

# RAH INTENSIVE CARE



The last few months have been challenging with COVID-19, and it has clearly impacted our lives inside and outside the hospital. Although Training and Research remain a major focus of our Unit, limitations on meeting numbers and travel have obviously reduced our ability to hold events or courses, or present our work at meetings and conferences.

However, despite COVID-19, there have been a number of positive achievements over the past 12 months, as summarised in the next few pages. The social side of the Unit has been more important than ever, and although there have been less opportunities for group events outside work, the internal traditions of morning (and often afternoon) coffee, weekend lunches with newspaper quiz, favourite meme WhatsApp group, fantasy football (AFL and EPL) and The Bachelor/Bachelorette sweepstakes continue.

It has also meant that registrars who have come to the RAH from overseas have not been able to travel to and from Australia, as well as between States of Australia, for much of the year - and so the section on Registrar Travel Stories in this Newsletter is a bit more focussed on travel within South Australia. Which is a good thing!

This is an annual publication, so if you are aware of any other achievements that we have unfortunately omitted, please let us know!

## RAH ICU Facts and Figures

The Royal Adelaide Hospital ICU is the busiest Level 3 Unit in South Australia, and is a quaternary-referral, adult, general ICU with a broad casemix of patients. In the 12 months from July 2019 to June 2020, we admitted 3795 patients to our 48 beds. In terms of admission diagnoses (based on ANZICS CORE data), about 13% were direct admissions following cardiac surgical procedures, 8% were trauma, 7% sepsis with shock, 5.5% drug overdose, 5% pneumonia without sepsis, 4% craniotomy for neoplasm, 3% subarachnoid haemorrhage, 3% respiratory neoplasm surgery, 3% following cardiac arrest, 2% ENT cancer surgery, 2% gastrointestinal malignancy surgery, and 2% gastrointestinal bleeding. Operating theatres were the source of admission for 49% of our patients, 29% were admitted directly from the Emergency Department, 15% from the wards, and 6% were transferred directly from another hospital to our ICU. 52% of admissions were unplanned.

The Unit currently has 45 Registrars (41.8 FTE) on the roster (23 registered with the College of Intensive Care Medicine) from a variety of backgrounds, experience and training programs.

### SOME OF OUR 2019/2020 ACHIEVEMENTS

#### RESEARCH

50 publications in peer-reviewed journals

Numerous research grants and scholarships

Presentations at scientific meetings

#### TEACHING AND TRAINING

2 Registrars passed the CICM Fellowship Exam

Highly successful Primary and Fellowship CICM Exam Courses

Involvement in number of other Courses including;

- Cardiac Surgery Advanced Life Support (CALS) Courses
- BASIC Courses
- SA Critical Care Ultrasound Courses
- RAH Postoperative Care of the Cardiothoracic Patient Courses

## Education and Training

Congratulations to Aniket Nadkarni and Rob Grieve (grinning below) who passed the CICM Fellowship Exam this year.



Nikki Yeo has been appointed as an ICU Consultant at the Queen Elizabeth Hospital. She returned to Adelaide in February after completing 12 months as a Senior Clinical Fellow in Neurosciences and Trauma Critical Care at the Addenbrooke's Hospital in Cambridge, before moving to a Clinical Fellow position in Critical Care at the Royal Papworth Hospital in London.

Michael Davies also returned to the RAH in February after completing a 12 month Clinical Fellow role at the Royal Papworth. He has now been appointed to a 6 month Locum ICU Consultant position with us.

Kris Hayres started as an ICU Senior Clinical Fellow at Kings College in London in August this year, after completing 12 months as a Senior Clinical Fellow in Paediatric Intensive Care at the Royal Hospital for Children in Glasgow.

The Thirteenth Annual Tub Worthley Travelling Scholarship was planned for May this year, but had to be cancelled due to COVID. The Scholarship is awarded for the best registrar research presentation at the annual South Australian ANZICS meeting, and we hope to be able to hold it in 2021.

We have been involved in 3 Medical Grand Rounds during this period. In September 2019, Jason Chapman and Luke Collett

presented 'ECMO - Worth a Go?'. This was followed in October by Nikki Yeo and Stewart Moodie, with the topic, 'A Good Death in ICU: Why and How'. In June this year, Kate Triplett was part of a multidisciplinary presentation on Necrotising Soft Tissue Infections.

The 38th running of the South Australian Intensive Care Fellowship Exam Course was held in February this year, narrowly beating the arrival of COVID into Australia. There were 30 candidates from Australia and New Zealand (photo below), and once again over 30 faculty, including 11 from the RAH and 7 from interstate. Hot Case practice sessions were held at the RAH, QEH, FMC and LMHS. The Course was based at The Playford Hotel in the centre of Adelaide for the first time this year, and it worked well as a venue. However, unfortunately we have had to cancel the 2021 course as it appears very unlikely that we will be able to fly candidates and examiners around the country by February, let alone allow them to visit different hospitals to do their Hot Cases. It is a highly interactive course with a major focus on the clinical (viva and hot case) aspects of the exam, and it is clear that they could not be done in the traditional way. Having said that, we are very hopeful that it will be up and running again in 2022, with applications opening in September 2021.

The South Australian Primary Examination Course was also cancelled this year, and we



are hoping that we will be able to run the next one in June 2021, with registrations opening on February 1st. Places are limited to 24 and it is invariably over-subscribed - so make sure you register early.

South Australian Critical Care Ultrasound Course is a 2-day course on focused cardiac, lung, abdominal and procedural ultrasound relevant to critical care, and is held twice a year.

A new course this year is the South Australian ECMO Course, with the first being held in November 2020 for 16 candidates, and a plan to hold it twice a year.

