

# Clinician's Capsules for *CJEM* 20(2)

## EDITORIAL NOTE

With this issue we introduce a new feature, *Clinician's Capsule*, which is intended to summarize each original research study with key messages for the busy emergency department (ED) clinician. At a glance, our front-line providers can decide if they want to read more of the paper or move on to the next. In this issue most of the capsules are bundled together but eventually they will be embedded within each article as we have done for the Feature Article in this issue. Please let us know what you think.

Ian Stiell, *CJEM* Editor-in-Chief

## A Traumatic Tale of Two Cities: a Comparison of Outcomes for Adults with Major Trauma Who Present to Differing Trauma Centres in Neighbouring Canadian Provinces

Jefferson Hayre, Colin Rouse, James French, Jacqueline Fraser, Ian Watson, Sue Benjamin, Allison Chisholm, George Stoica, Beth Sealy, Mete Erdogan, Robert Green, Paul Atkinson

doi:10.1017/cem.2017.352

### What is known about the topic?

Formalized trauma teams are commonly deployed for major trauma cases, yet there is mixed evidence as to whether they provide any additional outcome benefit over emergency-physician-delivered trauma care.

### What did this study ask?

Was there any survival benefit for the trauma team over emergency-physician-led care in a comparison of two trauma systems?

### What did this study find?

We found differences in rates of and times to key interventions, but no survival benefit for the trauma team over the emergency-physician-delivered model.

### Why does this study matter to clinicians?

Comparable outcomes for major trauma patients may be achieved by organizing quality care within the emergency department, if a dedicated, specialty-based trauma team is unavailable.

## Models of Care for Traumatically Injured Patients at Trauma Centres in British Columbia: Variability and Sustainability

Benjamin Tuyp, Kasra Hassani, Lisa Constable, Joseph Haegert

doi:10.1017/cem.2017.50

### What is known about the topic?

A trauma centre's "model of care" – how it admits and oversees patients – affects patient outcomes.

### What did this study ask?

What is the "model of care" at British Columbia's trauma centres? Is it sustainable, and does it comply with accreditation guidelines?

### What did this study find?

Three models of care are distributed inconsistently across our provincial Level I-III trauma centres, with significant variation in sustainability and accreditation compliance.

### Why does this study matter to clinicians?

A wider adoption of "admitting trauma team" or "short-stay trauma unit" models of care may improve the sustainability and accreditation compliance of our trauma system.

## All-terrain Vehicle-Related Injuries and Deaths in Newfoundland and Labrador between 2003 and 2013: A Retrospective Trauma Registry Review

Holly Black, Desmond Whalen, Sabrina Alani, Peter Rogers, Cathy MacLean

doi:10.1017/cem.2017.51

### What is known about the topic?

There are few studies in Canada studying ATV-related injuries and deaths with no study existing in Newfoundland and Labrador for patients of all ages.

### What did this study ask?

What are the demographics, immediate health care costs, efficacy of related legislation, and rates of helmet use among patients injured or deceased because of ATV-related incidents in Newfoundland and Labrador?

### What did this study find?

The current legislation in Newfoundland and Labrador did not significantly reduce the severity of injuries or increase the rates of helmet use. Additionally, high-risk demographics and injury patterns are described.

### Why does this study matter to clinicians?

The findings point to education as an adjunct to deficient legislation, and primary care physicians are positioned to provide public education around safe riding practices to high-risk groups.

## Compliance of Tranexamic Acid Administration to Trauma Patients at a Level-one Trauma Centre

Abeer Ghawnni, Angela Coates, Julian Owen

doi:10.1017/cem.2017.349

### What is known about the topic?

Administration of tranexamic acid (TXA) to trauma patients with significant bleeding, within 8 hours of injury, became widely used recently in trauma centres.

**What did this study ask?**

What was the compliance rate of administering TXA to trauma patients with significant bleed in a Canadian Level I trauma centre?

**What did this study find?**

The compliance rate of administering TXA to eligible patients was 27%. The mean time to administration of TXA is 47 minutes from arrival to the emergency department at the trauma centre.

**Why does this study matter to clinicians?**

Quality improvement is warranted to enhance compliance with the administration of TXA to the trauma patient with significant life-threatening bleeding.

**Rates and Predictive Factors of Return to the Emergency Department Following an Initial Release by the Emergency Department for Acute Heart Failure**

Pierre-G raud Claret, Lisa A. Calder, Ian G. Stiell, Justin W. Yan, Catherine M. Clement, Bjug Borgundvaag, Alan J. Forster, Jeffrey J. Perry, Brian H. Rowe

doi:10.1017/cem.2017.14

**What is known about the topic?**

Relapses that result in return visits to emergency departments (ED) represent important adverse health outcomes for heart failure patients.

**What did this study ask?**

What variables are involved in relapses after ED discharge following treatment for acute heart failure?

**What did this study find?**

Relapse occurred frequently in 20% of included patients. A past medical history of percutaneous coronary intervention or coronary artery bypass graft, high heart rate, and abnormal initial vital signs were variables associated with return to the ED.

**Why does this study matter to clinicians?**

The identification and monitoring of these variables could lead to interventions to reduce this important outcome.

**Sentinel Visits in Emergency Department Patients With Diabetes Mellitus as A Warning Sign for Hyperglycemic Emergencies**

Justin W. Yan, Katherine M. Gushulak, Melanie P. Columbus, Alexandra L. Hamelin, George A. Wells, Ian G. Stiell

doi:10.1017/cem.2017.338

**What is known about the topic?**

Patients with poorly controlled diabetes often visit the emergency department (ED) for management of hyperglycemic episodes.

