



2022

RBWH Research Report

**SURGICAL AND
PERIOPERATIVE SERVICES**

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Published by the State of Queensland (Metro North Hospital and Health Service), December 2023

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Surgical and Perioperative Services

In 2022 Departments of Surgical and Perioperative Services engaged in a broad spectrum of research activities despite the ongoing challenges presented in the third year of the Covid pandemic.

The Annual Scientific Congress of the Royal Australasian College of Surgeons was held in Brisbane in May as a face to face meeting for the first time since 2019, and surgeons and trainees from Royal Brisbane and Women's Hospital contributed many oral and poster presentations to a national audience.

Highlights of the year also included commencement of the first in human 3D printable bioabsorbable breast scaffold for reconstruction trial. This was a collaboration between the Breast Cancer Institute led by Professor Owen Ung, the Breast Surgical Unit led by Dr Clement Wong and the Herston Biofabrication Unit led by Dr Michael Wagels, a Plastic and Reconstructive surgeon.

In addition, surgeons, trainees and other staff of the Department of General Surgery were responsible for the publication of 36 papers in peer reviewed journals.

The Department of Anaesthesia and Perioperative Medicine was awarded \$740,000 in grant funding and staff published 26 journal articles and 8 book chapters. Professor Andre van Zundert was honoured with the award of the prestigious Lennard Travers Professorship for advancement of knowledge in anaesthesia.

The Department of Urology was again prominent in research output with 32 articles published in peer reviewed journals. Dr Matthew Roberts was recognised by the awarding of the title Associate Professor.

The Department of Orthopaedic Surgery maintained a reputation for academic excellence in 2022. Professor Kevin Tetsworth was honoured with the award of "Researcher of the Year" by the Australian Orthopaedic Association and Dr Andrew Foster won the Australian national orthopaedic registrar research prize for the second consecutive year. Staff of the Department published 20 papers in peer reviewed journals.

Anaesthesia

Research highlights for the year (1 January – 31 December 2022)

While emerging from the impact of the COVID-19 pandemic, our department continues to be successful in developing a research culture through the Research Interest Group in Anaesthesia (RIGA) chaired by Associate Professor Victoria Eley. Our aim is to achieve scientific, patient-centred research outcomes. We have experienced a year of steady growth offering opportunities for future research involving collaborations at state, national and international levels. Mentorship, group support and guidance are keys to our progress.

The department has been awarded over \$740,000 in grant funding this year, and **Associate Professor Victoria Eley** was the recipient of a \$450,000 research fellowship. Our research has resulted in 26 journal publications and 8 book chapters. We have enjoyed our share of success receiving multiple research awards and are proud to announce the following:

Professor Andre van Zundert received the prestigious Lennard Travers Professorship awarded to an Australian and New Zealand College of Anaesthetists (ANZCA) Fellow to work towards advancement of knowledge in anaesthesia. This was the first time it was awarded to a Queensland anaesthetist. He was also a co-author awarded the David M Little Jr Prize for a journal article prize for inspired work in *Anesthesia and Analgesia*. Other awards are the Chris Bolliger Award for original research making significant impact published in *Respiration* to **Adrian Chin** and **Lionel Tan**, the Jeanette Thirlwell Award for best paper in the journal *Anaesthesia and Intensive Care* to **Anthony Hade** and **Adrian Chin**, and the John Boyd Craig Research Award for an outstanding application to ANZCA supporting highly ranked pain-related research to **Associate Professor Victoria Eley**.

Higher degree studies are encouraged, with three anaesthetists progressing with PhD studies after completing confirmation. Another has commenced a Master of Philosophy.

We have a programme of new research studies scheduled to commence in the coming year. Continuing our quest to optimise patient anaesthetic care, we perform world class research that supports the strong research infrastructure already established in Surgical and Perioperative Services.



Members of the Research Interest Group

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
David Fielding, Farzad Bashirzadeh, Jung Hwa Son, Maryann Todman, Adrian Chin, Lionel Tan , Karin Steinke, Morgan N. Windsor, Wai Sung	2022 Chris Bolliger Award for original research making significant impact: First Human Use of a New Robotic-Assisted Fiber Optic Sensing Navigation System for Small Peripheral Pulmonary Nodules in <i>Respiration</i> 2019;98:142-150.	2022 <i>Respiration</i> Journal Award Presentation
Anthony D Hade , Satomi Okano, Anita Pelecanos, Adrian Chin	2022 award for Jeanette Thirlwell <i>Anaesthesia and Intensive Care</i> Best Paper Award published in 2021: Factors associated with low levels of patient satisfaction following peripheral nerve block in <i>Anaesth Intensive Care</i> . 2021 Mar;49(2):125-132. doi: 10.1177/0310057X20972404. Epub 2021 Mar 30.	2022 <i>Anaesthesia and Intensive Care</i> Journal Award Presentation
Victoria Eley, Christoph Lehner , Elizabeth Martin, Nigel Lee, Tim Donovan, Jason Roberts, Jayesh Dhanani	2022 John Boyd Craig Research Award for outstanding ANZCA application to support highly ranked pain-related research project: Fentanyl use by nebuliser in labour – the FUN study.	2022 ANZCA Awards Presentation
Andre van Zundert	2022 Lennard Travers Professorship Award for an ANZCA Fellow to work towards advancement of knowledge in a nominated area of anaesthesia.	2022 ANZCA Awards Presentation
Nathan Peters	2022 Metro North Staff Excellence Awards, Excellence in Training and Education.	2022 Metro North Awards Ceremony
Andre van Zundert , Floris S Weipking	2022 Journal Article Prize for inspired work for the article: Oddities in the evolution of syringes in anesthesia in <i>Anesthesia and Analgesia</i> .	2022 <i>Anesthesia and Analgesia</i> Journal Award Presentation
Julie Lee, Eley V, Wyssusek K , Kimble R, Way M, Cohen J, van Zundert A	2022 award for the Top Cited Article, Wiley, 2020-2021: The influence of obesity on coagulation in healthy term pregnancy as assessed by rotational thromboelastometry (ROTEM®). Aust N Z J Obstet Gynaecol 2020;60(2):1-6(5):714-719. https://doi.org/10.1111/ajo.13141	2022 Wiley Publishing Award Presentation

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Kerstin Wyssusek, Christine Woods, Busuttin L, Gerard Eames	Department of Anaesthesia & Perioperative Medicine	Implementation of a scenario-based simulated program for Pyxis™ Anesthesia Stations within a hospital setting to improve acceptability, usability, and operational training requirements: A mixed-methods observational study	Becton Dickson	\$123,000	2021 - 2022
Michelle Roets, Melinda Dean, David Sturgess, Kerstin Wyssusek, Robert Flower, John-Paul Tung, Alexis Perros, Andre van Zundert	Department Anaesthesia & Perioperative Medicine	GENetic profiling: Understanding the outcomes and mechanisms associated with reduced immune paralysis when Intraoperative Cell Salvage is used as an alternative to allogeneic (donated) blood transfusion (GEN-MICS).	ANZCA project Grant	\$66,500	2021-2023
Victoria Eley, Severine Navarro, Elizabeth Martin, Gunter Hartel, Akwasi Amoako, Jason Roberts, Jeffrey Lipman, Leonie Callaway, Mimi Tang	Department Anaesthesia and Perioperative Medicine	Do pre-delivery antibiotics affect the neonatal microbiome and immune system? Intravenous Cefazolin v Placebo before elective caesarean section: ASCENT RCT Feasibility Study	Children's Hospital Foundation Early Career Research Project-Support: The University of Queensland	\$50,000	2021-2022
Victoria Eley	Department of Anaesthesia and Perioperative Medicine	Clinical Research Fellowship	MetroNorth Hospital and Health Services	\$450,000	2021-2024
Kerstin Wyssusek, Paul Gray, Christine Woods, Anita Pelecanos, Julie Lee, Michelle Spanevello	Department of Anaesthesia and Perioperative Medicine	Intravenous iron infusion therapy in chronic pain patients with iron deficiency: VITAL, a randomised controlled trial	Pharmacosmos	\$79,860.24	2021-2022
Anthony Hodge, Jason Roberts, Victoria Eley, Steven Wallis, Angela Tognolini	Department of Anaesthesia and Perioperative Medicine	Pharmacokinetic profile of sugammadex in the obstetric population	ANZCA Provisional/New Research Award	\$19,999	2022
Anthony Hodge, Jason Roberts, Victoria Eley, Steven Wallis, Angela Tognolini	Department of Anaesthesia and Perioperative Medicine	Pharmacokinetic profile and breastmilk excretion of sugammadex in pregnant women	RBWH and RBWH Foundation Research Project Grant	\$74,903.85	2022
Chris Futter, Kerstin Wyssusek	Department of Anaesthesia and Perioperative Medicine	The use of head mounted displays to improve quality and safety within an operating theatre environment	Jamieson Trauma Institute Project Funding	\$161,000	2019-2022

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Victoria Eley	Department of Anaesthesia and Perioperative Medicine	Optimising perioperative blood pressure measurement in obese patients: a program of research	ANZCA Academic Enhancement Grant	\$100,000	2020-2022
Julie Lee	Department of Anaesthesia and Perioperative Medicine	Comparative pharmacokinetics of nebulised and intravenous ketamine and dexmedetomidine in ventilated patients	ANZCA Robin Smallwood Bequest	\$66,165	2022

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Hannah Reynolds	Sandra Concha Blamey, Kerstin Wyssusek, Susan Petrie, Carl Lisec, Kerstin Wyssusek, Alison Mudge, Sharon Neilson, Christine Woods	ASPECT: Acute Surgery PERioperative Collaboration Team Quality Improvement Program	312
Kerstin Wyssusek	Gerard Eames, Eliza Donnelly, Christine Woods, Margarete Somerville, Aleah Al Saffaf	ABLE: QI project for Pyxis training using scenario-based simulation	
Mark Trembath	Kerstin Wyssusek, Chris Futter, George Pang	Use of 3D printed models for training anaesthetists in magnetic ultrasound guided thoracic epidural catheter placement	
Chris Futter, Alvin Obed	Paul Schlosser, Penelope Sanderson, Christine Woods, Kerstin Wyssusek	The use of head mounted displays to improve quality and safety within an operating theatre environment	
André van Zundert	Kersi Taraporewalla, Rhys Morgan, Stacey Llewellyn, Christine Woods	Manikin study comparing positioning of two new vision-guided airway devices with standard blind-inserted 2nd-generation supraglottic airway device	
Kersi Taraporewalla	Andre van Zundert, Melanie Bakes	CLATS: The efficiency and efficacy of a constraint-led approach to teaching anaesthesia procedural skills	
Nathan Peters	Joel Thomas, Nicole Marsh, Christine Woods	Afterhours Difficult IntraVenous Access (DIVA) doctors - A feasibility study of virtual supervision for resident medical officers at the RBWH completing ultrasound guided peripheral intravenous cannulation (USGP/IVC) competency	
Andrew Souness	Angela Tognolini, Dwane Jackson, Kerstin Wyssusek, David Taylor, Craig Harris, Rachel Esler, Nicholas Black	Near-infrared spectroscopy (NIRS) monitoring for early detection of lower limb ischaemia in pelvic exenteration surgery	10
Angela Tognolini	Anthony Hodge, Victoria Eley, Adrian Chin, David Belavy, Elizabeth Martin, Christine Woods,	Prospective observational study of the anaesthetic and perioperative management of patients with confirmed or suspected coronavirus disease 2019 (COVID-19)	
Victoria Eley	Adrian Chin, Anita Pelecanos, George Hopkins, Moe Thuzar, Severine Navarro, Michael Stowasser	BEAM and BEAM Plus: BP error and Arm Morphology Studies	18
Fraser Morton	Victoria Eley, Matthys Campher, Emma Ballard, David Cavallucci, Nathan Peters, Peter Van de Putte	GASTRIC ULTRASOUND STUDY: The relationship between hunger and gastric volumes assessed by ultrasound in patients with acute abdomens	26

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Nathan Peters	Frances Williamson , Michelle Bauer, Peter Snelling , Nicole Marsh , Stacey Llewellyn, Adam Stewart, Patrick Harris, Claire Rickard	ULTIMO: Non-inferiority of low-level versus high-level disinfection for elimination of bacteria on contaminated ultrasound transducers: A randomised controlled trial	654
Victoria Eley	Rebecca Christensen , Helen Barrett , Michael Stowasser, Matthew Smith , Andre van Zundert	CLEARSITE IN PREGNANCY: A validation study of blood pressure readings from the Clearsite finger-cuff compared with invasive blood pressure readings in pregnant women undergoing elective Caesarean section, who have arms which don't suit regular arm cuffs	5
Victoria Eley	Nathan Peters , Christine Woods , Anita Pelecanos, Teal Derboghossian , Tony Lightfoot , Murray Ogg , Claire Rickard, Adrian Chin	TARTAN: Thrombus after ARTeriAl liNes : Incidence of radial arterial thrombus following arterial line catheterization – an audit of clinical practice and the patient experience	120
Victoria Eley	Severine Navarro, Elizabeth Martin, Gunter Hartel, Akwasi Amoako , Jeffrey Lipman , Jason Roberts , Leonie Callaway , Mimi Tang	ASCENT: Intravenous cefazolin vs placebo for pre-incision prophylaxis in very low-risk women undergoing elective caesarean section: RCT Pilot Feasibility Study	19
Anthony Hodge	Jason Roberts , Victoria Eley , Steven Wallis, Angela Tognolini	Pharmacokinetic profile of sugammadex in the obstetric population	3
Anthony Eidan	Geraldine Griffiths, Victoria Eley , Gladness Nathathe , Christine Woods , Fraser Morton , John Riordan, Adam Cowan, Anna Surla	OFA: Comparison of opioid versus opioid-free anaesthesia for elective laparoscopic abdominal surgery	
Kerstin Wyssusek	Paul Gray , Christine Woods , Julie Lee , Anita Pelecanos, Greg Anderson	VITAL: The efficacy of IntraVenous Iron Therapy in persistent pAin patients with iron deficiency: a randomised controlled trial	
Adrian Chin	Victoria Eley , David Belavy , Angela Tognolini , Anita Pelecanos, Christine Woods , Gunjan Chawla, Sheridan Bell, Ivan Rapchuk	A prospective, observational study of anaesthesia healthcare workers' interactions with COVID-19 positive patients and the occupational risk factors associated with contracting COVID-19	
Julie Lee	Jayesh Dhanani , Victoria Eley , Jason Roberts , Steven Wallis, Mohammed Abdul-Aziz	Comparative pharmacokinetics of nebulised and intravenous ketamine and dexmedetomidine in ventilated patients	
Victoria Eley		ABS-Road Analysis of state-wide ABS data regarding obesity and anaesthesia technique	
Michelle Roets	Rhys Morgan , Michelle Roets , Peter Steyn	Avoiding intraoperative cell salvage in patients with infection or malignancy: A retrospective study of perioperative transfusion incidence CIICS	120

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Fraser Morton	Victoria Eley , Matthys Campher, Emma Ballard, David Cavallucci , Nathan Peters , Peter Van de Putte	GASTRIC ULTRASOUND STUDY: The relationship between hunger and gastric volumes assessed by ultrasound in patients with acute abdomens	26
Bernhard Riedel	David Story, Alexander Heriot, Gavin Wright, Daniel Sessler, Donal Buggy, Jonathan Hiller, Julia Dubowitz, Victoria Eley	VAPOR-C: Volatile Anaesthesia and Perioperative Outcomes Related to Cancer	1

