Austin Hospital Emergency Department

Research Report 2015

Compiled by

Prof David Taylor
Director of Emergency Medicine Research
FOREWORD

Welcome to the Austin Hospital Emergency Department’s 2015 Research Report. I am pleased to report that 2015 saw a substantial expansion of research activity and academic achievement. I would like to congratulate our staff on these endeavours and thank those who assisted and facilitated this good work. We can look forward to a successful and stimulating 2016 and beyond.

2015 HIGHLIGHTS

Research Awards
In 2015, a number of our ED staff were shortlisted for, or won, a range of awards for their research activities. Notably, a wide range of staff were involved including Scholarly Selective students (Juen Li Ding, Olivia Grover Johnson), nursing staff (Sine Donaldson) and consultants (Jamie Hendrie, Anselm Wong, David Taylor). Details of these awards are provided below.

The Scholarly Selective program
This program requires all University of Melbourne medical students to undertake 10-12 months of part-time then full-time research. In 2015, we hosted four SS students as they undertook research in the ED: Aadith Ashok, Marina Lee, Juen Li Ding and Olivia Grover Johnson. Our students’ projects were all highly successful and I am sure you will agree that it was a pleasure to have them working among us. As well as their own projects, they assisted with data collection in a randomised controlled trial examining an intervention to improve pain management in the ED. We look forward to welcoming the 2016 SS students in early February 2016.

‘IV midazolam-droperidol (combination), droperidol (only) or olanzapine (only) for the acutely agitated patient: a multi-centre, randomised, double-blind, controlled trial’ (The SOOTHE Trial)
The Austin ED was lead site for this trial and is collaborating with the Royal Melbourne and St Vincent’s EDs, and Monash and Melbourne Universities. It is the third of the collaboration’s drug trials in the management of the acutely agitated ED patient and we are recognised as world leaders in this area. We have recently completed enrolment and the results are fascinating. It is very clear that, for every endpoint, the midazolam-droperidol combination is the superior regimen. We believe that our program of research in this area has now determined the best IV drug regimen for this difficult patient group. The findings of the SOOTHE trial will be presented at the International Conference on Emergency Medicine, Cape Town, in April 2016.

Paediatric Research
In 2014, the Austin led two paediatric projects in collaboration with the Sunshine, Dandenong and the Royal Children’s Hospital and the Monash Medical Centre. These projects explored Complementary and Alternative Medicine use by children and the administration of off-label medications to children in the ED. In 2015, the Austin led a collaboration that explored Alternative Therapies use (chiropractic, osteopathy, homeopathy etc.) among ED paediatric patients. The findings were staggering, with almost one half of all children having had an Alternative Therapy course within the previous 12 months. We are now embarking upon a similar study of adult patients.
National and International Collaborations

Through membership of the ACEM Clinical Trials Group and the Research Committee of the International Federation for Emergency Medicine, the Austin leads a range of collaborative projects. At the national level, these have included a prospective observation study of the management of acutely agitated patients (SIESTA), determination of research priorities in emergency medicine, and pain management initiatives. At the international level, we are leading projects that will examine the direction and extent of selection bias in convenience sampling, ED workplace manpower distribution, the utility of clinical investigations and ethical issues specific to emergency medicine research.

The Austin is also collaborating on two randomised clinical trials on the sedation of acutely agitated patients in Hong Kong. Perhaps most gratifying is that the principal investigator of these two trials is Dr Esther Chan. Esther was a pharmacist in the Austin ED for many years before undertaking her PhD in acute agitation management. A number of her PhD projects were undertaken at the Austin and have been highly cited. It is very pleasing to see a young, Austin-trained researcher succeeding in the international research forum. Moreover, I am sure we will all congratulate Esther on the recent birth of a baby girl. We hope to catch up with her and her family at Easter.

Post-graduate Research and Academic Training

Congratulations are due to a number of our staff for their achievements in this area.