The South Australian ICU Registrar Network was established in 2019 and aims to bring registrars together from across the State. More details are contained later in this Newsletter, including a highly successful education night with Prof Michael Reade.

At the RAH, there is a comprehensive 2-day orientation program around the major registrar changeover dates (in February and August) for registrars new to the Unit, including a full-day Postoperative Care of the Cardiothoracic Patient Course, an extended patient-scenario discussion, and a session on CVC insertion.

A list of upcoming local ICU Courses is included at the end of this Newsletter.

We run a formal mentoring/support program for all trainees in ICU at the RAH. This process is separate from any skill or competency-based assessment and is aimed purely at providing psychological, emotional and practical support for our junior doctors. Registrars are allocated at least 2 mentors and are encouraged to discuss any non-training issues that they may have with them.



## Tuesday Journal Club and Registrar Teaching

Journal Club is held every Tuesday afternoon, where senior registrars present and critique a combination of recent and seminal journal articles, or registrars present their Clinical Audits. This is followed by a Registrar Teaching Session which varies in content between registrar-led presentations, senior registrar or consultant-led topic teaching, and ECHO/ultrasound teaching. Both sessions are now available on Zoom so we can socially distance and people can log-in remotely.

## Research Publications August 2019 - September 2020

1. Nadkarni A, Alderson S, Collett L, Maiden M, Reddi B, Sundararajan K. The impact of COVID-19 on an Australian Intensive Care Unit: lessons learned from South Australia. *Intern Med J* 2020 Sep;50(9):1146-1150. doi: 10.1111/imj.14963. Epub 2020 Aug 6.
2. Stelzmueller ME, Zilberszac R, Heinrich N, Mora B, Laufer G, Wisser W. Concomitant Transapical Transcatheter Aortic Valve Implantation and Transapical Mitral Valve Repair With NeoChord Implantation. *Innovations (Phila)* 2019 Nov/Dec;14(6):564-568.
3. Zilberszac R, Gleiss A, Schweitzer R, Bruno P, Andreas M, Stelzmüller M, Massetti M, Wisser W, Laufer G, Binder T, Gabriel H, Rosenhek R. Prognostic Value of Right Ventricular Dysfunction and Tricuspid Regurgitation in Patients with Severe Low-Flow Low-Gradient Aortic Stenosis. *Sci Rep* 2019 Oct;9(1):14580.
4. Zilberszac R, Chandiramani R, Hengstenberg C, Sartori S, Cao D, Chandrasekhar J, Schafer U, Tchetché D, Violini R, Jeger R, Van Belle E, Boekstegers P, Hambrecht R, Tron C, Dumenteil N, Linke A, Ten Berg JM, Deliargyris EN, Anthopoulos P, Mehran R, Dangas G. Clinical outcomes after TAVR with heparin or bivalirudin as periprocedural anticoagulation in patients with and without peripheral arterial disease: Results from the BRAVO-3 randomized trial. *Catheter Cardiovasc Interv*. 2020 Sep 1;96(3):E377-E386. doi: 10.1002/ccd.28642. Epub 2019 Dec 5.
5. Werner P, Russo M, Sauer J, Zilberszac R, Rath C, Kocher A, Laufer G, Andreas M. Off-pump tricuspid valve repair by automated sutured tricuspid annular plication via transatrial cannulation: preclinical ex vivo and in vivo results. *Interact Cardiovasc Thorac Surg* 2020 Apr 1;30(4):636-645.
6. Russo M, Zilberszac R, Werner P, Kocher A, Wiedemann D, Schneider M, Mascherbauer J, Laufer G, Rosenhek R, Andreas M. Isolated tricuspid valve regurgitation: old concepts, new insights and innovation. *J Cardiovasc Med (Hagerstown)*. 2020 Jun;21(6):406-414.
7. Zilberszac R, Heinz G. [Cardiogenic shock]. *Wien Klin Wochenschr*. 2020 Jun;132(11-12):333-348.
8. Ojha M, Finnis ME, Heckelmann M, Raith EP, Moodie S, Chapman MJ, Reddi B, Maiden MJ. Outcomes following grade V subarachnoid haemorrhage: A single-centre retrospective study. *Anaesth Intensive Care* 2020 Jul;48(4):289-296. doi: 10.1177/0310057X20927033. Epub 2020 Jul 12.
9. Dunn MS, Beck B, Simpson PM, Cameron PA, Kennedy M, Maiden M, Judson R, Gabbe BJ. Comparing the outcomes of isolated, serious traumatic brain injury in older adults managed at major trauma centres and neurosurgical services: A registry-based cohort study. *Injury*. 2019 Sep;50(9):1534-9.
10. Stevens NE, Nash CH, Fraser CK, Kuchel TR, Maiden MJ, Chapman MJ, Diener KR, Hayball JD. High mobility group box protein 1 neutralization in ovine bacteremia: Lesson learned from an ovine septic shock model incorporating intensive care support. *Exp Ther Med* 2019 Nov;18(5):3271-3280.
11. Poole AP, Anstey J, Bellomo R, Biradar V, Deane AM, Finfer SR, Finnis ME, French CJ, Kar P, Kruger PS, Maiden MJ, Mårtensson J, McArthur CJ, McGuinness SP, Secombe PJ, Tobin AE, Udy AA, Eastwood GM. Opinions and practices of blood glucose control in critically ill patients with pre-existing type 2 diabetes in Australian and New Zealand intensive care units. *Aust Crit Care* 2019 Sep;32(5): 361-365.
12. Maiden MJ, Cameron PA, Rosenfeld JV, Cooper DJ, McLellan S, Gabbe BJ. Long-Term Outcomes Following Severe Traumatic Brain Injury in Older Adults: A Registry-Based Cohort Study. *Am J Respir Crit Care Med* 2020 Jan;201(2):167-177.
13. Duke GJ, Maiden MJ, Huning EYS, Crozier TM, Bilgrami I, Ghanpur RB. Severe acute maternal morbidity trends in Victoria, 2001-2017. *Aust N Z J Obstet Gynaecol* 2019 Dec 1. doi: 10.1111/ajo.13103.
14. Poole AP, Finnis ME, Anstey J, Bellomo R, Bihari S, Biradar V, Doherty S, Eastwood G, Finfer S, French CJ, Ghosh A, Heller S, Horowitz M, Kar P, Kruger PS, Maiden MJ, Mårtensson J, McArthur CJ, McGuinness SP, Secombe PJ, Tobin AE, Udy AA, Young PJ, Deane AM; LUCID Study Investigators; ANZICS Clinical Trials Group. Study protocol and statistical analysis plan for the Liberal Glucose Control in Critically Ill Patients with Pre-existing Type 2 Diabetes (LUCID) trial. *Crit Care Resusc* 2020 Jun;22(2), 133-141.
15. Maiden MJ, Finnis ME, Duke GJ, Huning E, Crozier T, Nguyen N, Biradar V, McArthur C, Pilcher D. Obstetric admissions to intensive care units in Australia and New Zealand: a registry-based cohort study. *BJOG* 2020 May 2. doi: 10.1111/1471-0528.16285.
16. Chapple LS, Fetterplace K, Asrani V, Burrell A, Cheng A, Collins P, Doola R, Ferrie S, Marshall AP, Ridley EJ. Nutrition management for critically and acutely unwell hospitalised patients with COVID-19 in Australia and New Zealand. *Aust Crit Care*. Accepted 29 June 2020.
17. Yeo NYK, Reddi BAJ, Schultz CG, O'Connor S, Chapman MJ, Chapple LS. Early anthropometry, strength and function in survivors of critical illness; *Aust Crit Care*, Accepted 25 May 2020.
18. Chapple LS, Fetterplace K, Ridley EJ. Nutrition for critically ill patients with COVID-19. *ICU Management Practice* 2020;20(1):52-57.

