GLOBAL RESEARCH HIGHLIGHTS

Editor's note: *Annals* has partnered with a small group of selected journals of international emergency medicine societies to share from each a highlighted research study, as selected monthly by their editors. Our goals are to increase awareness of our readership to research developments in the international emergency medicine literature, promote collaboration among the selected international emergency medicine journals, and support the improvement of emergency medicine world-wide, as described in the WAME statement at http://www.wame.org/about/policy-statements#Promoting%20Global%20Health. Abstracts are reproduced as published in the respective participating journals, and are not peer reviewed or edited by *Annals*.

African Journal of Emergency Medicine

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Official Journal of the African Federation for Emergency Medicine, the Emergency Medicine Association of Tanzania, the Emergency Medicine Society of South Africa, the Egyptian Society of Emergency Medicine, the Libyan Emergency Medicine Association, the Ethiopian Society of Emergency Medicine Professionals, the Sudanese Emergency Medicine Society, the Society of Emergency Medicine Practitioners of Nigeria and the Rwanda Emergency Care Association

Global emergency care clinical practice guidelines: A landscape analysis

McCaul M, Clarke M, Bruijns SR, Hodkinson PW, De Waal B, Pigoga J, Wallis LA, Young T. Global emergency care clinical practice guidelines: A landscape analysis. Afr J Emerg Med. 2018;8:158-163.

Introduction: An adaptive guideline development method, as opposed to a de novo guideline development, is dependent on access to existing high-quality up-to-date clinical practice guidelines (CPGs). We described the characteristics and quality of CPGs relevant to prehospital care worldwide, in order to strengthen guideline development in low-resource settings for emergency care.

Methods: We conducted a descriptive study of a database of international CPGs relevant to emergency care produced by the African Federation for Emergency Medicine (AFEM) CPG project in 2016. Guideline quality was assessed with the AGREE II tool, independently and in duplicate. End-user documents such as protocols, care pathways, and algorithms were excluded. Data were imported, managed, and analysed in STATA 14 and R.

Results: In total, 276 guidelines were included. Less than 2% of CPGs originated from low- and middle income-countries (LMICs); only 15% (n = 38) of guidelines were prehospital specific, and there were no CPGs directly applicable to prehospital care in LMICs. Most guidelines used de novo methods (58%, n = 150) and were produced by professional societies or associations (63%, n = 164), with the minority developed by international bodies (3%, n = 7). National bodies, such as the National Institute for Health and Care Excellence (NICE) and the Scottish Intercollegiate Guidelines Network (SIGN), produced higher quality guidelines when compared to international guidelines, professional societies, and clinician/academic-produced guidelines. Guideline quality varied across topics, subpopulations and producers. Resource-constrained guideline developers that cannot afford de novo guideline development have access to an expanding pool of high-quality prehospital guidelines to translate to their local setting.

Discussion: Although some high-quality CPGs exist relevant to emergency care, none directly address the needs of prehospital care in LMICs, especially in Africa. Strengthening guideline development capacity, including adaptive guideline development methods that use existing high-quality CPGs, is a priority.

Canadian Journal of Emergency Medicine

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Official Journal of the Canadian Association of Emergency Physicians

Pain management practices surrounding lumbar punctures in children: A survey of Canadian emergency physicians

Poonai N, Brzozowski V, Stang AS, Drendel AL, Boisclair P, Miller M, Harman S, Ali S; Pediatric Emergency Research Canada (PERC). Pain management practices surrounding lumbar punctures in children: A survey of Canadian emergency physicians. CJEM. 2019;21:199-203.

Objective: Lumbar punctures (LPs) are painful for children, and analgesia is recommended by academic societies. However, less than one-third of pediatric emergency physicians (EPs) adhere to recommendations. We assessed the willingness to provide analgesia among pediatric and general EPs and explored patient and provider-specific barriers.