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Paul Myles	Wendy Brown, Mark Shulman, Trisha Peel, Robert Medcalf, Jessica Kasza, Sophie Wallace, Julie Lee	TRIGS: Tranexamic acid to Reduce Infection after Gastrointestinal Surgery	12
Nathan Peters	Frances Williamson , Michelle Bauer, Peter Snelling , Nicole Marsh , Stacey Llewellyn, Adam Stewart, Patrick Harris, Claire Rickard	ULTIMO: Non-inferiority of low-level versus high-level disinfection for elimination of bacteria on contaminated ultrasound transducers: A randomised controlled trial	654
Chris Futter, Alvin Obed	Paul Schlosser, Penelope Sanderson, Christine Woods , Kerstin Wyssusek	The use of head-mounted displays to detect patient deterioration in a simulated trauma setting	
Peter Mitchell	Bruce Campbell, Sarah Lee, Robert Henderson, Andrew Morokoff, Wendy Morris	STENTRODE WITH THOUGHT CONTROLLED DIGITAL SWITCH: Early feasibility study (EFS) of the safety of the StentrodeTM1 device in participants with loss of motor function due to paralysis from spinal cord injury, motor neurone disease, stroke, muscular dystrophy or loss of limbs	
Victoria Eley	Adrian Chin , Anita Pelecanos , George Hopkins , Moe Thuzar, Severine Navarro, Michael Stowasser	BEAM and BEAM Plus: BP error and Arm Morphology Studies	18
Michael Pender	Kerstin Wyssusek , Anthony Hade , Anthony Hodge	A Phase 1, Two-Part, Open-Label Dose-Escalation and Double-blind, Placebo-Controlled Dose-Expansion Study with an Open Label Extensions to Evaluate the Safety and Efficacy of ATA-188 in Subjects With Progressive Multiple Sclerosis	2
Victoria Eley	Rebecca Christensen , Helen Barrett , Michael Stowasser, Matthew Smith , Andre van Zundert	CLEARSITE IN PREGNANCY: A validation study of blood pressure readings from the Clearsite finger-cuff compared with invasive blood pressure readings in pregnant women undergoing elective Caesarean section, who have arms which don't suit regular arm cuffs	5
Victoria Eley	Nathan Peters , Christine Woods , Anita Pelecanos, Teal Derboghossian , Tony Lightfoot , Murray Ogg , Claire Rickard, Adrian Chin	TARTAN: Thrombus after ARTerIAL liNes : Incidence of radial arterial thrombus following arterial line catheterization – an audit of clinical practice and the patient experience	120
Victoria Eley	Severine Navarro, Elizabeth Martin, Gunter Hartel, Akwasi Amoako , Jeffrey Lipman , Jason Roberts , Leonie Callaway , Mimi Tang	ASCENT: Intravenous cefazolin vs placebo for pre-incision prophylaxis in very low-risk women undergoing elective caesarean section: RCT Pilot Feasibility Study	19
Anthony Hodge	Jason Roberts , Victoria Eley , Steven Wallis, Angela Tognolini	Pharmacokinetic profile of sugammadex in the obstetric population	3
Anthony Eidan	Geraldine Griffiths, Victoria Eley , Gladness Nathathe , Christine Woods , Fraser Morton , John Riordan, Adam Cowan, Anna Surla	OFA: Comparison of opioid versus opioid-free anaesthesia for elective laparoscopic abdominal surgery	
Kerstin Wyssusek	Paul Gray , Christine Woods , Julie Lee , Anita Pelecanos, Greg Anderson	VITAL: The efficacy of IntraVenous Iron Therapy in persistent pAin patients with iron deficiency: a randomised controlled trial	
Adrian Chin	Victoria Eley , David Belavy , Angela Tognolini , Anita Pelecanos, Christine Woods , Gunjan Chawla, Sheridan Bell, Ivan Rapchuk	A prospective, observational study of anaesthesia healthcare workers' interactions with COVID-19 positive patients and the occupational risk factors associated with contracting COVID-19	
Julie Lee	Jayesh Dhanani , Victoria Eley , Jason Roberts , Steven Wallis, Mohammed Abdul-Aziz	Comparative pharmacokinetics of nebulised and intravenous ketamine and dexmedetomidine in ventilated patients	

Research Publications

Authors

Investigator	ORCID ID
Andre van Zundert	https://orcid.org/0000-0002-1836-6831
Victoria Eley	https://orcid.org/0000-0002-6715-9193
Julie Lee	https://orcid.org/0000-0002-6896-5568
Kerstin Wyssusek	https://orcid.org/0000-0003-1709-4958
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Michelle Roets	https://orcid.org/0000-0002-0882-9636

Publications in 2022

Journal Articles (RBWH staff in bold)

Wyssusek K, Chan KL, Eames G, Whately Y. Greenhouse gas reduction in anaesthesia practice: a departmental environmental strategy. *BMJ Open Quality* 2022;11:e001867. doi:10.1136/bmjopen-2022-001867.

Nethathe GD, Lipman J, Anderson R, Feldman C. CIRMI—a new term for a concept worthy of further exploration: a narrative review. *Ann Transl Med* 2022. doi: 10.21037/atm-21-5572.

Chin A, Foster DJ, Pelecanos AM, **Eley VA.** A retrospective observational study of patient analgesia outcomes when regional anaesthesia procedures are performed by consultants versus supervised trainees. *Anaesthesia and Intensive Care*. 2022;50(3):197-203. <https://doi.org/10.1177/0310057X211039233>

Van Zundert A, Intaprasert T, Wiepking F, **Eley VA.** Are Non-Contact Thermometers an Option in Anaesthesia? A Narrative Review on Thermometry for Perioperative Medicine. *Healthcare*. 2022;10:219. <https://doi.org/10.3390/healthcare10020219>

McDermott L, Pelecanos A, Krepska A, de Jersey S, Mao D, Lee G, Blackie A, **Eley VA.** Single-centre survey of women reflecting on recent experiences and preferences of oral intake during labour. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2022;62(5):643-649. <https://doi.org/10.1111/ajo.13509>.

Peters N, Thomas J, Woods C, Rickard C, Marsh N. Remotely supervised ultrasound-guided peripheral intravenous cannulation training: A prospective cohort study examining success rates and patient experience. *Australas J Ultrasound Med*. 2022;25:176-185. <https://doi.org/10.1002/ajum.12318>

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- Eley VA, Abeypala W, Kelley A, Kumta N, Chin A.** Recognized and unrecognized dural punctures in 12,981 labor epidurals: an audit of management. *Journal of Anesthesia*. 2022;36:399-404 <https://doi.org/10.1007/s00540-022-03062-7>
- Lee J, Eley VA, Wyssusek KH, Kimble RMN, Way M, van Zundert AA.** Rotational thromboelastometry (ROTEM®) in gestational diabetes mellitus and coagulation in healthy term pregnancy: A prospective observational study in Australia. *Aust N Z J Obstet Gynaecol*. 2022;62:389-394. doi: 10.1111/ajo.13474. PMID: 34994402
- Van Zundert AA,** Grace SG, Wiepking FS. Funding sources of research articles published in anaesthesia journals over 10 years. *Eur J Anaesthesiol*. 2022;39:173-175. doi: 10.1097/EJA.0000000000001513
- Guy L, Christensen R, Dodd B,** Pelecanus A, **Wyssusek K, van Zundert A, Eley VA.** The effect of transnasal humidified rapid-insufflation ventilator exchange (THRIVE) versus nasal prongs on safe apnoea time in paralysed obese patients: a randomised controlled trial. *Br J Anaesth* 2022;128:375-381. doi: 10.1016/j.bja.2021.10.048. PMID: 34895717
- Ryan RL, Jackson D, Hopkins G, Eley V, Christensen R, van Zundert AAJ,** Wallis SC, Lipman J, Parker S Roberts JA. Plasma and Interstitial Fluid Pharmacokinetics of Prophylactic Cefazolin in Elective Bariatric Surgery Patients. *Antimicrob Agents Chemother* 2022;66(7):e0041922. doi: 10.1128/aac.00419-22.
- Van Zundert AAJ,** Gatt SP, Van Zundert TCRV, Kumar CM, Pandit JJ. Features of new vision-incorporated third-generation video laryngeal mask airways. *J Clin Mon Comp* 2022;36:921-928. <https://doi.org/10.1007/s10877-021-00780-3>
- Town C,** Strand H, **Johnson J, van Zundert A.** Ultrasound-guided Axillary Brachial Plexus Block for the management of graft site pain during dressing change in the burn injured patient: a randomized control trial. *J Burn Care & Research Res*. 2022;irac060, <https://doi.org/10.1093/jbcr/irac060>
- O'Donoghue SD, Pincus J, Pang GK,** Roach RE, Anstey CM, Perlas A, **van Zundert A.** Impact of fasting on the gastric volume of critically ill patients before extubation: a prospective observational study using gastric ultrasound. *BJA Open*. 2022;3:100023. <https://doi.org/10.1016/j.bjao.2022.100023>
- Wyssusek K,** Avudainayagam M (2022). The importance of product stewardship for plastic recovery of polyethylene terephthalate in the operating room. *The American Journal of Surgery* 2022 doi: 10.1016/j.amjsurg.2022.09.013
- Wyssusek K, Chan KL, Eames G,** et al. Greenhouse gas reduction in anaesthesia practice: a departmental environmental strategy. *BMJ Open Quality* 2022;11:e001867. doi: 10.1136/bmjopen-2022-001867
- Lee J, Eley VA, Wyssusek KH, Kimble RM, Way M, van Zundert, AA.** Rotational thromboelastometry (ROTEM®) in gestational diabetes mellitus and coagulation in healthy term pregnancy: A prospective observational study in Australia. *Aust N Z J Obstet Gynaecol* 2022;62: 389-394. <https://doi.org/10.1111/ajo.13474>
- Sin JCK, Tabah A, Campher M, Laupland K, **Eley VA.** The Effect of Dexmedetomidine on Post-Anaesthesia Care Unit Discharge and Recovery: A Systematic Review and Meta-Analysis. *Anesthesia and Analgesia* 2022;134;1229-1244
- Lefrant JY, Pirracchio R, Benhamou D, Fischer MO, Njeim R, Allaouchiche B, Bastide S, Biais M, Bouvet L, Brissaud O, Brull SJ, Capdevila X, Clausen N, Cuvillon P, Dadure C, David JS, Du B, Einav S, **Eley V,** Forget P, Fujii T, Godier A, Gopalan DP, Hamada S, Hasanin A, Joannes-Boyau O, Kerever S, Kipnis É, Kolodzie K, Landau R, Le Gall A, Le Guen M, Legrand M, Lorne E, Mercier FJ, Mongardon N, Myatra S, Nicolas-Robin A, John Peters M, Quintard H, Rello J, Richebé P, Roberts JA, Rocquilly A, Sanfilippo F, Schneider A, Sofonea MT, Veyckemans F, Zetlaoui P, Zeidan A, Zieleskiewicz L, Zielinska M, Von Ungern-Sternberg B, Abou Arab O, Blet A, Bounes F, Boisson M, Caillard A, Carillon A, Clavier T, Frasca D, James A, Sigaut S, Rozenchwajg S, Albaladejo P, Bouaziz H. Peace, not war in Ukraine or anywhere else, please. *Anaesth Crit Care Pain Med*. 2022;41(3):101068. doi: 10.1016/j.accpm.2022.101068. Epub 2022 Apr 20. PMID: 35460922.
- Gómez-Ríos MA, López T, José Sastre JA, Gaszyński T, **van Zundert AJ.** Video laryngeal masks in airway management. *Expert Review of Medical Devices* 2022;19(11):847-858, DOI: 10.1080/17434440.2022.2142558.
- Taylor J, Dhoss E, Black MB, Llewellyn S, **Peters N.** Anaesthetist's adherence to aseptic ultrasound practices when performing Ultrasound Guided Peripheral Intravenous Cannulation (USGPIVC). A quality improvement project. *Acta Anaesthesiologica Belgica* 2022;73(3):149-156.
- Grace SG. **van Zundert AAJ.** (2022), Diversity in medical PhD curricula: a call for harmonisation. *Intern Med J*. 2022. <https://doi.org/10.1111/imj.15939>
- Athanassoglou V, O'Sullivan E, **van Zundert A,** Pandit JJ. New guidelines for research in airway device evaluation: time for an updated approach (ADEPT-2) to the Difficult Airway Society's 'ADEPT' strategy? *J Clin Mon Comp* 2022. <https://link.springer.com/content/pdf/10.1007/s10877-022-00911-4.pdf>
- Van Zundert TCRV, **van Zundert AAJ.** Time to Adequately Heed Acute Pain in the Emergency Department- More Regional Blocks Warranted. *International Journal of Regional Anaesthesia* | July-December 2022; 3(2): 37-41.
- Smith SL, Mockeridge BR, **van Zundert AA.** Demystifying the role of anaesthetists in clinical coding in the Australian healthcare system. *Anaesth Intensive Care*. 2022 Nov;50(6):480-488. doi: 10.1177/0310057X221082665. Epub 2022 Jul 28. PMID: 35899791.

Journal Articles (RBWH staff in bold)

Wiepking FS, Van Zundert AAJ. Oddities in the Evolution of Syringes in Anesthesia. *Anesth Analg*. 2022 Aug 1;135(2):427-434. doi: 10.1213/ANE.0000000000006084. Epub 2022 May 17. PMID: 35580256.

Book Chapters (RBWH staff in bold)

Meeusen V, Gatt S, Barach P, **van Zundert A**. Occupational Wellbeing, Resilience, Burnout and Job Satisfaction of Surgical Teams. In: *Handbook of Perioperative and Procedural Patient Safety*, Elsevier, USA 2022.

Van Zundert A. Revolutionary Healthcare Information Technology. In: Paul P. Chaiken (ed.). *Navigating the Code. Transforming the Patient-Physician Journey*. Chapter 12. Poplar Tree Media, 2022. ISBN: 1736702122, 9781736702123.

Van Zundert A, Kumar CM, Jankovic D. Regional anesthesia in ophthalmology. Chapter 6. In: *Regional Nerve Blocks in Anesthesia and Pain Therapy: Imaging-guided and Traditional Techniques*. 5th Edition, Jankovic D, Peng P (Eds). Springer. 2022 – ISBN 978-3-030-88726-1; ISBN e-book: 978-3-030-88727-8.

Stolker RJ, van Suijlekom H, **van Zundert A**, Groen G. Lumbar Facet Denervation. Chapter 47. In: *Regional Nerve Blocks in Anesthesia and Pain Therapy: Imaging-guided and Traditional Techniques*. 5th Edition. Jankovic D, Peng P (Eds). Springer. 2022 – ISBN 978-3-030-88726-1; ISBN e-book: 978-3-030-88727-8.

Gray P, Van Zundert J, **van Zundert A**. Cervical Interlaminar Epidural Injection. Chapter 14. In: *Regional Nerve Blocks in Anesthesia and Pain Therapy: Imaging-guided and Traditional Techniques*. 5th Edition. Jankovic D, Peng P (Eds). Springer. 2022 – ISBN 978-3-030-88726-1; ISBN e-book: 978-3-030-88727-8.

Meeusen V, Barach P, **van Zundert A**. Designing Safe Procedural Sedation: Adopting a New Culture. In: *Handbook of Perioperative and Procedural Patient Safety*, Elsevier, USA 2022.

Roets M, Tognolini A, Dean M. Can We Overcome the Obstacles to Modern Intraoperative Cell Salvage Transfusion? A Detailed Review of Current Evidence In: *Advances in Health and Disease*, edited by Lowell T. Duncan. Nova Science Publishers, Inc 2022; July 15, Vol. 55. Retrieved online at *Advances in Health and Disease*. Volume 55 – Nova Science Publishers (novapublishers.com). ISBN 978-1-68507-998-7.