19. Chapple LS, Gan M, Louis R, Yaxley A, Murphy A, Yandell R. Nutrition-related outcomes and dietary intake in non-invasively mechanically ventilated critically ill adult patients: A pilot observational descriptive study. *Aust Crit Care* 2020; 33(3):300-308.
20. Chapple LS, Summers MJ, Weinel LM, Deane AM. Outcome measures in critical care nutrition interventional trials: A systematic review. *Nutr Clin Pract*. 2020 Jun;35(3):506-513. doi: 10.1002/ncp.10478. Epub 2020 Mar 5.
21. Lambell K, Tatu-Babet OA, Chapple L, Gantner D, Ridley EJ. Nutrition therapy in critical illness: A review of the literature for clinicians. *Crit Care* 2020;24:35.
22. Ridley E, Chapple LS, Chapman M. Nutrition intake in the post-intensive care unit hospitalization period. *Curr Opin Clin Nutr and Metabolic Care* 2019;43(1):88-95.
23. Chapple L, Weinel L, Ridley E, Jones D, Chapman M, Peake S. Clinical sequelae from overfeeding in enterally fed critically ill adults: Where is the evidence? *JPEN J Parenter Enteral Nutr* 2020 Aug;44(6):980-991. doi: 10.1002/jpen.1740. Epub 2019 Nov 17.
24. Albrich LH, Chapple LS, Nock A, Ridley EJ, Hickson M. Nutrition related symptoms in adult survivors of critical illness when eating orally: A scoping review protocol. *JBISIR-D-19-00128*. *JBISIR* 2020 Jun;18(6):1326-1333. doi: 10.11124/JBISIR-D-19-00128.
25. Fetterplace K, Gill B, Chapple L, Presneill J, MacIsaac C, Deane A. A systematic review with meta-analysis of patient-centered outcomes, comparing international guideline recommended enteral protein delivery to usual care. *JPEN* 2020;44(4):610-620.
26. Weinel L, Summers M, Chapple L. Ultrasonography to measure quadriceps muscle in critically ill patients: A literature review of reported methodologies. 2019. *Anaesthesia Intensive Care*;47(5):423-34.
27. Stevens NE, Nash CH, Fraser CK, Kuchel TR, Maiden MJ, Chapman MJ, Diener KR, Hayball JD. High mobility group box protein 1 neutralization therapy in ovine bacteremia: Lessons learned from an ovine septic shock model incorporating intensive care support. *Exp Ther Med* 2019;18(5):3271-3280.
28. Reid AL, Chapman MJ, Peake SL, Bellomo R, Davies A, Deane AM, Horowitz M, Hurford S, Lange K, Little L, Mackle D, O'Connor SN, Ridley EJ, Williams PJ, Young PJ. Energy-dense vs routine enteral nutrition in New Zealand Europeans, Maori and Pacific islanders who are critically ill. *N Z Med J*. 2020 Jun 12;133(1516):72-82.
29. Deane AM, Bellomo R, Chapman MJ, Lange K, Peake SL, Young P, Iwashyna TJ. Reply to Too many calories for all? *Am J Respir Crit Care Med*. 2020 Jun 9. doi: 10.1164/rccm.202005-1810LE.
30. Deane AM, Little L, Bellomo R, Chapman MJ, Davies AR, Ferrie S, Horowitz M, Hurford S, Lange K, Litton E, Mackle D, O'Connor S, Parker J, Peake SL, Presneill JJ, Ridley EJ, Singh V, van Haren F, Williams P, Young P, Iwashyna TJ. Outcomes six months after delivering 100% or 70% of enteral calorie requirements during critical illness (TARGET). A randomised controlled trial. *Am J Respir Crit Care Med*. 2020 Apr 1;201(7):814-822. doi: 10.1164/rccm.201909-1810OC.
31. Weinel LM, Summers MJ, Finnis ME, Poole A, Kar P, Chapman MJ, Deane AM, Ali Abdelhamid Y. Are point of care measurements of glycated haemoglobin accurate in the critically ill? *Aust Crit Care* 2019 Nov;32(6):465-470. doi: 10.1016/j.aucc.2018.11.064. Epub 2018 Dec 24.
32. Deane AM, Chapman MJ, Abdelhamid YA. Any news on the Prokinetic front? *Curr Opin Crit Care*. 2019 Aug;25(4):349-355. doi: 10.1097/MCC.0000000000000634. PMID:31247631.
33. Alipoor E, Hosseinzadeh-Attar MJ, Rezaei M, Jazayeri S, Chapman MJ. White adipose tissue browning in critical illness: A review of the evidence, mechanisms and future perspectives. *Obes Rev*. 2020 Jul 1. doi: 10.1111/obr.13085. Online ahead of print.
34. Collett LW, Gluck S, Strickland RM, Reddi BAJ. Evaluation of coagulation status using viscoelastic testing in Intensive Care patients with COVID-19: An observational cohort study. *Aust Crit Care*. 2020 Jul 21; S1036-7314(20)30254-X. doi: 10.1016/j.aucc.2020.07.003. Online ahead of print.
35. Linke NJ, Fulcher BJ, Engeler DM, Reddi BAJ, et al; EXCEL Investigators. A survey of extracorporeal membrane oxygenation practice in 23 Australian adult intensive care units. *Crit Care Resusc*. 2020 Jun;22(2):166-170.
36. Yeo NYK, Reddi BAJ, Kocher M, et al. Collaboration between the intensive care unit and organ donation agency to achieve routine consideration of organ donation and comprehensive bereavement follow-up: an improvement project in a quaternary Australian hospital. Accepted for publication in *Australian Health Review*.
37. Holley AD, Reade MC, Lipman J, Delaney A, Udy A, Lee R, Litton E, Cheung W, Turner A, Garside T, Macken L, Reddi BAJ, Kol M, Kazemi A, Shah A, Townsend S, Cohen J. Survey of critical care practice in Australian and New Zealand burn referral centres. *Crit Care Resusc*. 2019 Dec;21(4):303-304.
38. Burrell AJC, Pellegrini B, Salimi F, Begum H, Broadley T, Campbell LT, Cheng AC, Cheung W, Cooper DJ, Earnest A, Erickson SJ, French CJ, Kaldor JM, Litton E, Murthy S, McAllister R, Nichol A, Palermo A, Plummer MP, Ramanan M, Reddi B, Reynolds C, Trapani T, Webb SAR, Udy AA. Outcomes of COVID-19 Patients Admitted to Australian Intensive Care Units during the Early Phase of the Pandemic. *Med J Aust* 2020; <https://www.mja.com.au/journal/2020/outcomes-covid-19-patients-admitted-australian-intensive-care-units-during-early-phase> [Preprint, 16 September 2020].



