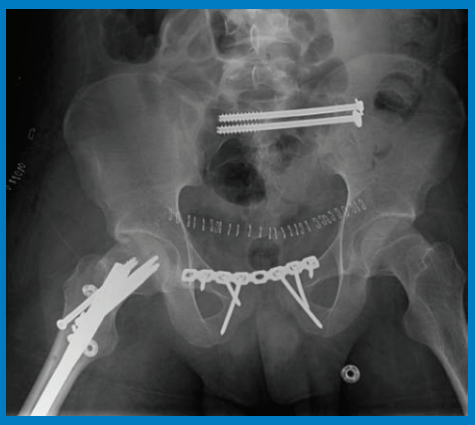
2017

ATEMC

ATLANTIC TRAUMA AND EMERGENCY MEDICINE **CONFERENCE**

CONGRÈS DE TRAUMATOLOGIE ET DE MÉDECINE D'URGENCE DE L'**ATLANTIQUE**



DELTA BEAUSÉJOUR, MONCTON, NB SEPTEMBER 21 - 23, 2017

#atlantictrauma*and*EM2017

@atemc.ctmua

PROGRAM

ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE

CONGRÈS DE TRAUMATOLOGIE ET DE MÉDECINE D'URGENCE DE L'ATLANTIQUE

Dear Colleagues,

On behalf of the Organizing Committee, it is our great pleasure to welcome you to Moncton, New Brunswick and to the Atlantic Trauma and Emergency Medicine Conference 2017.

The Conference has been designed to provide an innovative inter-professional educational experience including: discussion panels, debates, presentations and research abstracts.

Many distinguished speakers have joined the faculty and will take part in this Conference in three streams: Emergency Medicine, Trauma and Nursing/EMS.

We would like to express our thanks to the pharmaceutical and manufacturing industry for their generous support. We would also like to thank and acknowledge our dedicated staff, colleagues, friends and families for their untiring help, support and advice in planning and arranging this meeting.

We hope that you will enjoy the Conference and that your interaction with your colleagues from all four Atlantic Provinces will stimulate a creative knowledge exchange that will be personally and professionally rewarding. We also hope and trust that you will enjoy your visit to New Brunswick.

Sincerely,

Dr. Tushar Pishe
Saint John, NB
Conference Co-Chair
Atlantic Trauma-Emergency Medicine 2017

Dr. Andrew Travers
Halifax, NS
Conference Co-Chair
Atlantic Trauma-Emergency Medicine 2017

DAY ONE – SEPTEMBER 21

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

TIME	TRACK 1 TRAUMA	TRACK 2 EM	TRACK 3 NURSING/EMS
0815-0900	**Welcome and Official Opening** Hon. Victor Boudreau, Minister of Health Her worship Dawn Arnold, Mayor, City of Moncton Dr. Tushar Pishe and Dr. Andrew Travers, Conference Co-Chairs Ballroom A/B/C		
0900-1000	**The Power of Teams When it Matters Most** Dr. Chris Hicks, Emergency Physician and Leading Researcher St. Michaels Hospital, Toronto, ON Ballroom A/B/C		
1000-1030	Break & Exhibits		
1030-1115	**Managing Finger Fractures and Dislocations** Dr. Don Lalonde Ballroom A	**Where Technology and Coagulopathy Come Together** Dr. Michael Crozier Ballroom B	**Mass Casualty Response: Is Your ER Ready?** Dr. Trevor Jain Ballroom C
1115-1200	**Emergency Management of Head Injuries** Dr. Andre le Roux Ballroom A	**Maxillofacial Emergencies** Dr. Nach Daniel Ballroom B	**Hard Landing in Halifax** Dr. Carl Jarvis Ballroom C
1200-1300	Lunch & Exhibits		
1300-1500	**Cardiac Arrest Survival – What Works?** Dr. Joanna Middleton (NB) Eric Beairsto (NB) Dr. Crystal Horwood (NL) Matthew Macaulay (NL) Dr. Yves Leroux (NS) Dr. James Gould (NS) Dr. Charles Duffy (PE) Jeremy Measham (PE) Ballroom A	**Geriatrics: The New Face of Major Trauma in Atlantic Canada** Dr. Camilla Wong (ON) Dr. Pam Jarrett (NB) Dr. Brian Metcalfe (NL) Dr. Judah Goldstein (NS) Moderator: Dr. Michael Crozier Ballroom B/C	
1500-1520	Break & Exhibits		
1520-1600	**Research Rapid Fire** – Dr. James French and Dr. Rob Green Ballroom A/B/C		
1600-1700	**Leadership and the NB Healthcare System** Mr. Stephane Robichaud, CEO, NB Health Council Ballroom A/B/C		
1700-1900	**Welcome Reception: Mezzanine Foyer**		

