyer PL, Karmakar D. Surgical management of urinary stress incontinence — where are we now? *Best Pract Res Clin Obstet Gynaecol.* 2019;54:31–40. DOI: 10.1016/j.bpobgyn.2018.10.003.

Karmakar D. Commentary on “Defining normal apical vaginal support: a relook at the POSST study”. *Int Urogynecol J.* 2019;30(1):53–54. DOI: 10.1007/s00192-018-3717-0.

Karmakar D, Hayward L. What can we learn from the vaginal mesh story? *Climacteric.* 2019;22(3):277–282. DOI: 10.1080/13697137.2019.1575355.

Karmakar D, Dwyer PL, Thomas E, Schierlitz L. Extraperitoneal uterosacral suspension technique for post hysterectomy apical prolapse in 472 women: results from a longitudinal clinical study. *BJOG.* 2019;126(4):536–542. DOI: 10.1111/1471-0528.15560.

## Presentations

Karmakar D, Dwyer PL, Murray C, Dykes N, Zilberlicht A. Long term comparative study of burch colposuspension versus mid urethral sling for surgical management of stress urinary incontinence. IUGA/AUGS Annual Conference, Nashville, 2 September 2019

Nikpoor P, De Souza AM, Karmakar D, Dwyer PL, Thomas E, Murray C. Comparison of female sexual function with mode of delivery at 12 months and five years: a prospective longitudinal cohort study from a tertiary hospital. IUGA/AUGS Annual Conference, Nashville, 2 September 2019

Salimeda M, Wijesiriwardana D, Karmakar D, Van Dam J. Decreased foetal movements — how can we manage better? RANZCOG Annual Scientific Meeting, Melbourne, October 2019



# DEPARTMENT OF ENDOSURGERY, MERCY HOSPITAL FOR WOMEN

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The endosurgery department specialises in providing advanced laparoscopic surgery to women. The 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 Richard Hiscock

Dr Kate McIlwaine

Dr Janine Manwaring

Dr Kate Stone

Dr Natalie Yang

Dr Samantha Mooney

Dr Hannah Gordon

Dr Lauren Hicks

Dr Shagun Narula

Jennifer Porter

Dr Amy Stewart

Dr Rebecca Roberts

Dr Cassandra Taylor

Dr Annaliese Woods

Gurjot Kaur Gill

Nicholas Senior

## Projects and grants

*The Myometrial-Cervical Ratio (MCR): A new measurement to improve the ultrasound diagnosis of Adenomyosis*

*Pre-operative Imaging in Deep Infiltrating Endometriosis: predicting depth of disease in rectosigmoid specimens*

*Hysteroscopic management of Retained Products of Conception*

*What Lies Beneath: Umbilical adhesions following abdomino-pelvic surgery*

Funded by AGES Research Grant Program

*Virtual Clinics in Gynaecology: Can we shorten the wait?*

Funded by Mercy Health Academic Research and Development Committee Small Grants (2018–19)

*Determining a threshold measurement of Endometrial Thickness in asymptomatic postmenopausal women*

*The Persistent Pelvic Pain (PPP) Study*

*Botulinum toxin A (BOTOX) injection into muscles of pelvic floor as a treatment for chronic pelvic pain secondary to pelvic floor muscular spasm — An Audit of Patient Outcomes*

*'We Live in a Virtual World': Training the Trainee using Visual Reality Simulation*

Funded by AGES Research Grant Program and Mercy Health Academic Research and Development Committee Small Grants (2018–19)

*Adnexal torsion following laparoscopic hysterectomy with salpingectomy*

*Introduction of the MyosureLite in an established outpatient hysteroscopy clinic*

## Publications

Mirowska-Allen KL, Sewell M, Mooney S, Maher P, Ianno DJ, Grover SR. The characteristics of women recommended a laparoscopy for chronic pelvic pain at a tertiary institution. *Aust N Z J Obstet Gynaecol*. 2019;59:123–133.

## Presentations

Gordon H. Introduction of the MyosureLite in an established outpatient hysteroscopy clinic. RANZCOG Annual Scientific Meeting, Melbourne, October 2019.

Mooney S. Poster presentation. Angular Pregnancy: a review of a rare entity and demonstration of hysteroscopic and laparoscopic management techniques. AGES Annual Scientific Meeting, Perth, March 2019.

Mooney S. Poster presentation. Revisiting benign complications of uncontained power morcellation: A case of dual 'parasitic' pathologies following laparoscopic sub-total hysterectomy. AGES Annual Scientific Meeting, Perth, March 2019.

Narula S, Mooney S. Virtual reality systems in laparoscopic training: challenges and successes in designing a curriculum.

Readman E. What is the future of gynaecological surgery? New Zealand Obstetrics and Gynaecology Conference.

Readman E. Debate on translational research. New Zealand Obstetrics and Gynaecology Conference.

Readman E. Medical treatment in endometriosis. Pelvic Pain Victoria Biannual Dinner Meeting.

Woods A. Management of secondary postpartum haemorrhage: experience in a tertiary obstetric emergency department. RANZCOG Annual Scientific Meeting, Melbourne, October 2019.

# DEPARTMENT OF PAEDIATRICS, MERCY HOSPITAL FOR WOMEN

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The department conducts research into respiratory management and preventing chronic lung disease, nutrition, brain injury, infection and immunity, and long-term neurodevelopment outcomes.

As part of the Department of Paediatrics, the Neonatal Intensive Care Unit (NICU) is actively committed to research, with a focus on clinical projects. The NICU participates in large scale, multi-centred national and international studies alongside local projects led by Mercy Health clinicians.

In 2019, the NICU completed the recruitment for some studies as well as prepared for exciting new projects to commence in 2020.

Increasingly the involvement of parents in babies' nursery care is being recognised. While on sabbatical in Turku, Finland, Dr Martina Moorkamp had the opportunity to participate in a structured program, which changes culture within the neonatal nursery environment to include parents as partners of care with their babies. In conjunction with her Finnish colleagues, Dr Moorkamp developed an online course for staff in this program.

## 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

Henschke P. Cannabis: An ancient friend or foe? What works and doesn't work. *Semin Fetal Neonatal Med.* 2019;24(2):149–154.

Lowe A, Su J, Sasi A, Tang M, Lodge C, Matheson M, et al. PEBBLES study protocol: a randomised controlled trial to prevent atopic dermatitis, food allergy and sensitisation in infants with a family history of allergic disease using a skin barrier improvement strategy. *BMJ Open* 2019; 9:e024594. DOI: 10.1136/bmjopen-2018-02459.

Sasi A. Patent Ductus Arteriosus in Newborn. In *AIIMS Neonatology Protocols* (2nd edition), New Delhi 2019.