39. Lambert R, Burgess N, Hillock N, Gailer J, Hissaria P, Merlin T, Pearson C, Reddi BAJ, Ward M, Hill C. The South Australian Medicines Evaluation Panel in review: providing evidence based guidance on the use of high cost medicines in the SA public health system. Accepted for publication in Australian Health Review.
40. O'Connell A, Flabouris A, Thompson C. Optimising the response to acute clinical deterioration: the role of observation and response charts. *Intern Med J.* 2020 Jul;50(7):790-797.
41. Ou L, Chen J, Hillman K, Flabouris A, Parr M, Green M. The effectiveness of a standardised rapid response system on the reduction of cardiopulmonary arrests and other adverse events among emergency surgical admissions *Resuscitation.* 2020;150:162-169.
42. Reddi B, Johnston S, Bart S, Chan J, Finnis M. (2019). Abnormal pulmonary function tests are associated with prolonged ventilation and risk of complications following elective cardiac surgery. *Anaesth Intensive Care.* 2019 Nov;47(6):510-515.
43. Reddi B, Finnis M, Peake S. (2019). Difficulties in knowing which critical care trial data warrant change in practice. *Med J Aust* 2019 Oct;211(7):306-307.e1.
44. Flabouris A, Civil IDS, Balogh Z, Isles S. The New Zealand Trauma System Verification. *J Trauma Acute Care Surg* 2020 Sep;89(3):585-596.
45. Thiele L, Flabouris A, Thompson C. Acute clinical deterioration and consumer escalation in the hospital setting: A literature review. *Resuscitation* 2020 Aug 25;156:72-83.
46. Mitchell, WG, Deane A, Brown A, Bihari S, Wong H, Ramadoss R, Finnis M. Long term outcomes for Aboriginal and Torres Strait Islander Australians after hospital intensive care. *Med J Aust* 2020;213(1):16-21.
47. Berenyi F, Steinfort D, Abdelhamid Y, Bailey M, Pilcher D, Bellomo R, Finnis ME, Young PJ, Deane AM. Characteristics and Outcomes of Critically Ill Patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease in Australia and New Zealand. *Ann Am Thorac Soc* 2020 Jun;17(6):736-745.
48. Gluck S, Summers MJ, Finnis ME, Andrawos A, Goddard TP, Hodgson CL, Iwashyna TJ, Deane AM. *Aust Crit Care.* 2020 Mar;33(2):137-143. doi: 10.1016/j.aucc.2019.01.009. Epub 2019 Mar 14.
49. Delaney A, Finnis M, Bellomo R, Udy A, Jones D, Keijzers G, MacDonald S, Peake S. Initiation of vasopressor infusions via peripheral versus central access in patients with early septic shock: A retrospective cohort study. *Emerg Med Australas.* 2020 Apr;32(2):210-219.
50. Udy AA, Finnis M, Jones D, Delaney A, Macdonald S, Bellomo R, Peake S; ARISE Investigators. Incidence, Patient Characteristics, Mode of Drug Delivery, and Outcomes of Septic Shock Patients Treated With Vasopressors in the Arise Trial. *Shock* 2019 Oct;52(4):400-407.