DAY TWO – SEPTEMBER 22

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

TIME	TRACK 1 TRAUMA	TRACK 2 EM	TRACK 3 NURSING/EMS
0700	**Chocolate River Run** Survived our welcome reception and need a kick start to Day 2? *Join us in the Delta main lobby@ 7:00am for a 5 kilometer run on the scenic trails of the Fundy River.*		
0845-0900	**Welcome to Day 2: An Injury Survivor's Perspective** Ballroom A/B/C		
0900-1000	**Saving Lives with the Preventable Campaign** Dr. Ian Pike, Co-Executive Director, The Community Against Preventable Injuries, Vancouver, BC Ballroom A/B/C		
1000-1030	Break & exhibits		
1030-1115	**The Death of ATLS** Dr. Chris Hicks Ballroom A	**Where Emergency Medicine Meets Critical Care** Dr. Rob Green Ballroom B	**Perceptions and Expectations of Nursing Practice: From New Graduate Transition to Inter-professional Collaboration** Dr. Sheri Lynn Price Ballroom C
1115-1200	**Developing Performance for Trauma Teams: Ergonomics** Dr. James French Ballroom A	**The Four Drugs That Matter in Emergency Airway Management** Dr. Nick Sowers Ballroom B	**Nursing Inter-professional Communications** Mr. Landon James Ballroom C
1200-1300	Lunch & Exhibits, including an exclusive lunch and learn opportunity, hosted by Baxter (by invitation) "**Fluid Management - A Balancing Act**" - Dr. Ying Tung Sia		
1300-1500	**Atlantic Perspectives on Rural, Urban and Complex Trauma Response: A Panel Discussion** NB: Dr. Tushar Pishe and Ben Hunter NS: Dr. Andrew Travers and Jan Jensen PE: Dr. Scott Cameron and Matt MacLeod NL: Dr. John Campbell and Adam Fisher Moderator: TBD. Ballroom A	**The Influence of Culture when Safety Matters Most: Perspectives from the Nuclear Industry, Aviation and Medicine** Normand Richard, NAV Canada Safety Specialist Dr. James French, Emergency Medicine Ryan Paquet, Nuclear Safety Landon James, Nursing Moderator: Dr. Rob Green. Ballroom B/C	
1500-1520	Break & exhibits		
1520-1600	**Research Rapid Fire** : Dr. James French and Dr. Rob Green. Ballroom A/B/C		
1600-1700	**Rural Challenges and Opportunities – the Australian Experience** Dr. Peter O'Meara, Professor of Rural & Regional Paramedicine LaTrobe University, Melbourne, Australia. Ballroom A/B/C		

DAY THREE – SEPTEMBER 23

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

TIME	TRACK 1 TRAUMA	TRACK 2 EM	TRACK 3 NURSING/EMS
0845-0900	**Welcome to Day 3: A Cardiac Arrest Survivor's Perspective** Ballroom A/B/C		
0900-1015	**Configuring Emergency Departments to Save Lives** Dr. David Petrie, Professor of Emergency Medicine, Senior Medical Director of the Emergency Program of Care, NSHA Dalhousie University / Nova Scotia Health Authority Ballroom A/B/C		
1015-1030	Break & exhibits		
1030-1100	**The Initial Management of Pelvic and Acetabular Trauma** Dr. Louis LeBlond Ballroom A	**Palliative Care at Home** Dr. Alix Carter Ballroom B	**Community Paramedicine** Dr. Peter O'Meara Ballroom C
1100-1130	**Pearls and Pitfalls in the Management of Spinal Fractures** Dr. Neil Manson Ballroom A	**The Literature and Emergency Medicine in 2017** Dr. Paul Atkinson Ballroom B	**Rotor Wing vs. Fixed Wing – 30 Minutes to Decide** Cathy Cormier (NB) Colin Flynn (NS) Ballroom C
1130-1230	**What will change tomorrow?** Dr. Scott Cameron, Dr. Andrew Travers, Dr. Tushar Pishe, Dr. Chrystal Horwood Ballroom A/B/C		

This group learning program meets the certification criteria of the College of Family Physicians of Canada and has been certified by the Dalhousie University Continuing Professional Development Office for up to 15.75 Mainpro+ credits for the conference and up to 9.5 Mainpro+ credits for the pre-conference events.

As an accredited provider, Dalhousie University, CPD, designates this continuing professional development activity for up to 15.75 credit hours for the conference (Breakdown as follows: September 21 6.0 hours; September 22 6.25 hours; September 23 3.5 hours) and up to 9.5 credit hours for the pre-conference events as an accredited group learning Section 1 activity as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

0730-1700
Delta Beausejour
$525.00
Breaks and lunch included

Advanced Musculoskeletal Trauma and Limb Support

First time offered in Atlantic Canada! This program for physicians and nurse practitioners meets the accreditation criteria of the College of Family Physicians of Canada and has been accredited for up to 8 Mainpro-C credits.

The Acute Musculoskeletal Trauma Limb Support course was developed by a group of orthopaedic surgeons from McMaster University who recognized the need to share the current knowledge of orthopaedic emergencies to our Emergency Department colleagues and physicians working in rural areas to improve their comfort level when managing orthopaedic emergencies. Where the ATLS course has had a great impact on the immediate management of trauma, the AMTLS course will focus on the continued management of orthopaedic injuries once the patient is stabilized.