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

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

## Research team

Professor Christine East

Adjunct Professor Sue McDonald

Dr Wendy Pollock

Dr Maggie Flood

Dr Jenny Davis

Mary McCarthy

Christine Murray

Dr Richard Gray

Magdalena Pliszka

Tegan Culvenor

*Postgraduate nurse education and patient outcomes*  
J Davis et al.

*Birth after caesarean: antenatal clinical pathway*  
R Drysdale, S McDonald

*Induction of labour using the Nippita classification system: mapping to clinical outcomes*  
CE East, Mercy Health working party

*Local cooling for relief of pain from perineal trauma sustained during childbirth, Cochrane Systematic Review*  
CE East, E Dorward, E Whale, J Liu

*An evidence-based practice program at Mercy Health, partnering with La Trobe University*  
CE East, G Malik

*Fetal macrosomia in the absence of maternal gestational diabetes mellitus: An investigation into induction of labour rationale, outcomes of birth and neonatal birth weight*  
B Owen, J Davis

## Projects and grants

*Perineal repair: midwives*  
T Culvenor, S McDonald

*Education and practice of 2<sup>nd</sup> level nurses in Australia*  
J Davis et al.

*Clinical credibility and nurse education in Australia*  
J Davis et al.

*Compassion fatigue and work productivity among palliative care nurses in Australia*  
J Davis et al.

*Midwifery education and practice in MENA (Middle East and North Africa) countries*  
J Davis et al.

*Experiences of overseas qualified midwives working in Australia*  
J Davis et al.

*Nursing skill mix and patient safety*  
J Davis et al.

*My Baby's Movements: A stepped wedged cluster randomised trial of maternal awareness and reporting of decreased fetal movements to reduce stillbirth*  
V Flenady, G Gardener, P Middleton, N Coory, D Ellwood, C Crowther, CE East, E Callander, J Norman (Centre for Reproductive Health, UK), F Boyle  
Funded by NHMRC (2018 – 19)

*Obstetric Triage Decision Aid*  
M McCarthy, S McDonald et al

*Prevention of Adverse Child Behavioural Development Following Maternal Depression in Pregnancy*  
J Milgrom, H Skouteris, M Galbally, CE East, V Glover  
Funded by NHMRC (2018 – 22)

*Health literacy in women attending gynaecology outpatients*  
C Murray, S McDonald, R Gray

# MERCY HEALTH WELCOMES PROFESSOR CHRISTINE EAST

Building on a 10 year relationship with La Trobe University in midwifery research and leadership, in May 2019, Professor Christine East commenced as the inaugural Professor of Nursing and Midwifery.

Professor Christine East is a nurse and midwife with experience in clinical, academic and research settings. Her work and research focuses on person-centred and evidence-based healthcare. To achieve this, she has fostered connections between clinicians and academics to understand what evidence is, how it applies in the practice of nursing and midwifery, and how to generate evidence for practice when there is not already enough knowledge.

In her role, Christine also coordinates the Master of Midwifery and the Professional Doctorate in Midwifery, helping potential higher degree students find the right course to assist in their academic, clinical or research futures.



Professor  
Christine East

*Exploring the benefits of the peanut ball, for its effect on the management of pain during labour and on birth outcomes*

M Pliszka

*Strategic partnerships for refugee and asylum seeker health: improving access, health literacy and social inclusion*

E Riggs, J Yelland, J Szwarc, S Brown and the Group Pregnancy Care Partnership (F Mensah, P Middleton, I Kaplan, CE East, J Oats, L Gold et al)

Funded by Victorian Department of Premier and Cabinet, Office of Multicultural Affairs and Citizenship (2016–20)

*Midwives and episiotomies*

CE East, DA Forster

## Publications

Ayala Quintanilla BP, Pollock WE, McDonald SJ, Taft AJ. Intimate partner violence and severe acute maternal morbidity in the intensive care unit: a case-control study in Peru. *Birth*. 2019; Oct 28. DOI: 10.1111/birt.12461.

Boyle JA, Willey S, Blackmore R, East C, McBride J, Gray K, et al. Improving mental health in pregnancy for refugee women: protocol for the implementation and evaluation of a screening program in Melbourne, Australia. *JMIR Res Prot*. 2019;8(8):e13271-e.

Birks M, Davis J, Smithson J, Lindsay D. Enablers and barriers to registered nurses expanding their scope of practice in Australia: a cross-sectional study. *Policy, Polit Nurs Prac*. 2019;20(3):145–152. DOI: 10.1177/1527154419864176.

Cardwell R, Davis J, Gray R, Hillel SA, McKenna L. How is clinical credibility defined in nursing? A systematic review. *Collegian*. 2019. DOI: 10.1016/j.colegn.2019.05.007.

Cardwell R, Gray R, Davis J, McKenna L. The illusion of clinical credibility and its importance to nurse education, practice and science. *J Clin Nurs*. 2019;28(23-24):4153–4154. DOI: 10.1111/jocn.14961.

Davey MA, Flood M, Pollock W, Cullinane F, McDonald S. Risk factors for severe postpartum haemorrhage: a population-based retrospective cohort study. *Aust N Z J Obstet Gynaecol*. 2019; Nov 22. DOI: 10.1111/ajo.13099.

Davis J, Morgans A, Dunne M. Supporting adoption of the palliative approach toolkit in residential aged care: an exemplar of organisational facilitation for sustainable quality improvement. *Contemp Nurse*. 2019;55(4-5):369–379. DOI:10.1080/10376178.2019.1670708.

East C, Biro M, Fredericks S, Lau R. Support during pregnancy for women at increased risk of low birthweight babies. *Cochrane Database Syst Rev*. 2019. DOI: 10.1002/14651858.CD000198.pub3.

Flenady V, Gardener G, Boyle FM, Callander E, Coory M, East C, et al. My Baby's Movements: a stepped wedge cluster randomised controlled trial to raise maternal awareness of fetal movements during pregnancy study protocol. *BMC Pregnancy Childbirth*. 2019;19(1):430. DOI: 10.1186/s12884-019-2575-1.

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## Presentations

East CE. “Hands on and eyes on”: protecting the perineum during childbirth. RANZCOG Annual Scientific Meeting, Melbourne, 13–16 October 2019.

Patterson H. Initial care of the unexpected preterm neonate. 14th World Congress of Intensive Care, Melbourne, 17 October 2019.

Pollock W. Massive transfusion for obstetric haemorrhage in Australia and New Zealand. 14th World Congress of Intensive Care, Melbourne, 17 October 2019.

