



RACP Foundation Research Awards

YEAR 2 PROGRESS REPORT

Project / Program Title	Long-term sequelae of acute kidney injury: identifying the optimal of care and intervention to enhance patient outcome	
Name	Dr Emily See	
Award Received	2018 RACP Jacquot NHMRC Award for Excellence	
Report Date	22 December 2019	
Chief Investigator / Supervisor	Professor Rinaldo Bellomo	
Administering Institution	The University of Melbourne	
Funding Period	Start Date:	5 February 2018
	Finish Date:	31 January 2021

PROJECT SUMMARY

Acute kidney injury (AKI) is defined as an abrupt reduction in kidney function, occurring over hours or days, in response to an insult that affects kidney structure or function. AKI is associated with a significant risk of death, prolonged length of hospital stay, intensive care admission, need for rehabilitation, and early readmission to hospital. It is also increasingly recognised as a key driver of permanent kidney damage and kidney failure, and no intervention has been shown to improve the long-term outcome of AKI survivors. This project will identify risk factors for kidney damage, kidney failure, and death after an episode of AKI, and examine the feasibility, efficacy, and cost-effectiveness of a post-AKI care bundle delivered in a nephrology outpatient clinic in high risk individuals.

PROJECT AIMS / OBJECTIVES

1. To quantify the risk of chronic kidney disease, end-stage kidney disease and death after AKI by performing a systematic review and meta-analysis of published cohort studies.
2. To identify the key risk factors associated with the development of chronic kidney disease, end-stage kidney disease and death after AKI and to develop a clinical tool to predict individuals at greatest risk.
3. To describe the current pattern of specialist follow up after AKI in an Australian health setting and to evaluate the association between specialist follow up and the future risk of chronic kidney disease, end-stage kidney disease, and death in high risk individuals.
4. To test whether it is feasible to implement a post-AKI care bundle (delivered in an outpatient nephrology clinic), in addition to usual care, in high risk individuals who are alive and

independent of renal replacement therapy at the time of hospital discharge, and who are expected to live for at least 90 days.

SIGNIFICANCE AND OUTCOMES

Key international academic bodies have advocated for a sense of urgency with regard to further research into post-AKI care in order to guide clinical practice. This research project will be the first of its kind to study the predictors of poor long-term outcome in survivors of AKI, to determine whether it is feasible to implement a post-AKI care bundle in a nephrology outpatient setting, and to identify which patients are likely to derive the greatest benefit. It will provide invaluable insight into the current processes of post-AKI care in Australia. The results of this research have the potential to transform the long-term care and outcome of AKI survivors globally and will provide the necessary clinical information to generate evidence-based clinical practice guidelines to inform post-AKI care in the future.

PUBLICATIONS / PRESENTATIONS

See E, Jayasinghe K, Glassford N, et al. Long-term risk of adverse outcomes after acute kidney injury: a systematic review and meta-analysis of cohort studies using consensus definitions of exposure. *Kidney Int.* 2019; 95(1):160:172.

See E et al. Long-term outcomes after acute kidney injury. American Society of Nephrology Kidney Week (San Diego 2018)

See E et al. Long-term risk of adverse outcomes after acute kidney injury: a systematic review and meta-analysis of cohort studies using consensus definitions of exposure. European Renal Association-European Dialysis and Transplant Association (Copenhagen 2018).

See E, Toussaint N, Bailey M, et al. Risk factors for major adverse kidney events in the first year after acute kidney injury. *Clin Kid Journal.* 2019 (in press).

See E et al Incidence and Predictors of Nephrology Follow-Up After AKI in Critically Ill Patients. American Society of Nephrology Kidney Week (Washington DC 2019).

See E et al Predicting Major Adverse Kidney Events in the First Year After AKI. American Society of Nephrology Kidney Week (Washington DC 2019).

See E et al Incidence and Predictors of Nephrology Follow-Up After AKI in Critically Ill Patients. World Congress of Intensive Care (Melbourne 2019)

See E et al Predicting Major Adverse Kidney Events in the First Year After AKI. American Society of Nephrology Kidney Week 2019 (Melbourne 2019).