Course objectives and content: The AMTLS course is a small group-based, interactive course, taking place over a single day. Teaching is case-based. A short introduction of each topic highlights important concepts and new information. A large number of case examples are used to illustrate the concepts and decision-making required for managing such injuries. All musculoskeletal injuries are covered, including spine injuries and hand trauma. It is expected that the course will provide the participants with the information needed to effectively diagnose and initiate management of the vast majority of orthopaedic injuries commonly seen.

Advanced Musculoskeletal Trauma and Limb support: 8.00 credit hours

WORKSHOP - SEPT 20

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

0800-1800
Theatre A
The Moncton Hospital
$200.00
Breaks and lunch not included

Emergency Practice, Interventions and Care - Canada (EPICC) - Trauma

This new addition to the EPICC Education program for nurses is based on the National Emergency Nurses Association (NENA) Core Competencies of the Emergency Nurse. These Core Competencies are available on the NENA website at www.nena.ca. Using small group, large group and simulation, the course focuses on the Emergency Trauma care of the adult.

The course is a mixture of pre-course online modules, classroom, small group case practice/simulation and psychomotor skill stations.

There is a customized evaluation process before and throughout the course. There is no formal written or practical examination. The evaluation process is one-on-one with an instructor and involves the individualized assessment of your skills and development of future learning goals.

The EPICC-Trauma course is a part of the NENA EPICC program. This course usually requires completion of the EPICC-Foundations course beforehand but this requirement will be waived for conference participants as access to EPICC-Foundations in Atlantic Canada has been limited. There will be additional online preparation before the EPICC-Trauma program and a longer education day to ensure the best educational experience for learners.

Emergency Practice, Interventions and Care – Canada (EPICC) – Trauma: 8.50 credit hours

1300-1600
Delta Beausejour
$90.00
Coffee break included

Hot Topics in Concussion Assessment and Management

This is a must attend event for any healthcare practitioners who regularly encounter cases of concussion in their clinical practice. During this half-day workshop, we will highlight the latest evidence-based information for the assessment and management of this type of brain injury. Benefit from interactive discussions, testimonials and presentations from experienced healthcare professionals and researchers in a relaxed atmosphere.

Hot Topics in Concussion Assessment and Management: 3.00 credit hours

0800-1700
Delta Beausejour
$700.00 for MD
$200.00 for non-MD
Breaks and lunch included

Trauma Simulation

NB Trauma Program Mobile Simulation is a dynamic interdisciplinary trauma simulation program. Participants in this full-day session will learn key skills and behaviours in a simulated trauma setting, integrating the principles of crisis resource management, deliberate practice, effective team communication and debriefing, with an initial clinical focus on rapid sequence induction and associated post-intubation sedation and pain management.

Trauma Simulation: 7.50 credit hours

WORKSHOP - SEPT 21 & 22

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

Hour-long sessions each day
Delta Beausejour
Free: register at conference desk anytime

All you need to know about IO!

Intra-osseous access has become a standard of care in situations where vascular access is difficult to obtain in urgent, emergent and medically necessary situations. Open to all delegates, this workshop's goal is to increase health care professionals' knowledge and comfort level towards IO access. The 1 hour session will provide didactic teaching and hands on practice covering the following key concepts:

- Indications and Contraindications
- Basic bone anatomy
- Site selection/identification
- Needle set selection
- Insertion technique
- Infusing medications and fluids
- Care of the patient
- Assessment/documentation
- Removing the catheter
- Care of the driver
- Clinical support resources

All you need to know about IO!: 1.00 credit hours

SPONSORS & PARTNERS

THE ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE 2017

Special thanks to our gold level sponsor:

Baxter

Thank you to our other sponsors:

BRAEMED LTD.

ARROW® from TELEFLEX | EZ-IO® System

FUJIFILM Value from Innovation
SonoSite

clarius
ultrasound anywhere

voyageur airways

PHYSIO CONTROL

Friends and Partners:

Medavie Health Ed **Medavie EMS** **NB Medical Society** **Island EMS** **Health PEI**

NB Trauma Program
Programme de traumatologie du NB

EHS Emergency Health Services Nova Scotia Trauma Program

In keeping with CMA Guidelines, program content and selection of speakers are the responsibility of the planning committee. Support is directed toward the costs of the course and not to individual speakers through an unrestricted educational grant.

Educationally cosponsored by Dalhousie University Continuing Professional Development

DALHOUSIE UNIVERSITY
FACULTY OF MEDICINE
Continuing Professional Development

ABSTRACT

Effect of an emergency medicine resident as team leader on outcomes of trauma team activations

Authors: Michael B. Butler, Mete Erdogan, Robert S. Green

Background: Traditionally, a surgeon has served as Trauma Team Leader (TTL). However, this role is increasingly being performed by emergency medicine (EM) physicians. At the Halifax Infirmary, we utilize a resident trauma team leader (rTTL) under supervision of a staff traumatologist, a duty shared between EM and surgical residents. Our objective was to compare outcomes between cases led by EM and surgical rTTLs.