Pollock W. When maternity meets critical care. Bendigo Regional Critical Care Conference, Bendigo, 29 August 2019.

Flood M, Pollock W, Cullinane F, McDonald S, Davey M-A. Maternal country of birth and blood transfusion for confinements in Victoria, 2009–13. 23rd Annual PSANZ Congress, Gold Coast, 17–20 March 2019.

## Awards and academic achievements

Brooke Owen, awarded Master of Midwifery

Rebecca Drysdale, awarded Master of Midwifery

# USING INNOVATION TO PURSUE EXCELLENCE

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Dr Lenore Ellett, Department of Endosurgery, Mercy Hospital for Women

Dr Lenore Ellett is an obstetrician, gynaecologist and laparoscopic surgeon at Mercy Hospital for Women and has been actively involved with the implementation of a new virtual reality Laparoscopic Simulator — LapSim™ (the LapSim) which will monitor, evaluate and improve surgical training. By using the LapSim, gynaecology trainees have a greater opportunity to practise and refine their surgical skills.

Gynaecology training is changing worldwide. Laparoscopic (keyhole) procedures are becoming more common now than laparotomy (open surgery). However, laparoscopic skills are harder to acquire as the hand-eye coordination skills needed can be difficult to learn and take time to perfect.

While the surgical technique has become more complex, the number of surgeries being performed has declined due to better medical options for women such

as progesterone-containing intrauterine devices. At the same time, the number of gynaecology trainees has increased and the hours they work has reduced due to initiatives such as safe working hours.

All of this means that our gynaecology trainees have fewer opportunities to hone their skills. At the completion of their six years specialist training in gynaecology and obstetrics they will have performed fewer surgeries than the surgeons who have gone before them.

“To find solutions to solve this and bridge this gap we need to look at other industries such as the aviation industry, where they have been using simulator machines for training for some time,” Lenore says. “The LapSim allows trainees to practice surgery in a safe, virtual environment. Although it is not the same as being in the operating theatre, it allows for the acquisition of skills.”



*Dr Lenore Ellett (R) demonstrating to Dr Fiona Stenning (L) how to use the virtual reality Laparoscopic Simulator – LapSim™*



By using the LapSim, a trainee can enter the operating theatre already knowing the steps of an operation and have some of the muscle memory required. This means they are likely to perform better and the supervising surgeon is more likely to let them lead the operation.

As part of this, Endosurgery Fellow Dr Sam Mooney has been running a clinical study *'We live in a virtual world'*. She is examining whether the LapSim can improve skills in the operating theatre. She is also looking at whether trainees are spending time working on the simulator and what some of the barriers may be.

The question 'can a virtual reality simulator improve patient safety?' is far more difficult to answer. Lenore explains, "Fortunately our complication rates are low and Mercy Health provides patients with excellent gynaecological care. However, if we can improve laparoscopic skills acquisition and training we hope that the care provided continues to be first class."

"To find solutions to solve this and bridge this gap we need to look at other industries such as the aviation industry, where they have been using simulator machines for training for some time."

Dr Lenore Ellett

## IMPROVING HEALTH OUTCOMES FOR WOMEN AND BABIES

Dr Anthea Lindquist, University of Melbourne Department of Obstetrics and Gynaecology, Mercy Hospital for Women

A person in a white lab coat peering into a microscope — ask anyone to describe a laboratory researcher and they will probably conjure up this type of image. Yet not all researchers brandish a microscope. Some public health researchers prefer keyboard and mouse, searching data to look for (disease) trends and risk factors; to predict outcomes of treatment or public health interventions; to identify patterns of care; and to determine how healthcare funds are used.

Dr Anthea Lindquist has been passionate about research since her days as a medical student. She observes that while many medical practices are

entrenched in tradition, processes continue to evolve based on new findings.

"I feel so fortunate to have had exposure to wonderful clinical leaders and public health specialists, who allowed me to appreciate the bigger picture and see the impact that research and public health initiatives could have on a large scale, particularly for vulnerable communities", Anthea says. Buoyed by a deeply held commitment to social justice, Anthea saw public health research as the most effective way to progress positive change.

Anthea is now a part of Mercy Perinatal, an internationally renowned centre of research, education and clinical care, which is part of the University of Melbourne Department of Obstetrics and Gynaecology, located at Mercy Hospital for Women. Working with Dr Roxanne Hastie, Professor Stephen Tong, Professor Sue Walker and a range of PhD students, her research uses data from existing population datasets to answer emerging questions in the field of women's health. In Australia, population datasets are an untapped wealth of information. Anthea hopes to use (de-identified) data for the same individual or families linked together to help tell a story and explore meaningful clinical questions.

Anthea is establishing an extensive library of data and information from Australia and overseas, from which she can start to explore a range of important health topics. Her aim is to examine the education and developmental outcomes for children following a range of different interventions in pregnancy.

First on her list are the various IVF technologies; a range of commonly prescribed medications in pregnancy; and different gestational ages and modes of birth. Her research has the potential to provide powerful insights into the associations between interventions and health outcomes, without the cost and time constraints of performing prospective data collection.

"I feel incredibly grateful to have a wholly fulfilling career that allows me to pursue all these things together — women's health (my greatest passion in medicine), public health and clinically meaningful research," Anthea says.

By pursuing this research, known as perinatal epidemiology, Anthea's ultimate goal is to improve the health of women and babies around the world, especially the most vulnerable populations. She also hopes to encourage other aspiring medical researchers to pursue a research career and contribute towards practice improvement.

"I feel incredibly grateful to have a wholly fulfilling career that allows me to pursue all these things together — women's health (my greatest passion in medicine), public health and clinically meaningful research."

Dr Anthea Lindquist



*Dr Anthea Lindquist*

# FOCUSING ON PERSON-CENTRED CARE

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John Stafford, Clinical Nurse Consultant, Werribee Mercy Hospital

Having to race to the emergency department (ED) or hospital is never an enjoyable experience, but for people living in residential aged care and their families and carers it is especially stressful and disruptive.

John Stafford is a Clinical Nurse Consultant at Werribee Mercy Hospital (WMH) within the Residential In-Reach service (RIR); a service initiative by the Department of Health and Human Services. Working closely with staff and residents of aged care homes in the WMH catchment area, his role is to assess and manage the care of residents with acute medical conditions. The goal is to reduce the need for residents to go to the ED or be admitted to hospital.

Since the RIR began three years ago, it has grown from providing care to people in 900 residential aged care home beds to more than 1,300. In the meantime, demand for the WMH ED has soared by 100 per cent. Without RIR the increase would have been even greater.

