



2019 Annual Research Report

Central Northern Adelaide Renal and
Transplantation Service (CNARTS)

Shaping the future of health
with world-class care and world-class research



Health
Central Adelaide
Local Health Network

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Welcome message

We are delighted to deliver the 3rd Annual Research Report from the Central Northern Adelaide Renal and Transplantation Service (CNARTS) at the Royal Adelaide Hospital, Central Adelaide Local Health Network.

This report summarised the enormous breadth of research activity being conducted within CNARTS. Within these pages you will find our staff pursuing research that is patient-centred, cutting edge and transformative to the way we deliver care.

We have continued to grow and nurture multidisciplinary clinical research – demonstrated by investigators teams with medical, nursing, scientific, dietetic, psychology, occupational therapy and consumer co-investigators. We have brought 10 new clinical trials to our patients in 2019 – novel therapies that will set the future of kidney care. Our leadership of the world-renowned ANZDATA registry has significantly influenced end-stage kidney disease care and policy. Our laboratory research program is supporting the next generation of clinician-scientists and leading the way in cellular and molecular biology innovation.

Our local research funding partners include The Hospital Research Foundation, Kidney Transplant Diabetes Research Australia and the RAH Research Fund – their support and their commitment to better patients outcomes is invaluable to our research efforts.

Collectively, our efforts are addressing every step of the journey with kidney disease, to improve care and opportunities for our patients.



A/Prof Shilpa Jesudason
Chair of CNARTS
Clinical Research Group



Prof Randall Faull
Acting Head of
Unit Renal

CNARTS – About us

The Central Northern Adelaide Renal and Transplantation Service (CNARTS) is the largest renal unit in South Australia and the 3rd largest renal unit in Australia with over 1700 patients. CNARTS currently provide dialysis services to approximately 700 dialysis patients, including supporting 137 home dialysis patients (104 home peritoneal dialysis and 33 home haemodialysis). CNARTS also provides supportive care to 170 patients and supports around 1000 existing transplant recipients and performs 65-80 transplants per year. The different types of transplants performed include kidney transplants, simultaneous kidney-pancreas transplant and islet cell transplants.

Mission statement:

CNARTS has a strong culture of research, developing pioneering ideas and advancing knowledge in crucial areas of kidney disease.

We aim to:

1. Improve the understanding of the science underpinning kidney diseases
2. Conduct translational research that is patient-centred and leads to improvements in treatments, outcomes and the patient experience
3. Advance the use of new technologies, methodologies and treatments for the benefit of kidney patients
4. Support and mentor staff and students to pursue research at all levels, building a highly skilled research workforce that will lead us into the future



Awards and Fellowships



A/Prof Phil Clayton was awarded a 2nd Jacquot Research Establishment Fellowship from the Royal Australasian College of Physicians (RACP) for his project 'Transforming national kidney allocation to increase utility and equity'. Jacquot Research Establishment Award' \$90,000



Laura Lunardi was awarded a South Australia Premier's Nursing and Midwifery Scholarship' for 2019/2020. Laura undertook a study tour in July 2019 that enabled her to observe the key Canadian Renal Supportive Care programs that utilise NPs and extend supportive care principles and practices to help address the unmet needs of dialysing patients.



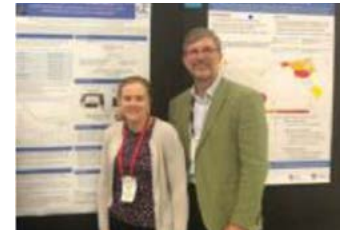
A/Prof Phil Clayton was awarded the Kidney Health Australia Award for the Best Presentation in the Field of Clinical Research at Transplantation Society of Australia and New Zealand (TSANZ), 2019 for his presentation "Waitlisting for kidney transplantation in Australia: estimating the demand".



Dr Sebastian Stead a recent PhD graduate from the CNARTS laboratory was a recipient of the Frewin Northern Communities Health Foundation Early Career Researcher award.



Griffith Perkins (PhD candidate, supervisors: Prof T Coates, Dr P Hurtado, Dr C Hope) was awarded an Early Career Researcher Award from the Transplantation Society of Australia and New Zealand (TSANZ).



Kathryn Dansie and Prof Stephen McDonald won best poster in the category of "Integrating trials into clinical practice" for their poster "The Symptom monitoring With Feedback Trial (SWIFT)" at the Australian Clinical Trials Alliance (ACTA) International Trials Conference held in Sydney from the 3rd – 5th of October.



Dr Maisarah Jalalonmuhali (visiting nephrologist from Malaysia) won 3rd prize for the ISN Fellowship Program award, this award was handed out at the World Congress of Nephrology (WCN) 2019. Maisarah's abstract was entitled: 'Serum Free Light Chain As Surrogate Marker For Renal Activity In Lupus Nephritis.'



Dr Maisarah Jalalonmuhali also won the 3rd prize for best poster at the Asian Society of Transplantation for her AT1R work in Malaysian transplants. Maisarah's poster was entitled "The Risk Factors for mTORi associated Post-Transplant Proteinuria: A Single Center Experience".



A/Prof Paul Bennett was awarded the 2019 Nephrology Nursing Journal Research Writing Award for his article, Perceptions and Practices of Nephrology Nurses Working in Home Dialysis: An International Survey.

Research funding for 2019

CLINICAL RESEARCH GROUP

2019 Health Services Charitable Gifts Board (HSCGB) (\$60,000)

S Jesudason (on behalf of CNARTS Clinical Research Group, CALHN) – A Novel approach to reducing needle distress in Dialysis Patients: The NEEDLE-CARE program.

2019 Kidney, Transplant and Diabetes Research Australia (KTDR) Project Grant (\$50,000)

S Jesudason, R Le Leu, A Meade, T Whittington, R Faull, P Clayton

Development of a clinical and research database for CNARTS 2019 Kidney,

Kidney Transplant and Diabetes Research Australia (KTDR) Project Grant (\$50,000)

A Meade, C Trimmingham, R Faull, S McDonald, R Le Leu, P Clayton, S Jesudason, G Rogers, T Coates.

Nutrition interventions to improve diarrhoea early after kidney transplant.

2019 Royal Adelaide Hospital Research Committee Allied Health Grant (\$30,000)

A Meade, C Trimmingham, R Faull, S McDonald, R Le Leu, P Clayton, S Jesudason

Nutrition interventions to improve diarrhoea early after kidney transplant

2019 Allied Health Professional Collaborative Grants SA Health-THRF-UniSA (\$22,000)

L McMichael, L Paradiso, S Reuter Lange, R Le Leu, R Faull, M Ward, D Foster, J Latte, H Tran, S Jesudason

Improving the therapeutic use of vancomycin in patients undergoing dialysis treatment

2019 Allied Health Professional Collaborative Grants SA Health-THRF-UniSA (\$21,000)

K Ferrar, B Tarca, T Wycherley, T Boyle, A Meade, P Bennett, M Ovenden, R Le Leu, S Jesudason

Using mobile phone technology to understand fatigue, mood and activity levels in patients receiving peritoneal dialysis.

2019 International Trust (\$24,928)

M Cripps on behalf of the Centre for Creative Health

Kidney Dialysis Diversional Art Project

NHMRC post-graduate scholarship (\$130,523 for 3 years) RACP Jacquot Award for Excellence Research Entry Scholarship (\$30,000 p.a for 3 years) BEAT-CKD post-graduate scholarship (\$30,000 over 12 months)

S Bateman

Benefits and Burdens of Kidney. Transplantation for First Nations Australians.

Jacquot Research Entry PhD Scholarship (\$45,000 over 12 months)

G Irish

Decision making in kidney transplantation.

University of Adelaide Research Training Program Stipend (\$28,092 p.a for 3 years)

A Weightman

Consent and organ allocation in renal transplantation: an applied bioethics approach.

CENTRE FOR CLINICAL AND EXPERIMENTAL TRANSPLANTATION

2017-2019 The Hospital Research Foundation (\$460,000)

T Coates.

Total Pancreatectomy and Islet Auto Transplantation.

2016-2019 Juvenile Diabetes Research Foundation (\$3,200,000)

T Coates.

Expanding the criteria for human islet transplantation by the development of a drug-free immunosuppressive protocol.

2019-2023 Juvenile Diabetes Research Foundation International 3SRA-2019-777-M-B (\$1,969,259)

T Coates.

Proof of Concept Clinical Trial of Intracutaneous Islet Transplantation.

2019-2020 Commercial Corporation (\$1,254,357)

T Coates.

Intracutaneous Ectopic Pancreas (IEP) creation by seeding Human Stem Cell-derived Islets (HSCI) into integrated BTM.

2019 RAH Research Committee Honours Scholarship (Award amount \$2000)

S Short

Creation of an immunoprivileged site in the intracutaneous space for islet cell transplantation

ANZDATA, ANZOD AND BEAT-CKD

2020-24 NHMRC Investigator Grant – Leadership 1 (\$975,000)

S McDonald

Building on Registry data to improve dialysis and kidney transplantation.

This investigator grant will use the ANZDATA Registry to improve the quality of dialysis and kidney transplantation in Australia.

2019 Royal Australasian College of Physicians (RACP) Jacquot Research Establishment (\$90,000) Fellowship Jacquot Research Establishment Award'

P Clayton

Transforming national kidney allocation to increase utility and equity.

2019-23 NHMRC Project grant (APP1162410 \$1,748,533)

S Badve, S Palmer, G Elder, K Polkinghorne, R Wald, G Strippoli, P Clayton, R Krishnasamy, E Pascoe.

Pragmatic randomised trial of High Or Standard PHosphAte Targets in End-stage kidney disease (The PHOSPHATE Study).

2019-23 NHMRC Project grant (APP1159051\$1,732,011)

R Morton, S McDonald , M Jose, C Brown, L Laranjo, P Bennett, S Palmer, F Caskey, C Couchoud.

Can Symptom monitoring With Feedback to clinicians improve the lives of people on dialysis? (SWIFT).

2019-23 NHMRC Partnership Project grant (APP1171364) (\$369,182)

A Webster, K Wyburn, R Morton, K McCaffery, P Kelly, P Clayton, D Muscat, N De La Mata

Maximising Organ Donor offer Utility System-wide (the MODUS study).

2019-24 Medical Research Future Fund (MRFF) grant (APP1170238 (\$1,305,275)

D Johnson, N Boudville, D Johnson, N Boudville, J Chow, Y Cho, E Pascoe, K Howard, P Clayton, M Jose, C Hawley, S Palmer

TEACH-PD study: a Targeted Education ApproaCH to improve Peritoneal Dialysis outcomes.

2018-19 Kidney Health Australia (KHA) (\$50,000)

R Morton, S McDonald , M Jose, L Laranjo, P Bennett, W Handke.