### A selection of presentations at scientific meetings

- Maiden M. Severe Traumatic Brain Injury in Older Adults. Europe Pacific Medico-legal conference. Italy, 2020.
- Maiden M. Is ATN dead? World Congress of Intensive Care Medicine. Melbourne, 2019.
- Chapple L. American Society of Parenteral and Enteral Nutrition conference, Tampa, Florida. Title of presentation: 'Effects of standard versus energy dense feeds on gastric retention, calorie delivery, and glycaemia in critically ill patients', March 2020. Not delivered due to COVID-19.
- Chapple L. Australia and New Zealand Intensive Care Society Clinical Trial Group conference, Noosa, Australia. Title of presentation: 'TARGET Protein Feasibility Trial Results'. March 2020.
- Chapple L. Australia and New Zealand Intensive Care Society Clinical Trial Group conference, Noosa, Australia. Title of presentation: 'TARGET Program: Point Prevalence Study'. March 2020.
- Chapple L. Australasian Society of Parenteral and Enteral Nutrition Conference, Adelaide, Australia. Title of presentation: 'Research Workshop: Research basics: Where to start'. November 2019.
- Chapple L. Australasian Society of Parenteral and Enteral Nutrition Conference, Adelaide, Australia. Title of presentation: 'Protein delivery: What do we know and how do we achieve it?'. November 2019.
- Chapple L. World Congress of Intensive Care 2019, Melbourne, Australia. Title of presentation: 'What happens to nutrition intake post-ICU in hospital'. October 2019.

### PhD Students

Tej Murthy (University of Adelaide)  
 Krish Sundararajan (University of Adelaide)  
 Alice O'Connell (University of Adelaide)

### Honours Students

James Whitehead (University of Adelaide). Completed Dec 2019. First Class Honours.  
 Adam Vanson (University of Adelaide). Submitted July 2020.  
 Gemma Lyons (Flinders University)

### Masters Students

Lisa Thiele  
 Phillip Emerson

## Research Grants

- 2019 Chapple L, Weinel L, Summers M, O'Connor S, Horowitz M, Chapman M. Royal Adelaide Hospital Clinical Project Grant.  
Project Title: Nutrient regulation in survivors of critical illness.  
Value: \$48,425
- 2019 Sierp E, Chapple L, Yandell R, Kurmis R, Chapman M. Royal Adelaide Hospital Allied Health Grant.  
Project Title: Factors that influence severity and timing of gastrointestinal motility in critically ill burn patients.  
Value: \$26,618
- 2019 Murthy T. European Association for the Study of Diabetes - Travel Grant.  
Value: E1,200
- 2018-20 Chapman M, Deane A, Soenen S, van Loon L, Jones K, Chapple L. NHMRC Project Grant.  
Project Title: Protein Absorption and Kinetics in Critical Illness (APP1144496).  
Value: \$1,233,268
- 2018-19 Chapman MJ, Deane AM, Young PJ. Hospital Research Foundation; Translational Project Grant.  
Project Title: The effect of protein dose on clinical outcomes in critically ill patients (TARGET\_Protein).  
Value: \$250,000
- 2017-21 Ridley E, Chapple L, Davies A, Deane A, Hodgson C, Cooper J, Bailey M. Baxter Healthcare Corporation, Global Scientific Review Council.  
Project Title: Intensive nutrition in critically ill adults: A pilot randomised controlled study.  
Value: \$2,400,000
- 2017-21 Deane AM, Finfer S, Cook D, Myburgh J, Young P, Guyatt GH, Chapman MJ, Venkatesh B. NHMRC Project Grant.  
Project Title: Re-Evaluating the Inhibition of Stress Erosions (REVISE): Gastrointestinal bleeding prophylaxis in ICU.  
Value: \$2,955,164
- 2015-19 Chapman MJ, Peake S, Bellomo R, Horowitz M, Davies AR, Deane AM. NHMRC Project Grant.  
Project Title: The Augmented versus Routine approach to Giving Energy Trial (TARGET).  
Value: \$3,534,236
- 2015-19 Young PJ, McArthur CJ, Henderson SJ, McGuinness SP, Freebairn RC, Parke RL, Mackle DM, Peake SL, Chapman MJ, Bellomo R. Health Research Council Of New Zealand Project Grant.  
Project Title: The Augmented versus Routine approach to Giving Energy Trial (TARGET).  
Value: \$1,200,000 NZD
- 2020 Konstantopoulos P, Chapple L, Yeung D, Corsini N. 2020. Royal Adelaide Hospital Allied Health Grant.  
Project Title: Understanding nutritional requirements in patients undergoing haematological stem cell transplant (SCT) to improve clinical and patient-centred outcomes: A pilot study.  
Value: \$29,699
- 2019 Chapple L, Reddi B, Ridley E, Kemp P, Chapman M. Intensive Care Foundation.  
Project Title: MUSCLE health in response to augmented PROtein delivery in critically ill patients (The MUSCLE-PRO study).  
Value: \$24,494
- 2019 Kurmis R, Gauro J, Vale E, Chapple L, Yandell R, Dowling S, Hill A, Greenwood J. Allied Health Research Collaboration (SA Health, University of South Australia, The Hospital Research Foundation).  
Project Title: Determination of nutritional requirements for severe burn injury patients requiring application of Novosorb Biodegradable Temporising Matrix using indirect calorimetry: A pilot study.  
Value: \$26,000

