



Austin Hospital Emergency Department

Research Report 2008

Compiled by

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Director of Emergency and General Medicine Research

FOREWORD

Everyone is well aware of the tremendous clinical pressure on our ED staff and Austin Health generally. Despite these pressures, we have been able to continue and expand our research activities.

Over the last year, we have continued to expand our research collaborations. These now include a number of specialty units within Austin Health (General Medicine, Infectious Diseases, Clinical Pharmacology, Microbiology, Pharmacy), a range of Melbourne hospitals (Royal Melbourne, Northern, Box Hill, Casey, Epworth, St Vincent's) and a number of interstate hospitals. As well, we have developed collaborations with a number of other academic departments and institutions (Melbourne, Monash, LaTrobe, RMIT Universities, VPIC, Monash University Applied Research Centre).

Our staff were fortunate to win three research prizes during 2008. These included the NHMRC – NICS 'Evidence into Action Award' 2008 (Bernard Yeoh), the Best Paper at the Society of Hospital Pharmacists Association 34th National Conference (Simone Taylor) and the Best Paper by a Fellow of the Australasian College for Emergency Medicine (ACEM), ACEM annual scientific meeting (David Taylor).

Drs Sarah Rickman and Bernard Yeoh both successfully completed their Regulation 4.10 training requirements in 2008. This involved presentation of their original research projects at the ACEM national conference. Both Sarah and Bernard have their research papers under peer review presently.

In 2008, we completed the first of our 'vapocoolant' randomised controlled trials. This research demonstrated that a vapocoolant spray, compared with a placebo (water) spray, significantly reduces the pain of intravenous cannulation. This research won a research award and was recently published in the prestigious British Medical Journal. In the second half of 2008, we began our second trial in this area. Dean Page, one of our AMS students, is comparing the vapocoolant spray directly with subcutaneous lignocaine. The findings may have significant implications for cannulation pain management.

Charles Xie, another AMS student, has recently completed data collection in his study. The preliminary findings clearly indicate that nursing home patients have significantly different bacterial pathogens from community living residents. The findings may have important implications for Therapeutic (Antibiotic) Guidelines. Our third AMS student, Jeremy Kam, continues data collection in his study. Jeremy is investigating the way that obesity affects the management of patients in the ED. Importantly, we are searching for ways to mitigate the effects of obesity in the way we manage our patients.

The Victorian Poisons Information Centre (VPIC) relocated to the Austin Emergency Department during 2008. This move will certainly consolidate our ED's toxicology interests and expertise. Additionally, the move will facilitate the ongoing research collaboration the Austin ED has with the VPIC.

We extend our congratulations to Dr Caroline Cooper, one of our ED consultants. Carolyn was awarded a Doctor of Philosophy (by research) degree by the Swinburne University. Her thesis is entitled:

"Death is Something to Be Avoided. Psychodynamics of End-of-Life Planning for the General Practitioner"

We are now poised to start enrolment in our latest randomised controlled trial entitled 'IV droperidol and olanzepine as adjuncts to midazolam for the acutely agitated patient: a randomised, double-blind, controlled clinical trial'. The protocol for this trial won the 2007 Morson-Taylor Research Award from the Australasian College for Emergency Medicine. We have ethics committee authorisation to proceed at Austin, Royal Melbourne and St Vincent's hospitals. Although always difficult to come by, we are hopeful for additional NHMRC funding for this study later in the year.

On a personal note, I joined the Austin Health Human Research and Ethics Committee during 2008. This has proven to be of considerable interest and has certainly provided me with a perspective that should assist us in the undertaking of our ED research.

I would like to congratulate those staff who have had successful research endeavours during 2008 and thank those who assisted and facilitated this good work.