- Dr Anselm Wong has commenced his PhD studies through Monash University and will be focussing on the management of patients following paracetamol overdose. Anselm has won an Australian Post-graduate Award to support his research and hopes to be enrolling patients early in 2016.
- Sine Donaldson, one of our Assistant Nurse Unit Managers completed her Master of Public Health degree in 2015. Part of this degree comprised a large research project of oxycodone prescribing in the ED. Sine and her collaborators were shortlisted for an award for this work.
- Dr Andrew Blunt completed his Master of Paediatric Emergency Medicine in 2015. The research component of this degree related to emergency department manipulation of paediatric forearm fractures.
- Dr Victor Lee completed his Master of Health Professional Education (High Distinction) degree. Victor has a keen interest in medical education and research in this area. At the ACEM conference in November 2015, he presented his research on the use of the MINI-CEX tool for trainee evaluation.
- Dr Joe-Anthony Rotella successfully passed the Regulation 4.10 component of this Emergency Medicine training program. Joe’s research project examined the use of electronic device formats in the interpretation of ECG QT intervals.

Research Funding

As ever, funding for Emergency Medicine research is notoriously difficult to procure. Notwithstanding this difficulty, our department has an admirable research activity and output. We have, however, had funding success with several multi-centre collaborations with which we are involved and have procured funding in excess of $250,000 for these:

- ‘Restricted Fluid Resuscitation in Sepsis-associated Hypotension (REFRESH) Trial’
‘Sedation for Acute Agitation in Emergency Department Patients: Targeting Adverse Events (SIESTA)’

‘Oro-dispersible olanzapine (wafer) versus conventional oral haloperidol or diazepam tablets for the management of acute agitation in the Accident and Emergency Department – a multi-centre randomised clinical trial.’
ARTICLES PUBLISHED BY AUSTIN ED STAFF IN 2015


Lefmann SA, Crane JL. Establishing the diverse value of the emergency department physiotherapist. *J Physiother* (2015), Published online ahead of print http://dx.doi.org/10.1016/j.jphys.2015.11.001


Rotella J-A, Taylor DMcD. Concomitant roxithromycin use among elderly patients taking warfarin resulting in significant over-anticoagulation. *JPPR* 2015; 45: 182-185


Taylor DMcD for the Consultative Council for Clinical Trials Research. ‘Response by the CCCTR to the Victorian Health and Medical Research Strategy Discussion Paper’ Submission to the Victorian Minister for Health on August 28, 2015


Wong A, Macleod D, Koutsogiannis Z, Robinson J, Graudins A, Greene SL. Oxycodone/naloxone preparations can cause acute opioid withdrawal symptoms...


Wong A. Emergency: Real stories from the ED. Penguin Publishing 2015 (chapter contributor)


ARTICLES ACCEPTED FOR PUBLICATION – In press


PUBLISHED ABSTRACTS

Ashok A, Taylor DMcD, Cabalag M. Determining the usefulness of laboratory investigations in the management of Supraventricular Tachycardia
- Proceedings, Uni of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
- Proceedings ACEM, ASM, Brisbane, November 2015

- Proceedings, Uni of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
- Proceedings ACEM, ASM, Brisbane, November 2015


- Proceedings, Uni of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
- Proceedings ACEM, ASM, Brisbane, November 2015

Hendrie J. ‘Arrival Density is associated with incidents and adverse events in the emergency department’ Proceedings ACEM, ASM, Brisbane, November 2015

Lee M, Taylor DMcD, Ugoni A. Vital sign and vital sign patterns in predicting adverse outcomes among Emergency Department patients
- Proceedings, Uni of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
- ACEM, ASM, Brisbane, November 2015. Finalist ‘Best Paper by a Fellow’


Hendrie J, Yeoh M, Richardson J, Blunt A, Davey P, Taylor DMcD. Variables associated with Incidents and Adverse Events in the Emergency Department
- Research Week, Austin Health, November 2015
- Proceedings ACEM, ASM, Brisbane, November 2015

Lippmann J, Taylor DMcD, Mitchell S. ‘Important medical co-morbidities: their impact on the practices of recreational scuba divers’

Liversidge XL, Taylor DMcD, Liu B, Ling S, Taylor SE. ‘The association between provision of ‘adequate analgesia’ to emergency department paediatric patients and parent satisfaction’

Liu B, Taylor DMcD, Liversidge XL, Ling S. ‘Identifying the special psychological needs of elderly patients in the emergency department’


- Research Week, Austin Health, November 2015
- Proceedings ACEM, ASM, Brisbane, November 2015


Taylor DMcD. VARIETY - development of an international observational study of selection bias in convenience sampling and patient load/workforce balance
Proceedings ACEM, ASM, Brisbane, November 2015


Wijeratna M, Evans M, Taylor DMcD, Hoy G. The mid-term clinical and radiological results of an all-polyethylene pegged bone-ingrowth glenoid component.