Van Zundert A. Revolutionary Healthcare Information Technology. In: Paul P. Chaiken (ed.). *Navigating the Code. Transforming the Patient-Physician Journey*. Chapter 12. Poplar Tree Media, 2022. ISBN: 1736702122, 9781736702123.

Keynote or Plenary Lectures given in 2022

Date	Title
Australian and New Zealand College of Anaesthetists (ANZCA) Annual Scientific Meeting (ASM), 1 May 2022 Open ePoster and Presentation Prize Session	Angela Tognolini : Does propofol influence the protein binding and plasma concentration of lidocaine? <i>An in vitro</i> study
Australian and New Zealand College of Anaesthetists (ANZCA) Annual Scientific Meeting (ASM), 2 May 2022, Gilbert Brown Prize Session	Angela Tognolini : Plasma lidocaine concentrations following an intraoperative intravenous weight-based regimen in obese patients Joel Thomas : Remote supervision of ultrasound guided peripheral intravenous cannulation training: A prospective cohort study Jessica Taylor : The diagnostic accuracy of ROTEMsigma® FIBTEM amplitude for the identification of hypofibrinogenaemia in cardiac patients is improved by considering the ratio of the FIBTEM to the EXTEM clotting time
ANZCA ASM, 2 May 2022, Trainee Research Prize Session	Priyanka Dhillon : Association between central venous catheter insertion depth and tip position
Australian and New Zealand College of Anaesthetists (ANZCA) Clinical Trials Network Workshop 2022	Victoria Eley : <ul style="list-style-type: none">• Session Chair: New Proposals• Expert Panel Member: Open Science
19th Indoanesthesia 2022 Virtual Symposium	Victoria Eley : <ul style="list-style-type: none">• Invited Speaker: Evidence-based care of the obese parturient
Society for Paediatric Anaesthesia in New Zealand and Australia (SPANZA) Research Day	Victoria Eley : <ul style="list-style-type: none">• Invited Speaker: Getting published
Australian and New Zealand College of Anaesthetists (ANZCA)	Victoria Eley :

Rural Special Interest Group, Darwin, June 2022	<ul style="list-style-type: none"> • Keynote speaker: Non-epidural analgesia for labour; Post-Caesarean section analgesia; Evidence-based care of obese pregnant women
Australian and New Zealand College of Anaesthetists (ANZCA) Obstetric Anaesthesia Special Interest Group	Victoria Eley: <ul style="list-style-type: none"> • Co-Chair and Facilitator: Webinar – A trio of challenging cases

Professor Stuart Pegg Burns Centre

Research highlights for the year (1 January – 31 December 2022)

The Professor Stuart Pegg (PSP) Burns Centre provides all adult burn care for the state of Queensland, presenting an excellent opportunity for innovative translational research. Co-located with the Queensland Skin Culture Centre and the Herston Biofabrication Institute and in strong partnership with The Jamieson Trauma Institute, STARS, QUT and Fiona Wood Burns Research Centre places the Burns unit in a unique position for world-class research.

The Burns research programmes leads innovative research into improving patient outcomes for patients following burns, with research projects ranging from *in vitro* explorative studies, new treatments to novel approaches to patient management and therapy.

Recognisable Burns research has been generously sponsored by the Metro North Burns Research Grant 2022 supporting a diverse range of projects related to improving outcome for patients following burns.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Andrea McKittrick	Andre Zagame Outstanding Occupational/Physical Therapist Award	International Society for Burns Injury 2022

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Dr Jason Brown , Prof Kiarash Khosrotehrani (UQ), Prof Alan Rowan (UQ)	Queensland Skin Culture Centre and Herston Biofabrication Institute	Clinical Sub-Program: Skin and Wounds	Metro North HHS	\$1,000,000	2021-2025
Dr Carl Lisec , Jason Brown , Amelia Perri , Allison Hill , Amber Jones , Anita Plaza , Kate McCrossin , Andrea McKittrick ,	PSP Burns Unit	A pilot study assessing the feasibility of NexoBrid versus the current standard of care of isolated upper limb burns: A solution to "the perfect crime"?	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$75,305	2022-2023
Dr Lynne Heyes , Jason Brown , Darcy Andrews	Allied Health - Psychology	Psychological support: Burns survivor peer support program	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$100,000	2022-2023

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Jayesh Dhanani, Carl Lisec, Jason Brown, Michael Reade, Paul Gray, Jason Roberts, Amelia Perri, Andrew Claus, Cheryl Fourie, Amelia Livermore	ICU/ PSP Burns Unit	Innovation in burns pain management: Does nebulized dexmedetomidine reduce or eliminate the requirement for conventional sedation and analgesia (intravenous ketamine and midazolam) for procedural pain management in burns patients? A pilot phase III randomised controlled crossover trial.	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$59,252	2022-2023
Merrilyn Banks	Allied Health/ PSP Burns Unit	Feasibility of using wearable sensors in patients with burn injury, to measure energy expenditure, and other observations, that can directly influence clinical care.	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$153,582	2022-2023
Andrea McKittrick	Allied Health/PSP Burns Unit	Development of a person-centred outcome measure for hand burn injuries	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$32,496	2022-2023
Anita Plaza	Allied Health/PSP Burns Unit	Enablers and barriers to participation in physical activity programs while hospitalised after burn injury	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$32,742	2022-2023
Amber Jones	Allied Health/PSP Burns Unit	Evaluation and enhancement of the RBWH Multidisciplinary Burns Telehealth Service (MDT TeleBurns)	RBWH Foundation, Anglo Burns Research Project Grant 2022	\$32,496	2022-2023

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Teresa Matthews	Jason Miller, Michael Rudd, Michael Muller, Jason Brown, Carl Lisec, Keith Townsey,	Professor Stuart Pegg Adult Burn Centre (PSPABC), Royal Brisbane & Women's Hospital (RBWH) submitting data to the Burns Registry of Australia and New Zealand (BRANZ)	N/A
Jason Brown	Michelle Donovan, Noah Betar, Steven McPhail (QUT), Zephania Tyack (QUT)	Feasibility, acceptability, cost and sustainability of ablative fractional CO2 laser for the treatment of scars in adolescents and adults post-burn: a longitudinal cohort study (retrospective)	N/A
Jason Brown	Peter Gillies, Andrew Dally	Collection of skin tissue from burn wounds in adults. The Queensland Skin Culture Centre (QSCC) Biobank	4
Peter Gillies	Ranjeny Thomas (UQ), Andrew Dalley, Danielle Herbert	Manipulating the immune response to epithelial cells	N/A

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Jason Brown	Lucas Wheatly, Noah Betar, Peter Maitz (Syd)	A prospective, non-controlled evaluation of the synthetic NovoSorb™. Biodegradable Temporising Matrix (BTM) for dermal repair after deep burn injury	0
Liz Vujcich	Jason Brown, Michelle Donovan, Noah Betar	ELATE - Early versus late ablative CO2 fractional laser treatment evaluation	
Andrea McKittrick	Michelle Donovan, Amber Jones, Jason Brown, Liz Vujcich, Sue Laracy, Jennifer Strong	ELEVATE - Feasibility, Acceptability and Safety of Vacuum Therapy on Burn Scar outcomes	1
Jason Brown	Andrea Mc Kittrick, Mathilde Desselle, David Forrestal, Roozbeh Fakhr, Danielle Herbert, Aleksandra Edmundson	A pilot study to implement technology (3D Scanning and Printing) to improve long term burn facial scarring outcomes across the spectrum of care	7
Carl Lisec	Jason Brown, Amelia Perri, Allison Hill, Anber Jones, Anita Plaza, Kate McCrossin, Andrea McKittrick,	A pilot study assessing the feasibility of NexoBrid versus the current standard of care of isolated upper limb burns: A solution to “the perfect crime”?	0
Dr Lynne Heyes,	Jason Brown, Darcy Andrews	Psychological support: Burns survivor peer support program	0
Peter Gillies	Andrew Dalley, Jason Brown, Danielle Herbert	Pilot study to recapitulate the proliferative epithelial niche in acellular de-epidermised dermis: Herston Biofabrication Institute (HBI) Burns Statewide Service program.	N/A
Peter Gillies	Amanda Kijas (UQ), Andrew Dalley, Alan Rowan (UQ), Jason Brown, Danielle Herbert	Functionalised hydrogel and/or fibrin for keratinocyte culture. Herston Biofabrication Institute (HBI) Burns Statewide Service program.	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Nichole Foster	Dale Edgar, Fiona Wood, Mark Fear, Nathan Pavlos, Edward Raby, Elizabeth Capell, Frank Li, Jason Brown, Aaron Tay, Leila Cuttle	Traumatic Heterotopic Ossification: Exploring Prevalence, Risk Factors, Prevention and Treatment	1
Kiarash Khosrotehrani (UQ)	Alan Rowan (UQ), Abbas Shafiee, Jason Brown	Effective solutions for full restoration of skin barrier and function. HBI Skin & Wounds sub-program.	N/A
Alan Rowan (UQ)	Amanda Kijas (UQ), Jason Brown, Peter Gillies, Andrew Dalley, Michaela George (UQ)	Guiding immune regulation using smart biomaterials to promote scarless wound healing. HBI Skin & Wounds sub-program.	QSCC Biobank

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Jason Brown	Michelle Donovan , Noah Betar, Steven McPhail (QUT) Zephania Tyack (QUT)	Feasibility, acceptability, cost and sustainability of ablative fractional CO2 laser for the treatment of scars in adolescents and adults post-burn: a longitudinal cohort study	
Mathilde Desselle (HBI)	Lucy Holland (QUT), Roger Altizer (QUT), Natalie Bradford (QUT), Jason Brown (RBWH), Ross Brown (QUT) Andrea McKittrick	Co-design of an Innovative Virtual Reality (VR) Environment as a Pain and Anxiety Augmented Relief Method in Burns Survivors and Adolescents and Young Adults (AYAs) with Cancer	

Research Publications

Authors

Investigator	ORCID ID
Jason Brown	https://orcid.org/0000-0002-8386-1118

Publications in 2022

Journal Articles (RBWH staff in bold)

Betar N, Warren J, Adams J, **Herbert D**, **Vujcich E**, **Maitz P**, **Brown J**. Iron status in patients with burn anaemia. Burns 2022 May 17, 121-8

Betar N, Warren J, Adams J, **Herbert D**, **Vujcich E**, **Maitz P**, **Brown J**. Intravenous iron therapy to treat burn anemia: A retrospective cohort study. Burns 2022; May 23, 120-6

Tracy LM, Darton A, Gabbe BJ, Heath K, Kurmis R, **Lisec C**, Lo C, Singer Y, Wood FM, Cleland HJ. Examining the patient profile and variance of management and in-hospital outcomes for Australian adult burns patients. ANZ J Surgery 92 (10) 2641-2647

Shafiee A, Hosseini M, **Brown J**. Strategies to Induce Blood Vessel Ingrowth into Skin Grafts and Tissue-Engineered Substitutes. Tissue Engineering Feb 2022: 28 (3)

Miller A, **Vujcich E**, **Brown J**. Effect of Central Line Duration and Other Risk Factors on Central Line-Associated Bloodstream Infection in Severe Adult Burns Patients at a Large Tertiary Referral Burns Centre: A 5-Year Retrospective Study. Eur. Burn. J 2022, 3, 18-26

Paratz JD, Warren J, Paratz E, Watt K, Corte-Real V, **Muller MJ**; Cardiovascular mortality post burn injury., J Trauma Acute care Surg. 2022

Tyack, Z., Simons, M., Kimble, R. M., **Muller, M. J.**, Leung, K. The reproducibility and clinical utility of the 3D camera for measuring scar height, with a protocol for administration., Skin Research and Technology 23 (4) 463-470

Book Chapters (RBWH staff in bold)

Emergency Section: Burns, Minor Burns and Chemical Burns. Edited By **Michael Muller** and **Elizabeth Vujcich** Primary Clinical Care Manual 11th Edition 2022, 177-182

ENT

Research highlights for the year (1 January – 31 December 2022)

The ENT Department continues to expand the scope of its academic research through a significant growth in collaborative studies with the Herston Biofabrication Institute, University of Queensland and Griffith University.

Additionally, the department has successfully obtained nearly \$500K in funding through grant opportunities with the RBWH Foundation, Australian New Zealand Head and Neck Cancer Society, National Health and Medical Research Council and the Garnett Passe and Rodney Williams Memorial Foundation which will further grow the research capacity of the department and allow for significant improvements in diagnostic techniques as well as patient care.

The ENT Department continues to be one of the leading departments within Metro North Hospital and Health Service in running clinical trials with close working relationships that have been fostered with numerous pharmaceutical sponsors including Astra Zeneca Australia, Lyra Therapeutics Inc.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Dr Ryan Sommerville	ENT – Skull Base	The Use of Ultra High-Resolution MRI for the assessment of Cranial Neuropathies in Base of Skull Tumours	Australian New Zealand Head and Neck Cancer Society	\$10,000	2022-2023
Dr Sarju Vasani	ENT – Head and Neck	A “needleless” approach to predict individuals at risk of developing oral cancer	RBWH Foundation	\$50,000	2021-2022
Dr Zhen Liu	ENT – Head and Neck	Human Papillomavirus Associated Oropharyngeal Cancer: A Novel Salivary Modality for Monitoring Disease Response and Surveillance	Garnett Passe and Rodney Williams Foundation		

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Dr James Earnshaw	Professor Anders Cervin, Dr Cameron Grigg, Dr Zhen Liu, Kathryn Girling	A double blinded trial to assess and validate pilot results of oral propranolol in preventing epistaxis in patients with Hereditary Haemorrhagic Telangiectasia	16
Dr Ryan Sommerville	Dr Craig Winter, Dr Jennifer Gillespie, Dr Woo Sun, Dr Zhen YuLiu, Dr Pranav Sharma	Utility of High-Resolution MRI for Perineural Spread in Head and Neck Cancers	1
Dr Ryan Sommerville	Dr Craig Winter, Dr Hamish Alexander, Dr Abigail Walker, Dr Jennifer Gillespie, Dr Timothy Sullivan, Dr Stephanie Yau, Dr Wallace Walker (UQ PhD Candidate)	The Use of Ultra High-Resolution MRI for the assessment of Cranial Neuropathies in Base of Skull Tumours	0

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Dr Ryan Sommerville	Dr Abigail Walker, Dr Stephanie Yau , James Novak (HBI)	Development of 3D Printed Hyper-realistic Trans-sphenoidal Training Models	NA
Dr Abigail Walker	Dr Pranter Brahmabhatt, Dr Linda Stewart, Kathryn Girling , Dr Bronte Moses (HIRF)	Ultra-Low Dose of Radiation for CT Imaging of Sinuses	7
Dr Sarju Vasani	A / Professor Chamindie Punyadeera (Griffith University), Dr Lizbeth Kenny, Dr Martin Batstone, Dr Omar Breik, Dr Brett Hughes, Dr Zhen Liu, Dr Akila Wijeyesekera, Dr Michael Wong, Dr Linda Stewart	A Novel Assay for Early Detection of Minimal Residual Disease in Head and Neck Cancer Patients	0
Dr Sarju Vasani	Dr Nathan Quigley (UQ PhD Candidate), Professor Anders Cervin (UQ)	Systematic Evaluation of Laryngeal Focused Investigations and Examinations for Laryngopharyngeal Reflux	0
Dr Zhen Yu Liu	Sarju Vasani , A / Professor Chamindie Punyadeera (Griffith University), Lizbeth Kenny , Rahul Ladwa (PAH)	Human Papillomavirus associated oropharyngeal cancer: a novel salivary modality for monitoring disease response and surveillance	

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Dr Abigail Walker	Dr Pranter Brahmabhatt, Kathryn Girling , Dr Joshua Liaw (PhD Candidate)	Testing a Nasal Microbiota Transfer therapy in chronic rhinosinusitis patients without nasal polyps	1