Methods: We surveyed physicians in the Pediatric Emergency Research Canada (PERC) or Canadian Association of Emergency Physicians (CAEP) databases from May 1 to August 1, 2016, regarding hypothetical scenarios for a 3-week-old infant, a 3-year-old child, and a 16-year-old child requiring an LP. The primary outcome was the willingness to provide analgesia. Secondary outcomes included the type of analgesia, reasons for withholding analgesia, and their perceived competence performing LPs.

Results: For a 3-week old infant, 123/144 (85.4%) pediatric Eps and 231/262 (88.2%) general EPs reported a willingness to provide analgesia. In contrast, the willingness to provide analgesia was almost universal for a 16-year-old (144/144 [100%] of pediatric EPs and 261/262 [99.6%] of general EPs) and a 3-year-old (142/144 [98.6%] of pediatric EPs and 256/262 [97.7%] of general EPs). For an infant, the most common barrier cited by pediatric EPs was the perception that it produced additional discomfort (13/21, 61.9%). The same reason was cited by general EPs (12/31, 38.7%), along with unfamiliarity surrounding analgesic options (13/31, 41.9%).

Conclusions: Compared to a preschool child and adolescent, the willingness to provide analgesia for an LP in a young infant is suboptimal among pediatric and general EPs. Misconceptions and the lack of awareness of analgesic options should be targets for practice-changing strategies.

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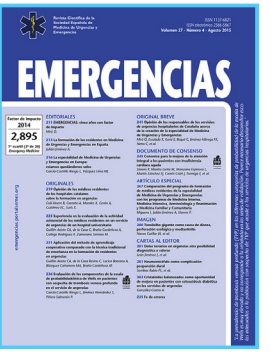

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Official Journal of the Spanish Society of Emergency Medicine

Differences in emergency department care of adults with a first epileptic seizure versus a recurrent seizure: a study of the ACESUR (Acute Epileptic Seizures in the Emergency Department) registry

Fernández Alonso C, Alonso Avilés R, Liñán López M, González Martínez F, Fuentes Ferrer M, Gros Bañeres B. Differences in emergency department care of adults with a first epileptic seizure versus a recurrent seizure: a study of the ACESUR (Acute Epileptic Seizures in the Emergency Department) registry. Emergencias. 2019;31:91-98.

Objective: To describe the characteristics of care received by patients who come to the emergency department with a first epileptic seizure versus a recurrent seizure in a patient with diagnosed epilepsy.

Methods: ACESUR (Acute Epileptic Seizures in the Emergency Department) is a prospective multicenter, multipurpose registry of cases obtained by systematic sampling on even days in February and July 2017 and on odd days in April and October 2017. Patients were aged 18 years or older and had an emergency department diagnosis of epileptic seizure. We recorded clinical variables and details related to care given during each patient's visit, including whether the event was a first or recurrent seizure.

Results: A total of 664 patients attended by 18 Spanish emergency departments were entered into the ACESUR registry. Two hundred twenty-nine (34.5%) were first seizures and 435 (65.5%) were recurrences. Patients who were attended for first seizures were older, consulted for a wider variety of reasons, and were transported in ambulances (P<.001, all comparisons). Care received differed between patients with first seizures versus recurrent seizures. Specific complementary testing was more likely in patients with first seizures (adjusted odds ratio [aOR], 13.94; 95% CI, 29–26.7; P<.001),

and they were more often hospitalized or stayed longer in the emergency department (aOR, 1.69; 95% CI, 1.11–2.58; P=.015). Pharmacologic treatment did not differ between the groups, either in the acute phase or for prevention (aOR, 1.40; 95% CI, 0.94–2.09; P=.096). Antiepileptic drugs were given to 100 patients (43.7%) after a first seizure and were restarted or changed in 142 patients with recurrent seizure (32.6%).

Conclusions: The clinical characteristics of adults attended for a first epileptic seizure differ from those of patients with diagnosed epilepsy who were attended for recurrent seizures in Spain. The care received also differs.