Methods: Retrospective case-control study of data collected from the Nova Scotia Trauma Registry. Eligible cases were attended to by the trauma team from April 4th 2014 to March 31st, 2015. Primary outcome of interest was in-hospital mortality. Secondary outcomes included hospital admission, hospital length-of-stay (LOS), intensive care unit (ICU) admission, ICU LOS, ventilator requirement, operating room (OR) use and time to OR. Univariate comparisons were made using t-tests and Fisher's test. We used logistic and linear regression to adjust for confounding.

Results: 571 patients were included in the analysis. 179 (31.3%) were managed by an EM resident and the remainder were managed by a surgical resident. There was no statistical difference in mortality or secondary outcomes on the crude or adjusted estimates. 18 patients (10.1%) in the EM group died compared to 37 (9.4%) in the surgical group.

Conclusions: There was no difference in any patient outcome between cases managed by EM and surgical rTTLs. These findings support the philosophy that both groups are effective as rTTLs and should be trained in trauma leadership. Further research is warranted in introducing the rTTL into other systems.

ABSTRACT

ORAL PRESENTATION - RESEARCH RAPID FIRE SEPTEMBER 21 **1520-1600**

Situational Awareness in Emergency Medicine Teams - How aware is aware enough in Simulated Emergency Trauma Cases?

Authors: Devon Maclean, RN. Kim David, RN. Jacqueline Fraser, RN. Dr Tushar Pishe, Dr Paul Atkinson, Dr James French.

Background: Situational Awareness is the ability to identify, process, and comprehend the critical elements of information about patient condition, stability, the operational environment and an appropriate clinical course. More simply, it's knowing what is going on around you. The Situational Awareness Global Assessment Tool (SAGAT) is a validated tool for measuring situational awareness. The SAGAT tool was measured during a series of standardized high fidelity advanced airway management simulations in multidisciplinary teams in New Brunswick Emergency Departments.

Methods: Fifty simulated emergency airway cases were performed in situ in Emergency Departments in Southern New Brunswick from September 2014 to May 2017. A Laerdal 3G tetherless simulator was operated by trained doctor and nurse facilitators. Eight standardized cases were used whose educational objectives were to develop the optimization of critically ill patients prior to induction, to deliver patient centered anesthesia and to choose an appropriate airway strategy. Learner profiles collected information about clinician specialty, team experience and prior education. Video assessment and standardized assessment tools were used based on the predicted clinical course, The Mayo High Performance Team Assessment Scale, The Ottowa CRM Global Rating Scale and the SAGAT. Cases where divided into two groups; those that contained critical errors and those that did not. Critical errors were defined as failure of 1. Oxygenation (using basic airway management, hi-flo nasal cannula and Bag Valve Mask with effective ventilation) 2. Pre-induction shock correction (for example splintage and massive transfusion), 3. Induction dose estimation (for example halving the induction dose in hypotension) 4. Choice of airway management paradigm (for example using an RSI approach where an awake technique would be better). The SAGAT has a maximum score of 13 and was assessed by research nurses after each case for all participants. The mean SAGAT score was calculated for the team leading Clinician for each group and compared using a t-test.

Results: Of the 50 cases, 17 contained one more critical errors. The mean SAGAT score in the group that contained critical errors was 8.1 (1 S.D. +/- 3.9). The mean SAGAT Score in the group that contained no critical errors was 10.9 (1 S.D. +/- 2.1). The means we significantly different with a two tailed p value of 0.002.

Discussion: In this study in simulated emergency cases high SAGAT scores were associated with clinician team leaders that did not commit safety critical errors. This work is the initial analysis to develop standards for Simulated team performance in Emergency Department teams.

ABSTRACT

ORAL PRESENTATION - RESEARCH RAPID FIRE SEPTEMBER 21 1520-1600

Injuries related to distraction by mobile devices while driving: a systematic review

Authors: Natasa Zatezalo, Mete Erdogan, Robert S. Green

Background: Driver distraction by mobile devices (i.e., cell phones, smartphones) increases risk of injury or death in a motor vehicle collision (MVC). While popularity of mobile devices has dramatically increased, it's unclear how often these devices are implicated in MVC-related trauma. Our main objective was to synthesize evidence on the proportion of drivers injured or killed in a MVC attributable to mobile device use by the driver. As a secondary objective, we assessed for association between injury risk and mobile device use while driving.

Methods: We systematically searched 5 electronic databases (PubMed, Embase, CINAHL, TRIS, Web of Science) and the grey literature from inception to September 2016 to identify reports of MVC injuries (regardless of severity) and deaths attributed to mobile device use by drivers. Descriptive statistics were used to evaluate study and driver characteristics. We calculated the rate of distracted driving-related trauma for each study.

Results: A total of 4231 articles were screened, of which 12 met all eligibility criteria. Overall, the median rate of distracted-driving related trauma was 2.4% (range 0.04% to 44.7%). Among studies that stratified distraction-related injuries by age group, most injuries were in drivers aged 20-30 years. The association between mobile device use and road traffic injury was evaluated in three studies; all found use of a mobile device significantly increased crash risk.