Research Publications

Authors

Investigator	ORCID ID
Professor Anders Cervin	0000-0002-3427-4312
Dr Abigail Walker	0000-0001-6581-2788
Dr Zhen Liu	0000-0003-4225-4116

General Surgery Unit 1: Breast and Endocrine Surgery

Research highlights for the year (1 January – 31 December 2022)

The Breast and endocrine unit endeavours to improve patient outcomes for QLD patient with breast cancer as demonstrated by the research and innovative activity including:

Unveiling of CBCI in 2022 with at the Metro North CBCI Community Forum Breast, bringing together clinicians and academics and researchers, showcased innovative research including:

- First in humans 3D printable bioabsorbable breast scaffold Clinical Trial
- Intraoperative Radiotherapy (IORT)
- Radio-guided Occult Lesion Localisation using Iodine-125 Seeds (ROLLIS) and One-step nucleic acid amplification (OSNA)

Our researchers demonstrate commitment to improving diagnostics and staging with a Phase 1 multi-centre clinical trial investigating safety and efficacy of MagSense, an imaging agent specific for patients with HER2+ breast cancer.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Clement Wong	2022 Australasian International Breast Congress Best Poster	2022 Australasian International Breast Congress

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Owen Ung	Michael Wagels, Clement Wong	Clinical trial evaluating medical-grade polycaprolactone-PCL breast scaffold implantation with autologous fat grafting for breast implant revision and congenital defect correction surgery	5
Kowski Murugappan	Paul Thomas; Owen Ung; Sunil Lakhani; Ben Green; Clement Wong; Liz Kenny; Karin Steinke; Louise Campbell; Natalie Bradford; Colleen Niland	Evaluating the accuracy of 18F-FDG PET-MRI scan in detecting regional lymph node disease in high-risk Breast cancer patients: PETAL Study	9
Diana Tam	Kristen Elstner, Robyn Cheuk, Owen Ung, Clement Wong, Liz Kenny, Michelle Grogan, Kowski Murugappan, Charles Lin, Sunil Lakhani	Intraoperative radiotherapy (IORT) for early breast cancer- a pilot evaluation of implementation, feasibility, safety and financial analysis	0
Andrew Nathanson	Pongkwan Pratihthananda	Thyroidectomy at RBWH: reviewing the activity of General Surgery and ENT departments	NA

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Tony Mallett	Clement Wong, Thomas Breslin	Outcomes after radioactive 125-iodine seed localization for impalpable in situ and invasive breast cancer: the early experience at RBWH and STARS	NA
Kowski Murugappan	Pongkwan Prathishthananda, Bartholomew McKay	Importance of Axillary Lymph Node Dissection: 13-year Retrospective Analysis of a Tertiary Breast Surgical Unit	N/A
Clement Wong	Yun-Hsuan Lee,	Intra and post-operative outcomes of different surgical approaches towards adrenalectomy	NA
Kowski Murugappan	Ashkun Naderin	Audit of Magnetic Resonance Imaging in the Evaluation of Lobular Carcinoma	NA

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Jane Fox	Kowski Murugappan, Natalie Yang, Shanta Velaiutham,	A Phase I Study Investigating the Safety and Efficacy of the MagSense™ Human Epidermal Growth Factor Receptor 2 (HER2) Test Reagent Using Magnetic Resonance Imaging and the MagSense™ Instrument in Subjects with HER2-positive Breast Cancer to Test for Ipsilateral Lymph Node Involvement	1
Sunil Lakhani	Kowski Murugappan Paul Thomas; Owen Ung; Sunil Lakhani; Ben Green; Clement Wong, Peter Simpson; Kaltin Ferguson, Colleen Niland	Breast Cancer Tissue Bank	
Sunil Lakhani	Owen Ung, Scott Campbell, Tom Robertson, Lindy Jeffree	Molecular Pathology and Genetic Sub-Classification of Precancerous and Cancerous Breast Lesions (Sub study of Breast Cancer Tissue Bank)	

Research Publications

Authors

Investigator	ORCID ID
Owen Ung	https://orcid.org/0000-0002-5308-5605
Clement Wong	https://orcid.org/0000-0002-2945-8459
Kowsalya (Kowski) Murugappan	https://orcid.org/0000-0001-5639-9338

Publications in 2022

Journal Articles (RBWH staff in bold)

Ung, Owen. Towards better breast cancer outcomes for Indigenous populations in high-income countries with highly developed health systems. *World Journal of Surgery*, (2022). 46 (3), 622-623.

Thekkinkattil D, Vidya R, Kwong A, Alajmi AA, Mutebi M, Gulluoglu B, Deo S, Fukuma E, Elder E, Gonzalez E, Warnberg F, Buccimazza I, **Ung O**, Walker M, Vernet-Tomas M, Peeters MTV, Johnson N, Paulinelli RR, Kuehn T, Veronesi P, Sarkar D, Dietz J. Assessing variability in breast cancer management across the world: results of a questionnaire survey among global international experts in breast cancer management. *Ecancermedicalscience*. 2022 Sep 2;16:1443.

Keynote or Plenary Lectures given in 2022

Date	Title
14 Oct 2022	Owen Ung Session Chairperson Australian International Breast Cancer Congress (AIBC), Screening.
3 Dec 2022	Owen Ung TEDxBrisbane: Engineering for Breast cancer Reconstruction
15-18 August 2022	Owen Ung Session Chair, Debate Moderator and Session Introduction: 49th World Congress of the International Society of Surgery ISS/SIC, International Surgical Week,

General Surgery Unit 2: Hepatobiliary/Pancreatic

Research highlights for the year (1 January – 31 December 2022)

With the support from Medical Research Future Fund (MRFF) and PanKind, our HPB researchers are better placed to make significant advances in the early diagnosis and treatment of pancreatic cancer. MRFF's generous funding will have committed to support the project "SCANPatient: Synoptic reporting of CT scans assessing cancer of the pancreas" and PanKind funded a project exploring fibroblasts to detect early pancreatic cancer on PET imaging.

The unit's collaborative research extends to: Expression of novel PET targets in precursors of pancreatic cancer: implications for early diagnosis

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
David Cavallucci	General Surgery/HPB unit	Lighting up the needle in the haystack: targeting malignant stroma to detect early pancreatic cancer on PET	PanKind Australian Pancreatic Cancer Foundation Limited	\$99,442	2 yrs, 2022-2024
David Cavallucci		SCANPatient: Synoptic reporting of CT scans assessing cancer of the pancreas	MRFF	\$297,301	5 yrs, 2022-2027

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
William McGahan	Paul Thomas, Stephen Rose, David Cavallucci, Euan Walpole, Kellee Slater, Thomas O'Rourke, Nicholas O'Rourke, Nicholas Butler, Richard Bryant	Applicability of Positron Emission Tomography using Gallium-68 labelled Fibroblast Activating Protein Inhibitor for the diagnosis, staging and treatment of pancreatic cancer	0
David Brough	David Cavallucci, Nick O'Rourke	Looking At symptoms and outcomes for Patients with functional gastrointestinal disorders undergoing laparoscopic CHOLEcystectomy (LAP-CHOLE): a two centre, single-blinded, observational study	0

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
William McGahan	Nick O'Rourke, David Cavallucci	A retrospective review of the patterns of care in patients with pancreatic cancer in the Metro North Health District	NA
Natasha Abeysekera	Nick O'Rourke, David Cavallucci	Pancreatic Cysts : A Retrospective review of a tertiary referral centre	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
William McGahan	David Cavallucci , Tom O'Rourke, Nick Butler, Mark Smithers, Euan Walpole, David Brough	Standardised data recording for patients with pancreatic cancer in the Metro North and Metro South Health Districts of Queensland	N/A
John Hooper	William McGahan , Thomas Kryza, Madeleine Gough	Expression of novel PET targets in precursors of pancreatic cancer: implications for early diagnosis	N/A
Charles Pilgrim	David Cavallucci John Zalberg Liane Ioannou, Jessica Kasza, Samantha Ellis	SCANPatient: Synoptic reporting of CT scans assessing cancer of the pancreas	0
Vicki Whitehall	David Clark, Matthew Burge, David Cavallucci , Kelly Olsen	The Development of Personalised Medicine Strategies for Colorectal Cancer	0

Research Publications

Authors

Investigator	ORCID ID
David Cavallucci	https://orcid.org/0000-0003-2112-6465
Nicholas O'Rourke	https://orcid.org/0000-0003-0744-2816

Publications in 2022

Journal Articles (RBWH staff in bold)

Swinson B, Waters PS, Webber L, Nathanson L, Cavallucci DJ, O'Rourke N, Bryant RD. Portal vein thrombosis following elective laparoscopic splenectomy: incidence and analysis of risk factors. Surg Endosc. 2022 May;36(5):3332-3333

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McGahan W, Chikatamarla V, Thomas P, Cavallucci D, O'Rourke N, Burge M. High SUVmax on routine pre operative FDG-PET predicts early recurrence in pancreatic and peri-ampullary cancer. ANZ J Surg 2021 Nov;91(11):2524-2527. doi

Nicholas Bell-Allen, Kate Swift, Nis-Julius Sontag, **Nicholas O'Rourke.** Ventral hernia repair with a hybrid laparoscopic technique. ANZ J Surg 2022 Oct;92(10):2529-2533

McNamara A, Avery A, Campbell C, **O'Rourke N.** A young male with HCC in hepatic adenoma initially diagnosed as FNH. ANZ J Surg. 2022 May 31

Sadamori H, Hashida K, Kawamoto K, Gotohda N, Chen K, Kanazawa A, Takeda Y, Ohmura Y, Ueno M, Ogura T, Suh KS, Kato Y, Sugioka A, Belli A, Nitta H, Yasunaga M, Cherqui D, Halim NA, Laurent A, Kaneko H, Otsuka Y, Kim KH, Cho HD, Lin CC, Ome Y, Seyama Y, Troisi RI, Berardi G, Rotellar F, Wilson GC, Geller DA, Soubrane O, Yoh T, Kaizu T, Kumamoto Y, Han HS, Ekmekcigil E, Dagher I, Fuks D, Gayet B, Buell JF, Ciria R, Briceno J, **O'Rourke N, Lewin J,** Edwin B, Shinoda M, Abe Y, Hilal MA, Alzoubi M, Tanabe M, Wakabayashi G, Morise Z, Aldrighetti L, Belli G, Ratti F, Cheung TT, Lo CM, Tanaka S, Kubo S, Okamura Y, Uesaka K, Monden K. An International Retrospective Observational Study of Liver Functional Deterioration after Repeat Liver Resection for Patients with Hepatocellular Carcinoma. Cancers (Basel). 2022 May 24;14(11):2598

McGahan W, Lah K, Iyengar K, Naidu S. Benign multi-cystic peritoneal mesothelioma discovered at the time of acute appendicitis: a rare pathology in association with a common disease. ANZ J Surg. 2022 Nov;92(11):3055-3057

Brough, David, Miller, Greg, Ross, Ian, Nicholls, Wayne and **Cavallucci, David.** Laparoscopic resection of a paediatric intestinal leiomyosarcoma. (2022). Journal of Pediatric Surgery Case Reports, 79 102219.

Keynote or Plenary Lectures given in 2022

Date	Title
02 May 2022	David Cavallucci, Convener in HPB Surgery; RACS ASC 2022, Brisbane Australia

General Surgery Unit 3: Colorectal Surgery

Research highlights for the year (1 January – 31 December 2022)

The highlights for 2022 include a new randomised controlled trial in its beginning stages. This trial is comparing two anastomotic configurations for surgical treatment of Crohn's disease. The aim of which is to analyse if one configuration improves Crohn's disease recurrence. This trial is supported by a grant from the CSSANZ. It is hoped that recruitment will begin in early 2023. The pelvic exenteration service is also leading research opportunities.

Prospective studies from 2021 anastomotic checklist and drain fluid studies have completed recruitment and are now in data collation and analysis stages.

A/Professor David Clark graduated the University of Sydney with his PhD, and PhD candidate Andrew Zammit is progressing well.

Successful PhD candidates in 2022

Name	PhD Title	Month Completed	Affiliated University	Summary
David Clark	Early detection of anastomotic leak in colorectal intestinal surgery by two novel biomarkers	December 2022	The University of Sydney	The thesis focused on the measurement of drain fluid substances (biomarkers) and the association with early evidence of anastomotic leak following colorectal surgery. Themes also included assessing the long term functional outcomes of anastomotic leaks, determine colorectal surgeons' preferences for a number of adjuncts that can help reduce or mitigate the effects of anastomotic leaks and evaluate patient and health professional's preference for temporary ileostomy.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
David Clark	Colorectal Surgery	Kono S RCT	CSSANZ	\$26,350	2yrs 2022-2023
Andrew Stevenson	Colorectal Surgery	Pathway Of Low Anterior Resection syndrome relief after Surgery (POLARIS) trial	NHMRC	1.1 million	

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
David Clark	Andrew Zammit, Andrew Riddell, Julie Moore (QCCAT), Danica Cossio (QCCAT)	Management of polyps in Queensland	N/A

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
David Clark	Graham Radford-Smith , Lisa Simms (QIMRB), Martha Zakrzewski (QIMRB)	Ileal pouch microbiome: defining a pre-operative microbiological signature that predisposes to anastomotic leak	11
Jennifer Liang	Glen Kennedy ; Yaying Xu (Caboolture), Julie Moore (QCCAT); Danica Cossio (QCCAT); David Thiele (QCCAT)	Management and outcomes of gastrointestinal lymphomas in Queensland	N/A
David Clark	Damien Petersen , John Lumley, Tim Slack, Andrew Riddell, Craig Hacking , Jacobus Ungerer	Phase 2 study of efficacy: The validation of Gastrografin measurement in post surgical samples following low anterior resection where the rectal tube is flushed with Gastrografin	9
David Clark	Nicholas Smith , Ruben Rajan	Triple assessment of the anastomosis (objective anastomotic checklist): Covering the surgeon or the anastomosis?	3
David Clark	Cian Keogh , Nicholas Smith	Colonic Stenting for obstructive colorectal cancer in QLD	N/A
Michael Lonne	Anthony Croft , David Clark , Graham Radford Smith , Shin Sakata	Surgical outcomes post intensified dose infliximab for acute severe ulcerative colitis	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Nicholas Lyon	John Hooper, Andrew Riddell, Simon Puttick, David Clark	The search for new theranostic targets for colorectal cancer	N/A
Andrew Maurice	Jason Brown , Mark Smithers, David Clark , Donald Cameron	Multi-centre study: Laparoscopic appendectomy versus antibiotics for radiologically confirmed acute uncomplicated appendicitis	0
Alexander Heriot	David Clark , Chris Gillespie, Mikhail Mikhail, Raphael Vergese, Mark Doudle	Bi-National Colorectal Cancer Audit (BCCA)	N/A
Vicki Whitehall	David Clark , Matthew Burge , David Cavallucci , Kelly Olsen	The Development of Personalised Medicine Strategies for Colorectal Cancer	0
Ashley Jenkin	David Clark	Surgical outcomes in ileal Crohn's disease complicated by ileosigmoid fistula	N/A

Research Publications

Authors

Investigator	ORCID ID
Andrew Stevenson	https://orcid.org/0000-0001-5639-3526

David Clark	https://orcid.org/0000-0002-2065-3012
Andrea Warwick	https://orcid.org/0000-0003-3937-5638

Publications in 2022

Journal Articles (RBWH staff in bold)

