

Siouxzy Morrison demonstrates the insertion of a nasojejunal tube, which will be used in the ENTERIC study.



INTENSIVE CARE AND HYPERBARIC MEDICINE

The Intensive Care Unit (ICU) at The Alfred is one of the largest ICUs in Australia, with 35 beds in the Critical Care Complex and another six beds in ward 2C. This allows for the treatment of more than 1,700 patients annually, with principal specialties including trauma, major burns, heart/lung transplantation, bone marrow transplantation, artificial hearts, extracorporeal membrane oxygenation, neurosurgery and infectious diseases.

The department has a large clinical research program with major research themes including trauma (particularly severe traumatic brain injury), resuscitation fluids, septic shock, mechanical ventilation for acute lung injury, nutrition, extracorporeal support and cardiothoracic surgery.

Investigator-driven projects are a high priority and many are multicentre collaborations with the Australian and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG), the National Trauma Research Institute (NTRI) and several independent research groups in Canada. There are also several industry-sponsored trials.

Our active researchers include Professor Jamie Cooper (NHMRC Practitioner Fellow), Dr Andrew Davies, Dr Vincent Pelligrino, Associate Professor Bob Salamonsen, Dr Andrew Hilton and Associate Professor Carlos Scheinkestel. Most other intensivists also participate in research, supported by the entire ICU nursing group and allied health staff.

Research is funded by competitive grants (NHMRC, Victorian Trauma Foundation and Australian and New Zealand Intensive Care Foundation). There is also some funding from industry-sponsored projects. The outstanding and enthusiastic ICU research team, which in 2005 included Lynne Murray, Shirley Vallance, Alisa Higgins, Siouxzy Morrison, Vicki White, Lucinda Gabriel and Denise Durling, were entirely funded from grants and trials. The team is housed within the NTRI, and is closely aligned with the NTRI clinical research program.

2005 saw consolidation and expansion of the intensive care research group's activities, with two large trials nearing completion. The international VASST (vasopressin) and LOVS (better ventilation strategy) trials neared their targets of 800 and 950 patients respectively. The Alfred is one of the largest recruiting sites for VASST, which is an independent collaboration of Australian and Canadian intensivists, and with great work from Vincent Pelligrino has led and assisted five Australian centres.

The DECRA trial continued under its collaboration of intensivists and neurosurgeons, and established new sites in Canada and Saudi Arabia. Three new large independent multicentre Australian research trials were set up. ENTERIC, led by Andrew Davies, will test early enteral nutrition at 14 intensive care units. RENAL, led by Carlos Scheinkestel, will determine at 35 ICUs when high dose hemofiltration is more effective for critically ill patients. PROTECT, led in Australia by Jamie Cooper, will establish whether venous thromboembolism can be better prevented with low molecular weight heparin in 21 Australian and 25 Canadian intensive care units.

In 2005, The Alfred research group published three trauma papers advancing our knowledge in cervical spine clearance, four papers concerning lung transplants in intensive care at The Alfred and two others concerning prophylaxis for thromboembolism and PROTECT.

A further highlight of the ICU research year was the award of a \$1.3 million NHMRC Enabling Grant to establish a national centre for intensive care research in the Monash Department of Epidemiology and Preventive Medicine to four senior ANZICS CTG intensivists, including Jamie Cooper. This centre will boost our capacity to train intensive care physicians in research and to investigate new techniques and therapies to improve patient outcomes. There will be particular opportunities for Alfred intensivists and registrars due to our proximity to the new research centre.

SIouxZY MORRISON Siouxy joined the ICU research group from The Alfred Gastroenterology Department during 2005, and is an ICU Research Coordinator and Australian Project Manager of the ENTERIC study. Siouxy obtained her Bachelor of Nursing in 1994 and Graduate Diploma in Critical Care in 2000. She has extensive experience in critical care nursing in Australia and overseas. Siouxy has a major interest in trauma care, and is also interested in the management of sepsis and is coordinating research studies in those areas. As Australian project manager of the ENTERIC study, she guides this research project investigating different modes of delivering nutrition to intensive care patients at 14 sites in Victoria and interstate. In addition, Siouxy is currently undertaking a Masters in Public Health through the University of Melbourne.



CURRENT PROJECTS

- DECRA: a randomised controlled trial of early decompressive craniectomy in traumatic brain injury (Cooper DJ)
- RENAL: multicentre, unblinded, randomised, controlled trial to assess the effect of augmented vs normal continuous renal replacement therapy on 90-day all-cause mortality of intensive care unit patients with severe acute renal failure (Scheinkestel C, Davies A, Pilcher D)
- VASST: randomised controlled trial of vasopressin versus noradrenaline in septic shock (Cooper DJ, Pellegrino V, Hilton A)
- LOVS: a study of a lung open ventilation strategy in acute lung injury (Cooper DJ, Davies A, Murphy D)
- VALID: a study of surfactant in patients with acute lung injury (Pellegrino V, Davies A, Murphy D)
- DORI-10: a study comparing doripenem and imipenem in patients with ventilator-associated pneumonia (Cooper DJ, Davies A, Spelman D)
- Invasive neuromonitoring in patients with traumatic brain injury (Rosenfeld J, Cooper DJ)
- Better outcome prediction in patients with traumatic brain injury (Butt W, Cooper DJ)
- ENTERIC: a randomised, controlled multicentre study comparing jejunal and gastric delivery of nutrition in ICU patients (Davies A, Pellegrino V, Cooper DJ)
- The impact of bispectral index monitoring on sedation administration in mechanically ventilated patients (Weatherburn C)
- Rapid sequence intubation in head injured patients (Cooper DJ)
- Treatment of cardiac arrest with hypothermia (Cooper DJ)
- Thromboelastogram in patients with VentrAssist VAD (Salamonson, R)
- Effects of low dose aminophylline on renal function in critically ill patients (Davies AR, Leong YT, Scheinkestel C)

POSTGRADUATE STUDENTS

Morrison S. Masters in Public Health, Victorian Consortium of Public Health, University of Melbourne. Anticipated completion: 2009.

PUBLICATIONS

13 journal articles
2 book chapters