Gaber M. Mitochondrial paralysis and pancytopenia from massive paracetamol ingestion. TAPNA toxicology conference, May 2015, Sydney, Australia.

Greene S. An Educational Intervention Delivered By A Clinical Champion Improves Oxycodone Prescribing In The Emergency Department. ACEM Annual Scientific Meeting, Brisbane, November 2015

Hendrie J. ‘Arrival Density is associated with incidents and adverse events in the emergency department’ ACEM Annual Scientific Meeting, Brisbane, November 2015

Lee V. ‘Factors Impacting On Mini-cex Assessor Judgements In Australian And New Zealand Emergency Departments: A Mixed Methods Exploratory Study’ ACEM Annual Scientific Meeting, Brisbane, November 2015

Rotella JA. High-visibility warning labels on paracetamol-containing products do not prevent supratherapeutic ingestion. EAPCCT Conference, Malta, May 2015

Taylor D. ‘The use of Alternative Therapies among paediatric Emergency Department patients’ (free paper) ACEM Annual Scientific Meeting, Brisbane, November 2015

Taylor D. ‘Patient satisfaction with their procedural sedation in the Emergency Department’ (free paper) ACEM Annual Scientific Meeting, Brisbane, November 2015

Taylor D. ‘Determining the usefulness of laboratory investigations in the management of Supraventricular Tachycardia’ (free paper) ACEM Annual Scientific Meeting, Brisbane, November 2015

Taylor D. ‘Vital sign and vital sign patterns in predicting adverse outcomes among Emergency Department patients’ (free paper) ACEM Annual Scientific Meeting, Brisbane, November 2015

Finalist for the ‘Best Presentation by a Fellow’ award

Taylor D. ‘Patient satisfaction with their pain management: The effect of provision of pain management advice’ (free paper) ACEM Annual Scientific Meeting, Brisbane, November 2015

Taylor D. ‘VARIETY - development of an international observational study of selection bias in convenience sampling and patient load/workforce balance’ (Invited speaker) ACEM Annual Scientific Meeting, Brisbane, November 2015

Taylor D. ‘Implementation of the recommendations from the ACEM Foundation Research Forum’ (Invited speaker). ACEM Annual Scientific Meeting, Brisbane, November 2015


Wong A. Chronic ayurvedic medicine use in pregnancy associated with fetal abnormalities. EAPCCT Conference, Malta, May 2015

Wong A. Modern intermittent haemodialysis (IHD) is an effective method of removing salicylate in chronic topical salicylate toxicity. EAPCCT Conference, Malta, May 2015

Wong A. Clinical Pearls from the Tox World, Austin Toxicology Forum April 2015, Austin Hospital Melbourne.

Wong A. Oxycodone/naloxone preparations can cause acute opioid withdrawal symptoms following intravenous and oral exposure (invited speaker). EAPCCT Toxicology Conference, Malta, May 2015.

Wong A. Multiple intensive care admissions associated with analytically confirmed recreational use of phenibut purchased over the Internet (invited speaker). EAPCCT Toxicology Conference, May 2015.

Wong A. External validation of the paracetamol-aminotransferase multiplication product to predict hepatotoxicity from paracetamol overdose (Young Investigator Awards invited speaker). EAPCCT Toxicology Conference, May 2015 Malta.