“This (increase) led me to consider what I could do to assist the aged care nurses to improve the assessment of acutely unwell residents and formulate clinically sound management and care plans. I really wanted to provide support and assist nurses in the aged care setting to increase their skills and understanding,” John says.

John’s work has resulted in a saving of approximately 140 full ED bed days, which equates to more than four months of continuous bed savings per year. More importantly, it means that residents in aged care homes are not sent to hospital unnecessarily and vital hospital resources can be used for other purposes.

With the information and evidence gained over the four-year period, John is now developing a decision-making tool (DMT) which will help the nursing staff at aged care homes determine if a resident needs to go to the ED or be admitted to hospital, or if appropriate care can be provided in the home. This has benefits for the residents, their families and carers, and Mercy Health. It also helps improve the handover between the staff at the home and the staff at the hospital, should a hospital stay be needed, which means resources are used more efficiently and effectively. This all means better and more

appropriate care for the resident.

“I have a strong desire to provide the best care for everyone I come into contact with and I believe that quality and service innovation are both very important to help me achieve this,” John says.

John has recently secured a small grant from the Mercy Health Academic Research and Development Committee, with the help and support from Professor Christine East, Dr Jenny Davis and Dr Gulzar Malik from La Trobe University, and Bernadette Mulcahy from the Health Independence Program at WMH. The grant will be used to conduct a scoping review of the evidence of the DMT and its benefits. John will look at the use of the DMT, establish insights and areas for improvement to further develop the DMT.

“I have a strong desire to provide the best care for everyone I come into contact with, and I believe that quality and service innovation are both very important to help me achieve this.”

John Stafford





*Werribee Mercy Hospital Clinical Nurse Consultant John Stafford*





# AMBULATORY, COMMUNITY AND ALLIED HEALTH SERVICES

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

*Werribee Mercy Hospital Pastoral Carer Pan Hoe (Victor)*

# ALLIED HEALTH SERVICES

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Mercy Health Allied Health Services provides specialist clinical services to support patient care and optimise patient health outcomes.

Allied Health staff work within multidisciplinary teams and across a range of departments and clinical specialty areas, with inpatients and outpatients. Allied Health Services 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.

## Research team

Anne Harrison

Jacqueline Callea

Lauren Clarke

Hannah Sharma

Neo Damba

Elise Fraser

Amy Steventon

Fiona Richmond

## Projects and grants

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

E Fraser, A Steventon, L Schierlitz

*Consumer co-review and redesign of the physiotherapy exercise class for women admitted to the Werribee Mercy Hospital Mother Baby Unit*

J Callea, L Clarke

*Development of a combined physiotherapy and occupational therapy inter-professional assessment tool to improve patient experience, streamline clinical assessment and early identification of clinical risk*

H Sharma, N Damba

## Publications

Harrison AL, Taylor NF, Frawley HC, Shields N. Women with gestational diabetes mellitus want clear and practical messages from credible sources about physical activity during pregnancy: a qualitative study. *J Physiother.* 2019 January; 65:37–42.

Wilson E, Taylor NF. Clinical supervision for allied health professionals working in community health care settings: barriers to participation. *J Allied Health.* 2019;48(4):270–276.

## Presentations

Fraser E. Overactive pelvic floor muscles and their impact on voiding dysfunction. National Conference on Incontinence, Melbourne, 13–16 November 2019.

Harrison A. Move baby move: physical activity ‘messaging’ needs of women with gestational diabetes mellitus. Victorian Allied Health Conference, Melbourne, 22 March 2019.

Harrison A. Move baby move: engaging with women with gestational diabetes mellitus to improve physical activity ‘messaging’. National Allied Health Conference, Brisbane, 5–8 August 2019.

Harrison A, Leo J. Daring action: inspiring allied health clinical leaders to influence and lead in real-time. National Allied Health Conference, Brisbane, 5–8 August 2019.

Herron E. Physiotherapy and the lactating breast. Australian Physiotherapy Association Conference, Adelaide, 17–19 October 2019.

Houston G, Leo J. Using clinical education to engage inter-professional perspectives for best-practice clinical care. Chronic Disease Network and Baker Institute Joint Conference, Alice Springs, 22–25 October 2019.

## Posters

Harrison A, Leo J. Effectiveness of an allied health emerging clinical leader's pilot program. Victorian Allied Health Research Conference, Melbourne, 22 March 2019.

Houston G, Leo J. Breaking down professional silos — using inter-professional education to help hospital allied health and doctors work together. Victorian Allied Health Research Conference, Melbourne, 22 March 2019.

Richmond F, Opie G, Arnold T, Harwood N, Cooper R, Slevin J. Improving precision when measuring nutritional additives used to fortify expressed breast milk. Perinatal Society of Australia and NZ Congress, Gold Coast, 17–20 March 2019.

# MULTICULTURAL SERVICES

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Mercy Health provides care and support for people from more than 180 countries, who speak 165 different languages and follow 90 religious faiths.

The Multicultural Services Unit assists people from culturally and linguistically diverse (CALD) backgrounds to overcome barriers in accessing services, supports staff to provide culturally responsive care and leads CALD service improvement initiatives.

## Research team

Natalija Nesvadba

Christina George

## Projects and grants

*Evaluation of group antenatal and postnatal care for refugee background women: Group Pregnancy Care Study*

Ongoing project in partnership with Werribee Mercy Hospital Outpatients Department, Murdoch Children's Research Institute, Victorian Foundation for Survivors of Torture: Foundation House, Maternal and Child Health Services — Wyndham City, VicSEG New Futures, Northern Health, Hume City Council Maternal and Child Health Service.

Funded by the Victorian Department of Premier and Cabinet and North West Melbourne Primary Health Network

*Understanding the impact of organisational health literacy initiatives on consumers: Have Mercy Health's Healthy Eating for Gestational Diabetes information sheets helped you?*

Dietetics Department, Mercy Hospital for Women (N Moshonas) and University of Melbourne (L Naccarella)

Funded by HealthWest Partnership

## Presentations

Nesvadba N. What does health literacy have to do with access and inclusion? Western Melbourne Cross-Sector Community of Practice, Melbourne, May 2019 [Invited speaker]

Nesvadba N. Turning health literacy principles into practice. Health literacy forum, Centre for Culture, Ethnicity and Health, Melbourne, June 2019 [Invited speaker]

George C, Nesvadba N, Wilson E, McArdle K. Healthy happy beginnings: our experience with group pregnancy care. Group Pregnancy Care Partnership Forum, Melbourne, October 2019



# SURGICAL AND SPECIALIST SERVICES

The program involves general surgical and surgical sub-specialist services, including anaesthetic services.