**What did this study ask?**

What are the outcomes of patients who have a sentinel ED visit (within the preceding 14 days) prior to their hyperglycemic emergency visit?

**What did this study find?**

Of patients who presented for hyperglycemia, 17% had a sentinel ED visit, of which 43% of these required admission upon returning.

**Why does this study matter to clinicians?**

Clinicians should be vigilant in checking blood glucose and provide clear discharge and follow-up instructions to prevent further hyperglycemic emergencies from occurring.

**A Survey of Front-line Paramedics Examining the Professional Relationship Between Paramedics and Physician Medical Oversight**

Christopher R. Foerster, Walter Tavares, Ilkka Virkkunen, Antti K mar inen

doi:10.1017/cem.2017.36

**What is known about the topic?**

The interaction between paramedics and physician medical oversight is complex but also important for the provision of high-quality care.

**What did this study ask?**

What are the perceptions in the professional relationship between paramedics and physician oversight as viewed by front-line paramedics?

**What did this study find?**

Paramedic perceptions were mixed and included perceptions of ambiguous written directives and concerns related to the level of trust and support for critical thinking.

**Why does this study matter to clinicians?**

These perceptions may have implications for the system of care and should be considered by emergency physicians who interact with paramedics.

**Can a Single-Primary Care Paramedic Configuration Safely Transport Low-Acuity Patients in Air Ambulances?**

Homer Tien, Bruce Sawadsky, Michael Lewell, Sean Moore, Michael Peddle, Alun Ackery, Brodie Nolan, Russell D. MacDonald

doi:10.1017/cem.2017.392

**What is known about the topic?**

The optimal crew configuration is unknown for transporting low acuity patients in air ambulances.

**What did this study ask?**

This study asked if using a single paramedic is safe for transporting low acuity patients in air ambulances.

**What did this study find?**

This study found that the rate of medical deterioration was extremely low during these types of air transports. Medical deterioration was documented in 210/3264 (0.6%) of cases. No one died.

**Why does this study matter to clinicians?**

Single paramedic configuration is safe for transporting low acuity patients by air.

## The Immigrant Effect: Factors Impacting use of Primary and Emergency Department Care – A Canadian Population Cross-Sectional Study

Robert Ohle, Helena Bleeker, Krishan Yadav, Jeffrey J. Perry  
doi:10.1017/cem.2017.4

### What is known about the topic?

Immigrants possess socioeconomic characteristics that reduce their use of primary care.

### What did this study ask?

If immigrants cannot access primary care, do these barriers also impact access to the emergency department?

### What did this study find?

Immigrants without a primary care physician use the emergency department less than Canadian-born respondents; this decreased use was not explained by previously reported socioeconomic factors.

### Why does this study matter to clinicians?

With the foreign-born population in Canada expected to grow to almost 30% in the next 15 years, physicians should be aware of the complex barriers that immigrants face in accessing health care.

## Examining the Utility of the Hamilton Early Warning Scores (Hews) at Triage: Retrospective Pilot Study in a Canadian Emergency Department

Steven Skitch, Benjamin Tam, Michael Xu, Laura McInnis, Anthony Vu, Alison Fox-Robichaud  
doi:10.1017/cem.2017.21

### What is known about the topic?

Early warning scores can identify admitted patients at risk of deterioration and are beginning to be used and studied in emergency department patients.

### What did this study ask?

How effective was the novel early warning score at emergency department triage as a predictor of critical events and sepsis among patients admitted to the hospital?

### What did this study find?

The early warning score had a poor discriminative ability for predicting the occurrence of critical events but was useful as a predictor of sepsis.

### Why does this study matter to clinicians?

This study indicates that early warning scores at emergency department triage may be useful as a tool for the identification of sepsis, but further research is needed before wider implementation.

## Self-Awareness of Computed Tomography Ordering in the Emergency Department

Amjed Kadhim-Saleh, James C. Worrall, Monica Taljaard, Mathieu Gatién, Jeffrey J. Perry  
doi:10.1017/cem.2017.45

### What is known about the topic?

There is variation in the rate of computed tomography (CT) ordering amongst physicians.

### What did this study ask?

Were physicians aware of their ordering rates and how they compared to peers?

### What did this study find?

Few physicians recognized high utilization in their own practice. Most physicians thought their CT utilization was average.

### Why does this study matter to clinicians?

Overuse of CT causes harm. If physicians lack self-awareness of their ordering behaviour, they are unlikely to reduce CT use.

## The Impact of Social Media Promotion with Infographics and Podcasts on Research Dissemination and Readership

Brent Thoma, Heather Murray, Simon York Ming Huang, William Ken Milne, Lynsey J. Martin, Christopher M. Bond, Rohit Mohindra, Alvin Chin, Calvin H. Yeh, William B. Sanderson, Teresa M. Chan  
doi:10.1017/cem.2017.394

### What is known about the topic?

Social media and online educational resources are frequently used to disseminate research online.

### What did this study ask?

What is the impact of a social media strategy incorporating infographics and podcasts on the online dissemination of research articles?

### What did this study find?

The promotion of research articles with both podcasts and infographics on social media was associated with increased Altmetric scores and abstract views, but not full-text views.

### Why does this study matter to clinicians?

The promotion of articles using online educational resources may increase awareness of research among clinicians.