DT

RESEARCH ARTICLES

Published:

Greene SL, Kerr F, Braitberg G. Drugs of Abuse: Amphetamines and related substances. *Emerg Med Australas* 2008; 20: 391-402

Ng JL, Taylor DMcD. Routine chest radiography in uncomplicated suspected acute coronary syndrome rarely yields significant pathology. *Emerg Med J* 2008; 25: 807-810

Garbutt RB, Taylor DMcD, Lee V, Augello MR. Delayed versus immediate urethral catheterization following instillation of local anaesthetic gel in males: a randomized, controlled clinical trial *Emerg Med Australas* 2008; 20: 328-332

Kennedy M, MacBean CE, Brand C, Sundararajan V, Taylor DMcD. Leaving the emergency department without being seen: a literature review. *Emerg Med Australas* 2008; 20: 306-313

Dutch MJ, Taylor DMcD, Dent AW. Triage presenting complaint descriptions bias Emergency Department waiting times. *Acad Emerg Med* 2008; 15: 731-735

Zhu JI, Weiland TJ, Taylor DMcD, Dent AW. An observational study of emergency department intern activities. *Med J Aust* 2008; 188: 514-519

Wong J, Knott JC, Taylor DMcD, MacBean CE. Prevalence and validity of self-reported antibiotic allergy among Emergency Department patients. *J Pharm Pract Res* 2008; 38(2): 92-94

Taylor DMcD, Bernard SA, Masci K, MacBean CE, Kennedy MP, Zalstein S.
Pre-hospital Non-Invasive Ventilation: A viable treatment option in the urban setting
Prehosp Emerg Care 2008; 12: 42-45

Yeoh M. 'From other journals'

- *Emerg Med Australas* 2008; 20: 534-536
- *Emerg Med Australas* 2008; 20: 448-450
- *Emerg Med Australas* 2008; 20: 371-373
- *Emerg Med Australas* 2008; 20: 287-289
- *Emerg Med Australas* 2008; 20: 189-191
- *Emerg Med Australas* 2008; 20: 93-95

Accepted (In press):

Hewat N, Taylor DMcD, MacDonald E. Pilot study of Random Finger Prick Glucose testing as a screening tool for Type 2 Diabetes Mellitus in the Emergency Department
Accepted *Emerg Med J*, February 9, 2009

Simpson N, Page P, Taylor DMcD. Free fluid accumulation following blunt abdominal trauma: potential for expansion of the FAST protocol.
Accepted *HKJEM*, November 7, 2008. In press

Hijazi R, Taylor DMcD, Richardson J. Topical alkane vapocoolant spray reduces intravenous cannulation pain in emergency department patients: a randomised, double-blind, placebo-controlled trial.
Accepted *BMJ*, October 23, 2008. In press

Tran A, Taylor DMcD. Medical model for Hospital in the Home: effects on patient management.
Accepted *Aust Health Rev*, October 21, 2008. In press

Taylor DMcD, Robinson J, MacLeod D, MacBean CE, Braitberg G. Therapeutic errors among children in the community setting: nature, causes and outcomes.
Accepted *J Paed Child Health*, October 11, 2008. In press

Rajasagaram U, Taylor DMcD, Braitberg G, Pearsell J, Capp B. Paediatric pain assessment: differences between triage nurse, child and parent.
Accepted *J Paed Child Health*, August 28, 2008. In press

Mohd Rosli R, Taylor DMcD, Knott JC, Dent AW. Health smart cards: differing perceptions of emergency department staff and patients.
Accepted *Aust Health Rev*, August 12, 2008. In press

Therapeutic Guidelines Writing Group (incl. Taylor SE)
'Therapeutic Guidelines – Emergency Medicine'. In Press

Articles Under Peer Review

Yeoh BSK, Taylor DMcD, Taylor SE. An education initiative improves the evidence-based use of metoclopramide following morphine administration in the emergency department.

Submitted Emerg Med Australas January 20, 2009

Rickman S, Taylor DMcD, Taylor SE. An intervention trial increases the evidence-based use of bupivacaine in hand injuries.

Submitted EMJ January 20, 2009

Singh R, Taylor DMcD, D'Souza D, Gorelik A, Page P, Phal P. Injuries significantly associated with Thoracic Spine Fractures: a case-control study

Submitted Emerg Med Australas, February 3, 2009

Thom O, Taylor DMcD, Wolfe RE, Myles P, Krum H, Wolfe R. Pilot study of the prevalence, outcomes and detection of occult hypoperfusion in trauma patients

Submitted EMJ, December 2008

Singh R, Taylor DMcD, D'Souza D, Gorelik A, Page P, Phal P. Mechanism of injury and clinical variables associated with thoracic spine fracture.

Submitted Injury, November 18, 2008

Taylor DMcD, Taylor SE, Ho J, Cabalag M, Hijazi R, Howden B, Charles P. The effects of nebulised N-acetylcysteine on sputum quality and diagnostic yield: a randomized, double-blind, placebo-controlled pilot study.