## Current Research Funding Scholarships

2019 - 2022	NHMRC Early Career Fellowship. Optimal protein dose to attenuate muscle atrophy, improve functional recovery and increase survival in critically ill patients. Investigator: Chapple L. Value: \$327,192.00.
2019 - 2020	The Hospital Research Foundation Project Grant. Investigator: Chapple L. Value: \$240,000.
2018 - 2020	Faculty of Health and Medical Sciences Divisional Scholarship (University of Adelaide). Investigator: Murthy T. Value: \$28,000 per year.
2018 - 2020	Dawes top-up Scholarship for PhD students. Investigator: Murthy T. Value: \$5,000 per year.
2019	SAICA Research Travel Grant. To present at European Association for the Study of Diabetes (Barcelona, 2019 Sept). Investigator: Murthy T. Value \$10,000.

## Significant Sporting Awards

2020	RAH ICU Fantasy AFL Competition	Danni Dean
2019	RAH ICU Fantasy AFL Competition	Nick Edwards
2019/20	RAH ICU Fantasy EPL Competition	Luke Collett

Dr Abby McArthur did not win anything.

## RAH ICU COVID Experience

On 16<sup>th</sup> March 2020, South Australia declared a Public Health Emergency and the Royal Adelaide Hospital was designated as the centre receiving adult patients with COVID-19. On 24<sup>th</sup> March the first critically ill COVID-19 patient was admitted to RAH ICU and 17 more patients were admitted over the following 20 days. To our knowledge this was the highest number of critically ill COVID-19 patients in any single ICU in Australia during the initial wave.

We were fortunate that the RAH ICU department created a COVID-19 leadership team with a coordinated pandemic response addressing issues such as clinical guidelines, staffing, education and training, PPE and communications.

The department practiced clinical activities in simulated environments to prepare for intubation, prone positioning, PPE and advanced ventilation. Guidelines were written to standardise the way we managed COVID-19 patients, and these were regularly updated with the rapidly evolving evidence-base. The registrar group created a series of foundation lectures for trainees seconded to ICU, to introduce fundamental concepts – these have continued to be useful for new registrars joining the ICU.

The COVID-19 patients were a challenging cohort with a high burden of morbidity and mortality. The practicalities of working during a pandemic were equally challenging; long periods spent in uncomfortable PPE; barriers to clear communication amongst staff members; and the frustration of basic tasks transformed into arduous activities. PPE training and mask-fit testing helped develop staff competence and confidence to perform usual tasks as safely as possible.

Despite the challenges, it was inspiring to see the way the RAH ICU staff responded to the public health crisis. We are proud of the professionalism, commitment and compassion our staff displayed to patients and their loved ones throughout this uncertain time. Supporting each other and maintaining positive morale was also vital during this time and this was evident in the community's response, on a departmental level and also from individual staff members.

Aniket Nadkarni  
ICU Senior Registrar

## ICU Registrar Involvement in Research and Clinical Audits

### Research

Registrars, and ICU (CICM) trainees in particular, are actively encouraged to participate in research on the Unit, both in terms of personal research and larger trials. Significant support is also available for CICM trainees for their Formal Project requirements, and they are encouraged to present and publish their results.

The Tub Worthley Travelling Scholarship Dinner is run annually in May with the support of Pfizer, and provides trainees with an excellent opportunity to present their research to Intensive Care colleagues from across the State, and compete for the Scholarship. Unfortunately it was cancelled in 2020 because of COVID, but will hopefully be up and running in 2021.

Trainees are also encouraged to present their research at the annual Australian and New Zealand Intensive Care Society (ANZICS) ASM and the CICM ASM.

### Clinical Audits

It is also an expectation that all CICM trainees at the RAH will undertake a clinical audit every 6 to 12 months in an aspect of critical care practice that interests them, which they present at one of the weekly ICU Journal Clubs. We also recommend that residents and registrars not in the CICM training program take the opportunity to undertake a clinical audit and they will be actively encouraged and supported to do so.

Upon successful completion, registrars may also have the opportunity to present their findings further afield depending on the quality and results of their audit. They will be presented with a formal document of completion that can be used in support of future competitive applications.

This audit activity also forms an important component of the training assessment for CICM trainees.

Audits that have been presented this year include;

- ICU level interventions or incidence of "MET call criteria" in elective neurosurgical admissions to ICU post clipping of unruptured aneurysms - Abby McArthur & Clare Pentelow
- Incidence of 7-step pathways in patients who die in ICU - Wout van Oosterwyck
- RAH ICU admission handover: a quality improvement project - Alexa Curtis
- Hyperoxia in the ICU and the use of SpO2 targets - Jason Chapman
- COVID intubations in ICU - Kate Triplett
- Dexmedetomidine use in ICU: indications, dose and duration - Matthew Hauser
- Adherence to the Australian National Inpatient Medication Chart Guidelines - Katja Jansen
- Adequacy and timing of handover of new ICU patients from the ward, ED, and OT - Tim Webber & Alexa Curtis
- Postoperative gastrointestinal neoplasm surgery: epidurals and vasopressor use - Rachel van Hecke
- How to do a Clinical Audit - Palash Kar

## South Australian Intensive Care Association

SAICA is a not-for-profit association that oversees a number of educational courses in South Australia as well as promoting, encouraging and financially supporting educational and research activities in the area of Intensive Care Medicine.