Symptom monitoring With Feedback Trial (SWIFT): A feasibility and acceptability study of ANZDATA ePROMs data capture and feedback.

Clinical Research Group

- The Clinical Research Group (CRG) coordinates, fosters and provides oversight for all clinical research projects (not including clinical trials) within CNARTS.
- The CRG operates under the direction of the Executive Committee is committed to enhancing research collaborations between various disciplines (medical, nursing and allied health) and facilitating sharing of knowledge and expertise, mentorship and guidance for researchers at all stages of their career.
- The CRG is currently pursuing mixed methodology research across a range of patientcentred themes, with the goal of evidence-based change to clinical practice and improvement of clinical care.

Vision statement

To embed a culture of research into daily clinical practice within CNARTS

Executive Committee

Dr Richard Le Leu (CRG Research Co-ordinator), A/Prof Phil Clayton, Tiffany Whittington, A/Prof Shilpa Jesudason (Chair), Prof Randall Faull, Anthony Meade



Project staff in 2019

Dr Richard Le Leu (Clinical Research Coordinator), Dr Lisa Shanahan (Research Psychologist), Emily Duncanson (Research Officer), Stephen Chen (Data Manager), Dr Nerylee Watson (Research Officer), A/Prof Paul Bennett (Research Project Officer)

CRG RESEARCH PROJECTS

Multidisciplinary Tools for Screening and Assessment of Patients Starting Dialysis in CNARTS: An Implementation Study (MADE Study)

Researchers - E Duncanson, R Le Leu, K Dansie, L Shanahan, P Bennett, F Donnelly, A Meade, P Clayton, S McDonald, A Chur-Hanson, A Burke, K Collins, R Faull, S Jesudason

(Collaboration with the School of Psychology, University of Adelaide and Clinical Psychology, CALHN)

This prospective longitudinal study used patient reported outcomes to identify factors that influenced the quality of the patient's illness experience in the first 6 months of dialysis. The study revealed frail status and poor mobility (Grip Strength, Timed 'up & go' Test) at dialysis start, which only improved by ~20% and 10% respectively at 3 and 6 months. Poor sleep quality and dysfunction was apparent throughout the study. The MADE study also identified that needle fear was frequently experienced and this has led to the INJECT study (see page # for INJECT). Planning also is in progress to evaluate the impact of sleep therapies on daytime function and activity in patients receiving dialysis.

Patients appreciated being included in the research process.

Funded by:

*Kidney, Transplant and Diabetes Research
Australia (KTDR) \$50,000*

*Health Service Charitable Gifts Board (HSCGB)
(\$98,780)*



Changes in Gut Health after kidney transplant

Researchers - A Meade, N Watson, R Le Leu, M Mukherjee (Flinders University Dietetics Honours student), C Trimmingham, G Rogers (SAHMRI), P Clayton, T Coates, S Jesudason

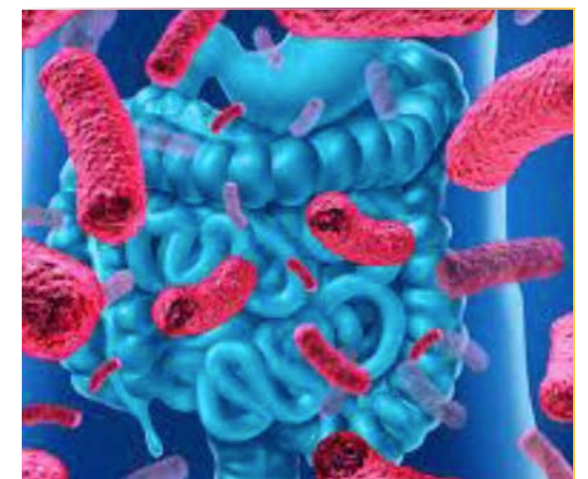
(Collaboration with the Microbiome and Host Health Programme, SAHMRI)

This project will help us understand more about diarrhoea in people with recent kidney transplants. We will explore the relationship between diarrhoea and dietary habits by measuring diet quality. This project will also investigate the gut microbiome before and after kidney transplant and study the ability of renal transplant patient's microbiome to digest certain foods that might be important for treatment of symptoms. To date, n = 23 participants have been recruited and recruitment will continue until the end of 2020.

Funded by:

*Allied Health, Pharmacy and Nursing RAH
Research Committee (\$30,000)*

*Kidney, Transplant and Diabetes Research
Australia (KTDR) (\$50,000)*



The aKction Project - Aboriginal Kidney Care Together- Improving Outcomes Now

Researchers - J Kelly, T Stevenson, S Robertson, M Chamney, O Pearson, T Whittington, K O'Donnell, K Taylor, S Crail, R Le Leu, S McDonald, S Bateman, G Meija, S Jesudason.

(Collaboration with Community members, University of Adelaide, SAHMRI, ANZDATA, The National Indigenous Kidney Transplantation Taskforce, Kidney Health Australia)

The aKction- Aboriginal Kidney Care Together- Improving Outcomes Now Project is working with Aboriginal patients, family members, health professionals and support services in urban, rural and remote locations in South Australia to identify what is working and what needs improvement in kidney care. Individual patient journeys have been mapped, and workable strategies for improvement identified. Specific issues related to access, transport and accommodation, communication and peer support have been identified. Short, medium and longterm solutions have been prioritised and will be actioned by small teams comprising Aboriginal patients, health professionals, researchers, educators and kidney care services. A strong Aboriginal Reference Group has been formed and is now providing advice and leadership for improvements in Aboriginal kidney care and research..

A strong Aboriginal Reference Group has been formed and is now leading the way in Australia by providing advice and leadership for improvements in Aboriginal kidney care and research.

Funded by:

SA Academic Health Science and Translation Centre (SA Centre) for the Rapid Applied Research Translation for Health Impact Grant (\$185, 604).



Injection and Needle Joint Education and Care Training: The INJECT study

Researchers – E Duncanson, L Shanahan, R Le Leu, S McDonald, F Donnelly, L Macauley, P Bennett, A Burke, K Collins, A Chur-Hansen, T Whittington, S Jesudason

(Collaboration with the School of Psychology, University of Adelaide and Psychology, CALHN)

This project will develop, validate and implement a novel, nurse and patient-led psychological intervention - the Injection and Needle Joint Education and Care Training (INJECT) program - to reduce needle-related morbidities in adult dialysis recipients. The first step is underway which involves exploring patient and nurse perspectives in qualitative studies, to validate a dialysis-specific measure of needle fear and inform the INJECT intervention.

Funded by:

The Health Services Charitable Gifts Board (HSCGB) (\$60,000)



Fit, strong or active: What should we focus on to improve the lives of peritoneal dialysis (PD) patients?

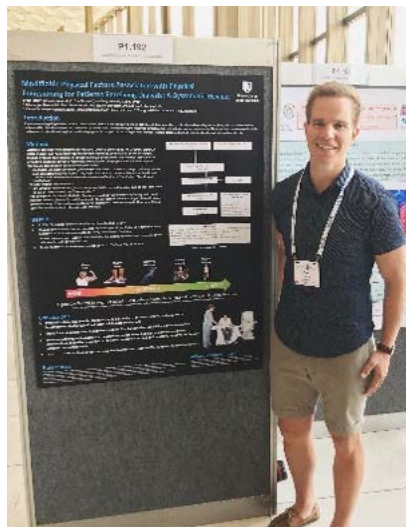
Researchers - B Tarca (Master Research Candidate), T Wycherley, P Bennett, A Meade, R Le Leu, S Jesudason, K Ferrar.

(Collaboration with School of Health Sciences, University of South Australia)

This research study is exploring the modifiable physical factors that predict physical functioning for patients receiving peritoneal dialysis (PD). This 12-month longitudinal cohort study will assess physical activity levels / sedentary behaviour, muscle strength and cardiorespiratory fitness as predictors of physical function at three time points (baseline, 6 months and 12 months) in PD patients. To date, 50 patients have been recruited, 37 have completed the full battery at baseline, 7 have had 6-month follow ups. Recruitment is ongoing.

'I didn't think I would be able to do it but am so pleased that I could do it all and still have the ability to move and use my muscles before it so it reads '

Patient quote



Improving the therapeutic use of vancomycin in patients undergoing dialysis treatment

Researchers – L McMichael, L Paradiso, , R Le Leu, R Faull, M Ward, D Foster, J Latte, H Tran, S Jesudason, S Reuter-Lange

(Collaboration with School of Pharmacy & Medical Sciences, University of South Australia)

This project will determine the pharmacokinetics of vancomycin in patients receiving maintenance haemodialysis treatment to guide optimal and safe administration of vancomycin in the treatment of serious gram-positive bacterial infections.

Funded by:

2019 Allied Health Professional Collaborative Grants SA Health.



Diversional Art Therapy for Renal Patients

Researchers - M Cripps, L Shanahan, R Cambrell, A Biddle, R Le Leu, S McDonald , S Jesudason.

(Collaboration with the Centre for Creative Health, RAH)

The focus of this study was to set up an art therapy program within CNARTS and evaluate the impact of such a program on patient wellbeing. All patients at the RAH 2C dialysis centre were invited to participate in the program. A total of with n=15 agreed to participate and 3 patients completed the 10 sessions and final survey. Overall participants found the program rewarding and the activities helped pass the time on dialysis. We are now undertaking a 10-week activities programme within CNARTS at the Hampstead Dialysis Unit and will evaluate the impact of this program on patient wellbeing. Further grant funding has been secured from an International trust to continue the program at Hampstead Dialysis Unit.

' Gee time went quick. Can I do this (art activity) at other centres too? '

Patient quote

Funded by:

International Trust \$47,928



Factors associated with delayed active listing for deceased donor kidney transplantation in patients receiving dialysis in Australia

Researchers – L McMichael, P Clayton

The aim of this project is identification of factors associated with delayed listing for active kidney transplantation. Participants were identified through the Australia and New Zealand Dialysis and Transplantation Registry (ANZDATA) database and cross-matched with patients actively listed for kidney transplantation in the National Organ Matching System. Development of consultant specific patient list & forwarding list of patients with unique patient identifier to treating consultant followed by separate online survey tool completed by consultant with unique patient identifier entered into survey to ensure privacy of patient data (Survey completed through google forms). To date a pilot has been run within CNARTS, whereby 92 patients identified to fit criteria for inclusion within survey and 64/92 patient surveys returned (70%).



Patient's perceptions of intradialytic exercise and physical activity

Researchers – J Zhang (Nursing Masters candidate), P Bennett.

