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Factors associated with prolonged length of stay of admitted patients in a tertiary care emergency department

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Introduction: Extended length of stay (LOS) in emergency departments (EDs) and overcrowding are a problems for the Canadian healthcare system, which can lead to the creation of a healthcare access block, a reduced health outcome for acute care patients, and decreased satisfaction with the health care system. The goal of this study is to identify and assess specific factors that predict length of stay in EDs for those patients who fall in the highest LOS category. **Methods:** A total of 130 patient charts from EDs in Regina were reviewed. Charts included in this study were from the 90th-100th percentile of time-users, who were registered during February 2016, and were admitted to hospital from the ED. Patient demographic data and ED visit data were collected. T-tests and multiple regression analyses were conducted to identify any significant predictors of our outcome variable, LOS. **Results:** None of the demographic variables showed a significant relationship with LOS (age: $p = .36$; sex: $p = .92$, CTAS: $p = .48$), nor did most of the included ED visit data such as door to doctor time ($p = .34$) and time for imaging studies (X-ray: $p = .56$; ultrasound: $p = .50$; CT $p = .45$). However, the time between the request for consult until the decision to admit did show a significant relationship with LOS (p < .01).Potential confounding variables analyzed were social work consult requests ($p = .14$), number of emergency visits on day of registration ($p = .62$), and hour of registration (00-12 or 12-24-$p < .01$). After adjustment for time of registration, using hierarchical multiple regression, time from consult request to admit decision maintained a significant predictor (p < .01) of LOS. **Conclusion:** After adjusting for the influence of confounding factors, "consult request to admit decision" was by far the strongest predictor of LOS of all included variables in our study. The results of this study were limited to some extent by inconsistencies in the documentation of some of the analyzed metrics. Establishing standardized documentation could reduce this issue in future studies of this nature. Future areas of interest include establishing a standard reference for our variables, a further analysis into why consult requests are a major predictor, and how to alleviate this in the future.
Keywords: length of stay, optimization, access block

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Patient satisfaction following educational ultrasounds in the emergency department

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Introduction: Development of point-of-care ultrasound (POCUS) image-generating skills requires residents to practice on patients awaiting care in the emergency department (ED) for unrelated reasons. While patients are almost universally agreeable to the scans, there is the possibility that they feel pressured to do so and may have negative experiences that go unreported. The objective of this study was to determine the self-reported patient satisfaction and identify any concerns after educational ultrasounds performed in the ED. **Methods:** We conducted a survey of patients at a single academic ED. Patients were eligible for enrollment if they had volunteered for an ultrasound when study personnel were available. The survey was administered by a representative from the Patient Affairs Department who advised the patients that the results would remain anonymous and would have no impact on their care. The survey included patient demographics, questions about the consent process, communication by the trainee, adverse reactions and patient satisfaction. The primary outcome was the overall satisfaction level reported by the volunteer patients on a 5-point Likert scale. Secondary outcomes included identification of any discomfort or concerns about the process as expressed by patients. Simple descriptive statistics were used to report survey results. **Results:** Ninety-nine patients fully completed the questionnaire. Fifty (50%) were women. The age range was 18 to 99 years. Satisfaction among volunteers was high, with 94% of respondents giving a rating of 4 or 5 (five being an excellent experience). No patients gave a negative rating (1 or 2). Three (3%) patients felt "somewhat" pressured to volunteer. A majority of patients (72%) experienced no discomfort during the scan however 16% experienced some physical discomfort. Comments indicated that too much pressure applied with the ultrasound probe or cold ultrasound gel were the main sources of discomfort. Despite some discomfort 95 (95%) patients stated they would likely volunteer again if asked in the future. **Conclusion:** ED patients volunteering as models for residents learning POCUS expressed generally positive perceptions of their experience. While only a small minority of patients experienced some discomfort or felt pressured into participating, it is important to ensure that patients have a process to communicate any concerns about educational ultrasounds in the ED.
Keywords: ultrasound, point-of-care ultrasound, satisfaction

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Prehospital amiodarone use could improve favorable neurological recovery among patients with out-of-hospital shockable cardiac arrest

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Introduction: Amiodarone may be used for shock-refractory ventricular fibrillation (VF) or pulseless ventricular tachycardia (pVT), but the effect of prehospital use upon neurological outcomes still unclear. **Methods:** A prospective province-wide, population based observational study was conducted from January 2006 to March 2016. Adult emergency medical service-treated non-traumatic OHCA patients who received at least one electric defibrillation were included. Amiodarone was administered to patients with VF/ pVT by paramedics based on their clinical assessment, according to provincial guidelines. The outcome of interest was favorable neurological outcomes to hospital discharge, defined as modified Rankin scale of 3 or less. Multivariable logistic regression was performed to compare the proportion of patients with the primary outcome between amiodarone and non-amiodarone groups, further stratified by the number of electrical defibrillation. In addition, to mitigate the potential selection bias, the same logistic regression was conducted in 1:1 propensity score matched groups adjusting for baseline covariates. **Results:** Of 3,374 overall OHCA patients, 915 (27.1%) were managed with amiodarone. In the amiodarone group, 150 / 915 (16.4 %) patients had a favorable neurological outcome, compared to 455/2,459 (18.5%) in the non-amiodarone group (crude odds ratio [OR] 0.86, 95% CI 0.71 to 1.06). In the multiple logistic regression model, prehospital amiodarone was associated with increased probability of favorable neurological outcomes (adjusted OR 2.11, 95% CI 1.46 to 3.05). With stratification by the number of electrical defibrillation performed, amiodarone treated group showed higher probability of favorable neurological outcomes (1 or 2: adjusted OR 2.71, 95% CI 1.33 to 5.50, 3 and more: adjusted OR 1.67, 95% CI 0.99 to 2.39). Similarly, in 1:1 propensity matched cohort including 882 OHCA patients, the adjusted association persisted (adjusted OR 2.14, 95% CI 1.33 to 3.44). **Conclusion:** Prehospital administration of