*Werribee Mercy Hospital anaesthetist Andres*



# DEPARTMENT OF ANAESTHESIA, PERIOPERATIVE AND PAIN MEDICINE, MERCY HOSPITAL FOR WOMEN AND WERRIBEE MERCY HOSPITAL

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The department is committed to evidence-based best practice, continuous quality improvement, research and teaching.

In 2019, the Department of Anaesthesia, Perioperative and Pain Medicine developed extensive research in three key emerging areas. The three areas were research into analgesia protocols associated with the introduction of intrathecal morphine, baseline data collection for the development of Enhanced Recovery After Surgery (ERAS) for caesarean section and research associated with anaemia in pregnancy.

## Research team

Associate Professor Scott Simmons

Associate Professor Shaukat Esufali

Associate Professor Lisa Hui

Associate Professor Shiran Wijeratne

Dr Jonathan Au

Dr Matthew Blair

Dr Leandro Cardoso

Dr Eoin Casey

Dr Tabara Dione

Dr Jennifer Fu

Dr Kathryn Hersbach

Dr Richard Hiscock

Dr Sajidah Ilyas

Dr Ian Letson

Dr Heather Loane

Dr Matthew Mathieson

Dr James McGuire

Dr Patricia Newell

Dr Michelle Nguyen

Dr Verity Nicholson

Dr Andrew Robinson

Dr Lali Sivagnanam

Dr Jonathan Sivakumar

Dr Neda Taghizadeh

Dr Lucinda Vercio

Dr Tzu-Yen Wang

Dr Benjamin Wong

Catherine Craggs

Jacklyn DeGabriele

Magdalena Pliska

## 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

*Prospective observation study on quality of post caesarean section recovery*

S Simmons, S Ilyas, R Hiscock, V Nicholson

*Caesarean section analgesia protocol compliance audit*  
S Simmons, S Ilyas, R Hiscock, T Dione

*Management of iron deficiency anaemia in pregnancy at a tertiary obstetric centre*

S Simmons, S Ilyas, R Hiscock, M Mathieson, L Hui

*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

*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, L Cardoso

*General anaesthesia for caesarean section at Mercy Hospital for Women (period 2011–15) Follow on research from R07-31(2015)*  
I Letson, S Simmons, J McGuire, J Au

## Publications

Granek RJ, Battye S, Wijeratne S. Ectopic liver attached to a chronically inflamed gallbladder: a rare and surgically challenging combination. *ANZ J Surg.* 2019;89:E388–E389. DOI:10.1111/ans.14553.

Ilyas S, Simmons SW, Bampoe S. Systematic review of enhanced recovery protocols for elective caesarean section versus conventional care. *Aust N Z J Obstet Gynaecol.* 2019;59:767–776. DOI:10.1111/ajo.13062.

Wong DJ, Popham S, Wilson AM, Barneto LM, Lindsay, HA, Farmer L, et al. Postoperative critical care and high-acuity care provision in the United Kingdom, Australia, and New Zealand. *Br J Anaesth.* 2019;122(4):460–469. DOI: 10.1016/j.bja.2018.12.026.

## Presentations

Ilyas S. Post discharge caesarean section audit. Ambulatory Care Services Study Day, Mercy Hospital for Women, Melbourne, June 2019.

O'Donnell T. Poster presentation. Laparoscopic cholecystectomy intraoperative cholangiogram does not contribute to increased hospital length of stay: a regional hospital experience. Royal Australasian College of Surgeons — Victorian Research Day, Melbourne, May 2019.



# MEDICAL, SUBACUTE AND PALLIATIVE CARE SERVICES

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

*Mercy Hospital for Women Emergency Department registered nurse/midwife Wendy*

# INTENSIVE CARE UNIT, WERRIBEE MERCY HOSPITAL

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The Intensive Care Unit (ICU) at Werribee Mercy Hospital (WMH) provides specialised treatment to patients who are acutely unwell and require critical medical care.

The WMH ICU cares for a range of patients, from those who need close monitoring after complex surgery through to people who need support for life-threatening conditions. The state-of-the-art unit has eight beds, can ventilate up to six patients at any given time and provides multi-organ support to critically ill patients.

The unit has links with the University of Notre Dame's medical training program and the University of Melbourne's postgraduate Critical Care Nursing program.

## Research team

Dr Umesh Kadam

Dr Mainak Majumdar

Joanne Pickford

## Projects

*Intensive Care Unit Pain: agitation and delirium standardised assessment and monitoring practice project*

Y Shehabi, U Kadam

*Victorian ICUs Nutrition Practices Survey*  
M Gojanovic

*PLUS (Plasma-lyte 148 versus Saline)*  
S Finfer, U Kadam, M Majumdar

*Family Satisfaction in ICU: A quality and safety project to measure family satisfaction in ICU*  
U Kadam

*Inotropes and vasopressors program: a statewide quality and safety program to standardise the usage of vasoactives and inotropes in Victoria.*  
M Majumdar

*Infection Control: statewide quality and safety project to standardise infection control procedures across all hospitals in Victoria*  
M Majumdar, J Pickford, L Whelan

*Long-term outcomes for critical care patients with cancer (COCA2)*  
M Majumdar

*Relationship between diurnal melatonin, cortisol levels and incidence of delirium*  
Y Kwon, M Majumdar

*Time frame for inter-hospital transfer of ICU patients: a departmental clinical audit in the process*  
C Fang, U Kadam



# WERRIBEE MERCY HOSPITAL, UNIVERSITY OF NOTRE DAME AUSTRALIA, MELBOURNE CLINICAL SCHOOL

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The University of Notre Dame Australia, Melbourne Clinical School is co-located at Werribee Mercy Hospital and has an ongoing collaborative relationship with Mercy Health.

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

## **Digital Health CRC (Cooperative Research Centre)**

In 2019, the University of Notre Dame Australia partnered with Mercy Health and Mercy Health Foundation for a successful bid within the primary care stream of the Digital Health CRC. The project '*what factors impact on the effect of digital tools to promote lifestyle modification: a preliminary observational study*' will run from November 2019 until November 2021.

## **Mercy Health collaborative research**

The university was involved in several staff and student research projects throughout 2019. One of the projects was conducted on-site at Werribee Mercy Hospital under the supervision of on-site tutors who are staff members of Mercy Health. Dr John Pasco (Mercy Health) acted as a tutor for students working on an MD (Doctor of Medicine) project in 2019.

## **Research team**

Professor Moyez Jiwa

Dr Catherine Krejany

Epi Kanjo

Lee Sulkowska

Jocelyn Dixon

## **Projects**

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

*Temporal patterns and acuity of Werribee Mercy Hospital Emergency Department presentations: a comparison of adults and children*  
M Jiwa, C Krejany, E Kanjo, B Banaszak, 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  
Funded by Mercy Health Academic Research and Development Committee Small Grants



# MERCY MENTAL HEALTH

Mercy Mental Health is committed to providing safe and respectful care focused on each individual and seeks to make improvements through research endeavours.