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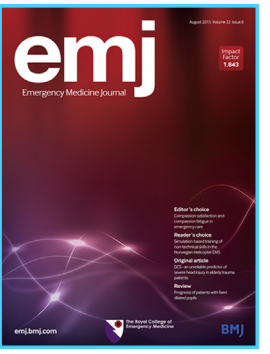
Emergency Medicine Journal



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Official Journal of the Royal College of Emergency Medicine

Major incident triage and the evaluation of the Triage Sort as a secondary triage method

Vassallo J, Smith J. Major incident triage and the evaluation of the Triage Sort as a secondary triage method. Emerg Med J. 2018; http://doi.org/10.1136/emermed- 2018-207986.

Introduction: A key principle in the effective management of major incidents is triage, the process of prioritizing patients on the basis of their clinical acuity. In many countries including the UK, a two-stage approach to triage is practised, with primary triage at the scene followed by a more detailed assessment using a secondary triage process, the Triage Sort. To date, no studies have analyzed the performance of the Triage Sort in the civilian setting. The primary aim of this study was to determine the performance of the Triage Sort at predicting the need for life-saving intervention (LSI).

Methods: Using the Trauma Audit Research Network (TARN) database for all adult patients (>18 years) between 2006 and 2014, we determined which patients received one or more LSIs using a previously defined list. The first recorded hospital physiology was used to categorise patient priority using the Triage Sort, National Ambulance Resilience Unit (NARU) Sieve and the Modified Physiological Triage Tool-24 (MPTT-24). Performance characteristics were evaluated using sensitivity and specificity with statistical analysis using a McNemar's test.

Results: 127,233patients (58.1%) had complete data and were included: 55.6% men, aged 61.4 (IQR 43.1–80.0 years), ISS 9 (IQR 9–16), with 24 791 (19.5%) receiving at least one LSI (priority 1). The Triage Sort demonstrated the lowest accuracy of all triage tools at identifying the need for LSI (sensitivity 15.7% (95% CI 15.2 to 16.2) correlating with the highest rate of undertriage (84.3% (95% CI 83.8 to 84.8), but it had the greatest specificity (98.7% (95% CI 98.6 to 98.8).

Conclusion: Within a civilian trauma registry population, the Triage Sort demonstrated the poorest performance at identifying patients in need of LSI. Its use as a secondary triage tool should be reviewed, with an urgent need for further research to determine the optimum method of secondary triage.

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Hong Kong Journal of Emergency Medicine

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Official Journal of the Hong Kong College of Emergency Medicine

A short report on the acquisition of point-of-care ultrasound skills and knowledge by the ambulance personnel in Hong Kong

Hon S, Fan M, Leung L-P, Mok K-L, Kwok K-M. A short report on the acquisition of point-of-care ultrasound skills and knowledge by the ambulance personnel in Hong Kong. HKJEM. 2019;26:80-83.

Background: Point-of-care ultrasound plays an important role in patient management in the prehospital setting. Prehospital ultrasound training for the paramedics has been developed in the West for many years. However, the present training curriculum for the local ambulance personnel does not include point-of-care ultrasound. This study is the first of its kind in Hong Kong on the feasibility of teaching ambulance personnel how to perform focused assessment with sonography in trauma by a 1-day course.

Objective: It aimed to assess whether the ultrasound-naïve ambulance personnel could acquire the skills and knowledge of point-of-care ultrasound following a tailor-made training programme.

Methods: This was a prospective observational study. The training programme was a 1-day course consisted of didactic lectures and hands-on practice. Each participant was assessed by a written test and a skills test. Descriptive statistics were used to describe the ambulance personnel and their results of the written and skills test. Significance testing was by Mann–Whitney U test and Spearman correlation test where appropriate.

Results: Seventeen members of Ambulance Service Institute (Hong Kong Branch) participated in the programme. All of them currently are the ambulance personnel and they joined the programme via the captioned institute. Enrollment was voluntary. The median score in the written test was 20 out of 25. The median time to complete the four views of the focused assessment with sonography in trauma scan was 3.4 min. There was no significant relationship between test performance and educational background and work experience of the ambulance personnel.

Conclusion: Training the local ambulance personnel point-of-care ultrasound is feasible. Their acquisition of skills and knowledge of point-of-care ultrasound after a 1-day course was satisfactory.