- Byrnes A, Glen K, **Clark D**, Young A. Standardised post-operative diet upgrade process implementation barriers: conflicting responses from Australian and New Zealand survey. *Dieticians Australia* 2022
- Byrnes A, Glen K, **Clark D**, Young A. "It has to be the surgeons" Leading sustainability of post-operative diet upgrades. *Dieticians Australia* 2022
- Johnston B, **Clark D**, Warwick A. Long term outcomes of total colectomy for severe constipation. *European Society of Coloproctology* 2022
- Clark D**, Smith N, Clark I, Giddings H, **Rajan R**. Time for an Australian and New Zealand randomised controlled trial to study the modified Kono S anastomosis. *ANZ Journal of Surgery*, 2022 Dec. DOI: 10.1111/ans.17991
- Mirza W**, **Rajan R**, Petersson J, Kulendran K, Ratinam R, **Clark D**. Teardrop flap for a perianal lesion – a video vignette. *Colorectal Disease*, 2022 Jul; 24(12) 1630-1631. DOI: 10.1111/codi.16251
- Zammit A, Srinath H, Warner R, Mor I, **Clark D**. Recurrent pouch volvulus treated with robotic ventral graft pouch-pexy. *ANZ Journal of Surgery*, 2022 Dec. DOI: 10.1111/ans.18197
- Byrnes A**, **Clark D**, Glen K, Young A. Poor agreement among Australian and New Zealand clinicians is a barrier to implementation of early post-operative feeding following colorectal surgery. *ANZ Journal of Surgery*, 2022 Dec. DOI: 10.1111/ans.18007
- Zammit A, Brown I, Hooper J, **Clark D**, Riddell A. A population-based study of the management of rectal malignant polyps and the use of trans-anal surgery. *ANZ Journal of Surgery*, 2022 Jul; 92(11), 2949-2955. DOI: 10.1111/ans.17917
- Zammit A, Miller G, Satchwell J, **Clark D**. ileal Crohn's disease fistulating into a Meckel's diverticulum. *ANZ Journal of Surgery*, 2022 Feb; 92(11), 3103-3104 DOI: 10.1111/ans.18047
- Maher D**, Ting P, **Edmundson A**, Cuda T, **Clark D**. Diminishing lengths of subsequent bowel resections in the surgical management of ileal Crohn's disease. *ANZ Journal of Surgery*. 2022 Sep; 92(11), 2921-2925
- Bell S, Kong J, **Clark D**, Carne P, Skinner S, Pillinger S, Burton P, Brown W. The National Aeronautics and Space Administration-task load index: NASA-TLX: evaluation of its use in surgery, 2022 Jun; 92(11), 3022-3028. DOI: 10.1111/ans.17830
- Zammit A, Hooper J, **Clark D**, Riddell A. In comparison with polypectomy, colorectal resection is associated with improved survival for patients diagnosed with malignant polyps. *Colorectal Disease*. 2022 Oct. DOI: 10.1111/codi.16369
- Zammit A, Brown I, Hooper J, **Clark D**. Timing of surveillance colonoscopy following malignant colorectal polypectomy. *ANZ Journal of Surgery*. 2022 Oct. DOI: 10.1111/ans.18069
- Mackay I**, **Clark D**, Nicholson J, **Edmundson A**, Steffens D, Solomon M. Risk taking propensity. Nurse, surgeon and patient preferences for diverting ileostomy. *Colorectal Disease*. 2022 Apr; 24(9), 1073-1079. DOI: 10.1111/codi.16149
- Zammit A, Lyons N, Chatfield M, Hooper J, Brown I, **Clark D**, Riddell A. Patient and pathological predictors of management strategy for malignant polyps following polypectomy: a systematic review and meta-analysis. *International Journal of Colorectal Disease*. 2022; 37, 1035-1047. DOI: 10.1007/s00384-022-04142-6
- Clark D**, **Edmundson A**, Steffens D, Solomon M. Drain fluid amylase as a biomarker for the detection of anastomotic leakage after rectal resection without a diverting ileostomy. *ANZ Journal of Surgery*, 2022 Jan; 92(4), 813-818. DOI: 10.1111/ans.17461
- McGriffin T, **Clark D**, **Edmundson A**, Steffens D, **Stevenson A**, Solomon M. Surgical management and long-term functioning outcomes after anastomotic leak in patients undergoing minimally invasive restorative rectal resection and without a diverting ileostomy. 2022 Jan; 92(4), 806-812. DOI: 10.1111/ans.17475
- Clark D**, Yeoh E, **Edmundson A**, **Harris C**, **Stevenson A**, Steffens D, Solomon M. A development study of drain fluid gastrograffin as a biomarker of anastomotic leak. *Annals of Coloproctology* 2022; 38(2) 124-132. DOI: 10.3393/ac.2020.12.24
- Clark D**, **Edmundson A**, Steffens D, **Radford-Smith G**, Solomon M. Multicentre Study of Drain Fluid Amylase as a Biomarker for the Detection of Anastomotic Leakage after Ileal Pouch Surgery Without a Diverting Ileostomy. *Diseases of the Colon and Rectum*, 2022 Nov; 65(11), 1335-1341. DOI: 10.1097/dcr.0000000000002376
- Clark D**, **Stevenson A**, Lumley J, **Petersen D**, Steffens D, Solomon M. Does an ileostomy cover the surgeon or the anastomosis? *ANZ Journal of Surgery*. 2022 Feb; 92(1-2) 19-20. DOI: 10.1111/ans.17364
- Bloomfield I, Dobson B, von Papen M, **Clark D**. Incisional hernia following ileostomy closure: who's at risk? The Gold Coast experience. *ANZ Journal of Surgery*. 2022 Feb; 92(1-2) 146-150. DOI: 10.1111/ans.17359
- Sakata S**, **Lonne M**, Pappas C, **Stevenson A**. We should stand by our surgical assistants. *Techniques in Coloproctology*. 2022 Sep; 26(9), 765-766. doi: 10.1007/s10151-022-02647-4
- Beattie K, Hill A, Horswill M, Grove P, **Stevenson A**. Aptitude and attitude: predictors of performance during and after basic laparoscopic skills training. *Surgical endoscopy*, 2022 May; 36(5), 3467-3479 doi: 10.1007/s00464-021-08668-8
- Law C, **Stevenson A**, Solomon M, Hague W, Wilson K, Simes J, Morton R. ASO Author reflections: Is laparoscopic-assisted surgery more costly than traditional open resection for rectal cancer treatment? *Annals of Surgical Oncology*. 2022 Mar; 29(3) 1935-1936

General Surgery Unit 4: Upper Gastrointestinal Surgery

Research highlights for the year (1 January – 31 December 2022)

The Upper Gastro-intestinal surgical unit is one of the largest bariatric public services in the country. The unit has established a comprehensive database for bariatric surgery representing RBWH and surrounding private sites. This database and others which include oesophageal cancers provides capacity for future research, safety reporting and quality improvement.

2022 presented collaborative opportunities for our researchers; with the international-multi-centre trial SPACE-FLOT and HIPPO; a study investigating outcomes of inguinal hernias.

2023 looks optimistic for Unit 4 research, with many projects evolving from concept to well established projects.

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
David Mitchell	Dr George Hopkins, Dr Robert Finch	Outcomes in RYGB with varying limb lengths	NA
Dr Kirryn Williams	Dr David Mitchell; Dr George Hopkins; Dr Dinithi Samaratunga; Dr Geoffrey Fanning	Peri-operative Screening and Assessment of Sleep-Disordered Breathing in patients undergoing bariatric surgery: a single center experience and recommendation to improve resource allocation and outcomes	NA
George Hopkins	Georgia Taylor, Leila Sheike	Weight outcomes in primary bariatric patients complicated by severe intra-abdominal sepsis	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
David Liu (International Collaborative)	Kevin Chan	Survival and Patterns of Care in the Era of FLOT-based Chemotherapy for Gastric and Gastroesophageal Adenocarcinoma (SPACE-FLOT): An international multicentre cohort study	N/A
NIHR Global Research Unit (International Collaborative)	David Mitchell	Global Cohort Study: Hernias, Pathway and Planetary Outcomes for Inguinal Hernia Surgery (HIPPO)	N/A

Research Publications

Publications in 2022

Journal Articles (RBWH staff in bold)

Rochelle L Ryan, Dwane Jackson, **George Hopkins**, **Victoria Eley**, Rebecca Christensen, **Andre A J Van Zundert**, Steven C Wallis, **Jeffrey Lipman**, Suzanne L Parker, **Jason A Roberts**. Plasma and Interstitial Fluid Pharmacokinetics of Prophylactic Cefazolin in Elective Bariatric Surgery Patients. *Antimicrob. Agents Chemother.* 2022 Jul 19;66(7)

Louis Guy, **Rebecca Christensen**, **Ben Dodd**, Anita Pelecanos , **Kerstin Wyssusek** , **Andre Van Zundert**, **Victoria A Eley**. The effect of transnasal humidified rapid-insufflation ventilator exchange (THRIVE) versus nasal prongs on safe apnoea time in paralysed obese patients: a randomised controlled trial. *Randomized Controlled Trial Br J Anaesth.* 2022 Feb;128(2):375-381

Keynote or Plenary Lectures given in 2022

Date	Title
03 May 2022	George Hopkins; Chair of Keynote Lecture by Prof Carel Le Roux RACS ASC 2022, Brisbane Australia
02 May 2022	Kevin Chan; Convener Upper GI Surgery RACS ASC 2022, Brisbane Australia

General Surgery Unit 5: Acute Surgical Unit

Research highlights for the year (1 January – 31 December 2022)

In 2022 the Acute Surgical Unit continues to optimise the patient flow and reduce length of stay for uncomplicated acute appendicitis in patients eligible for same day discharge. Our service will evaluate the cost benefit and the patient reported experience.

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Carl Lisec	Meryem Al-Abid, Matthew Bassa, Daniel Kilburn	Same Day Discharge Post Laparoscopic Appendicectomy in an Acute Surgical Unit	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Kerstin Wyssusek	Sandra Concha Blamey, Hannah Reynolds, Makarla Stead, Christine Woods, Carl Lisec, Susan Petrie, Alison Mudge, Sharon Neilson	Acute Surgery PErioperative Collaboration Team Quality Improvement Program. The ASPECT QI.	NA

Research Publications

Authors

Investigator	ORCID ID
Jason Brown	https://orcid.org/0000-0002-8386-1118

General Surgery Unit 6: Trauma Service

Research highlights for the year (1 January – 31 December 2022)

The Trauma Unit's strong collaborations with Jamieson Trauma Institute, QUT (Centre of Healthcare Transformation, School of Information Systems and School of Creative Practice), (Australian Centre for Health Services Innovation AusHSI), UQ (Trauma Science Group, Australian Institute of Bioengineering and Nanotechnology AIBN and Translational Research Institute TRI) and other QH research groups, such as Gold Coast Health and State-wide Trauma Clinical Network – Research group positions the unit in a unique position for innovative research opportunities.

A successful Metro North Collaborative Research Grant 2022 supported the evaluation of the RBWH Trauma Service changing from a consultative to admitting service.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Moe Thandar Wynn, Arthur ter Hofstede, Robert Andrews, Kirsten Vallmuur , Emma Bosley, Stephen Rashford, Clinton Gibbs, Michael Schuetz , Martin Wullschlegler	Jamieson Trauma Institute	Road Trauma: Modelling the Patient Journey from Pre-hospital Triage to Outcome Using Process Mining	Motor Accident Insurance Commission	\$325,790	3yr, 2020-2023
Frances Williamson , Zephania Tyack, Victoria McCreanor , Martin Wullschlegler , Jacelle Warren , Michael Handy , Steven McPhail	Trauma Service, Jamieson Trauma Institute	Value-based trauma care: understanding the cost, effect and implementation of an innovative specialist-led multidisciplinary trauma admitting service	Metro North Health Collaborative Research Grants	\$49,913.54	2yrs, 2021-2023

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Natasha Abeysekera	Elizabeth Vujcich , Linzy Keegan , David Sidhom , Craig Hacking , Martin Wullschlegler	Thromboembolic Events in patients presenting with trauma: a retrospective review of cases at a tertiary trauma centre	N/A

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Martin Wullschleger	Emma McCabe, Michael Muller, Kimberley Barker, Jeffrey Lau, Jodie Ross	Does Surgical Stabilization of multiple displaced rib fractures and flail chest improve clinical outcomes for patients? A level I trauma centre cohort matched study.	N/A
Frances Williamson	Helena Franco	Exploring the value of clavicle fixation in trauma patients with associated chest wall injuries	N/A
Natasha Abeysekera	Elizabeth Vujcich , Roger Bain, Daniel Kilburn, Martin Wullschleger, David Cavallucci	Hepatic Embolisation: A retrospective review of cases at a single tertiary trauma facility	N/A
Michael Rudd	Barry O'Loughlin	Does time delay to definitive fracture stabilization and or soft tissue coverage affect outcomes in tibial and or fibular fractures?	N/A
Michael Rudd	Barry O'Loughlin	Does time delay to surgery affect outcomes in Acute Unstable Spinal Fractures?	N/A
Michael Rudd	Barry O'Loughlin	Does time delay to surgery affect outcomes in femoral fractures?	N/A
Michael Rudd	Barry O'Loughlin	Does time delay to surgery affect outcomes in Acetabular and Pelvic Ring Fractures	N/A
Michael Rudd	Barry O'Loughlin	Does waiting longer than the recommended emergency surgery triage categorization time affect outcomes in acute and emergency surgical Patients?	N/A
Michael Rudd	Barry O'Loughlin	Does time delay to surgery affect outcomes in Blunt Hollow Visceral Injuries?	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Daniel Bodnar	Michael Handy, Martin Wullschleger	External Validation of a Modified Fibrinogen on Admission in Trauma (Modified FibAT) on a retrospective cohort of Australian trauma patients	
Frances Williamson	Victoria McCreanor, Zephania Tyack, Jacelle Warren, Michael Handy, Martin Wullschleger	Clinical, operational and health cost outcomes pre- and post-implementation of trauma service in major trauma centre	10 clinical staff and 5 consumers
	Martin Wullschleger , Bhavik Patel	The incidence of Stabilization of Rib Fractures (SSRF) at Centers Recognized for Excellence in the Management of Chest Wall Injury	N/A
Robert Andrews	Kirsten Vallmuur, Emma Bosley, Martin Wullschleger , Stephen Rashford, Arthur ter Hofstede, Michael Schuetz	MAIC / QAS / RSQ – Road Trauma: Modelling the Patient Journey from pre-hospital triage to outcome using process mining	N/A
Robert Andrews	Moe Wynn, Arthur ter Hofstede, Kirsten Vallmuur, Emma Bosley, Adam Rolley, Martin Wullschleger , Clinton Gibbs	Process Analysis of Trauma Activation in Queensland Hospitals	N/A

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Cate Cameron	Jacelle Warren, Michael Muller, Michael Rudd	Epidemiology of burns patients admitted to the state-wide Adults Burns Service in Queensland: A 10year review	N/A
Cate Cameron	Maura Desmond, Michael Rudd , Cliff Pollard, Kerriane Watt	A retrospective analysis of data collected from the P.A.R.T.Y. (Prevent Alcohol and Risk-Related Trauma in Youth) program 2010-2018	N/A

Research Publications

Authors

Investigator	ORCID ID
Martin Wullschleger	https://orcid.org/0000-0002-4452-4282
Frances Williamson	https://orcid.org/0000-0002-5476-1791

Publications in 2022

Journal Articles (RBWH staff in bold)

Frances Williamson, Catherine Lawton, Martin Wullschleger, Outcomes in traumatic cardiac arrest patients who underwent advanced life support. *Emergency Med Aust* 2022. Oct 11

Sawyer E, **Wullschleger M, Muller N, Muller M**. Surgical Rib Fixation of Multiple Rib Fractures and Flail Chest: A Systematic Review and Meta-analysis. *J Surg Res*. 2022 Aug;276:221-234

Marasco SF, Balogh ZJ, **Wullschleger ME**, Hsu J, Patel B, Fitzgerald M, Martin K, Summerhayes R, Bailey M. Rib fixation in non-ventilator-dependent chest wall injuries: A prospective randomized trial. *J Trauma Acute Care Surg*. 2022 Jun 1;92(6):1047-1053

Daniel Bodnar, Lachlan Parker, Matthew Meister, Glenn Ryan, Stephen Rashford, **Martin Wullschleger**, Alfred K Lam, Emma Bosley. Correlation of prehospital point-of-care international normalized ratio to laboratory-based international normalized ratio in acute traumatic coagulopathy

Mackie BR, Weber S, Mitchell ML, Crilly J, Wilson B, **Handy M, Wullschleger M**, Sharpe J, McCaffery K, Lister P, Boyd M, Watkins N, Ranse J Chemical, Biological, Radiological, or Nuclear Response in Queensland Emergency Services: A Multisite Study. *Health Secur*. 2022 May-Jun;20(3):222-229.