*Mercy Mental Health Clinical Nurse Consultant Godwin*

# MENTAL HEALTH SERVICES

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We aim to work together with patients, residents, families and carers to support the recovery of the person living with mental illness.

Mercy Mental Health (MMH) provides adult, inpatient and community-based mental health services in the south western metropolitan area of Melbourne. MMH is made up of both bed-based and community clinics, and includes prevention and recovery care services along with specialised perinatal mental health services.

## Research team

Andrew Tomlinson

Godwin Dhliwayo

Sebastian Low

Professor Gaynor Blankley

Dr Josephine Power

Dr Neelofar Rehman

## Projects

*Safewards*, continues to be implemented at the Clare Moore Building, Werribee Mercy Hospital. The program, designed to make wards safer, was introduced by Department of Health and Human Services in 2018 and is being evaluated by researchers from the University of Melbourne.

### *Perinatal Mental Health and Mercy Perinatal collaboration*

This collaborative research link will assist in increasing the evidence regarding the impact of treatment of mental illness on pregnancy and fetal development, and add to the information available to clinicians and families when decisions are made about antenatal treatment.

### *Mercy Pregnancy and Emotional Wellbeing Study (MPEWS)*

G Blankley, J Power

### *The relationship between family processes and school absenteeism and dropout: a meta-analysis*

N Rehman, S Marlow

## Grants

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

## Presentations

MacMillan K, Power J, Galbally M. Mercy Pregnancy and Emotional Wellbeing Study: child neurodevelopmental outcomes. International Association of Women's Mental Health, Paris, March 2019.

MacMillan K, Power J, Galbally M. Mercy Pregnancy and Emotional Wellbeing Study: a focus on child outcomes. Marcé Society, Australasian meeting, Perth, October 2019.





## 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 Ballarat resident Basil enjoying a cappuccino in the café*



# MAKING A DIFFERENCE THROUGH RESEARCH INTO AGEING

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Partnering with universities, health services, community, government, advocacy organisations and industry sectors, Mercy Health aims to improve the lives of older people.

## **Impact of virtual reality on the health and wellbeing of residents living in aged care**

Collaboration with Liminal VR Pty Ltd

Funded by Mercy Health Foundation

The aim of this project is to test if, and in what ways, virtual reality (VR) can be used as a tool to reduce social isolation, depressive symptoms and improve general wellbeing. Mercy Place Fernhill in Sandringham, Melbourne, is the pilot site, having experience in testing other VR technology via the creation of a sensory room — the Virtual Forest, which used interactive software to engage residents and their loved ones.

The three project cohorts are:

- residents living with dementia
- young people (<65 years) living in residential aged care
- residents aged 65 and over with low to moderate care needs.

This project will test the potential of VR tools for the aged care sector and capture the findings with the intention of leading to more robust research. Working with the ground-breaking team at Liminal VR, a longer-term aim is to link to the work being done by Massachusetts Institute of Technology, which is leading in this area of research.

## **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 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.

Commencing with the pilot site, Mercy Place Mont Clare in Western Australia, the project is using 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.

## **McAuley Community Services for Women**

Collaboration with McAuley Community Services for Women

Funded by Mercy Health and McAuley Community Services for Women

Mercy Health and McAuley Community Services for Women, both ministries of the Sisters of Mercy, are working together to support women and children experiencing homelessness and family violence. With McAuley House Ballarat located on the block next to Mercy Place Ballarat, this physical connection will provide for further opportunities to build a community between the two homes.

The project aims to provide accommodation, support and employment to women who are homeless, and to address the issue of social isolation experienced by residents of aged care facilities and women who either are at risk of homelessness or are homeless. The research project, conducted by Federation University (Australia), will evaluate the McAuley House Ballarat and Mercy Place Ballarat accommodation and support model, and collaboration.

The research will evaluate the processes and outcomes of the project which consists of housing, case-management, social/living skills development, employment support and social connectedness for women.

This community-based model of providing support for homeless women is unique in Australia. The research project will:

- conduct a literature review to locate similar models of support for women and research about their effectiveness
- work with the project reference group to carefully plan the research processes being mindful of the needs of the women
- interview staff about the project model of support.
- where possible, interview some of the women residing at McAuley House Ballarat and residents of Mercy Place Ballarat to gain data about their lived experiences of the model of support.

This will be one of the first research projects in Australia to map and evaluate this unique model of support for women in a regional community context.

### **iGEN (intergenerational education nexus)**

**Collaboration with Catherine McAuley College and Australian Catholic University (Faculty of Health Sciences and Faculty of Arts and Education)**

**Funded by Mercy Health, Catherine McAuley College and Australian Catholic University**

A partnership between Mercy Health and Catherine McAuley College (CMC) has established a program for Year 10 students to undertake part of their curriculum at Mercy Health Bethlehem Home for the Aged in Bendigo.

The expectation is that residents will benefit from improved quality of life through effects on physical and mental function; reduced levels of loneliness and isolation; increased sense of purpose and meaning; confidence; and increased opportunities for social interaction.

Students are likely to gain more positive views on ageing; exposure to numerous career options in a working environment; an experiential learning experience; stronger bonds with the community; improved confidence, empathy and resilience; and practical life skills. They are also more likely to volunteer in future.

Australian Catholic University (Faculty of Health Sciences and Faculty of Arts and Education) is collaborating on the project, by providing a researcher to evaluate the impacts of the project, on both students and residents. The researcher will undertake a literature review, which will feed into the design of the program.

Intergenerational practice can vary a great deal from setting to setting. On the whole, international research in this area provides evidence of overwhelmingly positive outcomes for both parties, provided that activities are well planned and have mutual benefit and meaning for both groups. There is a growing amount of research from Europe and the US on intergenerational programs, with more recent studies coming out of Australia.

A review of 43 different sources conducted in the UK on intergenerational programs found that the elderly and the youth who participated in such programs experienced increased understanding, friendship, enjoyment and confidence. For the youth, most programs boast of new skills, such as communication and wider social skills, alongside increased self-esteem.



