

Hospitals with out-of-hospital or in-ED refractory cardiac arrest from January 2015 to December 2016. Based on a review of existing ECPR literature, we defined two sets of liberal and restrictive criteria associated with survival and applied these to our cohort for possible initiation of ECPR. The chart review was completed by one of the principal investigators, with 10% of charts randomly reviewed by a second investigator to ensure good inter-agreement. Any discrepancies or ambiguities found in the review were resolved collaboratively between both investigators. **Results:** A total of 220 charts were identified and 191 deemed eligible for inclusion in the study. The median age was 59 (IQR: 49.5-67) years and the cohort was 72% male. The initial presenting rhythm was identified as VT/VF in 47% of patients. 65% of arrests were witnessed, with immediate bystander CPR performed on 50% patients and an additional 12% receiving CPR within 10 minutes of collapse. 60% of patients had cardiac arrest lasting less than 75 minutes. 69% of patients were identified as having a reversible cause of cardiac arrest. A favorable premorbid status was identified in 76% of patients. Application of our two sets of ECPR inclusion criteria revealed that 17% and 3% of patients for the liberal and restrictive criteria respectively, would have been candidates for ECPR. **Conclusion:** At our centre, we identified that in a two-year period, 3% to 17% of cardiac arrest patients presenting to the ED would have met inclusion criteria for ECPR, translating to an additional 0.2-1.4 patients per month admitted for critical care. These findings would suggest that the implementation of an ECPR program at our institution has the potential to have a positive impact for patients with only a relatively low volume of patients requiring additional resources.

Keywords: extracorporeal life support, cardiac arrest, resuscitation

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Exploring First Nations members emergency department experiences and concerns through participatory research methods

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Introduction: Emergency Departments (EDs) are frequently the first point of entry to access health services for First Nation (FN) members. In Alberta, FN members visit EDs at almost double the rate of non-FN persons. Furthermore, preliminary evidence demonstrates differences in ED experience for FN members as compared to the general population. The Alberta First Nations Information Governance Centre, Maskwacis Health Services, Yellowhead Tribal Council, Treaty 8 First Nations of Alberta, and Alberta Health Services are working together to research FN members ED experiences and concerns. **Methods:** This is participatory research guided by a two-eyed seeing approach that acknowledges the equal value of both Western and Indigenous worldviews. FN and non-FN leaders researchers are full partners in the development of the research project. Six sharing circles will be held in February 2018 across Alberta, with Elders, FN patients, FN and non-FN clinicians and FN and non-FN administrators. Sharing circles are similar to focus groups, but emphasize everyone having a turn to speak and demonstrating respect among participants in accordance with FN protocols. Elders will select the questions for discussion based on topics that arose in initial team meetings. Sharing circle discussions will be audio recorded and transcribed. Analysts will include both Western and Indigenous worldview researchers, who will collaboratively interpret findings. Elders will review, discuss, contextualize and expand upon study findings. The research is also guided by FN principles of

Ownership, Control, Access, and Possession of FN information. It is through these principles that First Nation research projects can truly be classified as FN lead and driven. **Results:** Based on initial team meeting discussions, results of sharing circles are expected to provide insights on issues such as: healing, patient-provider communication (verbal and non-verbal), shared decision making, respect for patient preferences, experiences leading to trust or distrust, understandings of wait times and triage, times when multiple (repeat) ED presentations occur, distances travelled for care, choosing specific EDs when seeking care, impacts of stereotypes about FN patients, and racism and reconciliation. **Conclusion:** Understanding FN ED experience and bringing FN perspectives to Western conceptions of the goals and provision of ED care are important steps toward reconciliation.

Keywords: First Nations, participatory research methods, patient experience

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Sex-specific Troponin T cutoffs for ruling out acute myocardial infarction at ED arrival

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Introduction: ex-specific diagnostic cutoffs may improve the test characteristics of high-sensitivity troponin assays for the diagnosis of myocardial infarction. Sex-specific cutoffs for ruling in MI improve the sensitivity of the assay for MI among women, and improve the specificity of diagnosis among men. We hypothesized that the use of sex-specific high-sensitivity Troponin T (hsTnT) cutoffs for ruling out MI at the time of ED arrival would improve the classification efficiency of the assay by enabling more patients to have MI ruled out at the time of ED arrival while maintaining diagnostic sensitivity. The objective of this study was to quantify the test characteristics of sex-specific cutoffs of an hsTnT assay for acute myocardial infarction (AMI) when performed at ED arrival in patients with chest pain. **Methods:** This retrospective study included consecutive ED patients with suspected cardiac chest pain evaluated in four urban EDs were, excluding those with ST-elevation AMI, cardiac arrest or abnormal kidney function. The primary outcomes was AMI at 7 days. Secondary outcomes included major adverse cardiac events (MACE: all-cause mortality, AMI and revascularization) and the individual MACE components. We quantified test characteristics (sensitivity, negative predictive value, likelihood ratios and proportion of patients ruled out) for multiple combinations of sex-specific rule-out cutoffs. We calculated net reclassification improvement compared to universal rule-out cutoffs of 5ng/L (the assays limit of detection) and 6ng/L (the FDA-approved limit of quantitation for US laboratories). **Results:** 7130 patients, including 3931 men and 3199 women, were included. The 7-day incidence of AMI was 7.38% among men and 3.78% among women. Universal cutoffs of 5 and 6 ng/L ruled out AMI with 99.7% sensitivity in 33.6 and 42.2% of patients. The best-performing combination of sex-specific cutoffs (8g/L for men and 6ng/L for men) ruled out AMI with 98.7% sensitivity in 51.9% of patients. **Conclusion:** Sex-specific hsTnT cutoffs for ruling out AMI at ED arrival may achieve substantial improvement in classification performance, enabling more patients to be ruled out at ED arrival, while maintaining acceptable diagnostic sensitivity for AMI. Universal and sex-specific rule-out cutoffs differ by only small changes in hsTnT concentration. Therefore, these findings should be confirmed in other datasets.

Keywords: myocardial infarction, cardiology, Troponin