Submitted JPPR, October 21, 2008

Taylor DMcD, Robinson J, MacLeod D, MacBean CE, Braitberg G. Therapeutic errors involving adults in the community setting: nature, causes and outcomes.

Submitted Aust NZ J Pub Health, September 29, 2008

Pincus S, MacBean CE, Taylor DMcD. The effects of temperature, age and gender on renal colic incidence in Melbourne, Australia

Submitted Aust NZ J Pub Health, November 1, 2008

RESEARCH – ORAL PRESENTATIONS

Australasian College for Emergency Medicine, Annual Scientific Meeting, Wellington, NZ. Nov 2008

- Yeoh B. 'An intervention trial reduces the inappropriate prescribing of metoclopramide in the ED' (free paper)
- Rickman S. 'An intervention trial increases the evidence-based use of bupivacaine in hand injuries' (free paper)
- Yeoh M. Workshop Facilitator: Guidelines Workshops Part 1 & 2. (Invited speaker)
- Taylor DMcD. 'Factors that impact upon emergency department patient compliance with antibiotic regimens' (free paper)

- Taylor DMcD. 'Caffeine ingestion affects adenosine efficacy in patients with paroxysmal supraventricular tachycardia' (free paper)
- Taylor DMcD. 'Topical alkane vapocoolant spray reduces intravenous cannulation pain: a randomised, double-blind, placebo-controlled trial' (free paper)
- Taylor DMcD. 'High-risk variables significantly associated with traumatic t-spine fracture' (free paper)
- Taylor DMcD. 'Publishing your 4.10: Value-adding on the hard work done.' (Invited Speaker – Expert Panel)

2nd International Hokkaido Trauma Conference, Rusutsu, Japan. January 2008

- Taylor DMcD. 'Human factors associated with motor vehicle safety' (Invited speaker)
- Taylor DMcD. 'Expert Trauma Panel – Case Discussions' (Invited panelist)

12th International Conference on Emergency Medicine, San Francisco. April 2008

- Taylor DMcD. 'The best designed emergency medicine studies from the past two years' (Invited speaker)

Redesigning Health Care Summit

- Judkins S. 'Emergency Care : 3-2-1. Improving Emergency Department Patient Flow at Austin Health' (Invited speaker)

Society of Hospital Pharmacists of Australia, Seminar in Emergency Medicine, Melbourne, May 2008

- Taylor DMcD. 'Procedural Sedation in the Emergency Department' (Invited speaker)

Society of Hospital Pharmacists Association 34th National Conference. Adelaide September 2008

- Taylor SE. 'An intervention trial increases the evidence-based use of metoclopramide following morphine administration'
- Taylor SE. 'An intervention trial increases the evidence-based use of bupivacaine in hand injuries'
- Taylor DMcD. 'Factors that impact upon emergency department patient compliance with antibiotic regimens'
- Taylor DMcD. 'Caffeine ingestion affects adenosine efficacy in patients with paroxysmal supraventricular tachycardia'

NICS-NHMRC Emergency Care Community of Practice: 'Talk to the Experts' series. National Teleconference July 30 and August 27, 2008 (guest speakers)

- Rickman S, Taylor DMcD, Taylor S. 'An intervention trial increases the evidence-based use of bupivacaine in hand injuries'
- Yeoh B, Taylor DMcD, Taylor S. 'An intervention trial reduces the inappropriate prescribing of metoclopramide in the ED'

RESEARCH - POSTER PRESENTATIONS

Austin Hospital Research Week 2008

- 'Factors that impact upon emergency department patient compliance with antibiotic regimens.' Ho J, Taylor DMcD, Cabalag M, Ugoni A, Yeoh M
- 'Caffeine ingestion affects adenosine efficacy in patients with paroxysmal supraventricular tachycardia.' Cabalag M, Taylor DMcD, Knott J, Buntine P, Smit DeV, Meyer A.
- 'Topical alkane vapocoolant spray reduces intravenous cannulation pain: a randomised, double-blind, placebo-controlled trial.' Hijazi R, Taylor DMcD, Richardson J
- 'Does nebulised N-acetylcysteine impact sputum quality and diagnostic yield? A randomized, double-blind, placebo-controlled pilot study.' Taylor DMcD, Taylor SE, Ho J, Cabalag M, Hijazi R, Howden B, Charles P.
- 'An intervention trial increases the evidence-based use of metoclopramide following morphine administration.' Yeoh B, Taylor DMcD, Taylor SE
- 'An intervention trial increases the evidence-based use of bupivacaine in hand injuries.' Rickman S, Taylor DMcD, Taylor SE.