(Collaboration with the Centre for Creative Health, RAH)

This study was conducted at Hampstead Home Dialysis Training Unit as part of the University of Tasmania Nursing Master's Program, a literature review was carried to identify patients' perceived barriers and motivators to facilitate exercise participation. Results showed that people with CKD want to maintain physical function and understand the importance of exercise. A multidisciplinary team approach is therefore required to maintain effective exercise programmes that promote physical function. Staffing issues and workload need to be evaluated to incorporate an exercise promotion programme into routine clinical practice.



Exercise benefit and barriers in peritoneal dialysis

Researchers – J Zeng (Nursing Masters candidate), K Hill , M Borlace, Q Xu, P Bennett

(Collaboration with School of Nursing, University of South Australia)

This study was conducted at Hampstead Home Dialysis Training Unit as part of the University of SA Nursing Master's Program and utilised a cross-sectional survey to address perceived barriers and benefits of exercise among people receiving peritoneal dialysis and factors influencing people's perception of barriers and benefits to exercise. Findings showed that people on PD hold positive perceptions towards exercise but face a number of perceived barriers to physical activity. Clinicians can acknowledge these barriers and focus on helping people on PD to overcome their perceived barriers to encourage sustained exercise participation.



Comparison of early outcomes in renal transplant recipients following alteration of induction immunosuppression therapy protocol within Central and Northern Adelaide Renal and Transplantation Services (CNARTS)

Researchers – T Salehi, P Clayton

This study consists of a retrospective review and subsequent analysis of the impact of universal versus selective Rabbit Anti-thymocyte globulin (rATG) induction immunosuppression on early post renal transplantation outcomes, in low to medium immunologic risk categories; particularly comparing rejection and infection rates. Preliminary results from 78 patients indicate lower rejections rates for ATG (10.3%) compared to Basiliximab (31.6%), however higher infection rates with a greater severity of cytomegalovirus (CMV) and BK virus were observed with ATG.



An investigation into the recognition of pruritus as a complication of end-stage renal disease

Researchers – S Schwetlik, S Crail, L Lunardi, G Crawford

(Collaboration with Central Adelaide Palliative Care Service, CALHN)

This investigator-led feasibility study aimed to determine the severity of pruritus in haemodialysis (HD) & supportive care patients within CNARTS; how many patients have told a healthcare professional about their pruritus; and what treatment has been offered and how effective has it been. HD patients are experiencing significant impact of pruritus however; this symptom is going unrecognised and hence unmanaged. Results of this study lend support for a larger study in this population, with HD patients in particular showing a willingness to participate in pruritus-related research.

Supportive and Palliative Care Indicators Tool (SPICT™)		
The SPICT™ is a guide to identifying people at risk of deteriorating and dying. Assessment of unmet supportive and palliative care needs may be appropriate.		
Look for two or more general indicators of deteriorating health.		
• Performance status poor or deteriorating, with limited reversibility. (needs help with personal care, in bed or chair for 50% or more of the day).		
• Two or more unplanned hospital admissions in the past 6 months.		
• Weight loss (5 - 10%) over the past 3 - 6 months and/or body mass index < 20.		
• Persistent, troublesome symptoms despite optimal treatment of any underlying condition(s).		
• Lives in a nursing care home or NHS continuing care unit, or needs care to remain at home.		
• Patient requests supportive and palliative care, or treatment withdrawal.		
Look for any clinical indicators of advanced conditions		
Cancer Functional ability deteriorating due to progressive metastatic cancer. Too frail for oncology treatment or treatment is for symptom control.	Heart/vascular disease NYHA Class III/IV heart failure, or extensive, untreatable coronary artery disease with: • breathlessness or chest pain at rest or on minimal exertion. Severe, inoperable peripheral vascular disease.	Kidney disease Stage 4 or 5 chronic kidney disease (eGFR < 30ml/min) with deteriorating health. Kidney failure complicating other life limiting conditions or treatments. Stopping dialysis.
Dementia/ frailty Unable to dress, walk or eat without help. Choosing to eat and drink less; difficulty maintaining nutrition. Urinary and faecal incontinence. No longer able to communicate using verbal language; little social interaction. Fractured femur; multiple falls. Recurrent febrile episodes or infections; aspiration pneumonia.	Respiratory disease Severe chronic lung disease with: • breathlessness at rest or on minimal exertion between exacerbations. Needs long term oxygen therapy. Has needed ventilation for respiratory failure or ventilation is contraindicated.	Liver disease Advanced cirrhosis with one or more complications in past year: • diuretic resistant ascites • hepatic encephalopathy • hepatorenal syndrome • bacterial peritonitis • recurrent variceal bleeds Liver transplant is contraindicated.
Neurological disease Progressive deterioration in physical and/or cognitive function despite optimal therapy. Speech problems with increasing difficulty communicating and/or progressive dysphagia. Recurrent aspiration pneumonia; breathless or respiratory failure.		
Supportive and palliative care planning • Review current treatment and medication so the patient receives optimal care. • Consider referral for specialist assessment if symptoms or needs are complex and difficult to manage. • Agree current and future care goals/ plan with the patient and family. • Plan ahead if the patient is at risk of loss of capacity. • Handover: care plan, agreed levels of intervention, CPR status. • Coordinate care (eg. with a primary care register).		

The effectiveness of using the Supportive and Palliative Care Indicator Tool (SPICT) to improve nursing confidence in recognising end-of-life in patients admitted to the Renal Ward at the Royal Adelaide Hospital (RAH)

Researchers –L Lunardi, A Weightman, S Crail, C Drummond

This project assessed nurses' confidence in recognising patients at risk of deterioration at the time of their admission to hospital, before and after the implementation of the regular use of the SPICT. This study showed that regular use of the SPICT in all hospital admissions and the simple education of topics related to EoL care provided significantly improved nurses' perception of confidence in recognising deteriorating and frail patients approaching their end of life.



Smartphone Ownership and User Ability in Patients Attending Central and Northern Adelaide Transplantation and Renal Service: A prevalence and impact study

Researchers – S Gluck, T Gilbert, R Le Leu, S McDonald, S Jesudason

This project measured the prevalence of smartphone ownership and user ability in the renal population of the Central and Northern Adelaide Renal and Transplantation Service (CNARTS). Results showed that of the 373 patients that responded to the survey 60% owned a smartphone and of those who owned a smartphone 91% said they carry their phone with them more than 75% of the time when they leave the house and 65% of smartphone owners could install an app themselves.



Does a patient centred approach with the dialysis dietetics services increase adherence to dietary modifications to improve health outcomes and quality of life?

Researchers – D Turner, S Palazzo, S Plush

The aim of this project is to increase patient engagement by tailoring education around our patients self-reported needs to aid adherence and improve outcomes for our patients. Patient experience surveys will be completed to determine if the overall satisfaction of dietetics services has increased.



The Risk Factors for mammalian target of rapamycin inhibitors (mTORi) associated Post-Transplant Proteinuria: A Single Center Experience

Researchers – M Jalalonmuhali and T Coates

(Collaboration with University Malaya Medical Centre, Malaysia)

This project will investigate the related risk factors for proteinuria after mTORi treatment in post kidney transplantation. Early identification of risk factors associated with proteinuria in mTORi may assist the physician in deciding the best candidate for mTORi conversation for a better long term graft survival.



Total pancreatectomy and auto islet cell transplantation [TPIAT] in SA – a case series

Researchers – T Bampton (Honours candidate), T Coates

This study will consist of a case series detailing the experiences of patients that have undergone total pancreatectomy and auto islet cell transplantation.

Costs of chronic pancreatitis to the SA healthcare system

Researchers – T Bampton (Honours candidate), T Coates

The outcomes of this research will estimate the prevalence of chronic pancreatitis and its expense to the SA healthcare system.



Hospital care costs and variation for patients with end-stage kidney diseases in South Australia and the Northern Territory

Researchers - S Crail, R Carroll, S McDonald, P Clayton, S Jesudason, C Sajiv, W Majoni, P Lawton

(Collaboration with Menzies School of Health and Royal Darwin Hospital, NT)

This is a study using data linkage of population health datasets in SA and NT to explore the outcomes of indigenous and non-indigenous patients with ESKD, particularly focussing on hospitalisation and morbidity.

Funded by:

- Kidney, Transplant and Diabetes Research Australia (KTDR) (\$23,000)

Centre for Clinical and Experimental Transplantation (CCET)

The CNARTS laboratory is based at the new biomedical precinct within the University of Adelaide Health and Medical Sciences building. The laboratory has continued its excellence in training the next generation of scientists and clinicians further enhancing its reputation for producing outstanding independent researchers. The laboratory was founded at the Queen Elizabeth Hospital by Prof Graeme Russ in 1986 and was the first dedicated transplantation immunology laboratory in Australia. Since then the research interests of the CNARTS laboratory have broadened to include many aspects of kidney disease, diabetes and other diseases of the pancreas.

The laboratory is led by Prof Toby Coates, A/Prof Chen Au Peh and Dr Rob Carroll. The laboratory includes a team of senior scientists, grant funded scientists, technical officers, PhD and Honours students. Many previous laboratory students have gone onto leadership roles in nephrology and transplantation from the CNARTS laboratory and become independent researchers in leading institutions all around the world. To date the lab has had 3 prestigious CJ Martin fellowships awarded to its alumni including most recently Dr Kisha Sivanathan in 2017.



Prof Toby Coates

(Head of CCET
and Director of
Transplantation)

To train the next generation of medical doctors and scientists in basic laboratory science for application to the causes and treatment of renal diseases and organ transplantation.