Activities this year have included;

- purchase of tracheostomy insertion models
- purchase of a paediatric manikin
- purchase of ECMO training circuits (RAH and FMC)
- purchase of ECMO cannulation simulation equipment
- upgrade of ICU resuscitation simulation equipment (RAH)
- purchase of rapid infuser insertion pads
- travel grant for Tej Murthy to present PhD research at European Association for the Study of Diabetes Meeting in Barcelona (December 2019)
- part travel sponsorship for Prof Michael Reade to present at the SA Intensive Care Trainee Network and SA ICU Fellows assistance for Nikki Yeo (England) to present RAH Bereavement Project at RAH Medical Grand Round and ANZICS ASM (Melbourne)
- Departmental Crit-Iq and Osler website subscriptions for ICU Registrars
- Survey Monkey and Dropbox subscriptions
- covering the cost of this Newsletter



## ICU Registrar Travel Stories

### Robert

G'day mates!

I entered Australia as Robert, however, owing to the notorious Aussie habit of finding abbreviations for everything, I left Australia as Rob!

I am from Vienna, Austria (the continental European country that does NOT have kangaroos!), and thus proudly RAH ICU's first ever Austrian registrar, bravely taking a stand against Belgian hegemony with regards to (continental) European registrars.

I am a cardiologist by training, but have been involved in cardiac intensive care for some years, so I didn't come as a Rookie (which seems to have surprised some of the staff, a cardiologist that knows how to hold a laryngoscope?!) but there was so much for me to learn at the RAH, which surely was facilitated by the amazing staff, who went out of their way to make our time as pleasant and instructive as it could be. I will sure miss the morning coffee rounds and weekend quizzes! Given my background, I was mainly involved in cardiac ICU, and I really felt an incredibly symbiotic relationship with all of the staff there. Consultants, fellow registrars, nursing staff - everyone was super nice, and there were always good spirits.

Outside of work (and thanks to the great rostering by Kris Gabell, there's plenty of time there!), I tried to make the most of seeing the fascinating beauty of Australia, which became increasingly difficult when the pandemic started. But in fact, Adelaide itself, and SA are such gems, that you don't even need to catch a plane to experience a true Australian Adventure. One of my all time



favourite spots would be the Flinders Ranges, but also Deep Creek National Park (so many kangaroos!). Also, don't miss out on the beautiful wine regions, McLaren Vale being my favourite. But even within Adelaide there are so many amazing places! Spotting Koalas in Belair, taking a scenic walk in Black Hill or Glen Osmond, enjoying the majestic scenery in Morialta, and it's all just a 20 mins drive away, so you can spend the evening in of Adelaide's amazing restaurants (My favourites: Shobushu, Golden Boy, Africola...) or wine bars (Clever little Taylor, Hula Hoop...)! I really fell in love with Adelaide and Australia, and I met many special people that I hope will continue to be parts of my life, so that surely, the chapter 'Australia' surely isn't closed for me. Let's see what the future holds!

### Astrid

What a year! After finishing my Anaesthesia training in Belgium, I decided to travel to the other side of the world for some more ICU experience. I definitely got everything I wanted in the RAH ICU. It is a very nice place with interesting patients and pathology, lots of time for teaching and an amazing team to work with! All the registrars and consultants were very friendly and helpful and I'm so happy for all the wonderful people from all over the world I got to meet.

Also, the RAH ICU is one of those places that really values a good work-life balance. I especially loved the relaxed atmosphere at work, the daily coffee breaks and the intense discussions to decide what's for lunch over the weekend.

And the travelling! Australia has surprised and amazed me in so many ways! All my holidays have been great and even though we were under lockdown for a couple of months because of Covid-19, I managed to see a lot of beautiful places!

I've hard to come up with a top three, but I'll try:

- camping near Ayers Rock
- Snorkeling Ningaloo reef
- Hiking in Springbrook national park (picture)

Being back in cold, rainy Belgium, I really miss my perfect Aussie life, but maybe one day I'll be back!

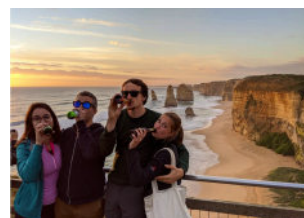


### Wout

It started with the great variety amongst the colleagues. The diversity in cultures was really eye opening. Having lunch together was like a small trip around the world. Some brought all their curries and Naan, others brought sandwiches with chocolate in between!

We tried our best to keep up with the high expectations of the odd Belgian Registrar Travel Schedule. If not for covid, I imagine we'd have succeeded the quest! We did catch a couple of the highlights like The Australian Open, Uluru, Daintree, Harbour Bridge and our fair share of Tasmania! But we're not sad, we know we just have to return sooner rather than later!

Living in Adelaide was really a very joyful experience. Strolling through the central market, having a beer at the East End or Haines bar, going out for dinner in one of the fabulous restaurants of all the cuisines in the world. A small trip to the Barossa is always good, just remember to bring someone sober!



We'll keep recommending Australia and Adelaide in particular for many years to come. If only it was a bit closer to Europe, we'd stay forever!

Enjoy the sun, and the wine, and the beers, oh and the food, and the hills!

Laura and Wout

## South Australian Intensive Care Trainee Network Night

The South Australian Intensive Care Trainee Network organised another successful event to follow its inaugural trainee day in 2019. Joining forces with the SA CICM Regional Committee, the event brought together trainees and consultants from across all health care networks in Adelaide, packing 70 people into the bustling Peel St restaurant.