Conclusions: The proportion of road traffic injuries and fatalities attributed to driver distraction by mobile devices ranged between 0.04% to 44.7%.

Prevalence and predictors of alcohol testing in trauma team activation patients at a Canadian tertiary trauma center

Authors: Mete Erdogan, Nelofar Kureshi, Saleema A. Karim, John M. Tallon, Robert S. Green, Mark Asbridge

Background: Although alcohol screening is an essential requirement of Level 1 trauma centre accreditation, actual rates of compliance with mandatory alcohol testing in trauma patients are seldom reported. Our objective was to determine the prevalence of blood alcohol concentration (BAC) testing in patients requiring Trauma Team Activation (TTA) for whom blood alcohol testing was mandatory, and to elucidate patient, injury, and system-level factors associated with BAC testing.

Methods: Eleven-year retrospective study of all major trauma patients presenting to a tertiary (Level 1) trauma centre in Halifax, Nova Scotia. Trends in BAC testing over time and across patient and injury characteristics were described. Multivariable logistic regression examined patient, injury, and system-level factors associated with testing.

Results: Overall, 61% (1415/2306) of TTA patients received BAC testing despite existence of a mandatory testing protocol. Rates of BAC testing rose steadily over the study period, from 33% in 2000 to 85% in 2010. Testing varied considerably across patient, injury and system-level characteristics. Key factors associated with testing were male gender, younger age, scene Glasgow Coma Scale score < 9, direct transportation to hospital, and presentation between midnight and 9am, or on the weekend.

Conclusions: At this tertiary trauma centre with a policy of empirical alcohol testing for TTA patients, BAC testing rates varied significantly over the eleven-year study period and distinct factors were associated with alcohol testing in TTA patients. These findings should inform clinical policies to help improve empiric testing and optimize use of appropriate, evidence-based interventions for patients with alcohol-related problems.

ABSTRACT

ORAL PRESENTATION - RESEARCH RAPID FIRE SEPTEMBER 22 1520-1600

The evolutionary practice of spinal protection in New Brunswick's adult trauma patients

Authors: Eric Beairsto, Brian Attfield, Dana Curwen, Dr. Pishe, Ian Watson

Background: With growing evidence to support a change in practice, we sought to develop provincial consensus, plan, implement and evaluate a change in the way trauma patients receive spinal immobilization in New Brunswick. This change, implemented in December, 2015, removed the long spine board, straps and head blocks from the practice of over 1000 paramedics across New Brunswick, with concurrent introduction of scoop stretchers and supporting education in both prehospital and emergency department settings.

Methods: Following development and approval of a consensus statement that recommended significant changes to spinal protection practices, supporting education for paramedics, ED and diagnostic imaging staff was planned, delivered and evaluated.

Data from Ambulance New Brunswick and the NB Trauma Registry was used to evaluate the effectiveness of implementation and detection of potential patient risk. We also surveyed prehospital and Emergency Department staff to evaluate awareness, acceptance and potential changes in risk perception.

Results: Data from January-June 2015 (pre-implementation) was compared to January-June 2016 (post-implementation). There were 1189 qualifying patients in the pre-implementation cohort, 93.7% of whom received full spinal protection. There were 977 qualifying patients in the post-implementation cohort, of whom only 1.8% received full spinal immobilization.

The NB Trauma Registry allows review of all admitted trauma patients with an initial CTAS score of 1, 2 or 3 who arrived at any of the provinces Level I, II or III designated trauma centres. This review included case-level analysis of all patients who arrived by ambulance and for whom a clinical quality filter was identified by a trauma nurse. There were 4 cases where isolated femur fractures were not immobilized with a traction splint and where the absence of a spine board may have contributed to inadequate fracture immobilization. There were no other clinical quality filters applied that could reasonably be attributed to the absence of historical spinal immobilization practices.

Finally, there were 147 survey responses. Universally strong support was present for the change in practice. However, up to 34 % of respondent groups suggested that they may have a lower perception of patient risk when presented with a patient in a cervical collar but not on a long spine board, head blocks and straps.

Conclusion: Our results demonstrate that paramedics and ED staff have readily and immediately embraced this significant change in prehospital clinical practice. Early collaboration, coordinated implementation and rigorous evaluation methods helped ensure successful implementation. Additional educational support for paramedics and nurses may be warranted to address decreased perception of patient risk when spinal protection changes are made.

A 14-year retrospective analysis of major trauma recidivism and alcohol use in Nova Scotia

Authors: Mete Erdogan, Nelofar Kureshi, Mark Asbridge, Robert S. Green

Background: Trauma recidivists are individuals who present on greater than one occasion for different episodes of traumatic injury. The factors associated with recidivism have not been fully investigated. We sought to describe recidivism and alcohol use among trauma patients in Nova Scotia over a 14-year period.