CCET laboratory staff

Chris Drogemuller
(Principal Medical Scientist)

Svjetlana Kireta
(Senior Medical Scientist)

Plinio Hurtado
(Senior Grant Funded Scientist)

Julie Johnston (Technical Officer)

Jodie Nitschke
(Senior Grant Funded Scientist)

Daniella Penko
(Senior Grant funded Scientist)

Ernesto Hurtado
(Grant Funded Scientist)

Students

Griffith Perkins (PhD candidate)

Juewan Kim (PhD candidate)

Alice Krige (PhD candidate)

Brigette Clarke (PhD candidate)

Jacqueline Scaffidi (PhD candidate)

Sarah Short (Honours candidate)

Denghao Wu (Honours candidate)

Tristan Bampton (Honours candidate)



LABORATORY RESEARCH PROJECTS

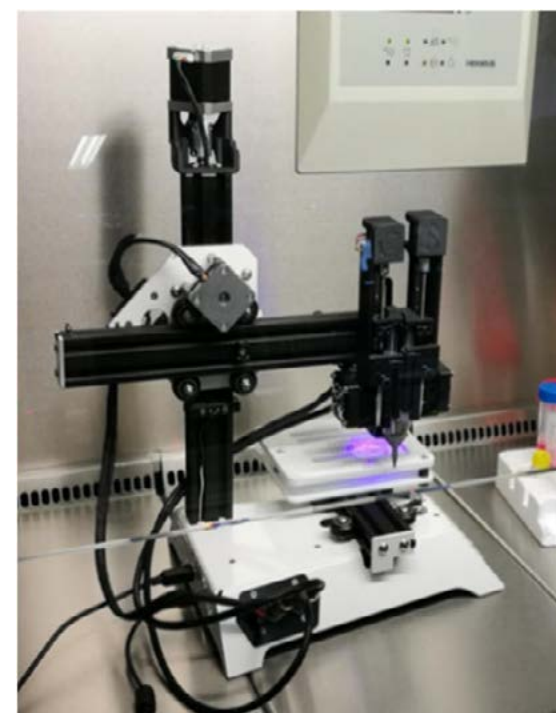
3D bioprinting of Tregs & Generation of stable induced Treg

Researchers - T Coates, C Drogemuller, J Kim, D Penko

Associated Researchers - Gordon Wallace, Xiao Liu, Zhilian Yue, Yu Hou

This project is an ongoing collaboration with the University of Wollongong's Prof Gordon Wallace and involves the design and fabrication of the only dedicated 3D pancreatic organoid printer in Australia to create alternative sources of insulin production for treatment of diabetes. In 2019, significant progress was achieved with the successful co-printing of regulatory T-cells and islets. This culminated in publication of these research outcomes in the highly prestigious materials science journal "Advanced Functional Materials" (IF 15.6). It is the first time that human Treg cells have been successfully encapsulated in alginate and it lays the ground work for further printing studies with these unique immune regulatory cells. Modification of the alginate with Treg survival factors was critical to success, with the new alginate able to recruit the body's own Tregs to the site of deposition, due to incorporation of chemokines within the bioink.

In 2020 we will receive the third iteration of the 3D printer with further improved printing capabilities, to enable in vivo testing of these Treg and islet organoids in our animal models of diabetes.



The Biodegradable Temporizing Matrix as an Alternative Site for Human Islet Transplantation

Researchers - T Coates, C Drogemuller, D Penko, J Johnston, J Nitschke, S Kireta

Associated researchers – J Greenwood, S Grey, B Dearman, S Walters, T Kay, T Loudovaris, L Mariana

This project is supported by the Juvenile Diabetes Research Foundation International (New York), where an alternative extra hepatic site for islet transplantation is being developed. It is a collaboration with Prof John Greenwood (the inventor of the material) from the Burns Unit at the Royal Adelaide Hospital and has created a biomedical start-up company – Beta Cell Technology to develop this approach for the clinic.

In 2019 we successfully obtained new project funding from JDRF for an additional pre-clinical large animal study and upon successful completion, with positive outcomes a first in human "Proof of Concept" clinical trial of intra-cutaneous islet transplantation. The trial will be the first human study to examine if the engineered hyper-vascularised intracutaneous site can support islet survival and function.

Intracutaneous Ectopic Pancreas (IEP) creation by seeding Human Stem Cell-derived Islets (HSCI) into integrated BTM

Researchers –T Coates, C Drogemuller, J Nitschke, S Kireta, D Penko, J Johnston

Associated researchers – J Greenwood

This project is commercial in confidence and comprises a collaboration between one of the largest international diabetes companies, our islet transplant research team and Beta Cell Technologies.

We are currently undertaking two preclinical research projects investigating transplantation of stem derived human islets into our small and large animal models of diabetes. This involves transplanting the islets into a neo-dermal space created following integration of a biodegradable polyurethane scaffold into the skin. The aim of this research is to generate sufficient pre-clinical data to support a first in human trial in the next 2-3 years.



Regulation of IL-10 secretion by human B cells

Researchers – G Perkins, P Hurtado, C Hope, T Coates

This project is investigating a novel cytokine signalling network that regulates the production of immunosuppressive cytokines by human B cells, and its role in kidney transplantation and autoimmune disease.

Creation of an immunoprivileged site in the intracutaneous space for islet cell transplantation

Researchers – S Short, T Coates, C Drogemuller, J Nitschke, S Kireta, D Penko, J Johnston

Associated researchers – J Greenwood

Islet transplantation is a therapeutic intervention for patients with severe Type I Diabetes, however refinements are required to improve its clinical applicability. This project aimed to characterise the efficacy and viability of topically or intracutaneously administered immunotherapy in the creation of a locally immunoprivileged site for islet transplantation, whilst preserving the favourable microenvironment established by scaffold engraftment.



Use of small molecules as adjuvant treatment for snake envenoming.

Researchers - E Hurtado, PR Hurtado and C Peh

According to the World Health Organization, about 5.4 million snakebites occur each year, resulting in 1.8 to 2.7 million cases of envenomings (poisoning from snake bites). Using bioinformatics and in vitro experiments, this discovery project aims to evaluate the potential snake venom inhibitory effect of commonly used drugs that could lead to novel, more effective envenoming treatment.

Study of the Immunostimulatory Properties of genomic DNA

Researchers - E Hurtado, PR Hurtado and C Peh

This project, using bioinformatics tools, will aim to map the frequency and distribution of CpG motifs in the human genome and to corroborate their immunostimulatory properties using in vitro assays. The study will help understand the possible contribution of our DNA in the pathogenesis of the Systemic Lupus Erythematosus.

Total Pancreatectomy and Islet Auto Transplantation (TPIAT)

Researchers – T Coates, C Drogemuller, S Kireta, T Radford, C Etherton, C Russell

Associated researchers – D Torpy, S Khurana, J Chen, J Couper, R Couper, E L Neo

With the generous support of the hospital research foundation we have been able to establish a new clinical program for the treatment of chronic pancreatitis.

The program involves removing a patient's own pancreas, thus removing the source of chronic pain and also removing the likelihood they will go on to develop pancreatic cancer in their 40-50's. Once the pancreas has been surgically removed it is processed to isolate the islets within, the cells responsible for secreting insulin and controlling our blood sugar levels.

Once the islets have been isolated they are then transplanted back into the patient's liver where they will remain and following a short period of engraftment will secrete insulin in response to changing blood glucose levels. This transplant procedure will prevent the patient from becoming overtly diabetic and in some cases not requiring any exogenous insulin at all to control their blood sugar levels.

Persufflation in an ovine model of kidney transplantation as a means of organ preservation

Researchers – T Coates, A Krige, C Russell, C Drogemuller, J Johnston

Associated Researchers – L Palmer, K Pappas

This PhD project is investigating prolonged (24 hour) persufflation preservation (gaseous perfusion preservation) in a large animal model of kidney auto-transplantation as an alternative to static cold storage, in order to ameliorate ischaemia reperfusion injury.

In addition, two forms of prolonged persufflation (anterograde and retrograde) will be assessed ex vivo to investigate the most effective method of organ preservation prior to transplantation.

The Genetic Epidemiology of Hereditary Pancreatitis in South Australia

Researchers – D Wu, L Palmer, K Kassahn, T Coates

Hereditary pancreatitis (HP) is a rare condition, and is at this stage not well understood. Using HP identified patients, we will conduct genetic analysis on these patients and their first-degree relatives to better understand the variability in phenotype of this condition.

ANZDATA, ANZOD and BEAT-CKD



The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) collects and reports the incidence, prevalence and outcome of dialysis treatment and kidney transplantation for patients with end stage kidney disease across Australia and New Zealand.

The mission of the registry is to improve the quality of care and outcomes for people with end stage kidney disease in Australia and New Zealand by:

- Collecting and analysing accurate and comprehensive data from all patients receiving long term dialysis or kidney transplantation in Australia and New Zealand,
- Producing and disseminating reports,
- Informing development of practice, policy and health services,
- Working with stakeholders to improve the understanding of kidney disease and outcomes of treatment.

The ANZDATA Registry encourages and enables the highest quality of care for people in Australia and New Zealand with end stage kidney disease by providing information that is complete, accurate, clear, relevant, readily available and timely.

The Australia and New Zealand Organ Donation Registry (ANZOD), records and reports on organ donation within Australia and New Zealand. Donation following death results in transplantation which is an effective and well-established treatment that can restore health and quality of life to those patients suffering end stage organ failure, thereby saving lives.

Data related to organ donation and transplantation activity is essential in identifying opportunities for improving care of donors, informing on quality of transplant organs and transplant recipient outcomes. The Registry reports monthly on this web site, the numbers of deceased organ donors and the number of recipients benefiting from donation. An annual report is also produced for download on health outcomes of donation and how Australia and New Zealand compares international outcomes in organ donation and transplantation.

The Better Evidence And Translation – Chronic Kidney Disease (BEAT-CKD) is a collaborative research program that aims to improve the lives of people living with chronic kidney disease in Australia and globally by generating high-quality research evidence to inform healthcare decisions made by patients, health professionals, and policy makers. BEAT-CKD addresses the entire spectrum of CKD, from early stage chronic kidney disease, through to dialysis, and kidney transplantation.

BEAT-CKD is funded by a NHMRC Program Grant (1092957) and include the Chief Investigators: Prof Jonathan Craig, Prof David Johnson, Prof Jeremy Chapman, A/Prof Carmel Hawley and Prof Stephen McDonald and Associated Investigators: A/Prof Shilpa Jesudason and Dr Phil Clayton. This grant awarded in 2016-2020 (\$10,141,300) supports national research and translation platforms including ANZDATA.

(<http://beateckd.org/>)

ANZDATA Research staff

Prof Stephen McDonald (Executive Officer):
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Matilda D'Antoine (Research Administrator): matilda@anzdata.org.au

Dr Namrata Khanal (PhD candidate): namrata@anzdata.org.au

Dr Matthew Sypek (Epidemiology Fellow): matthew@anzdata.org.au

A/Prof Shilpa Jesudason (Investigator): shilpa.jesudason@sa.gov.au



CURRENT PROJECTS

1. Consumer involvement in research

Researchers - E Duncanson, K Dansie, S Jesudason, S McDonald



This project aims to improve consumer engagement in research across the BEAT-CKD platforms, and develop a research-literate and involved consumer base for future kidney research. Three consumer involvement workshops were held across Australia in 2017, followed by the establishment of the BEAT-CKD Consumer Advisory Board, consisting of approximately 30 people with kidney disease, and caregivers from around Australia.

Consumers have been 'on-boarded' to various ANZDATA projects for involvement in planning, conducting and disseminating research. Working with ANZDATA researchers and statisticians, consumers are also co-developing outputs of ANZDATA data including infographics, for patients, families and the broader community. In the last eighteen months, the BEAT-CKD Consumer Advisory Board have been heavily involved in designing and delivering initiatives to involve patients at major scientific meetings and conferences in nephrology, including the 2018 ANZSN Annual Scientific Meeting and 2019 ISN WorldCongress of Nephrology. The BEAT-CKD YouTube Channel now hosts videos of research presentations for the nephrology community from these initiatives.