Shane George, Elizabeth Wake, Melanie Jansen, John Roy, Sharon Maconachie, Anni Paasiltahti 10, Greg Wiseman, Kristen Gibbons, James Winearls; FEISTY Investigators (inc. **Martin Wullschleger**.) Fibrinogen Early In Severe paediatric Trauma studY (FEISTY junior): protocol for a randomised controlled trial. *BMJ Open* 2022 May 4.; 12 (5)

Heathcote K, Devlin A, McKie E, Cameron P, Earnest A, Morgan G, Gardiner B, Campbell D, Wullschleger M, Warren J. Rural and urban patterns of severe injuries and hospital mortality in Australia: An analysis of the Australia New Zealand Trauma Registry: 2015-2019. *Injury*. 2022 Jun;53(6):1893-1903.

Joarder M, Nouredine El Moussaoui H, **Das A, Williamson F, Wullschleger M**. Impact of time and distance on outcomes following tourniquet use in civilian and military settings: A scoping review. *Injury*. 2023 Jan 18:S0020-1383(23)00036-0.

Rob Boots George Xue , Dirk Tromp , Oliver Rawashdeh , Judith Bellapart , Shane Townsend , **Michael Rudd** , Craig Winter, Gary Mitchell, Nicholas Garner, Pierre Clement, Nermin Karamujic, Christopher Zappala. Circadian Rhythmicity of Vital Signs at Intensive Care Unit Discharge and Outcome of Traumatic Brain Injury. *Am J Crit Care* 2022. Nov 1; 31(6) 472-482

Journal Articles (RBWH staff in bold)

Frances Williamson, Sarah Collins, Anja Dehn, Shaela Doig. Vascular injury is an infrequent finding following non fatal strangulation in two Australian trauma centres. *Emerg Med Australas*. 2022 Apr;34(2):223-229

Frances Williamson, Jacelle Warren, Cate M Cameron. Rib fractures in blunt chest trauma: factors that influence daily patient controlled opiate use during acute care. *Injury*. 2022 Jan;53(1):145-151.

Bodnar D, Stevens Z, Williams S, **Handy M**, Rashford S, Brown NJ. Hypofibrinogenaemia and hypocalcaemia in adult trauma patients receiving pre-hospital packed red blood cell transfusions: Potential for supplementary pre-hospital therapeutic interventions.. *Emerg Med Australas*. 2022 Jun;34(3):333-34

Cameron CM, Eley R, Judge C, O'Neill R, **Handy M**. Did attending P.A.R.T.Y. change youth perceptions? Results from 148 Queensland schools participating in the Prevent Alcohol and Risk-Related Trauma in Youth Program, 2018-2019. *Inj Prev*. 2022 Jun;28(3):218-224.

Isidora De la Cruz Garcia, Martin Wullschleger. Extensive traumatic anterior chest wall injury including type I manubriosternal dislocation. *Trauma case report* 40; 100669.

Paratz JD, **Warren J**, Paratz E, Watt K, Corte-Real V, **Muller MJ, Cameron CM**. Cardiovascular mortality post burn injury. *J Trauma Acute Care Surg*. 2022

Keynote or Plenary Lectures given in 2022

Date	Title
02 Sep 2022	Martin Wullschleger: Co-Chair Changes, Challenges and Solutions in Current Trauma Care. 2022 Trauma Conference, Brisbane Australia
02 Sep 2022	Michael Handy: Free Papers; Trauma Conference, Brisbane Australia
03 Sep 2022	Michael Muller: Co-Chair Trauma Education and Training. 2022 Trauma Conference, Brisbane Australia
04 Sep 2022	Martin Wullschleger: Co-Chair Innovation, emerging trends and solutions in trauma care - case reviews and debates with the multidisciplinary team. Trauma Conference, Brisbane Australia

Oral & Maxillofacial Unit

Research highlights for the year (1 January – 31 December 2022)

The RBWH OMFS unit had an active research year on 2022. Our ongoing participation in the COVID collaborative surgical studies saw a number of high impact publications. Clinical trials were ongoing and animal trials in collaboration with the Herston Biofabrication Institute and UQ were productive.

We have a number of ongoing research postgraduate students.

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Martin Batstone	Brett Hughes, QIMR	Immune Biomarker Evaluation in Oral Mucosal Squamous Cell Carcinoma	~15

Research Publications

Authors

Investigator	ORCID ID
Martin Batstone	https://orcid.org/0000-0002-9058-9976
Gary Brierly	https://orcid.org/0000-0001-8729-0343

Publications in 2022

Journal Articles (RBWH staff in bold)

Tang KD, Weeramange CE, Vider J, Hartel G, West NP, McMillan NAJ, **Batstone MD**, Liu Z, Vasani S, Kenny L, Punyadeera C. Potential use of salivary mRNA-based biomarkers to predict oral squamous cell carcinoma. *Oral Oncol.* 2022 Dec;135:106215. doi: 10.1016/j.oraloncology.2022.106215. Epub 2022 Oct 20. PMID: 36274347.

Tuckett J, Brierly GI, Tong J, McGowan K, Ramalingam L, **Batstone MD**. Do Post-injury Prophylactic Antibiotics Reduce Infection for Isolated Midface Fractures: A Cohort Study. *J Oral Maxillofac Surg.* 2022 Nov;80(11):1769-1776. doi: 10.1016/j.joms.2022.07.136. Epub 2022 Aug 8. PMID: 36002037.

Fotopoulou C, Khan T, Bracinik J, Glasbey J, Abu-Rustum N, Chiva L, Fagotti A, Fujiwara K, Ghebre R, Gutelkin M, Konney TO, Ng J, Pareja R, Kottayasamy Seenivasagam R, Sehoul J, Surappa STS, Bhangu A, Leung E, Sundar S; CovidSurg Gynecological Cancer Collaborators. Outcomes of gynecologic cancer surgery during the COVID-19 pandemic: an international, multicenter, prospective CovidSurg-Gynecologic Oncology Cancer study. *Am J Obstet Gynecol.* 2022 Nov;227(5):735.e1-735.e25. doi: 10.1016/j.ajog.2022.06.052. Epub 2022 Jun 30. PMID: 35779589; PMCID: PMC9242690.

COVIDSurg Collaborative. The impact of surgical delay on resectability of colorectal cancer: An international prospective cohort study. *Colorectal Dis.* 2022 Mar 14;24(6):708–26. doi: 10.1111/codi.16117. Epub ahead of print. PMID: 35286766; PMCID: PMC9322431.

Journal Articles (RBWH staff in bold)

COVIDSurg Collaborative; GlobalSurg Collaborative. SARS-CoV-2 infection and venous thromboembolism after surgery: an international prospective cohort study. *Anaesthesia*. 2022 Jan;77(1):28-39. doi: 10.1111/anae.15563. Epub 2021 Aug 24. PMID: 34428858; PMCID: PMC8652887.

Ali T, Keenan J, **Mason J**, Hseih JT, **Batstone M**. Prospective study examining the use of thrombin-gelatin matrix (FloSeal) to prevent post dental extraction haemorrhage in patients with inherited bleeding disorders. *Int J Oral Maxillofac Surg*. 2022 Mar;51(3):426-430. doi: 10.1016/j.ijom.2021.07.018. Epub 2021 Aug 13. PMID: 34400026.

NIHR Global Health Unit on Global Surgery; COVIDSurg Collaborative. Elective surgery system strengthening: development, measurement, and validation of the surgical preparedness index across 1632 hospitals in 119 countries. *Lancet*. 2022 Nov 5;400(10363):1607-1617. doi: 10.1016/S0140-6736(22)01846-3. Epub 2022 Oct 31. PMID: 36328042; PMCID: PMC9621702.

Ewing sarcoma of the facial soft tissues- a case report. B. Knight, **G. Brierly**, G. Dimitroulis. *Journal of Surgical Case reports* 2022.

Orthopaedics

Research highlights for the year (1 January – 31 December 2022)

The Royal Brisbane and Women's Hospital continues to be widely acknowledged for their outstanding efforts towards education and research related to Orthopaedic Surgery. The members of the Department are as a cohesive unit able to provide not only the highest level of clinical care in the field, but are also simultaneously contributing academically through research recognised internationally as of the highest calibre, with a particular focus on trauma, the reconstruction of bone defects, and the treatment of implant-related infections. This is in part due to the creation and implementation of a dedicated Multi-disciplinary Device Related Infection Team (mDRIFT), and this is expected to flourish as the unit matures. The Department is fortunate enough to have established very close affiliations with the Jamieson Trauma Institute (JTI), the Herston Imaging Research Facility (HIRF), and the Herston Biofabrication Institute (HBI), further enhancing their capacity to conduct clinically meaningful research that is objectively regarded as world leading. As has been true of the entirety of the past decade, this activity is reflected in the impressive breadth and depth of the academic productivity of the Department, again resulting in more than 20 publications that were collectively generated and published over the course of 2022.

The most notable events in 2022 included **Andrew Foster** again being recognised for his efforts and achievements in orthopaedic research, as he was once more presented with the Australian national orthopaedic registrar research award for the second consecutive year (both 2021 and 2022). Furthermore, he was also awarded the Damien McMahon RACS Prize for Trauma Research in 2022, judged with respect to all specialties and not just orthopaedics. In addition, he was presented with the Bill Crawford Basic Science Resident Research Award by the Queensland Branch of the Australian Orthopaedic Association (AOA) in 2022, marking the second consecutive year Dr Foster has also won this prestigious award. Finally, **A/Professor Kevin Tetsworth** was recognised as the AOA Orthopaedic Researcher of the Year at the Australian Orthopaedic Association Annual Scientific Meeting in October of 2022. He joins another member of the current Department of Orthopaedic Surgery at the Royal Brisbane and Women's Hospital, **Professor Michael Schuetz**, who was a prior recipient of this same award in 2014.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Kevin Tetsworth	AOA Orthopaedic Researcher of the Year	2022 Australian Orthopaedic Association Annual Scientific Meeting (Queenstown, NZ), October 2022
Andrew Foster	Bill Crawford Basic Science Resident Research Award	QLD Australian Orthopaedic Association Annual Scientific Meeting, September 2022

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Kevin Tetsworth , Vaida Glatt, Anna Woloszyk (University of Texas, San Antonio)	Orthopaedic Surgery	Biological activity of human induced membranes in bone defects: Correlation of an in vitro analysis with clinical outcomes, comparing femoral and tibial locations	Orthopaedic Trauma Association (North America)	\$80,000 (United States dollars)	2 yrs, 2021-2022

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
William O'Callaghan, Paul Chapman, Kevin Tetsworth, Gerrit van de Pol, Grant Menegon (Cairns), Steve Nicol (Townsville)	Orthopaedic Surgery (RBWH, Cairns, Townsville)	TAAFS: Topical antibiotics in ankle fracture surgery (pilot)	Queensland Orthopaedic Research Foundation	\$5,998	4 yrs, 2021-2024
Ash Wadhawan, Schmutz B (QUT), Bourgeat P, Fripp J (CSIRO), Tetsworth K, Schuetz MA	Orthopaedic Surgery	Development of an Artificial Intelligence screening system to identify patients requiring a CT scan following distal radius fractures	Royal Research Foundation Grant	\$40,000	3 yrs, 2021-2023

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title		Number of RBWH Patients Recruited in 2022
Trevor Gervais	Paul McEniery, Michael Schuetz , Katie McMahon (HIRF), Michael O'Sullivan (HIRF), Robert Henderson , Nyoman Kurniawan (UQ), Jin Jin (Siemens Healthcare), Esther Jacobson (JTI)	Use of advanced MRI to diagnose brachial plexus injuries and inform surgical intervention	5	5
Ash Wadhawan	Tetsworth K , Schmutz B (QUT), Bourgeat P, Fripp J (CSIRO), Schuetz MA	Development of an Artificial Intelligence screening system to identify patients requiring a CT scan following distal radius fractures	600	600

Lead Investigator (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2021	Total number of RBWH Patients Recruited
Trevor Gervais	Paul McEniery, Michael Schuetz , Katie McMahon (HIRF), Michael O'Sullivan (HIRF), Robert Henderson , Nyoman Kurniawan (UQ), Jin Jin (Siemens Healthcare), Esther Jacobson (JTI)	Use of advanced MRI to diagnose brachial plexus injuries and inform surgical intervention	5	5
Ash Wadhawan	Tetsworth K , Schmutz B (QUT), Bourgeat P, Fripp J (CSIRO), Schuetz MA	Development of an Artificial Intelligence screening system to identify patients requiring a CT scan following distal radius fractures	600	600
Chris Conyard	Gerrit van de Pol, Kevin Tetsworth, Luca Danielle	SIN Trial: Randomised controlled trial comparing clinical outcomes (including knee pain) in supra-patellar vs infra-patellar nailing of tibial shaft fractures	0	88
Kevin Tetsworth	Nicholas Jorgensen, Gerrit van de Pol, Zhenya Welyczko, Paul Chapman , Matthew Hope, Chris Jardim , Kanika Jain, Carly Fox, Fran Patterson, Molly Freyling, Ahmed Mahmoud	Management of open fractures, assessing: (a) the severity of bone loss; (b) types of soft tissue coverage employed; (c) methods used for skeletal reconstruction; and (d) incidence of infection	0	718
Gerrit van de Pol	Jon Kinyanjui Peter Jenvey, Macey Lu	SOLTAR: Short or long tunnel ACL reconstruction (randomised controlled trial, high resolution MRI assessment of incorporation of ACL grafts in bone tunnels in the femur and tibia)	53	53
Gerrit van de Pol	Jon Kinyanjui, James Brown	SOLTAR2: Short or long tunnel ACL reconstruction (randomised controlled trial, clinical outcomes comparing different surgical techniques)	53	53
Kevin Tetsworth	Gerrit van de Pol, Henry Burnand	Validation of a classification scheme for tibial plateau fracture malunions and nonunions	7	36
Kevin Tetsworth	Gerrit van de Pol, Thomas Crookes, Seung-Min Youn	Clinical outcomes following less invasive ORIF of displaced fractures of the scapula and glenoid neck	6	34