Wong A. Video conferencing for Global Toxicology Education (invited speaker). Asia and Pacific Association of Medical Toxicology Conference, December 2015, Perth, Australia.
CONFERENCE/SEMINAR POSTER PRESENTATIONS BY ED STAFF

**Ashok A, Taylor DMcD, Cabalag M**
‘Determining the usefulness of laboratory investigations in the management of Supraventricular Tachycardia’
- University of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015

**Conley S.** ‘Evaluating patient experience of and access to Nurse Practitioners (NP) and candidates(NPc) in the Emergency Department at Austin Health – a pilot study.’

‘The use of Alternative Therapies among paediatric Emergency Department patients’
- University of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
  - shortlisted for the Clinical Dean’s Best Scholarly Selective Poster Prize

**Donaldson S, Harding A, Taylor S, Koutsogiannis Z, Greene S.** ‘An educational intervention delivered by a clinical champion improves oxycodone prescribing in the Emergency Department’
- Research Week, Austin Health, November 2015

**Ferma M.** The Nurse Practitioner journey from Clinical Practice guidelines to Scope of Practice. ACNP conference, Melbourne. October 2015.

‘Patient satisfaction with their procedural sedation in the Emergency Department’
- University of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015
  - shortlisted for the Clinical Dean’s Best Scholarly Selective Poster Prize

**Hendrie J, Yeoh M, Richardson J, Blunt A, Davey P, Taylor D McD.**
‘Variables associated with Incidents and Adverse Events in the Emergency Department’
Research Week, Austin Health, November 2015

**Lee M, Taylor DMcD, Ugoni A**
‘Vital sign and vital sign patterns in predicting adverse outcomes among Emergency Department patients’
- University of Melbourne Medical Student Convention. June 2015
- Research Week, Austin Health, November 2015


Shortlisted for the Clinical Dean’s Best Scholarly Selective Poster Prize
‘The use of Alternative Therapies among paediatric Emergency Department patients’
Research Week, Austin Health, November 2015

Donaldson S, Harding A, Taylor SE, Koutsogiannis Z, Greene S.
Shortlisted for Nursing Research Award:
‘An educational intervention delivered by a clinical champion improves oxycodone prescribing in the Emergency Department’
Research Week, Austin Health, November 2015

Shortlisted for the Clinical Dean’s Best Scholarly Selective Poster Prize
‘Patient satisfaction with their procedural sedation in the Emergency Department’
Research Week, Austin Health, November 2015

Hendrie J
Finalist: Best Paper by a Fellow. ‘Variables associated with incidents and adverse events in the Emergency Department’ 2015 ACEM, Annual Scientific Meeting (Brisbane)

Taylor D
Best Paper: Evidence into Action award The 2015 Emergency Care Institute
‘Patient Satisfaction with their pain management: The effect of provision of pain management advice’. Awarded at the ACEM November 2015

Taylor D (for Marina Lee)
Finalist: Best Paper by a Fellow. ‘Vital sign & vital sign patterns in predicting adverse outcomes among ED patients’ 2015 ACEM, Annual Scientific Meeting (Brisbane)

Wong A.
Australian Postgraduate Award 2015-2018, Monash University.
This scholarship is awarded to the highest scoring students undertaking postgraduate research.

Wong A.
Shortlisted for the Young Investigator Award.
‘External validation of the paracetamol-aminotransferase multiplication product to predict hepatotoxicity from paracetamol overdose.’ EAPCCT Toxicology Conference, May 2015 Malta.
ONGOING RESEARCH PROJECTS

- The SOOTHE Study: Intravenous midazolam-droperidol (combination), droperidol (only), or olanzapine (only) for the acutely agitated patient: A multi-centred, randomised, double-blind, triple-dummy, clinical trial

- The VARIETY Study: The nature, direction and extent of selection bias associated with convenience sampling in emergency medicine research.

- The REFRESH Study: A pilot trial of restricted volume fluid resuscitation in septic shock.

- The SIESTA Study: Risk Factors Associated with Adverse Events among Patients Sedated for Acute Agitation in Emergency Departments.

- The NACSTOP Trial: Investigation of the early cessation of N-acetylcysteine after paracetamol overdose.

- Oro-dispersible olanzapine (wafer) versus conventional oral haloperidol or diazepam tablets for the management of acute agitation in the Accident and Emergency Department – a multi-centre randomised clinical trial.