2. Patient reported outcome measures (PROMS) in Australia & New Zealand Renal units and the ANZDATA Registry – Symptom Monitoring With Feedback Trial (SWIFT)

Researchers – R Morton, K Dansie, M Jose, C Brown, L da Silva, P Bennett, W Handke, E Duncanson, S Jesudason, S McDonald



SWIFT is a two-arm cluster randomised trial testing the hypotheses that symptom monitoring using the IPOS-Renal with feedback to clinicians, improves quality of life and overall survival for patients receiving haemodialysis. Additionally, the trial will examine the cost-effectiveness of electronic data capture of patient reported outcome measures within a clinical quality registry (ANZDATA). The SWIFT Pilot is currently

underway, with data collection taking place at sites in Adelaide and Queensland, looking at the feasibility and acceptability of using a tablet device to collect PROMS from in-centre haemodialysis patients.

3. Organ utilisation and allocation

Researchers - P Clayton, M Sypek, S McDonald

Using data from ANZDATA and ANZOD registries, this project involves the design and measure of the effects of alternative models for organ allocation. This includes simulation via kidney-pancreas simulated allocation modelling (KPSAM) software, community preferences in organ allocation, analysis of ethical concepts underpinning allocation systems and a number of smaller projects around wait listing and organ discards.

4. Integration of three pragmatic registry trials into the ANZDATA Registry

Researchers - K Dansie, P Clayton, S McDonald

Randomised controlled trials can be embedded into registries to minimize duplicate data collection and provide the ability to easily follow up patient's long term, without the need for data linkage. The Australasian Kidney Trials Network (AKTN) and the ANZDATA registry have worked effectively together to coordinate three registry-based trials, BEST-Fluids (Better Evidence for Selecting Transplant Fluids), RESOLVE (Randomised Evaluation of Sodium dialysate Levels on Vascular Events) and TEACH-PD (Targeted Education Approach to Improve Peritoneal Dialysis Outcomes).



5. Exploring patient travel to in-centre haemodialysis

Researchers - S McDonald, C Davies, K Dansie, E Duncanson, P Clayton, S Ullah, A Gulyani, S Jesudason

Using ANZDATA data and sophisticated geospatial models, we have performed analyses of travel time and distance between patients residential postcodes and dialysis units, to characterise the burden of travel for patients and identify where patients are treated geographically in Australia.

6. Data linkage

Researchers - S McDonald, C Davies, E Hewawasam, K Dansie

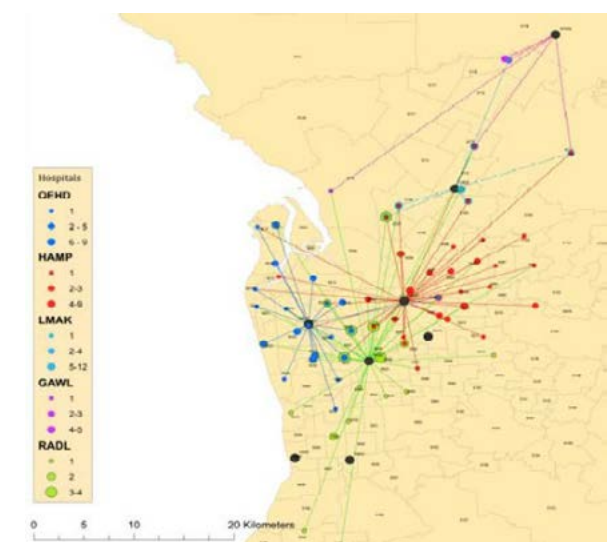
National Joint Replacement Registry – Analysis has started on a large national linked data set between the Australian Orthopaedic Association National Joint Replacement Registry (AOA NJRR) and ANZDATA, examining joint replacements in the end-stage kidney disease cohort.

Other data linkage studies with ANZDATA include Australian and New Zealand Society of Cardiac & Thoracic Surgeons Database (ANZSCTS), Sharesource (Baxter) APD and National Death Index.

7. Improving impact and outcomes of ANZDATA hospital-specific performance reports

Researchers - C Davies, M Sypek, P Clayton, S McDonald

This project aims to improve the hospital-specific performance reports ANZDATA produces each year, including the statistical methods used to compare performance of Australian and New Zealand dialysis and kidney transplant centres. Changes have already been made to these methods to provide more accurate estimates of relative performance based on a new definition of the number of expected events, and also to control false discovery rates due to multiple comparisons made between centres. Further research is exploring Bayesian and cumulative sum methods, and a survey is planned to assess stakeholder comprehension of reports. We have also circulated a Heads of Units survey to help explain the variation in results across a number of measures collected by ANZDATA.



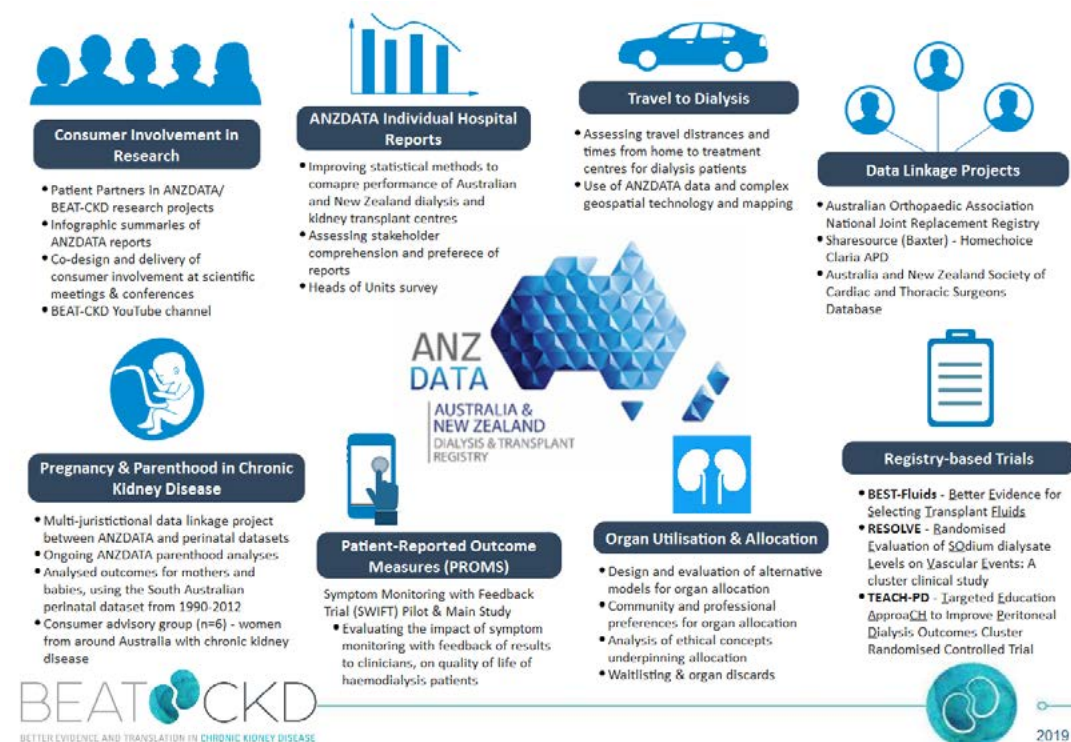
Clinical trials unit

8. Pregnancy and Parenthood in chronic kidney disease, dialysis and transplant patients

Researchers -S Jesudason, E Hewawasam, C Davies, A Fitzpatrick, A Gulyani, P Clayton, S McDonald

This group is investigating the impact of chronic kidney disease, dialysis or kidney transplantation on parenthood and pregnancy, and outcomes of the babies. The overarching aim is to build a greatly needed evidence-base for parenthood planning, education, decision-making and pregnancy care. We are conducting a wide range of studies including analysis of ANZDATA parenthood data and expansion of the data collection; linkage of ANZDATA and perinatal datasets; a national prospective cohort study in >290 maternity hospitals across Australia; and qualitative studies (interviews and surveys) to understand patient and clinician perspectives.

This work is supported by a consumer advisory group from around Australia to ensure our research addresses key priorities for people living with kidney disease.



Infographic of BEAT-CKD/ANZDATA Projects

The CNARTS Clinical Trials Unit was created in 2010 with the integration of the Royal Adelaide Hospital and Queen Elizabeth Hospital trials units. The CNARTS Clinical Trials Unit recruits for and coordinates clinical studies in patients with Chronic Kidney Disease (CKD),

End Stage Kidney Failure (ESKF) (Haemodialysis and Peritoneal Dialysis) and Renal Transplants across metropolitan and country areas of South Australia, Northern Territory and New South Wales.

Medications that are now standard of care for renal patients have been previously trialled for the first time in the clinical trials unit, thereby bringing new treatments directly to our patients. These include Tacrolimus, Sirolimus, Everolimus and Myfortic for renal transplant patients; Aranesp, and Mircera for patients with CKD /ESRD and Tolvaptan for patients with polycystic kidney disease.

Over 2019, CNARTS researchers and patients have been involved in over 30 clinical trials.

Trial staff

Jenny Latte (Assoc. Nursing Unit Manager), Eileen Scott (Assoc. Nursing Unit Manager), Meg Hockley (Assoc. Nursing Unit Manager), Bronwyn Hockley (Nursing Unit Manager), Karen Fischer (Clinical Trials Assistant).



Transplant trials

1. 0113-CL-2001:

A Randomized, Double-Blind, Placebo-Controlled, Phase 2 Trial to Evaluate the Efficacy and Safety of a Vaccine, ASP0113, in Cytomegalovirus (CMV)-Seronegative Kidney Transplant Recipients Receiving an Organ from a CMV-Seropositive Donor.

Sponsor: Astellas PI: Dr Jobert Anjelo

2. CHORUS:

Global Multicentre Kidney Transplant Advagraf Conversion Registry. A noninterventional post-authorisation study (PAS)

Sponsor: Astellas PI: Dr Chii Yeap

3. MK-8228-002:

A Phase III, Randomized, Double-Blind, Active Comparator-Controlled Study to Evaluate the Efficacy and Safety of MK-8228 (Letermovir) Versus Valganciclovir for the Prevention of Human Cytomegalovirus (CMV) Disease in Adult Kidney Transplant Recipients

Sponsor: Merck Sharp & Dohme PI: A/Prof Robert Carroll

4. CIRRUS I/II:

A 12 month, partially-blinded, active-controlled, multicenter, randomized study evaluating efficacy, safety, tolerability, pharmacokinetic (PK) and pharmacodynamics (PD) of an anti-CD40 monoclonal antibody, CFZ533, in de novo and maintenance kidney transplant recipients: CIRRUS I

Sponsor: Novartis PI: Prof Toby Coates

5. PK INDIGENOUS STUDY:

Comparison of Immunosuppressant Drug Pharmacokinetics in Indigenous versus non-Indigenous Australian Kidney Transplant Recipients.