# PROJECTS APPROVED BY MERCY HEALTH HUMAN RESEARCH ETHICS COMMITTEE 2019

*Mercy Hospital for Women researcher Natalie*

Project Title	Principal Investigator(s)
Does a consumer co-created infographic improve knowledge and self-efficacy about physical activity for women during a GDM pregnancy?	Anne Harrison, Werribee Mercy Hospital
Lactation after infant death: breastmilk suppression, expression and donation in contemporary motherhood and health service delivery	Dr Katherine Carroll, Australian National University
Breaking down professional silos: using inter-professional education to help hospital allied health and junior doctors work together for improved patient care	Gemma Houston, Werribee Mercy Hospital
Outcomes primary and secondary urethral diverticulum repairs	Dr Nicola Dykes, Mercy Hospital for Women
Re-visiting Atrial Fibrillation in the Emergency Department	Dr Babak Tajvidi, Werribee Mercy Hospital
Non-Invasive Prenatal Testing (NIPT) for Sex Chromosome Aneuploidy (SCA): exploring the experiences of women and their partners	Dr Alison Archibald, University of Melbourne
An investigation into the knowledge, practice and opinion of midwives undertaking perineal repair at an Australian tertiary obstetric facility	Professor Sue McDonald, La Trobe University
Fetal macrosomia in the absence of maternal gestational diabetes mellitus: an investigation into induction of labour rationale, outcomes of birth and neonatal birth weight	Dr Jenny Davis, Mercy Hospital for Women
Using biomarkers and ultrasound to minimise preventable stillbirths: BUMPS study	Professor Susan Walker, Mercy Hospital for Women
Modified McCall vaginal cuff suspension for stage 3–4 uterine prolapse at the time of vaginal hysterectomy — a long term follow-up and audit	Dr Ariel Zilberlicht, Mercy Hospital for Women
Management of abnormal postpartum bleeding: a review of current practice in a single specialist women's emergency department	Dr Annaliese Woods, Mercy Hospital for Women
Birth after caesarean antenatal clinical pathway trial	Professor Sue McDonald, Mercy Hospital for Women
What factors impact on the effect of digital tools to promote lifestyle modification?: a preliminary observational study	Professor Moyez Jiwa, University of Notre Dame
Multi-centre randomised trial of surfactant plus budesonide to improve survival, free of bronchopulmonary dysplasia in extremely preterm infants: The PLUSS TRIAL — Preventing Lung Disease Using Surfactant + Steroid	Dr Ajit Aiyappan, Mercy Hospital for Women
Prospective observational study on quality of post caesarean section recovery	Associate Professor Scott Simmons, Mercy Hospital for Women
The PROTECT Me trial: a randomised controlled trial of antenatal melatonin supplementation in fetal growth restriction for fetal neuroprotection	Dr Arun Sasi and Professor Sue Walker, Mercy Hospital for Women
Temporal patterns and acuity of Werribee Mercy Hospital Emergency Department presentations: a comparison of adults and children	Professor Moyez Jiwa, Werribee Mercy Hospital
Understanding the impact of organisational health literacy initiatives on consumers: Have Mercy Health's Healthy Eating for Gestational Diabetes information sheets helped you?	Associate Professor Lucio Naccarella, University of Melbourne
Decreased fetal movements — can we manage it better? A clinical retrospective audit	Dr Maheshwari Salimeda, Mercy Hospital for Women and Werribee Mercy Hospital



Accuracy of non-invasive point-of-care testing for post-partum anaemia	Dr Alaina Francis, Mercy Hospital for Women
A retrospective audit of the use of intravenous fluids in labour	Dr Siaw Hui Wong, Mercy Hospital for Women and Werribee Mercy Hospital
Evaluation of the Hospital Outreach Post-suicidal Engagement (HOPE) initiative	Beth Grinham, Werribee Mercy Hospital
A multi-centre prospective observational study to assess the diagnostic accuracy of ultrasound for superficial endometriosis	Dr Samantha Mooney, Mercy Hospital for Women
Pregnancy and neonatal outcomes in Victoria — a state-wide retrospective cohort study	Dr Anthea Lindquist, Mercy Hospital for Women
Outcomes and factors affecting success following external anal sphincteroplasty: data from a single centre and literature review	Dr Frida Carswell, Mercy Hospital for Women
Labour pain assessment: evaluating a new woman-centred approach — a two-centre prospective cohort trial, involving the Royal Women's Hospital and Mercy Hospital for Women, comparing the addition of mifepristone to the medical management of miscarriages with misoprostol only	Dr Laura Whitburn, La Trobe University and Dr Lisa Rasmussen, Mercy Hospital for Women
Is routine TORCH screening necessary in small for gestational age babies?	Dr Natasha Holmes, Mercy Hospital for Women
Audit of pHSIL cytology	Dr Monica McGauran, Mercy Hospital for Women
Caesarean section analgesia protocol compliance audit	Associate Professor Scott Simmons, Mercy Hospital for Women
Management of iron deficiency anaemia in pregnancy at a tertiary obstetric centre	Associate Professor Scott Simmons, Mercy Hospital for Women
Developing pre-education for students engaging in an intergenerational program using a consensus approach	Dr Bridget Laging and Mercy Health Bethlehem Home for the Aged
Anatomic landmarks for non-invasive fetal electrocardiography	Dr Fiona Brownfoot, Mercy Hospital for Women
Vaginal birth after caesarean at an outer metropolitan hospital: spontaneous versus induced labour	Dr Natasha Wijesiriwardena, Werribee Mercy Hospital
Experiences in a support group of women with type 1 diabetes in pregnancy	Dr Alexis Shub, Mercy Hospital for Women

# *Mercy Health today and into the future*

Today, Mercy Health staff continue to choose to serve others and be part of an organisation with an important role to play in caring for our community at all times. This is what is at the heart of Mercy Health.

Almost 10,000 people choose to work at Mercy Health. Our people come from 137 countries and speak 74 different languages. They represent many different faiths and 91 cultural backgrounds and they are united by our shared mission: to bring God's mercy to those in need.

Mercy Health people are people of action, and just as the Sisters of Mercy cared for the sick and vulnerable during the deadly influenza pandemic of 1919, Mercy Health continues to respond to the needs of our own time, inspired by the courage, vision and determination of those who began our healthcare journey a century ago.

As communities continue to expand and change, so too do our health and social challenges.

But we are not just about action, we are mercy in action. Our action is driven by a deep sense of compassion, service and solidarity, which is mercy. The poet Sister Mary Wickam says mercy in action is "a healing, a hope and a blessing".

It is important to ensure that every person Mercy Health supports — from patients, residents and

clients, to their families and carers, and our staff — feels well cared for, safe and respected.

Mercy Health believes our role goes beyond providing physical care; we must also care for a person's emotional and spiritual wellbeing. We strive to deliver better outcomes for people at every stage of life, particularly for the vulnerable and for those facing significant disadvantage.

We strive to be a leader in clinical care, teaching and research across women's health, fetal and newborn health, paediatrics, allied health, palliative care, mental health and aged care.