We were joined by Professor Michael Reade who prepared a talk to share his vast experience in the fields of intensive care, trauma and leadership in disaster and mass casualty situations. He held a captive audience during his talk, describing the lessons he has learned from his experience in ICU and his unique roles in the ADF. Taking the crowd through a brief history of mass casualty he finished with some guiding principles on what it means to be a leader during a mass casualty. His words were inspirational, encouraging the ICU community of SA to support each other in a tough but rewarding field.

The night continued with amazing food, dessert and plenty of beverages all around. Our sponsors MSD and AHP gave away some prizes to lucky audience members and we look forward to them supporting events through the future.

Professor Reade's words of course could not have been more timely, with a worldwide pandemic bringing many of our lives to a halt. The ICU Trainee Network put aside most of its scheduled plans due to social distancing restrictions. We anticipate hosting more events soon and expanding our networking through the use of social media platforms. We are ready to launch an initiative that will allow trainees to easily attend education and exam preparation sessions from all sites – so be on the look-out for this and more events coming soon!

On behalf of the South Australian ICU Trainee Network Steering Committee

Aniket Nadkarni  
ICU Senior Registrar



## ICU Registrar Positions at the RAH

If you are interested in a position as an Intensive Care Registrar at the RAH, applications can be made at <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/careers/careers+search?job=732432>, or contact Dr Alex Wurm at [Alex.Wurm@sa.gov.au](mailto:Alex.Wurm@sa.gov.au).

If you are thinking about ICU as a career and would like to discuss your options, Drs Nick Edwards ([chopper45@outlook.com.au](mailto:chopper45@outlook.com.au)), Jon Fraser ([jdfraser62@gmail.com](mailto:jdfraser62@gmail.com)), Richard Strickland ([rich.stricko@gmail.com](mailto:rich.stricko@gmail.com)) and Ken Lee ([kenneth.Lee@sa.gov.au](mailto:kenneth.Lee@sa.gov.au)) are the ICU (CICM) Supervisors of Training at the RAH – and we are always happy to have a chat.



## Upcoming Intensive Care Courses 2020 / 2021

### SOUTH AUSTRALIAN INTENSIVE CARE FELLOWSHIP EXAM (TUB'S) COURSE

2021 Course cancelled because of COVID-19. Next Course February 2022 (date to be confirmed)

30 candidates. For ICU Registrars within 12 months of the CICM Adult Fellowship Examination.

Conducted over 3 days, with sessions on the written paper, vivas, investigation interpretation, paediatrics and hot cases (at 4 hospitals). There is little didactic teaching, with the focus very much on practical sessions and trial exams. Further information at [http://www.icuadelaide.com.au/course\\_fellowship.html](http://www.icuadelaide.com.au/course_fellowship.html).

Applications will open September 2021.

Enquiries to Dr Nick Edwards, c/- ICU, Royal Adelaide Hospital. Email: [chopper45@outlook.com.au](mailto:chopper45@outlook.com.au)

### SOUTH AUSTRALIAN CICM PRIMARY EXAMINATION COURSE

28 June - 2 July 2021.

24 candidates. For Registrars preparing for the CICM (or ANZCA) Primary Examination.

Applications will open 1 February 2021 - available at [https://saica.com.au/course\\_primary.html](https://saica.com.au/course_primary.html).

Enquiries to Dr Mark Finnis, c/- ICU, Royal Adelaide Hospital. Email: [mark.finnis@adelaide.edu.au](mailto:mark.finnis@adelaide.edu.au)

### SOUTH AUSTRALIAN CRITICAL CARE ULTRASOUND COURSE

Next Course March 2021 (date to be confirmed).

16 candidates. 2 day course on focussed cardiac, lung, abdominal and procedural ultrasound relevant to critical care.

Enquiries to Dr Michael Farquharson, C/- ICU, Royal Adelaide Hospital. Email: [michael.farquharson@sa.gov.au](mailto:michael.farquharson@sa.gov.au)

### BASIC ASSESSMENT AND SUPPORT IN INTENSIVE CARE (BASIC) COURSE

Next Course February/March 2021 (date to be confirmed).

15 candidates (reduced because of COVID-19). 2 day course. Further information on the course at [https://saica.com.au/course\\_basic.html](https://saica.com.au/course_basic.html).

Enquiries to Dr Ken Lee, C/- ICU, Royal Adelaide Hospital. Email: [Kenneth.Lee@sa.gov.au](mailto:Kenneth.Lee@sa.gov.au)

### POSTOPERATIVE CARE OF THE CARDIOTHORACIC PATIENT (PCCP) COURSE

6 August 2020 and February 2021 (date to be confirmed).

An internal 1 day course for RAH Registrars who will be looking after cardiothoracic patients in the ICU.

Enquiries to Dr Jon Fraser, c/- ICU, Royal Adelaide Hospital. Email: [jdfrazer62@gmail.com](mailto:jdfrazer62@gmail.com)

### CARDIOTHORACIC ADVANCED LIFE SUPPORT (CALS) COURSE

Dates for 2021 to be confirmed. 4 courses per year.

14 candidates. 1 day course for RAH medical and nursing staff.

Enquiries to Dr Jon Fraser, c/- ICU, Royal Adelaide Hospital. Email: [jdfrazer62@gmail.com](mailto:jdfrazer62@gmail.com)

### SOUTH AUSTRALIAN ECMO COURSE

15 December 2020.

16 candidates. 1 day course for RAH medical and nursing staff.

Enquiries to Dr Michael Farquharson, C/- ICU, Royal Adelaide Hospital. Email: [michael.farquharson@sa.gov.au](mailto:michael.farquharson@sa.gov.au)



## Pictures from the past year (mainly before social distancing.....)



## Contact

Any feedback about this Newsletter, or achievements/details you would like included in the next Newsletter, should be directed to Dr Nick Edwards ([chopper45@outlook.com.au](mailto:chopper45@outlook.com.au)).