Investigator Led: Menzies Institute PI: A/Prof Robert Carroll

6. CA209-993ISR: PD-

1 blockade in renal transplant patients with poor prognosis cancer and minimizing risk of organ rejection using comprehensive immune monitoring and screening techniques – a safety study.

Investigator Led & PI: A/Prof Robert Carroll

7. IMMUNE MONITORING: Immune monitoring in paediatric and adult renal transplant recipients.

Investigator Led & PI: A/Prof Robert Carroll

8. TMCT-04:

A Randomized Controlled Trial of Urine CXCL10 Chemokine Monitoring Post- Renal Transplant

Investigator Led & PI: A/Prof Robert Carroll

9. BEST FLUIDS:

An investigator-initiated, pragmatic, registry-based, multi-centre, double-blind, randomised controlled trial evaluating the effect of Plasmalyte versus 0.9% saline on early kidney transplant function in deceased donor kidney transplantation.

Sponsor: AKTN PI: Prof Toby Coates

10. The CARSK Study:

Canadian-Australian Randomised Trial of Screening Kidney Transplant Candidates for Coronary Artery Disease

Sponsor: The University of Sydney PI: Dr Philip Clayton

11. VKTX01:

A Pivotal Phase 3 Trial to Evaluate the Safety and Efficacy of Clazakizumab for the Treatment of Chronic Active Antibody-Mediated Rejection in Kidney Transplant Recipients

Sponsor: Vitaeris Inc PI: Prof Toby Coates

12. CAI001:

A 2-stage, multicentre, randomised, placebo-controlled study to evaluate safety/tolerability, pharmacokinetics and efficacy of UCB7858 in adult kidney transplant recipients with Chronic Allograft Injury.

Sponsor: UCB PI: A/Prof Robert Carroll

CKD/Glomerulonephritis trials

13. TULIP (Protocol D3461C00007) :

A Multicentre, Randomised, Double-blind, Placebocontrolled,

Phase 2 Study Evaluating the Efficacy and Safety of Anifrolumab in Adult Subjects with Active Proliferative Lupus Nephritis.

Sponsor: Astra Zeneca PI: A/Prof Chen Au Peh

14. CL010_168:

A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Evaluate the Safety and Efficacy of CCX168 (Avacopan) in Patients with Anti-Neutrophil Cytoplasmic Antibody (ANCA)-Associated Vasculitis Treated Concomitantly with Rituximab or Cyclophosphamide /Azathioprine.

Sponsor: Chemocentryx PI: A/Prof Chen Au Peh

15. CKDIX:

Controlled trial of slowing of Kidney Disease progression From the Inhibition of Xanthine oxidase.

Investigator Led: Australasian Kidney Trials Network (AKTN) PI: Prof Randall Faulk

16. RITAZAREM:

An international, open label, randomised controlled trial comparing rituximab with azathioprine as maintenance therapy in relapsing ANCA-associated vasculitis.

Investigator Led: Cambridge University PI: A/Prof Chen Au Peh

17. GI-R-01-2011 TESTING STUDY:

Therapeutic Evaluation of Steroids in IgA Nephropathy Globalstudy.

Investigator Led: George Institute PI: A/Prof Chen Au Peh

18. M11-001 aHUS REGISTRY:

An Observational, Non-Interventional, Multi-Centre, Multi-National Study of Patients with Atypical Hemolytic-Uremic Syndrome.

Sponsor: Alexion PI: A/Prof Robert Carroll

19. AKB-6548-CI-0014:

Phase 3, Randomized, Open-Label, Active-Controlled Study Evaluating the Efficacy and Safety of Oral Vadadustat for the Correction of Anemia in Subjects with Non-Dialysis-Dependent Chronic Kidney Disease (NDD-CKD) (PRO2TECT – CORRECTION).

Sponsor: Akebia PI: Prof Stephen McDonald

20. AKB-6548-CI-0015:

Phase 3, Randomized, Open-Label, Active-Controlled Study Evaluating the Efficacy and Safety of Oral Vadadustat for the Maintenance Treatment of Anemia in Subjects with Non-Dialysis-Dependent Chronic Kidney Disease (NDD-CKD).

Sponsor: Akebia PI: Prof Stephen McDonald

21. IMPROVE:

A randomised, double-blind, placebo-controlled trial to assess the effect of phosphate reduction with lanthanum carbonate on arterial compliance and vascular calcification in patients with chronic kidney disease stages 3-4.

Investigator Led: AKTN PI: Prof Randall Fauli

22. 021FSGS16010:

A Randomized, Multicenter, Double-Blind, Parallel, Active Control Study Of The Effects Of Sparsentan, A Dual Endothelin Receptor And Angiotensin Receptor Blocker, On Renal

Outcomes In Patients With Primary Focal Segmental Glomerulosclerosis (FSGS)

Sponsor: Retrophin Inc PI: A/Prof Chen Au Peh

23. OMS721-IGA-001:

A Randomized, Double-blind, Placebo-controlled, Phase 3 Study of the Safety and Efficacy of OMS721 in Patients with Immunoglobulin A (IgA) Nephropathy (ARTEMISIGAN)

Sponsor: Omeros Corp PI: A/Prof Chen Au Peh

24. NEF-301:

A randomized, double-blind, placebo controlled study to evaluate efficacy and safety of Nefecon in patients with primary IgA nephropathy at risk of progressing to end-stage renal disease (NeflgArd).

Sponsor: Calliditas Therapeutics AB PI: A/Prof Chen Au Peh

25. 021IGAN17001 :

A Randomized, Multicenter, Double-blind, Parallel-group, Active-control Study of the Efficacy and Safety of Sparsentan for the Treatment of Immunoglobulin A Nephropathy (PROTECT Study)

Sponsor: Retrophin Inc PI: A/Prof Chen Au Peh

Dialysis trials**13. TULIP (Protocol 26. AVeNEW Study:**

A Prospective, Multi-Center, Randomized, Concurrently-Controlled Clinical Study of the BARD® COVERATM Arteriovenous (AV) Stent Graft in the Treatment of Stenosis in the Venous Outflow of AV Fistula Access Circuits

Sponsor: BARD PI: Dr Ewan Macaulay

27. Protocol 200807:

A phase 3 randomized, open-label (sponsor-blind), active controlled, parallel-group, multi-center, event driven study in dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustat compared to recombinant human erythropoietin, following a switch from erythropoietin-stimulating agents. (ASCEND-D)

Sponsor: GlaxoSmithKline PI: A/Prof Shilpa Jesudason

28. Protocol 201410:

A 52-week open-label (sponsor-blind), randomized, active-controlled, parallel-group, multi-center study to evaluate the efficacy and safety of daprodustat compared to recombinant human erythropoietin in subjects with anemia associated with chronic kidney disease who are initiating dialysis. (ASCEND-ID)

Sponsor: GlaxoSmithKline PI: A/Prof Shilpa Jesudason

29. REDUCCTION:

Reducing the burden of dialysis Catheter Complications: A national approach.

Protocol Number: GI-RM-7338.

Investigator Led: George Institute PI: A/Prof Chen Au Peh

30. RESOLVE:

Randomised Evaluation of Sodium dialysate Levels on Vascular Events Protocol Number: GI-RM-7338.

Investigator Led: AKTN PI: Dr Philip Clayton

31. CR845-CLIN3103:

A Multicenter, Double-blind, Randomized, Placebo controlled Study to Evaluate the Safety and Efficacy of Intravenous CR845 in Hemodialysis Patients with Moderate-to-Severe Pruritus, with a 52-Week Open-label Extension

Sponsor: CARA Therapeutics PI: Dr Susan Crail

Student supervision in 2019

Mirabel Alonge

(PhD candidate, University of Adelaide) "Using Pharmacokinetic Principles to Improve the Safety of Tacrolimus in Renal Transplant Patients"

Supervisors: B Sallustio, S Jesudason, A Somogyi

Tristan Bampton

(Honours candidate, University of Adelaide), "The Health Costs of Hereditary Pancreatitis in South Australia – a SA Data Link Project" – ongoing.

Supervisors: T Coates

Samantha Bateman

(PhD candidate, University of Adelaide) "Benefits and Burdens of Kidney Transplantation for First Nations Australians"

Supervisors: S Jesudason, O Pearson, P Clayton, S McDonald

Brigette Clarke

(PhD candidate, University of Adelaide) "The Biodegradable Temporising Matrix as an alternative site for adrenal cell transplantation"

Supervisors: T Coates, D Torpy

Talia Gutman

(PhD candidate, University of Sydney) "Strengthening Patient Involvement in Research about Chronic Kidney Disease"

Supervisors: A Tong, J Craig, S Jesudason

Juewan Kim

(PhD candidate, University of Adelaide) "Tregs with Pancreatic Islets"

Supervisors: T Coates, R Carroll

Dr Alice Krige

(PhD candidate, University of South Australia) "Normothermic extracorporeal perfusion in an ovine model of kidney transplantation as a means of organ preservation."

Supervisors: T Coates, L Palmer

Mitali Mukherjee

(Honours candidate, Flinders University) "Do Dietary Patterns Impact the Prevalence and Incidence of Gastrointestinal Symptoms, especially Diarrhoea in Kidney Transplant Recipients? - A Pilot Study" thesis submitted December 2019

Supervisors: A Meade, R Le Leu

Griffiths Perkins

(PhD candidate, University of Adelaide) "Regulation of IL-10 secretion by human B cells"

Supervisors: T Coates, P Hurtado, C Hope

Jackie Scaffidi

(PhD candidate, University of Adelaide) "Chimeric Antigen Receptor T regulatory cells (CAR-Tregs) as a therapy for autoimmune-driven Type 1 Diabetes."

Supervisors: T Coates, S Barry

Sarah Short

(Honours candidate, University of Adelaide), "Creation of an immunoprivileged site in the intra-cutaneous space for islet cell transplantation" – thesis accepted 2019.