Methods: Retrospective analysis of all adult (age >17 years) major trauma patients in Nova Scotia between 2001-2015 using data from the Nova Scotia Trauma Registry. Alcohol-related trauma recidivists were defined as having a blood alcohol concentration (BAC) ≥ 2mmol/L on at least 1 injury. Patients were grouped by BAC (negative [<2mmol/L], moderate [2-17.3mmol/L], high [>17.3mmol/L]) at injury (non-recidivists) or by highest BAC recorded at any injury (recidivists).

Results: A total of 9365 trauma patients were included in the analysis. Of these patients, 150 (1.6%) sustained >1 traumatic injury during the study period. Recidivists and non-recidivists were similar in age (recidivists: mean age 50±22.5 years vs. non-recidivists: mean age 52±21.5 years). A greater proportion of recidivists were male (recidivists: 83% male vs. non-recidivists: 73% male; p=0.008). With respect to injury severity at first injury, the mean Injury Severity Score (ISS) was higher in non-recidivists (recidivists: ISS 18.0 vs. non-recidivists: ISS 21.9; p<0.001). BAC testing was performed in 64% (96/150) of recidivists and 47% (4337/9215) of non-recidivists. Among recidivists, 68% (65/96) had a positive BAC on at least one injury; by comparison, 46% (2010/4337) of non-recidivists tested positive for blood alcohol at injury.

Conclusions: In our study, alcohol intoxication was an important factor in trauma recidivism.

Effect of post-intubation hypotension on outcomes in major trauma patients

Authors: Robert S. Green, Michael B. Butler, Mete Erdogan

Background: Development of post-intubation hypotension (PIH) is common and associated with poor outcomes in critically ill patients requiring endotracheal intubation (ETI). However, PIH has not been evaluated in the trauma population. Our aim was to determine the prevalence of PIH in trauma patients and assess the association of PIH with patient outcomes.

Methods: Retrospective case series of adult (≥ 16 years) trauma patients requiring intubation after referral to the provincial trauma team at a Level 1 trauma center in Halifax between 2000 and 2015. Data was collected from a provincial trauma registry and the patient chart. We evaluated the prevalence of PIH and created a logistic regression model to determine likelihood of mortality after controlling for potential confounding variables.

Results: Overall, 477 patients arrived unintubated and required ETI by the trauma team, of which 444 patients met eligibility criteria. Incidence of PIH was 36.3% (161/444). The PIH and non-PIH groups were similar with respect to gender, provider level, and volume of fluid administered within 15 minutes of intubation. The PIH group was older (PIH 44.8±20.8 years vs. non-PIH 39.0±18.2 years; p=0.003) and more likely to have an Injury Severity Score ≥12 (PIH 84.8% vs. non-PIH 75.4%; p=0.021). In-hospital mortality in the PIH group was 29.8% (48/161), compared to 15.9% (45/283) in the non-PIH group (p=0.001). Development of PIH was associated with increased mortality in trauma patients (odds ratio=1.83, 95% CI 1.01-3.31; p=0.047).

Conclusions: Development of PIH was common (36.3%) and associated with increased mortality.

ABSTRACT

ORAL PRESENTATION - RESEARCH RAPID FIRE SEPTEMBER 22 1520-1600

Use of Intraosseous Samples for Commonly Performed Laboratory Testing

Authors: Nicole Caldwell, Charlene Collins, Nadine Roussy, Claire McWilliam, Anne Robinson, Louis Cartier, Hakan Buyukdere. Laboratory Medicine Department, The Moncton Hospital

Background: In rare cases where a peripheral blood sample could not be collected, intraosseous samples (bone marrow aspirate) can be used for laboratory testing. This can be very important in acute management of some trauma or other urgent resuscitation requiring critical cases. We performed a study to validate the accuracy of routinely ordered laboratory test results on 20 bone marrow aspirate specimens collected from intraosseous devices and we compared the results with same patient's peripheral blood testing findings.

Methodology: Blood and marrow specimens were run alongside each other following our laboratory testing procedures. Results from ABO/Rh testing, complete blood cell count (CBC) and chemistry tests were compared for correlation. Values similar to peripheral blood findings with plus or minus 10% coefficient of variation (CV) were accepted as comparable.

Results: ABO/Rh testing and solid phase antibody screenings revealed the same results for each patient's marrow and peripheral specimens. In CBC testing hemoglobin and hematocrit results correlated well between the two sample types, but platelets and white blood cell parameters were not consistent. In biochemistry testing calcium, magnesium, glucose, albumin, urea, creatinine, sodium, and chloride seemed to correlate well, but potassium and many other analytes (Lipase, CK, ALT, AST, LDH etc.) were not comparable.

Conclusion Bone marrow aspirate specimens can be used to perform ABO/Rh testing in situations where a peripheral blood specimen cannot be collected. This allows for upfront ABO-compatible transfusion management of these patients and prevents any unnecessary use of precious O Rh negative red cell units. Hemoglobin and hematocrit values can be reported, but there is not enough evidence to support the release of the platelet, white blood cell counts and chemistry test results. In all cases, results should be confirmed with the first available peripheral blood sample.