Mercy Health now includes two major public hospitals in greater Melbourne: Mercy Hospital for Women in Heidelberg and Werribee Mercy Hospital in Melbourne's rapidly growing west. We have subacute hospitals in Albury and Young in New South Wales. We also care for people in 34 residential aged care homes and 10 retirement villages around Australia, and in 2019/20 there were 11,441 people living independently in their homes with the support of our Home Care Services.

Mercy Health undertakes research, with many of Australia's leading universities, with the aim of improving the lives of everyone we serve. Finally, through the Mercy Health Foundation, Mercy Health raises funds to support our charitable work.



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Mercy Hospital for Women (MHW) is a tertiary hospital based in Heidelberg, Victoria offering obstetric, gynaecological and neonatal services, and has one of only five neonatal intensive care units in Victoria. The Neonatal Intensive Care Unit is co-located with the Special Care Nursery and collectively they care for some of Victoria's most unwell babies. MHW also provides perinatal medicine, perioperative services, women's health and diagnostic services. It is a major teaching hospital and specialist referral centre with the medical, nursing, midwifery and allied health expertise to treat the most complex obstetric, neonatal and gynaecological cases.

Werribee Mercy Hospital (WMH) is a general hospital providing comprehensive care in the south western region of Melbourne. The hospital provides surgical, medical, emergency, intensive care, maternity, newborn, paediatrics, renal dialysis, mental health, subacute, rehabilitation, allied health and palliative care services. WMH also provides a range of home-based support services including Hospital in the Home and Midwifery in the Home.

Mercy Health O'Connell Family Centre (OFC) is an early parenting centre based in Canterbury, Victoria. It focuses on the needs of vulnerable families and young children. The residential, day and community programs provide child-focused parenting skills to promote safe child development. The centre is increasing its support for vulnerable families including families with mental health issues. Services include residential, day and community programs, Cradle to Kinder program (home-based education and support) and the Play Steps program.

Mercy Palliative Care supports people, and their families, with advanced disease when a cure is no longer possible. The aim is for each person to experience the best quality of life possible for them — physically, emotionally, socially and spiritually. The specialist palliative team includes doctors, nurses, social workers and grief and bereavement counsellors, and all are committed to providing care to people in their place of choice.

Mercy Health Albury (NSW) is a major provider of subacute health services, caring for people in Albury Wodonga and surrounding areas. It offers palliative

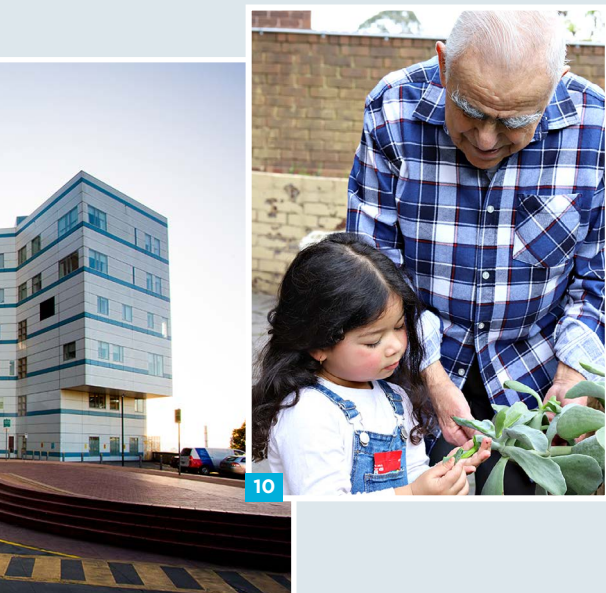


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care, geriatric evaluation management, transitional aged care, aged care assessment, community therapy and inpatient rehabilitation programs.

Mercy Care Centre Young (NSW) is a 26-bed health service providing a range of outpatient, community health and aged care services for the people of Young and surrounding regions. It specialises in geriatric evaluation and management, rehabilitation and palliative care.

Mercy Mental Health (MMH) supports people in south west Melbourne with severe and complex mental illnesses by providing acute and community-based care. Services are available to adults through acute inpatient programs, residential rehabilitation programs and crisis and community recovery-focused treatment programs. It also offers inpatient and community specialist perinatal mental health services for women and infants in western Victoria. MMH aims to work together with patients, residents, families and carers to support the recovery of the person experiencing mental illness.

Aged Care and Home Care Services offered across Australia are built around our Christian beliefs that human life is sacred and must be respected and that relationships are critical to our sense of wellbeing. Staff, residents, clients, families and carers work together to ensure each person can have the best day possible, every day. We recognise that every person has their own life story and we support them to continue their life journey, their way.

Mercy Health promotes research throughout the organisation, supporting innovative projects and



trials across a range of areas including obstetrics, gynaecology, mental health, paediatrics, reproductive medicine, aged care, midwifery and palliative care. Research is driven by innovation, one of our core values, and is central to the continuation of Mercy Health's mission through which we deliver better care and outcomes for people at every stage of life, particularly for those facing significant disadvantage. Our researchers are driven by a desire to give hope to our patients, clients, residents, families and carers. Mercy Perinatal is a world renowned research centre and a leading example of Mercy Health's research capability. Based at Mercy Hospital for Women, Mercy Perinatal has become an international perinatal centre of excellence uniting the three pillars of education, clinical care and research. At the heart of Mercy Perinatal is a commitment to bringing mothers and their babies safely home, and the recognition that safe pregnancy, childbirth and the best possible start to life are in everyone's hands.

Mercy Health Foundation helps to fund the charitable work of Mercy Health underpinned by the support of our generous donors. Funds are raised and distributed to advance health and aged care and to improve outcomes for everyone in the community, particularly those who face disadvantage.

The Sisters of Mercy were visionary and became known for their pioneering spirit in care, compassion and innovation. They were determined to push the boundaries in order to care for society's most vulnerable and disadvantaged. Those same bold, compassionate qualities still resonate in Mercy Health today and will carry us forth into our second century and beyond.

**7:** Werribee Mercy Hospital in 1994 **8:** Over the years, Mercy Health Foundation has raised funds for all manner of causes **9:** Mercy Hospital for Women in Heidelberg

**10:** A number of Mercy Health Residential Aged Care homes have introduced intergenerational programs, which are a great success with both residents and children **11:** Werribee Mercy

Hospital midwife Sarah providing care and support during the coronavirus pandemic to mum Gowthami and her baby, born in September 2020 **12:** Home Care Services client Tracy Stonehouse

**13:** The extension to the Catherine McAuley Centre at Werribee Mercy Hospital





### **Mercy Health**

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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.