Australasian College for Emergency Medicine, Annual Scientific Meeting, Wellington, NZ. Nov 2008

- 'Does nebulised N-acetylcysteine impact sputum quality and diagnostic yield? A randomized, double-blind, placebo-controlled pilot study.' Taylor DMcD, Taylor SE, Ho J, Cabalag M, Hijazi R, Howden B, Charles P.

Society of Hospital Pharmacists Association. 34th National Conference. Adelaide September 2008

- 'Topical alkane vapocoolant spray reduces intravenous cannulation pain: a randomised, double-blind, placebo-controlled trial.' Hijazi R, Taylor DMcD, Richardson J

Australian Medical Students Association - National Convention. Melbourne, July

- 'Epidemiology of thoracic spine fractures in trauma: identifying high-risk patients who may benefit from CT screening.' Singh R, Taylor DMcD, D'Souza D, Page P, Phal P.

PRIZES

NHMRC – NICS 'Evidence into Action Award' 2008

'Best paper' at the ACEM Annual Scientific Meeting (Wellington, Nov 2006) that demonstrated closing an evidence-practice gap to improve healthcare.
Yeoh B. 'An intervention trial increases the evidence-based use of metoclopramide following morphine administration.'

Society of Hospital Pharmacists Association 34th National Conference. Adelaide September 2008

Taylor SE. 'An intervention trial increases the evidence-based use of metoclopramide following morphine administration'

Best Paper by a Fellow of the Australasian College for Emergency Medicine, ACEM ASM Wellington, NZ. Nov 2008

Taylor DMcD. 'Topical alkane vapocoolant spray reduces intravenous cannulation pain in emergency department patients: a randomised, double-blind, placebo-controlled trial.'

ONGOING RESEARCH PROJECTS

'IV droperidol and olanzapine as adjuncts to midazolam for the acutely agitated patient in the emergency department: a multi-centre, randomized, double blind controlled trial.'

Chan E, Taylor DMcD, Knott J, Kong D, Castle D

'The effects of obesity on patient management in the Emergency Department'

Kam J, Taylor DMcD

'A comparison of specific antibiotic-resistant pathogens isolated from nursing home and general community residents'

Xie C, Taylor DMcD, Charles P, Houden B

'Call-back study investigating paediatric dog bite injury cases that occurred in the domestic setting'

Ashby K, Cassell E, Taylor DMcD

'Nature and outcomes of chemical eye injuries reported to the Victorian Poisons Information Centre'

Sher L, Taylor DMcD, Robinson J, Browning J, Colbridge M, MacLeod D, McCracken H, McKenzie C

'The epidemiology of antidepressant drug overdose in Victoria, Australia'

Wong A, Taylor DMcD, Robinson J, Ashby K

'Pilot Project of Procedural Sedation in the Emergency Department: Is Patient Satisfaction Adequate?'

Ghosh A, Taylor D

'Topical alkane vapocoolant spray versus subcutaneous lignocaine injection for reducing the pain of intravenous cannulation: a randomised, controlled, clinical trial'

Page D, Taylor D

'Evaluation of the Primary Contact Physiotherapy Service in the Emergency Department'

DiNatale D, Crane J, Taylor D, Judkins S

'Emergency Department procedural sedation practices and factors associated with adverse events'

The ED sedation study investigators (a national collaborative)

'The resource implications of vital signs monitoring in the Emergency Department'

Ferma M, Taylor D, Cochrane C, Petre I, Yeoh M

'Evaluation of ED medical, nursing and allied health staff attitudes towards the use of complementary medicines'

Taylor SE, Welch S, Barbour L, Ainsworth J.

'Patient transfer from hospital to Aged Care facilities: Common medication problems and possible solutions.'

Taylor SE, Chu M, Tanner F

'Utility of abdominal Xrays among emergency department patients'

Sullivan K, Taylor DMcD, Judkins S.

'The epidemiology of absenteeism among public hospital staff'

Rugless M, Taylor DMcD.