Supervisors: T Coates, J Greenwood

Dr Matthew Sypek

(PhD candidate, University of Melbourne) "Redesigning deceased donor kidney allocation in Australia"

Supervisors: P Hughes, J Kausman, S Holt, P Clayton

Brett Tarca

(Masters candidate, University of South Australia) "Physical capability and muscular predictors of morbidity and mortality in patients receiving peritoneal dialysis." - Conferred 2019

Supervisors: K Ferrar, T Wycherley, A Meade, P Bennett

Denghao Wu

(Honours candidate, University of Adelaide) "The Genetic Epidemiology of Hereditary Pancreatitis in South Australia"

Supervisors: T Coates, L Palmer, K Kassahn

Melanie Wyld

(PhD candidate, University of Sydney) "Improving the cost-effectiveness of kidney dialysis and transplantation", thesis accepted 2019

Supervisors: S Chadban, R Morton, P Clayton

Tracey Ying

(PhD candidate, University of Sydney) "Diagnostic Evaluation and Predicting Outcomes in Patients with Chronic Kidney Disease" - thesis accepted 2019

Supervisors: S Chadban, P Clayton

Jie Zeng

(Nursing Masters candidate, University of South Australia) "Perceived barriers and benefits of exercise in people being treated with peritoneal dialysis" - Conferred 2019

Supervisors: P Bennett, K Hill, Q Xu

Jing Zhang

(Nursing Masters candidate, University of South Australia) "Patient's perceptions of intradialytic exercise and physical activity" - Conferred 2019

Supervisors: P Bennett

Conference presentations

Asian Pancreas and Islet Transplant Association 1st Congress Seoul, South Korea (February 21-23, 2019)

"Comprehensive In Vitro Assessment of 3D-Bioprinted Human Regulatory T-Cell for Co-Printing with Pancreatic Islets" oral presentation

J Kim, C Hope, N Gantumur, G Perkins, S Stead, Z Yue, X Liu, A Asua, F Kette, D Penko, C Drogemuller, R Carroll, S Barry, G Wallace, T Coates

World Congress of Nephrology (WCN) Melbourne (12-15 April 2019)

"Perspectives from Australia and NZ: Role of non-government organisations" invited speaker

S Jesudason

"Patient Reported Outcome Measures Over the First Three Months of Dialysis: Interim Results from the Multidisciplinary Assessment at Dialysis Entry (MADE) Study" Poster presentation

S Jesudason, R Le Leu, L Shanahan, F Donnelly, A Meade, P Clayton, R Faull, A Burke, K Collins, A Chur-Hansen, T Whittington, F Donnelly, P Bennett, S McDonaldp

"Dialysis patient needle fear: A multi-center point prevalence survey" poster presentation

L Shanahan, R Le Leu, P Bennett, S Jesudason

"Diarrhoea and other G.I symptom prevalence in stable renal transplant recipients is not related to diet quality" poster presentation

H Chahine, C Trimmingham, S Jesudason, P Clayton, R Faull, S McDonald, R Le Leu, A Meade

"Poor diet quality is common but not related to abnormal gastrointestinal function in CKD"

Poster presentation

A Meade, S Jesudason, P Clayton, R Faull, S McDonald, R Le Leu, C Trimmingham

"Association between publication of the initiating dialysis early and late (IDEAL) study and change in dialysis initiation practice" poster presentation

K Dansie, C Davies, C Hawley, D Johnson, J Craig, J Chapman, B Cooper, C Pollock, D Harris, S McDonald

"How far do people travel to dialysis? Time and distance travelled for metropolitan haemodialysis patients" poster presentation

S Ullah, E Duncanson, K Dansie, A Gulyani, S Jesudason, S McDonald

"Successful pregnancy in woman receiving eculizumab for aHUS" poster presentation

S Bateman, S Jesudason

"Prevalence and outcomes of acute kidney injury in burns patients in South Australia" poster presentation

M Jalalonmuhali, L Damat-Thomas, J Greenwood, T Coates

The Transplantation Society of Australia and New Zealand (TSANZ) Sydney (27-30th July 2019)

"ABO incompatible living donor kidney transplantation in Australia and New Zealand: A report from the ANZDATA registry" oral presentation

P Clayton, K Dansie, H Pilmore, W Lim, S Campbell, T Coates, F Ierino, A Irish, N Isabel, J Kanellis, B Mulley, G Russ, P Hughes, S Cohney, P Trevillian, G Wong, K Wyburn

"Incidence and outcomes of antibody mediated rejection in the Australian and New Zealand renal transplant population" poster presentation

K Dansie, P Clayton

"Waitlisting for kidney transplantation in Australia: Estimating the demand" oral presentation

P Clayton, A Gulyani, M Sypek, S Jesudason, S McDonald

(Award for the Best Presentation in the Field of Clinical Research at TSANZ, 2019)

"In vitro expansion of IL-10 competent human B cells" oral presentation

G Perkins, J Kim, P Hurtado, PT Coates

"Development and implementation of an enhanced recovery after surgery (ERAS) protocol in kidney transplantation" oral presentation

A Rana, B Dias, S Olakkengil, P Clayton, T Coates, S Bhattacharjya

"Living kidney donor profile index: A poor predictor of outcomes" oral presentation

G Irish, S Chadban, N Boudville, S Campbell, J Kanellis, P Clayton

"Live kidney donation for type 2 diabetic (T2D) recipients. Is there a benefit compared to deceased donation?" oral presentation

D Goodman, S Ullah, S McDonald

"External validation of Australia and New Zealand type 2 diabetes (T2D) kidney transplant risk calculator (KTRC) with French database and comparison to estimated post-transplant survival score (EPTS)" oral presentation

D Goodman, S Ullah, S McDonald

"Offer declines have increased for higher risk kidneys in since kidney donor performance index (KDPI) reporting was introduced in Australia." oral presentation

M Sypek, P Hughes, S McDonald, P Clayton

"The changing pattern of living kidney donation in Australia and New Zealand" oral presentation

R Allen, E Dobrijevic, P Clayton, G Wong, N Cross, J Roake, A Vasilaras, H Pleass

"Development of de novo HLA donor specific antibodies and allograft rejection post blood transfusion in kidney transplant recipients" oral presentation

M Jalalonmuhali, R Carroll, P Clayton, T Coates

"Effect of proton pump inhibitor on mycophenolic acid exposure in kidney and liver transplant recipients: A double-blind randomised cross-over trial" oral presentation

A Sunderland, G Russ, B Sallustio, M Cervelli, D Joyce, G Jeffrey, N Boudville, A Chakera, S Dogra, D Chan, G Wong, W Lim

"Incidence and predictors of infectious-related mortality in recipients of a kidney transplant: A registry study" oral presentation

S Chan, E Pascoe, P Clayton, A McDonald, S McDonald, W Lim, M Sypek, S Palmer, N Isabel, R Francis, S Campbell, C Hawley, D Johnson

"Association between the side of live donor kidneys and transplant recipient outcomes" oral presentation

E Dobrijevic, G Wong, P Clayton, R Allen

Conference presentations

"IGLS criteria applied to the Australian islet transplant program" oral presentation

T Kay, D Goodman, T Loudovaris, T Radford, P Anderson, K Howe, T Coates, P O'connell

"Healthcare professional and community preferences in deceased donor kidney allocation: Do the priorities align?" poster presentation

M Sypek, M Howell, E Duncanson, P Hughes, G Wong, P Clayton, K Howard, S McDonald

"The importance of donor cancer history in determining use of kidneys from consented donors" poster presentation

E Au, J Phillips, H Opdam, M McDonald, J Chapman, S McDonald, D Johnson, J Kanellis, G Wong, W Lim

"Cancer transmission from deceased organ donors with prior cancers" poster presentation

J Phillips, G Wong, E Au, S McDonald, J Chapman, H Opdam, M McDonald, H Pilmore, J Kanellis, W Lim

"Rapidly progressive metastatic adenocarcinoma of unknown primary 2 months following deceased donor renal transplantation, recipient or donor derived—a case report" poster presentation

L McMichael, R Carroll

"Young woman with type 1 diabetes and severe sub-cutaneous skin reaction to insulin, becomes insulin independent after islet transplant" poster presentation

T Radford, C Drogemuller, T Loudovaris, T Kay, P O'connell, W Hawthorne, D Torpy, T Coates

"The use of freestyle libre flash glucose monitoring system to monitor blood glucose levels in large animal porcine model" poster presentation

D Penko, J Nitschke, J Johnston, L Mathews, D Johns, R Muirhead, C Pullan, C Drogemuller, D Torpy, T Kuchel, T Coates

"Revisiting pancreas transplantation in South Australia" poster presentation

S Bhattacharjya, S Olakkengil, C Russell, P Coates, G Russ

"Assessment of 3D-bioprinted human regulatory t-cells for co-printing with human pancreatic islets" poster presentation

J Kim, C Hope, G Perkins, Z Yue, X Liu, C Drogemuller, R Carroll, S Barry, G Wallace, T Coates

"Extending living kidney donor selection criteria: a bioethical perspective" poster presentation

A Weightman

"TSANZ Masterclass on Pregnancy and Kidney Transplantation" invited speaker

S Jesudason

Renal Society of Australasia (RSA) Auckland (27-29th June 2019).

"Does a patient centred approach with the dialysis dietetic and nursing services increase adherence to dietary modifications to improve health outcomes and quality of life?" poster presentation

D Turner, S Plush, and S Palazzo

"You talk, we listen. Using patient and carer experiences to identify quality improvement activities" poster presentation

A Britton

"Our unit's successful transition to cloud based technology for Automated Peritoneal Dialysis machines" poster presentation

P Southwell

"Raising awareness of negative outcomes for dialysis patients due to poor assessment and access—a directorate's experience" poster presentation

Y Matthew, F Skilton and R Taylor

American Society of Nephrology (ASN) Washington (5-10 November 2019)

"Effect of Allopurinol on the Progression of CKD: The CKD-FIX Study" poster presentation

S Badve, A Tiku, E Pascoe, N Boudville, A Cass, N Dalbeth, R Day, J de Zoysa, B Douglas, R Faull, D Harris, C Hawley, G Jones, J Kanellis, S Palmer, V Perkovic, G Rangam, D Reidlinger, L Robinson, R Walker, G Walters, D Johnson

"Trends in Causes of Death in Australian and New Zealand Kidney Transplant Recipients: A Registry Analysis by Era and Time Post Transplant" poster presentation

T Ying, B Shi, P Kelly, P Clayton, S Chadban

"Association Between Abnormalities of Serum Phosphate and Increased Mortality in Incident Australian and New Zealand Dialysis Patients" poster presentation

L Skeat, S Ullah, S McDonald, N Toussaint

"Declining Peritonitis Rates Incompletely Translate into Improved Technique Survival in Australian Peritoneal Dialysis Patients" poster presentation

V Khelgi, S Murthy, S McDonald

Australia and New Zealand Society of Geriatric Medicine (ANZSGM) Adelaide (May 13-15, 2019)

"Dialysis in the Frail and Elderly" plenary presentation

S Crail

18th International Society of Behavioural Nutrition and Physical Activity (ISBNPA) Prague (June 2019)

"Modifiable Physical Factors Associated with Physical Functioning for Patients Receiving Dialysis: A Systematic Review" poster presentation