ABSTRACT

POSTER PRESENTATION - SEE DISPLAY BOARD

Does the use of ultrasound improve diagnosis during simulated trauma scenarios?

Authors: D. McLean, L. Hewitson, D. Lewis, J. Fraser, J. Mekwan, J. French, G. Verheul and P.R. Atkinson

Introduction: Point of care ultrasound (US) is a key adjunct in the management of trauma patients, in the form of the extended focused assessment with sonography in trauma (E-FAST) scan. This study assessed the impact of adding an edus2 ultrasound simulator on the diagnostic capabilities of resident and attending physicians participating in simulated trauma scenarios.

Methods: 12 residents and 20 attending physicians participated in 114 trauma simulations utilizing a Laerdal 3G mannequin. Participants generated a ranked differential diagnosis list after a standard assessment, and again after completing a simulated US scan for each scenario. We compared reports to determine if US improved diagnostic performance over a physical exam alone. Standard statistical tests (X2 and Student t tests) were performed. The research team was independent of the edus2 designers.

Results: Primary diagnosis improved significantly from 53 (46%) to 97 (85%) correct diagnoses with the addition of simulated US ($X2=37.7$, 1df; $p=<0.0001$). Of the 61 scenarios where an incorrect top ranked diagnosis was given, 51 (84%) improved following US. Participants were assigned a score from 1 to 5 based on where the correct diagnosis was ranked, with a 5 indicating a correct primary diagnosis. Median scores significantly increased from 3.8 (IQR 3, 4.9) to 5 (IQR 4.7, 5; $W=219$, $p<0.0001$).Participants were significantly more confident in their diagnoses after using the US simulator, as shown by the increase in their mean confidence in the correct diagnosis from 53.1% (SD 22.8) to 83.5% (SD 19.1; $t=9.0$; $p<0.0001$)Additionally, participants significantly narrowed their differential diagnosis lists from an initial medium count of 3.5 (IQR 2.9, 4.4) possible diagnoses to 2.4 (IQR 1.9, 3; $W=-378$, $p<0.0001$) following US. The performance of residents was compared to that of attending physicians for each of the above analyses. No differences in performance were detected.

Conclusion: This study showed that the addition of ultrasound to simulated trauma scenarios improved the diagnostic capabilities of resident and attending physicians. Specifically, participants improved in diagnostic accuracy, diagnostic confidence, and diagnostic precision. Additionally, we have shown that the edus2 simulator can be integrated into high fidelity simulation in a way that improves diagnostic performance.

ABSTRACT

POSTER PRESENTATION - SEE DISPLAY BOARD

Meeting patient expectations in the emergency department: Preliminary findings from the preparing emergency patients and providers study

Authors: James Nunn, Christine Cassidy, Darrell Chiasson, Shannon MacPhee, and Janet Curran

Background: Effective communication to develop a shared understanding of patient expectations is critical in establishing a positive encounter in the emergency department (ED). However, there is limited research examining patient expectations in the ED, and their impact on the beliefs, attitudes and behaviours during and after an ED visit. The objective of this study is to examine patient expectations in the ED.

Methods: As a part of a larger 3-phase study, a paper-based questionnaire on ED expectations was distributed to all patients who presented to one of four EDs in Nova Scotia with a Canadian Triage and Acuity Scale score of 2 to 5. A follow-up survey was distributed to all willing participants via email. Descriptive statistics were used to analyze responses.

Results: In Phase 1, 11,571 expectation questionnaires were collected, and 509 patients were contacted for a follow-up survey. Preliminary analysis of 6,038 questionnaires shows the majority of patients (66.0%) made the decision by themselves to present to the ED, while others were advised by a family/friend (22.6%). Responders expected to talk to a physician (68.9%) and 23.1% received health care advice prior to attending the ED. The majority of physicians (53.3%) reported the questionnaire helped in patient care. There were 147 responses to a follow-up survey and 87.1% of responders reported that ED clinicians met their expectations.

Conclusions: Patients have a variety of concerns and expectations when presenting to the ED. Obtaining expectations early in the patient encounter may provide opportunities for improved communication between clinicians and patients while enhancing satisfaction.

ABSTRACT

POSTER PRESENTATION - SEE DISPLAY BOARD

Concussion and admission diagnosis among seniors who fall: A descriptive analysis

Authors: Richard Louis, Allison Chisholm, Dr. Tushar Pishe, Ian Watson, Sue Benjamin

Background: New Brunswick has the largest proportion of seniors of any Canadian province according to the most recent data from Statistics Canada. Several studies have shown that falls are the leading cause of concussion for seniors 65 years of age and older. We sought to better understand whether screening for potential concussion is consistently completed among seniors admitted to hospital for other primary diagnoses following a fall.

Methods: The NB Trauma Registry contains comprehensive injury data for all trauma patients admitted to Level I, II and III designated trauma centres in NB, regardless of Injury Severity Score. An initial review of this dataset for admissions between April 1, 2014 and March 31, 2015 was completed to identify cases where seniors were admitted with injury after a fall. These cases were further explored to confirm the presence of an admission diagnosis of concussion.

