



TheAlfred



Intensive Care

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www.alfredicu.org.au

In 2010, the Intensive Care Department expanded its position as a national leader in critical care research and education, with many major journal publications and projects spanning most areas of our diverse speciality. Areas of research included prehospital resuscitation, cardiac support devices, ICU outcomes, nutrition, traumatic brain injury, acute lung injury, renal failure, chest trauma, venous thromboembolism, sepsis and hypothermia.

As a result of an initiative between The Alfred and Monash University, the Intensive Care Department now has four intensivists who are 50% academic: Professor Jamie Cooper, Associate Professor Andrew Davies, Associate Professor Alistair Nichol and Associate Professor David Pilcher. Most of the other intensivists in the group are active in research and all intensivists now hold academic qualifications.

The ICU research team manager is Shirley Vallance (who, as part of the Alfred-Monash initiative, is now funded by The Alfred) and the department has two other research coordinators, Victoria Bennett and Jasmine Board. The group works closely with the Australian and New Zealand Intensive Care Research Centre (ANZIC-RC) team at the Monash Department of Epidemiology and Preventive Medicine, and also with the Australian and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG).

Major Highlights

- A three year NHMRC-funded randomised controlled trial led by Associate Professor Steve Bernard in Victoria concluded. It found that pre-hospital rapid sequence intubation in severe head injury patients improved long term neurological function. Published in *Annals of Surgery*, it is likely to have substantial international impact, translating into immediate changes in clinical practice.
- A \$2 million Program Grant was received from the Victorian Neurotrauma Initiative to support two randomised trials in traumatic brain injury (Cooper, Bennett, Nichol).

Current Clinical Research Trials

The Intensive Care Department has up to 20 clinical trials running every year at any one time. Usually only one or two of these are commercial trials. The others are investigator initiated and frequently supported by the NHMRC. Key studies in 2010 included:

DECRA: This unique NHMRC-funded randomised trial of a neurosurgical procedure to reduce brain pressure in severe head injury patients was completed in November 2010 after seven years. Led by The Alfred in collaboration with the Neurosurgery Department, it was published in *New England Journal of Medicine* in 2011.

STATINS: A NHMRC-funded Phase 2 randomised trial testing atorvastatin therapy for severe sepsis patients concluded in 2010.

RIBFIX: A Phase 2 randomised trial with Silvana Marasco and other cardiac surgeons, testing a novel absorbable rib fixation technique for patients with traumatic flail chest neared completion.

PROTECT: A multicentre randomised trial led by the Canadian Critical Care Trials Group and McMaster University testing two methods for thromboprophylaxis in critically ill patients. This study of

3,500 patients will be one of the largest randomised trials ever done in ICU patients, with Australia, particularly The Alfred, being responsible for one quarter of the total recruitment. This study was published in *New England Journal of Medicine* in 2011.

PHARLAP: An Alfred-initiated randomised Phase 2 trial of an improved package of care for mechanical ventilation of patients with acute lung injury was completed in 2010.

ICU Outcomes: David Pilcher, with the ANZICS Centre for Outcome and Resource Evaluation and Michael Bailey from ANZIC-RC, has undertaken projects investigating the epidemiology and outcomes of patients admitted to ICUs in Australia and New Zealand.

Education

The Alfred ICU is a leading centre for education and in 2010 ran:

- Four basic courses (introduction to ICU) for junior medical staff
- Advanced life support course
- Two extracorporeal membrane oxygenation (ECMO) workshops
- 3rd International ECMO Symposium
- Inaugural Nutrition in the Critically Ill Symposium
- 2nd Trauma ICU Symposium
- 4th Advanced Mechanical Ventilation Conference

Awards

- Associate Professor David Tuxen – ANZICS Honour Roll for lifetime contribution to Intensive Care
- Associate Professor Alistair Nichol – Irish Congress of Anaesthesia: best oral presentation
- Dr Lisen Hockings – GA Don Harrison Medal
- Associate Professor Andrew Davies – AMREP Research Prize for the article describing original research published in the journal with the highest impact factor in 2009

Dr Steve Philpot teaches the procedure of bronchoscopy at the inaugural Alfred ICU 'Bronchoscopy for the Critically Ill' course.



Postgraduate Students

10 PhD Students

Publications

46 Journal Articles

1 Book Chapter