B Tarca, T Wycherley, A Meade, PN Bennett, K Ferrar

International Pancreas and Islet Transplant Association 17th World Congress of IPITA Lyon France (2-5 July 2019)

"The use of FreeStyle Libre Flash Glucose Monitoring System to monitor Blood Glucose Levels in Large Animal Porcine Model" poster presentation

D Penko, J Nitschke, J Johnston, L Mathews, D Johns, R Muirhead, C Pullan, C Drogemuller, D Torpy, T Kuchel, T Coates

Conference presentations

"IL-10 competence in human B cells" poster presentation

Perkins G, Kim J, Hurtado P, Coates PT

Australian Indigenous Doctors Association (AIDA) Darwin 2-4 October 2019

"Indigenous community consultation in development of clinical practice guidelines" oral presentation

S Jesudason, D Oliva, W Majoni, J Kelly, S Palmer, M Howell, J Hughes

South Australia Health & Medical Research Institute (SAHMRI) Annual Scientific Meeting Adelaide (2-3 October 2019)

"Identifying babies born to mothers receiving renal replacement therapy in South Australia: A data linkage study" oral presentation

E Hewawasam, S McDonald, S Jesudason

Australian Clinical Trials Alliance (ACTA) International Clinical Trials Conference Sydney (2 - 5 October 2019)

"Improving the evidence base for routine use of patient reported outcome measures (PROMs): The Symptom Monitoring with Feedback Trial (SWIFT) in kidney dialysis"

R Morton, P Bennett, K Dansie, S McDonald, D Johnson, L Laranjo da Silva, B Handke, S Jesudason, E Duncanson, B Manns, S Palmer, J Simes C Hawley, R Raj, A Tong, E Coiera

Asian Society of Transplantation New Delhi, India (28 September – 2 October 2019)

"Prevalence of AT1R Antibody among Malaysian Multiethnic Kidney Transplant Recipients" poster presentation

M Jalalonmuhali, R Carroll, S Deayton, T Emery, I Humfreys, L Jin, N Peng, L Kun, T Coates

"The Risk Factors for mTORi associated Post-Transplant Proteinuria: A Single Center Experience" poster presentation

M Jalalonmuhali, R Carroll, T Coates

International Transplant Science Meeting Florida, USA (10-13 November 2019)

"IL-4 regulates IL-10 secretion by human B cells" poster presentation

Perkins G, Hurtado P, Coates PT

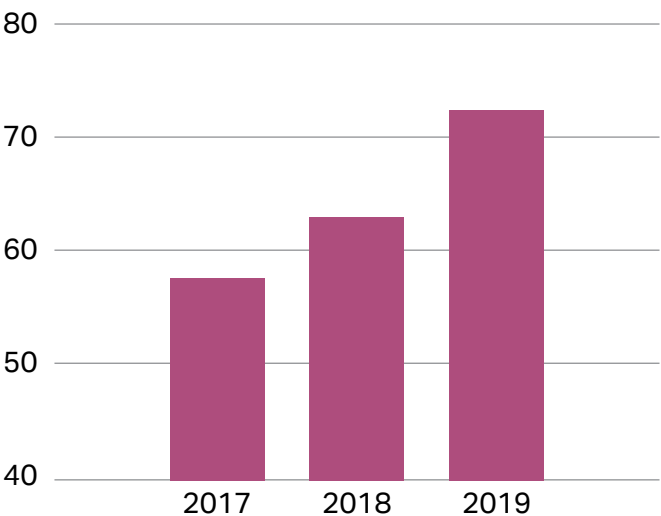
48th Annual Meeting of the Australia and New Zealand Society for Immunology Adelaide (8-12 December, 2019)

"Acquired IL-10 competence in expanded human B cells" poster presentation

Perkins G, Kim J, Coates PT, Hurtado P

Publications 2019

CNARTS Publications 2017-2019



CNARTS Staff and Clinical Research Group

Bateman SM, Coates PT, Jesudason S:

Three Pregnancies After Transplantation-An 84-year-old Kidney Is the Gift That Keeps Giving Life. Transplantation 2019.

<https://doi.org/10.1097/TP.0000000000002874>

Bateman S, Ladhani M, Jesudason S:

Successful Subsequent Pregnancy in a Woman Receiving Eculizumab for Pregnancy-Associated Atypical Haemolytic Uraemic Syndrome. Case Rep Nephrol. 2019, 2019:2738723.

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Psychosocial consequences of gastrointestinal symptoms and dietary changes in people receiving automated peritoneal dialysis. J Ren Care 2019, 45(1):41-50.

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Hill K, Sharp R, Childs J, Esterman A, Le Leu R, Juneja R, Jesudason S:

Cannulation practices at haemodialysis initiation via an arteriovenous fistula or arteriovenous graft. *J Vasc Access*. 2019;1129729819869093.

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Hoy WE, Mott SA, McDonald SP:

An update on chronic kidney disease in Aboriginal Australians. *Clin Nephrol*. 2019 [Epub ahead of print].

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Irish GL, Chadban S, McDonald S, Clayton PA:

Quantifying lead time bias when estimating patient survival in preemptive living kidney donor transplantation. *Am J Transplant*. 2019, 19(12):3367-3376.

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Successful pregnancy in a recipient of an ABO-incompatible renal allograft. *Obstet Med*. 2019, 12(1):42-44.

<https://doi.org/10.1177/1753495X17745390>

Rao NN, Stokes MB, Rajwani A, Ullah S, Williams K, King D, Macaulay E, Russell CH, Olakkengil S, Carroll RP, Faull RJ, Teo KSL, McDonald SP, Worthley MI, Coates PT:

Effects of Arteriovenous Fistula Ligation on Cardiac Structure and Function in Kidney Transplant Recipients. *Circulation* 2019, 139(25):2809-2818.

<https://doi.org/10.1161/CIRCULATIONAHA.118.038505>

Sallustio BC, Noll BD, Collier JK, Tuke J, Russ G, Somogyi AA:

Relationship between allograft cyclosporin concentrations and P-glycoprotein expression in the 1st month following renal transplantation. *Br J Clin Pharmacol*. 2019, 85(5):1015-1020.

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Centre for Clinical and Experimental Transplantation (CCET)

Alfred S, Bates D, White J, Mahmood MA, Warrell DA, Thwin KT, Thein MM, Sint San SS, Myint YL, Swe HK, Kyaw KM, Zaw A, Peh CA:

Acute Kidney Injury Following Eastern Russell's Viper (*Daboia siamensis*) Snakebite in Myanmar. *Kidney Int Reports* 2019, 4(9):1337-1341.

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Barreto SG, Brooke-Smith ME, Neo EL, Dolan P, Leibbrandt R, Emery T, Carroll R, Wigg A, Chen JW:

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IgM ANCA in healthy individuals and in patients with ANCA-associated vasculitis. *Immunologic research* 2019, 67(4-5):325-336.

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Bone Marrow-Derived Progenitor Cells Mediate Immune Cell Regulation. *Meth Mol Biol.* 2019, 2029:215-234.

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Infectious Disease Transmission in Solid Organ Transplantation: Donor Evaluation, Recipient Risk, and Outcomes of Transmission. *Transplant Direct* 2019, 5(1):e416.

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Wong G, Coates T:

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ANZDATA, ANZOD and Beat-CKD

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Infection-Related Mortality in Recipients of a Kidney Transplant in Australia and New Zealand. Clin J Am Soc Nephrol. 2019, 14(10):1484-1492.

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Transition Between Different Renal Replacement Modalities: Gaps in Knowledge and Care-The Integrated Research Initiative. Perit Dial Int. 2019, 39(1):4-12.

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The Hospital Research Foundation fights for cures, better treatments and improved care in hospitals, thanks to the support of our kind donors.

The Hospital Research Foundation (THRF) are passionate about supporting world-class medical research to find cures and improve care for families here in Australian and around the world and have been a long-time supporter of CNARTS kidney research.

The THRF have supported a number of CNARTS projects that include:

- 3D Printing Human Islets
- Islet isolation Research
- Total Pancreatectomy and Islet Auto Transplantation
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- Preventing heart failure in kidney disease



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The RAH Research Fund's mission is raising funds for life-saving medical research at the Royal Adelaide Hospital.

Current research projects supported by the RAH Research Fund include:

- Injection and Needle Joint Education and Care Training: The INJECT study
- Changes in Gut Health after kidney transplant
- Creation of an immunoprivileged site in the intracutaneous space for islet cell transplantation



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- Diversional Art Therapy for Renal Patients
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Kidney, Transplant & Diabetes Research Australia (KTDR) is a charity of The Hospital Research Foundation Group and is proud to support the clinicians, scientists and students who continue to push the research boundaries in their quest to fight and ultimately eliminate kidney disease and diabetes in Australia and around the world.

Together their focus is on translating science into clinical improvements and better quality of life for patients who suffer with these chronic and often disabling conditions.

Throughout 2019, KTDR held a number of fundraisers to raise money for kidney research which included:

- High Tea at the Woodville Town Hall and had over 170 guests in attendance (raised \$15,000).
- Cocktail Evening for Research at Adelaide Town Hall (approximately \$15,000 raised).
- Rob Carroll's Fundraising Race (CNARTS own Dr Carroll ran 42 kilometres in the Adelaide Marathon in May to raise funds and awareness for young adults who suffer from kidney failure and raised an incredible \$3500).

KTDR has been a vital supporter of clinical research for CNARTS Researchers.

Current research projects supported by KTDR include:

- Multidisciplinary Tools for Screening and Assessment of Patients Starting Dialysis in CNARTS: An Implementation Study (MADE Study)
- Changes in Gut Health after kidney transplant
- Development of a clinical and research database to help patients suffering from kidney disease
- 3D Printing Human Islets
- Hospital care costs and variation for patients with end-stage kidney diseases in South Australia and the Northern Territory





Funding boost for INJECT Program thanks to Ahrens

Ahrens, one of South Australia's most successful business, has made a generous donation that will improve treatment outcomes for dialysis patients at the Royal Adelaide Hospital (RAH).

The company's \$10,000 donation will be directed to a critical research project led by Associate Professor Shilpanjali Jesudason. The Injection and Needle Joint Education and Care Training (INJECT) program aims to reduce needle-related morbidities in adult dialysis recipients.

"We are thrilled to be helping South Australians facing the stress of weekly dialysis. This care and support is in line with our commitment to wellbeing and supporting local communities," said Stefan Ahrens, CEO Ahrens.

"INJECT will empower patients to learn techniques to manage their fear, supported by their trained nursing team. We are so grateful for this support from Ahrens, which will benefit vascular access complication, dialysis outcomes, patient experience and well being," said Dr Jesudason.

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