Lead Investigator (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2021	Total number of RBWH Patients Recruited
Nicholas Jorgensen	Zhenya Welyczko, Gerrit van de Pol, Kevin Tetsworth , Molly Freyling, Benjamin Davies	Formal validation of the bone defect classification scheme for open fractures	43	43
Gerrit van de Pol	Panagiotis Barlas (JTI), Michael Schuetz, Richard Hanly , Silvia Manzanero (JTI), Esther Jacobson (JTI), Michelle McGrath, Christopher Smith	SMART-Ankle: Streamlining Management and Rehabilitation with Technology for Ankle fractures (feasibility trial)	1	1
Kevin Tetsworth	Gerrit van de Pol, Ryan Beattie , Ibin Varughese (QUT), Vaida Glatt (University of Texas, San Antonio), Michael Schuetz	Clinical efficacy of the Masquelet induced membrane technique for the reconstruction of long bone defects	15	89
Kevin Tetsworth	Deniz Erbulut (HBI), Nicholas Green (HBI) , Caroline Grant	"Bringing balance to the force" via structural optimization of fracture fixation: Optimised locking plate screw configurations for comminuted distal femur fractures with major bone loss, evaluated through finite element modelling	0	0
Kevin Tetsworth	Luke Visscher, Cathal McCarthy, Jordy White	Unicompartmental degenerative arthrosis of the knee associated with malunions correlates closely with lower limb coronal plane malalignment	27	27
Kevin Tetsworth	Mathew Davis, Owen O'Neill, Luca Danielle, Nicholas Green	Estimating bone defect size using the fluid volume technique (Archimedes' method)	6	6
Kevin Tetsworth	Nicholas Green (HBI) , Greg Barlow, Miran Stubican, Frode Vindenes, Vaida Glatt (University of Texas, San Antonio)	Fractures and macroscopic acute osteochondral injuries of the talar dome associated with pilon fractures	0	104
Nicholas Green (HBI)	Deniz Erbulut (HBI), Kevin Tetsworth , Luke Kelly (UQ), Peter Pivonka (QUT), Donald Anderson (University of Iowa), Kevin Dibbern (University of Iowa), Todd McKinley (Indianapolis)	Biomechanical investigations of tibial pilon fractures and the impact on the talar dome	0	90
Deniz Erbulut (HBI), David Forrestal (HBI)	Kevin Tetsworth, Nicholas Green (HBI) , Pascal Buenzli (QUT), Nicolas Soro (UQ), Yuheng Wang, Lut In Tam,	Multi-faceted approach to modelling continuously curved lattices to enhance bone ingrowth (biomimetic	0	0

Lead Investigator (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2021	Total number of RBWH Patients Recruited
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Aravind Payyappatt, Jared Walker designs using an alternative unit cell, the hexanoid)

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022	
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William O'Callaghan (Cairns)	Paul Chapman, Kevin Tetsworth, Gerrit van de Pol, Grant Menegon (Cairns), Steve Nicol (Townsville)	TAAFS: Topical antibiotics in ankle fracture surgery	0	0
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Vaida Glatt, PhD (University of Texas, San Antonio)	Kevin Tetsworth, Anna Woloszyk, PhD (University of Texas, San Antonio)	Biological activity of human induced membranes in bone defects: Correlation of an in vitro analysis with clinical outcomes, comparing femoral and tibial locations	15	89
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Publications in 2022

Journal Articles (RBWH staff in bold)

Rhee SM, **Youn SM**, Park JH, Chang GW, Rhee YG. The scissors sign: a provocative test for detecting the leading-edge tear of subscapularis tendon: a diagnostic study. BMC Musculoskelet Disord. 2022 Jul 16;23(1):679. doi: 10.1186/s12891-022-05621-1. PMID: 35842588; PMCID: PMC9288008.

Boot W, **Foster AL**, Guillaume O, Eglin D, Schmid T, D'Este M, Zeiter S, Richards RG, Moriarty TF. An Antibiotic-Loaded Hydrogel Demonstrates Efficacy as Prophylaxis and Treatment in a Large Animal Model of Orthopaedic Device-Related Infection. Frontiers in Cellular and Infection Microbiology. 2022: 427.

Li C, **Foster AL**, Han NH, Trampuz A, **Schuetz M**. A bibliometric analysis of clinical research on fracture-related infection. BioMed research international. 2022 Apr 14; 2022.

Windolf M, **Schuetz M**, inventors; AO Technology AG, assignee. Device for correcting unbalanced growth plate activity and for orthodontic applications. United States patent US 11,376,048. 2022 Jul 5.

Windolf M, **Schuetz M**, inventors; Synthes GmbH, assignee. Surgical power drill including a measuring unit suitable for bone screw length determination. United States patent US 11,478,255. 2022 Oct 25.

Sarai H, Schmutz B, **Schuetz M**. A simple method to improve detection of femoral nail abutment in the distal femur: a computer modeling study. Clinical Orthopaedics and Related Research. 2022 Jul 1; 480(7): 1414-22.

Jorgensen NB, Freyling M, Welyczko Z, Davies BM, Van De Pol GJ, **Tetsworth K**. Validation of a proposed radiographic bone defect classification system. Injury 2022 Oct 1; 53(10): 3282-3288.

Hohmann E, **Tetsworth K**. Arthroscopic treatment and subacromial decompression of calcific tendinitis without removal of the calcific deposit results in rapid resolution of symptoms and excellent clinical outcomes in commercial airline pilots and cabin crew. Archives of Orthopaedic and Trauma Surgery. 2022 Feb 17:1-8.

Hoellwarth JS, **Tetsworth K**, Akhtar MA, Al Muderis M. The clinical history and basic science origins of transcutaneous osseointegration for amputees. Advances in Orthopedics 2022; 2022.

- Akhtar MA, Hoellwarth JS, **Tetsworth K**, Oomatia A, Al Muderis M. Osseointegration following transfemoral amputation after infected total knee replacement: A case series of 10 patients with a mean follow-up of 5 years. *Arthroplasty Today*. 2022 Aug 1; 16:21-30.
- Hoellwarth JS, **Tetsworth K**, Akhtar MA, Oomatia A, Al Muderis M. Motorized intramedullary lengthening followed by osseointegration for amputees with short residual femurs: An observational cohort study. *J Limb Lengthening and Reconstruction* 2022; 8 (2): 93-102.
- Chavan AS, Al Muderis M, **Tetsworth K**, Rustamov ID, Hoellwarth JS. Residual amputee limb segment lengthening: A systematic review. *J Limb Lengthening and Reconstruction* 2022; 8 (1): 3-11.
- Hoellwarth JS, **Tetsworth K**, Akhtar MA, Oomatia A, Al Muderis M. Transcutaneous osseointegration for oncologic amputees with and without radiation therapy: An observational cohort study. *J Limb Lengthening and Reconstruction* 2022; 8 (1): 32-39.
- Hohmann E, **Tetsworth K**, Pieterse R. The test-retest reliability of the Pieterse protocol return to flight assessment for cabin crew. *Aerosp Med Hum Perform* 2022 Jul 1; 93(7): 551-556. doi: 10.3357/AMHP.6007.2022. PMID: 35859305.
- Hoellwarth JS, **Tetsworth K**, Oomatia A, Akhtar MA, Xu H, Al Muderis M. Association between osseointegration of lower extremity amputation and mortality among adults. *JAMA Network Open*. 2022 Oct 3;5(10): e2235074. doi: 10.1001/jamanetworkopen.2022.35074. PMID: 36227599; PMCID: PMC9561949.
- Hohmann E, Keough N, Glatt V, **Tetsworth K**. Surgical treatment of proximal humerus fractures: a systematic review and meta-analysis. *Eur J Orthop Surg Traumatol*. 2022 Dec 1. doi: 10.1007/s00590-022-03436-3. PMID: 36454289.
- Low J, Akhtar MA, Walmsley P, Hoellwarth JS, Al-Muderis M, **Tetsworth K**. Systematic review of outcomes following knee arthrodesis for failed total knee arthroplasty. *Orthopaedic Proceedings. The British Association for Surgery of the Knee (BASK) May 2022 Meeting, Newport, Wales 17-18 May 2022; 104-B, Supp 7*.
- American Academy of Orthopaedic Surgeons/METRC Prevention of Surgical Site Infection After Major Extremity Trauma Clinical Practice Guideline (published online 21 March 2022); Goldman A, **Tetsworth K**, Pour AE, Ricchetti E, Harrison R, Patel R, Tileston K, Joshi M, O'Toole R, Gross C, Della Rocca G, Kandemir U, Obremsky W, Castillo R, Chen A. (<https://www.aaos.org/SSITraumaCPG>).
- American Academy of Orthopaedic Surgeons/METRC Prevention of Surgical Site Infection After High Energy Trauma Appropriate Use Criteria (published online 21 March 2022); Goldman A, **Tetsworth K**, Pour AE, Ricchetti E, Harrison R, Patel R, Tileston K, Joshi M, O'Toole R, Gross C, Della Rocca G, Kandemir U, Obremsky W, Castillo R, Tedesco N, Huston J, Reitman C, Renninger C, Aggarwal V, Steinhoff A, Wong W, Strelzow J, Leslie M, Adams J, Barbari E, Huh J, Bosse MJ, Weaver M, Firoozabadi R, Aneja A, Tatman L, Spitler C, Mullis B, Morshed S, Chen A. (https://www.orthoguidelines.org/go/auc/default.cfm?auc_id=225052&actionxm=Terms).

Keynote or Plenary Lectures given in 2022

Date	Title
9 June 2022	51 st Malaysian Orthopaedic Association Annual Scientific Meeting (Kuala Lumpur) Subir Sengupta Memorial Lecture Kevin Tetsworth "The Evolution of Limb Salvage and Reconstruction Over 75 Years: Achieving the Dream?"

Research Group / Department Name: Trauma

Research highlights for the year (1 January – 31 December 2022)

The Trauma Unit's strong collaborations with Jamieson Trauma Institute, QUT (Centre of Healthcare Transformation, School of Information Systems and School of Creative Practice), AusHSI (Australian Centre for Health Service Innovation), UQ (Trauma Science Group, Australian Institute of Bioengineering and Nanotechnology AIBN and Translational Research Institute TRI) and other QH research groups, such as Gold Coast Health and State-wide Trauma Clinical Network – Research group positions the unit in a unique position for innovative research opportunities.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Frances Williamson Martin Wullschleger Michael Handy	Trauma Service/QUT	Value-based trauma care: understanding the cost, effect and implementation of an innovative specialist-led multidisciplinary trauma admitting service	Recipient Metro North Collaboration Grant	\$49,913.54	2022-2023

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Frances Williamson	Martin Wullschleger, Michael Handy	Value-based trauma care: understanding the cost, effect and implementation of an innovative specialist-led multidisciplinary trauma admitting service	

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Franco H	Williamson F , Manzanero S, Schuetz M.	RACS Annual Scientific Conference oral presentation 2022. Clavicle fixation to reduce analgesic requirements in trauma patients with associated chest wall injuries- a retrospective matched cohort study.	62
Eu K	Williamson F .	Herston Health Precinct Symposium Poster presentation 2022. A retrospective review of right upper quadrant pain presentations and the contributing factors to inpatient imaging and surgical intervention.	169

Research Publications

Authors

Investigator	ORCID ID
Frances Williamson	0000-0002-5476-1791

Publications in 2022

Journal Articles (RBWH staff in bold)

Williamson F, Lawton C, Wullschleger M. Outcomes in traumatic cardiac arrest (TCA) patients that underwent advanced life support. Emerg Med Australas. Accepted online publication Oct 2022. doi: 10.1111/1742-6723.14096

Williamson F, Warren J, Cameron CM. Rib fractures in blunt chest trauma: factors that influence daily patient-controlled opiate use during acute care. Injury. 2022; 53(1):145-151.

Urology Department

Research highlights for the year (1 January – 31 December 2022)

The Urology Department continued to grow and strengthen across 2022, despite a slow start due to COVID-19 influence. We welcomed Karina Lewis as our Urology Research Co-Ordinator, who alongside our Urology Research Nurse, provide clinical trials and research support and enable our wider participation in important, national trials. Our part-time PHO position with research interest continued to flourish, with 9 manuscripts from current and former PHOs across 2022, setting them up well for specialty program selection and training while answering important clinical questions. Involvement with HBI has further matured with clinical integration of PET/MRI fusion for prostate biopsy and 3D modelling and printing for complex robotic and other surgery.

In conjunction with UQCCR, we hosted Dr Veeru Kasivisvanathan, an Academic Urologist from University College London & Peter MacCallum Cancer Centre Melbourne, who provided us with his insights into MRI-based prostate cancer pathway and international collaborative research. The Urology Department also showcased the innovative clinical care and research through multiple plenary talks across a range of topics at the USANZ Northern Section Meeting.

Publication outputs were strong, with particular note of the strong collaboration between Urology, Infectious Diseases and Microbiology with the Herston Infectious Diseases Institute (HEIDI) forged from the Complex UTI MDT and associated grant funding. Urology Department members were invited speakers at national conferences, while A/Prof Yaxley (Journal of Pathology) and A/Prof M Roberts (BJU International) continue their Editorial Board Membership and active peer reviewer activities. Matthew Roberts received an academic promotion to Associate Professor through The University of Queensland.

Current RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Matthew Roberts	A/Prof John Yaxley, A/Prof David Pattison, A/Prof Paul Thomas, Dr Natasha Roberts, Anita Pelecanos, Dr Ian Vela.	Staging of aggressive prostate cancer "invisible" to PSMA PET with FDG PET: The <u>EDG</u> PET for <u>IN</u> visible <u>D</u> isease (FIND) Trial	18
Matthew Roberts, Dr Patrick Harris	Dr Sumudu Britton, Dr David Paterson, Dr Bianca Graves, Dr Johanna Mayer-Coverdale, Brian Forde, Scott Beatson	Precision-medicine approach to complex urinary tract infections.	8
Matthew Roberts	A/Prof John Yaxley, Dr Rachel Effeney, Natasha Roberts, Prof Louise Emmett (UNSW, Co-PI), DIPPER steering committee	De-Intensification of Post Prostatectomy Radiotherapy (DIPPER) incorporating clinical and imaging-based risk stratification	0
John Yaxley	A/Prof Matthew Roberts, A/Prof Haitham Tuffaha	Assessing Transition to Local Anaesthetic Sampling (ATLAS) for prostate biopsy using the PrecisionPoint Transperineal Access System device	0

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Prof Paul Hodges (UQ)	Ryan Stafford, Natasha Roberts	Efficacy of a personalised pelvic floor muscle training programme on urinary incontinence after radical prostatectomy (MaTchUP)	36

Research Publications

Authors

Investigator	ORCID ID
Matthew Roberts	https://orcid.org/0000-0003-0552-7402
Rachel Esler	https://orcid.org/0000-0001-7743-4841
Anojan Navaratnam	https://orcid.org/0000-0003-4684-0235
Natasha Roberts	https://orcid.org/0000-0003-0534-8084
Adam Pearce	https://orcid.org/0000-0001-9438-1008
John Yaxley	N/A
Nigel Dungalison	N/A

Publications in 2022

Journal Articles (RBWH staff in bold)

Arnfield EG, **Roberts MJ**, **Pattison DA**. Lymph node classification in E-PSMA reporting guidelines for PSMA-PET Eur J Nucl Med Mol Imaging 2022; 50(1):8-9.

Emmett L, Papa N, Buteau J, Ho B, Liu V, **Roberts MJ**, Thompson J, Moon D, Sheehan-Dare G, Alghazo O, Agrawal S, Murphy D, Stricker P, Hope TA, Hofman M. The PRIMARY Score: Using intra-prostatic PSMA PET/CT patterns to optimise prostate cancer diagnosis. *J Nucl Med* 2022. 63(11):1644-1650

Emmett L, **Pattison D**, **Roberts MJ**. All Prostate-specific Membrane Antigen Peptides Are Equal, but Some Are More Equal than Others. *Eur Urol Oncol* 2022; 5(3):283-284.