- Randomised controlled trial of early antivenom administration in Australian snakebite.

- Intramuscular olanzapine versus haloperidol or midazolam for the management of acute agitation in the emergency department – a multicentre randomised clinical trial.

- Outcomes of patients with drug overdose requiring mechanical ventilation in the intensive care setting

- Severe hypertension and bradycardia secondary to midodrine overdose (case report)

- Severe prolonged posture-evoked tachycardia after massive overdose of paliperidone

- Towards improving safety and minimising risk: Development, validation and implementation of a medication-related problem risk screening tool for patients presenting to emergency departments.

- Variables associated with receipt of analgesia and prolonged times to analgesia among Emergency Department patients

- A case-control study to investigate variables associated with incidents and adverse events in the Emergency Department

- Hypotension and outcomes in the Emergency Department
- Accuracy of Cone Beam CT for Scaphoid Trauma compared to Plain X-Ray and MRI
- The use of Alternative Therapies among Paediatric Emergency Department Patients
- Patient Satisfaction with Procedural Sedation in the Emergency Department
- The usefulness of laboratory investigations in the management of Supraventricular Tachycardia
- The association between vital signs and vital sign patterns and undesirable patient outcomes
- Perspective: Informed consent in emergency care research: An oxymoron?
- Patients’ Perceptions and Experiences of Therapeutic Sedation During a Behavioural Emergency in the Emergency Department: A Qualitative Exploratory Study
- Acute Decompensated Heart Failure Precipitation among hospital inpatients: Incidence, Causes and Outcomes
- The use of Alternative Therapy among Emergency Department Patients
- Outpatient asthma management of Emergency Department patients: compliance with national consensus guidelines
- The usefulness of information sources used to determine an accurate medication history in the Emergency Department
- Diagnostic impact of a targeted type 2 diabetes mellitus screening protocol in emergency departments: a multisite study
- Adherence to national exercise guidelines by patients attending emergency departments: A multisite survey
- Assessing the impact of pre-existing medical conditions on scuba diving activities and safety
- An epidemiological study of rapid sequence intubation in out-of-hospital non-traumatic brain injuries
- The mid-term clinical and radiological results of an all-polyethylene pegged bone-ingrowth glenoid component
- Reliability of the radiological assessment of the glenoid track
- The TARGET Pain Study – Lessons from a painful marathon
MAJOR RESEARCH COLLABORATION PARTNERS

- Diver Alert Network (Asia-Pacific)

- Austin Health departments
  - Pharmacy
  - Anaesthesia
  - Intensive Care
  - Radiology
  - Victorian Poisons Information Centre
  - Respiratory Medicine
  - General Medicine
  - Cardiology
  - Oncology

- Overseas Hospitals
  - Auckland City Hospital, New Zealand
  - Queen Mary Hospital, Hong Kong
  - Ruttonjee Hospital, Hong Kong
  - Pamela Youde Nethersole Eastern Hospital, Hong Kong
  - Tuen Mun Hospital, Hong Kong
  - Prince of Wales Hospital, Hong Kong

- Universities
  - University of Hong Kong
  - University of Melbourne
  - Monash University
  - Deakin University

- Australian Hospitals
  - The Avenue Hospital
  - Glenferrie Private Hospital
  - Cabrini Hospital
  - Royal Melbourne Hospital
  - St Vincent’s Hospital
  - The Northern Hospital
  - Frankston Hospital
  - Nambour General Hospital
  - Monash Medical Centre
  - The Royal Children’s Hospital
  - Dandenong Hospital
  - Casey Hospital
  - Liverpool Hospital (NSW)
  - Prince of Wales Hospital (NSW)
  - The Gold Coast Hospital (QLD)
  - The Mater Hospital (QLD)
  - The Townsville Hospital (QLD)
  - Royal Brisbane and Women’s Hospital (QLD)
  - Princess Alexandra Hospital (QLD)
- Prince Charles Hospital (QLD)
- Royal Perth Hospital (WA)
- Armadale Hospital (WA)
- Bunbury Hospital (WA)