Results: A total of 1,119 cases of traumatic injuries in individuals over the age of 65 were identified in the NB Trauma Registry over the study period. With 975 cases of seniors admitted to hospital following a fall, 96 had a documented admission diagnosis of a traumatic head injury. 10 were documented as having a non-specified head injury and only 9 cases (1% of the total number of seniors who were hospitalised post-fall) had a documented admission diagnosis of concussion.

We further stratified this data by age grouping, sex and admission facility trauma designation. Females who were admitted to hospital had a slightly higher rate of documented concussion (1%) than males (0.7%). When stratified by age groups, the rate of documented concussion ranged from 0% to 1.57%. No cases were documented in seniors below the age of 75. Finally, analysis by admission facility trauma designation noted a range in documented concussion diagnosis of 0% to 5.36%.

Conclusion: Our review identified important subpopulations of seniors admitted after a fall where concussion was not a documented admission diagnosis despite the evidence suggesting high risk for such injuries. This absence of concussion as a documented admission diagnosis requires further investigation. Specifically, whether concussion is actively considered during the inpatient experience deserves review, particularly given the current absence of concussion as an admission diagnosis among most seniors who fall and require hospitalization.

ABSTRACT

POSTER PRESENTATION - SEE DISPLAY BOARD

Understanding clinical variation in hip fracture care in NB

Authors: Susan Benjamin, Allison Chisholm, Ian Watson, Tushar Pishe

Background: The mandate of the New Brunswick Trauma Program (NBTP) includes supporting excellence in trauma care. Excellence includes consideration of clinical consistency across sites of care. Data from the NB trauma registry was used to understand if there was clinical care consistency among persons aged sixty-five and older with isolated hip fractures, a common injury cared for at the provinces' Level I, II and III designated trauma centres.

Methods: The NB Trauma Registry includes data for all patients aged sixty-five and older admitted with isolated hip fracture to the provinces Level I, II or III designated trauma centres having had a CTAS (Canadian Triage and Acuity Scale) Score of 1, 2 or 3 on arrival in the Emergency Department. The study period reviewed cases between April1, 2014 and March 31, 2015. Demographic data, length of stay (LOS) and discharge disposition were stratified by age and by admission facility.

Results: 445 isolated hip fractures were identified in the registry over the study period. The average age was 83 years, with an average and median length of stay of 21.5 and 10 days, respectively.

Further stratification noted variances in length of stay and crude mortality rates across sites. Discharge disposition also varied among centres, with 68.5 % of patients from one facility being sent to a second acute care facility, meaning the true length of stay could only be partially evaluated.

Predictably, we also noted progressively higher median LOS and crude mortality rates as age increased. Crude mortality rates also differed depending on the admission facility, although the number of cases and other confounding factors prevents comparison between sites.

Further study is underway to examine variation in local care practices ranging from 'time to OR' to availability of in hospital rehabilitation resources. Existing barriers to discharge must also be evaluated.

Conclusions: With an aging demographic in New Brunswick, understanding the burden of injury presented by isolated hip fractures is increasingly important. Our results demonstrate variability in LOS, discharge disposition and crude mortality rates. Further study is required to understand the true burden of this injury to both the patient and the health care system. A root cause analysis of these variability patterns has the potential to result in significant patient benefit and health care dollar savings.

THANK YOU FOR COMING!

And to members of the conference organizing committee:

Dr. Tushar Pishe, Medical Director,
NB Trauma Program

Dr. Andrew Travers,
Medical Director, EHS Nova Scotia

Ian Watson,
Administrative Director, NB Trauma Program

Shelley Woodford,
Trauma Coordinator, NB Trauma Program

Edgar Goulette,
Director, Support Services, New Brunswick EMS

Emily Gallant,
Administrative Assistant, NB Trauma Program

And to our moderators and facilitators:

Dr. James French, NB Trauma Program

Dr. Rob Green, NS Trauma Program

Dr. Michael Crozier, NB Trauma Program

Dr. Matt Greer, Saint John Regional Hospital

Dr. Hari Ondiveeran, NB Trauma Program

Dr. Gary Duguay, The Moncton Hospital

And to our awesome volunteers:

Susan Dugas

Stacey MacEachern

Renee Squires

Sammy Jo Steeves

Susan Benjamin

Julie Savoie

Julie Ringuette

Lisa Miller-Snow

Janet Vautour

Melissa Savoie

Leisa Ouellet

Kate Ellis

Host organization to the 2017 conference:

NB Trauma Program
Programme de traumatologie du NB

Horizon Health Network / Réseau de santé Horizon | Vitalité Health Network / Réseau de santé Vitalité | Ambulance NB | New Brunswick Department of Health / Ministère de la santé du Nouveau-Brunswick

ATLANTIC TRAUMA AND EMERGENCY MEDICINE CONFERENCE

CONGRÈS DE TRAUMATOLOGIE ET DE MÉDECINE D'URGENCE DE L'ATLANTIQUE