Kwok M, McGeorge S, Mayer-Coverdale J, Graves B, **Paterson DL**, Harris PNA, **Esler R**, Dowling C, **Britton S**, **Roberts MJ**. Guideline of guidelines: Management of recurrent urinary tract infections in women. *BJU Int*. 2022. 130 Suppl 3:11-22

Kwok M, McGeorge S, **Roberts MJ**, Somani B, Rukin N. Mineral content variations between Australian tap and bottled water in the context of urolithiasis. *BJU Compass* 2022. 3(5), 377-382

Kwok M, Yaxley W, Ranasinghe S, **Morton L**, Perera S, Ponon K, Pelecanos A, **Britton S**, Harris P, **Paterson D**, **Esler R**, Hussey D, **Yaxley J**, **Roberts MJ**. Determining risk factors for symptomatic urinary tract infection following trial of void: A retrospective analysis. *J Clin Urol (in press)*

Iczkowski KA, Molina M, ..., **Yaxley J**, ..., **Roberts MJ**, et al. Low-Grade Prostate Cancer Should Still be Labeled Cancer. *BJU Int*. 2022; 130(6):741-743.

Morton A, Tariq A, **Dungalison N**, **Esler R**, **Roberts MJ**. Etiology and management of urethral calculi: a systematic review of contemporary series. *Asian J Urol (in press)*

Journal Articles (RBWH staff in bold)

Ong S, Chen K, Grummet J, **Yaxley J**, Scheltema MJ, Stricker P, Tay KJ, Lawrentschuk N. Guidelines of guidelines: focal therapy for prostate cancer, is it time for consensus? *BJU Int.* 2023 Jan;131(1):20-31.

McGeorge S, Loh B, Shibu R, Dobeli K, Brown NJ, Esler R, Hacking C, Purvey M, Roberts MJ. Plain x-ray misses many ureteric calculi: Time to challenge the old dogma? *BJUJ Compass.* 2022 Sep 26;4(1):59-61.

Perera M, **Roberts MJ**, Papa N. The continuing impacts of the COVID-19 pandemic on the diagnosis and surgical management of prostate cancer: A population-based analysis. *ANZ J Surg.* 2022. 92(5):950-952

Ptasznik G, Papa N, Kelly BD, Thompson J, Stricker P, **Roberts MJ**, Hofman MS, Buteau J, Murphy DG, Emmett L, Moon D. High PSMA PET SUVmax in PI-RADS 4 or 5 men confers a high probability of significant prostate cancer. *BJU Int.* 2022. 130 Suppl 3:5-7

Raghubar AM, **Roberts MJ**, Wood S, Healy H, Kassianos AJ, Mallett AJ. Cellular milieu in clear cell renal cell carcinoma. *Front Oncol* 2022. 12:943583

Roberts MJ, Chatfield M, Hruby G, Nandurkar R, Roach P, Watts J, Cusick T, Kneebone A, Eade T, Ho B, Nguyen A, Tang C, McCarthy M, Francis R, Stricker P, Emmett L. Event-free survival after radical prostatectomy according to PSMA PET and EAU Biochemical Recurrence Risk. *BJU Int.* 2022. 130 Suppl 3:32-39

Roberts MJ, Morton A, Papa N, **Franklin A**, Raveenthiran S, Yaxley WJ, Coughlin G, Gianduzzo T, Kua B, McEwan L, Wong D, Delahunt B, Egevad L, Samaratunga H, Brown N, Parkinson R, Emmett L, **Yaxley JW**. Primary tumour PSMA intensity is an independent prognostic biomarker for biochemical recurrence-free survival following radical prostatectomy. *Eur J Nucl Med Mol Imaging.* 2022 Jul;49(9):3289-3294.

Saad J, Shanmugasundaram R, Heywood S, Varol C, **Roberts MJ**. Testicular Torsion: Not Just in Young Men. *J Urol Surg* 2022. 9(3):215-217

Saad J, Shanmugasundaram R, Wong V, Le K, Arianayagam M, **Roberts MJ**. 68Ga-PSMA PET/CT false positive liver metastasis prior to radical prostatectomy. *ANZ J Surg.* 2022 (in press)

Samaratunga H, Egevad L, Thunders M, Iczkowski KA, van der Kwast T, Kristiansen G, Pan CC, Leite KRM, Evans A, Clouston D, Kenwright DN, Bethwaite PB, **Malone G**, Wood S, **Yaxley JW**, Delahunt B. LOT and HOT ... or not. The proliferation of clinically insignificant and poorly characterised types of renal neoplasia. *Pathology.* 2022 Dec;54(7):842-847..

Tariq A, McGeorge S, **Pearce A**, Rhee H, Wood S, **Kyle S**, Marsh P, Raveenthiran S, Wong D, McBean R, Westera J, **Dunglison N, Esler R, Navaratnam A, Yaxley J, Thomas P, Pattison DA, Roberts MJ.** Characterization of tumor thrombus in renal cell carcinoma with prostate specific membrane antigen (PSMA) positron emission tomography (PET)/computed tomography (CT). *Urol Oncol.* 2022 Jun;40(6):276.e1-276.e9.

Tariq A, **Stewart AG**, Desai D, **Dunglison N, Esler R, Roberts MJ.** Perirethral Abscess Aetiology, Risk Factors, Treatment options and their Outcomes: A Systematic Review. *Curr Urol.* (in press)

Tariq A, Raman V, Alexander H, **Roberts MJ**, Thomas P. Pituitary Metastasis of Renal Cell Carcinoma (RCC) Characterised by 18F-PSMA-1007 (FPSMA) PET/CT. *Clin Nucl Med.* 2022 47(4):e346-e347

Tariq A, Stewart AG, Teloken PE, Dunglison NT, Martin BF, **Roberts MJ.** Painless penile periurethral polymicrobial abscess causing urinary retention. *Urol Case Rep* 2022. 42:102037

Yaxley W, Delahunt B, **Yaxley J**, Thunders MC, Kenwright DN, Egevad L, Samaratunga H. Prognostic significance of percentage Gleason grade 5 prostatic adenocarcinoma in needle biopsies from patients treated by radical prostatectomy. *Pathology.* 2022 Oct;54(6):694-699.

Yaxley WJ, Gianduzzo T, Kua B, Oxford R, **Yaxley JW.** Focal therapy for prostate cancer with irreversible electroporation: Oncological and functional results of a single institution study. *Investig Clin Urol.* 2022 May;63(3):285-293.

Yaxley WJ, Mackean J, Desai DJ, Tsang G, Dixon J, Samaratunga H, Delahunt B, Egevad L, Gardiner RA, **Yaxley JW.** Oncological and urinary outcomes following low-dose-rate brachytherapy with a median follow-up of 11.8 years. *BJU Int.* 2022 Nov;130 Suppl 3(Suppl 3):40-45.

Presentations (RBWH staff in bold)

H Tran, J Bailie, **M Roberts**. Conventional piecemeal versus enbloc transurethral resection of bladder tumour-A single centre experience; International Journal of Urology 29, 144-145, 2022

H Tran, J Bailie, **M Roberts**. Conventional piecemeal versus enbloc transurethral resection of bladder tumour-A single centre experience; International Journal of Urology 29, 144-145, 2022

A Franklin, M Roberts, J Yaxley. Predictive value of PSMA PET/CT in addition to mpMRI in biopsy naive men. International Journal of Urology 29, 83-84, 2022

M Kwok, S McGeorge, **J Mayer-Coverdale**, B Graves, **DL Paterson**, .. Management of recurrent urinary tract infections: Comparison of nine guidelines from major urological and non-urological organisations International Journal of Urology 29, 111-111, 2022

A Franklin, M Kwok, M Roberts. Regional hospital prebiopsy mpMRI outcomes. International Journal of Urology 29, 85-85, 2022

M Kwok, W Yaxley, S Ranasinghe, **L Morton**, S Perera, K Ponon. Incidence and risk factors for urinary tract infections following trial of void. International Journal of Urology 29, 112-112, 2022

M O'Callaghan, **M Roberts**, K Moretti, M Frydenberg, D Gilbourd, S Mark. Variation in patient reported outcomes following radical prostatectomy: A bi-national registry based study International Journal of Urology 29, 124-125, 2022

Keynote or Plenary Lectures given in 2022

Date	Title
June-22	Yaxley J. "PSMA PET and its role in prostate cancer diagnosis" USANZ 74th Annual Scientific Meeting (Plenary presentation)
10-Jul-22	Roberts MJ. Invited Chairperson and Speaker, Prostate Cancer (Early) MDT Masterclass, ANZUP Annual Scientific Meeting (<i>National conference</i>)
28-Aug-22	Roberts MJ. Invited Panel Member, PROSTATE Therapy session, Theranostics 2022: AANMS Theranostics Course (<i>National symposium</i>)

Vascular

Research highlights for the year (1 January – 31 December 2022)

In 2022 the Vascular Outpatient Research Department has continued its strong research collaboration with Professor Jonathan Golledge of the Queensland Research Centre for Peripheral Vascular Disease (QRCPVD) at James Cook University. Two large clinical trials were conducted at the RBWH Vascular Outpatients Department in 2022. These trials include the Metformin Aneurysm Trial (MAT) which seeks to evaluate if taking Metformin XR can slow the growth of Abdominal Aortic Aneurysms (AAAs) and reduce the risk of AAA rupture and need for repair, and the OPTIMAL trial which examines the effects of a multi-disciplinary medical management program on cardiovascular risk factors in people with peripheral artery disease. Recruitment of participants to these trials will continue in 2023.

The QRCPVD and RBWH investigators were awarded funding from the Medical Research Future Fund to conduct two clinical trials on exercise interventions for participants with peripheral artery disease. These trials will commence in 2023.

Professor Jonathan Golledge and Dr Jason Jenkins have authored 6 research publications together in the past year in high quality journals stemming from the results of clinical trials conducted in previous years and from other research activity.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Dr Jason Jenkins, Dr Danella Favot, Dr Murray Ogg, Dr Nigel Pinto, Professor Jonathan Golledge	Vascular Outpatients	The Metformin Aneurysm Trial (MAT)	NHMRC	\$4,998,679.50	5 yrs, 2020-2024
Dr Jason Jenkins, Dr Danella Favot, Dr Murray Ogg, Dr Nigel Pinto, Professor Jonathan Golledge	Vascular Outpatients	Metformin For Treating Peripheral Artery Disease-Related Walking Impairment (MERIT)	SERTA Grant – Townsville University Hospital	\$50,000	3 yrs, 2021-2024
Dr Murray Ogg, Professor Jonathan Golledge	Vascular Outpatients	The Holistic Peripheral Artery Disease Management Trial (OPTIMAL)	Heart Foundation Strategic Funding	\$1,000,000	3 yrs, 2021-2024
Dr Murray Ogg Professor Jonathan Golledge	Vascular Outpatients	The Tele-Artery Trial (TEAL)	Medical Research Future Fund	\$2,862,084	4 yrs, 2022 - 2025
Dr Murray Ogg Professor Jonathan Golledge	Vascular Outpatients	The Supervised Home-based exercise program for Peripheral artery disease trial (SHAPE)	Medical Research Future Fund	\$999,999.71	4 yrs, 2023-2026

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited in 2022
Dr Murray Ogg Professor Jonathan Golledge	Dr Jason Jenkins, Dr Danella Favot and Dr Nigel Pinto	The Metformin Aneurysm Trial (MAT)	11
Dr Murray Ogg Professor Jonathan Golledge		The Holistic Peripheral Artery Disease Management Trial (OPTIMAL)	29
Dr Murray Ogg Professor Jonathan Golledge		The Tele-Artery Trial (TEAL)	Not yet recruiting
Dr Murray Ogg Professor Jonathan Golledge		The Supervised Home-based exercise progrAm for Peripheral artery disease trial (SHAPE)	Not yet recruiting

Research Publications

Authors

Investigator	ORCID ID
Dr Jason Jenkins	
Dr Murray Ogg	
Dr Simon Quinn	
Dr Allan Kruger	
Dr Nigel Vincent Pinto	https://orcid.org/0000-0003-1012-1060
Dr Samantha Peden	https://orcid.org/0000-0002-8470-4990
Dr Danella Favot	
Dr Joshua Tesar	
Dr Nicholas Boyne	
Dr David Flynn	

Publications in 2022

Journal Articles (RBWH staff in bold)

Golledge J, Velu R, Quigley F, **Jenkins J**, Singh TP. The predictive value of four serum biomarkers for major adverse events in patients with small abdominal aortic aneurysm. Journal of Vascular Surgery. 2022 Dec 13.

Journal Articles (RBWH staff in bold)

Golledge J, **Jenkins J**, Bourke M, Bourke B, Singh TP. Association of Oral Anticoagulation Prescription with Clinical Events in Patients with an Asymptomatic Unrepaired Abdominal Aortic Aneurysm. *Biomedicines*. 2022 Aug 29;10(9):2112.

Golledge J, Velu R, Quigley F, **Jenkins J**, Singh TP. Cohort study examining the prevalence and relationship with outcome of standard modifiable risk factors in patients with peripheral artery occlusive and aneurysmal disease. *European Journal of Vascular and Endovascular Surgery*. 2022 Feb 1;63(2):305-13.

Thanigaimani S, Phie J, Quigley F, Bourke M, Bourke B, **Jenkins J**, Golledge J. Association of Diagnosis of Depression and Small Abdominal Aortic Aneurysm Growth. *Annals of Vascular Surgery*. 2022 Feb 1;79:256-63.

Thanigaimani S, Phie J, Quigley F, Bourke M, Bourke B, Velu R, **Jenkins J**, Golledge J. Immunosuppressive drugs for nontransplant comorbidities are not associated with abdominal aortic aneurysm growth. *JVS-Vascular Science*. 2022 Jan 1;3:306-13.

Golledge J, Velu R, Quigley F, **Jenkins J**, Singh TP. Cohort Study Examining the Association of Immunosuppressant Drug Prescription With Major Adverse Cardiovascular and Limb Events in Patients With Peripheral Artery Disease. *Annals of Vascular Surgery*. 2022 Jan 1;78:310-20.

Camuglia AC, Cole CMW, **Boyne N**, Hayman SM, Cox SV, Moore PT, et al. 30-Day Outcomes With The Portico Transcatheter Heart Valve: Insights From a Multi-Centre Australian Observational Study. *Heart, Lung and Circulation*. 2022 Nov;

Thomas SD, **Peden S**, Katib N, Crowe P, Barber T, Varcoe RL. Long-term Results of Interwoven Nitinol Stents to Treat the Radiocephalic Anastomotic Arteriovenous Fistula Stenosis. *Journal of Endovascular Therapy*. 2022 Jan 31;152660282210752

Flynn DE, Flynn H, Gifford S, Smith K. Can you hear me? Analysis of a Queensland patient-initiated escalation process and the importance of communication in surgical care. *ANZ Journal of Surgery*. 2022 Mar 2;

Smith SA, Auld M, **Ogg M**, Chandrasegaram MD. Open splenic artery aneurysm repair in a patient with previous laparoscopic sleeve gastrectomy. *BMJ Case Reports*. 2022 Nov;15(11):e250082

Weekes A, Bartnikowski N, **Pinto N**, **Jenkins J**, Meinert C, Klein TJ. Biofabrication of small diameter tissue-engineered vascular grafts. *Acta Biomaterialia*. 2022 Jan;138:92–111.

Flynn D, **Tesar J**, **Peden S**, **Quinn S**, **Kruger A**, **Jenkins J**. Venous cystic adventitial disease: to cure or manage? A case series. *BMJ Case Reports*. 2022 Jan;15(1):e247813.

Haymet A, **Pinto N**, **Peden S**, Cohen T, Valley M, McGiffin D, et al. Current intraoperative storage and handling practices of autologous bypass conduit: A survey of the royal Australasian college of surgeons. *Frontiers in Surgery*. 2022 Aug 26;9.