maximum motor score on the Glasgow Coma Scale (GCS) (OR 1.5; 95% CI 1.4,1.6) had the greatest association with improved neurologic outcome. Longer duration of resuscitation was associate with worse outcomes (OR 0.84, 95% CI 0.82,0.87). The overall performance of our model was excellent with an area under the ROC curve of 0.89 and a Brier statistic of 0.13. Conclusion: Our model predicted good neurological outcome with a high rate of accuracy, however external validation of the model is required. This model may be useful in providing initial risk stratification of patients in clinical practice and future research on post-cardiac arrest care.

Keywords: out-of-hospital cardiac arrest, post-cardiac arrest, prognostication

LO17
Major adverse cardiac events in patients ruled-out by a validated high-sensitivity troponin algorithm for acute myocardial infarction
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Introduction: Chest pain and symptoms of acute coronary syndrome are a leading cause of emergency department (ED) visits in Canada. Validated 2-hour high-sensitivity troponin algorithms can rapidly and accurately rule-in or rule-out myocardial infarction (MI) in most patients. The objective of this study was to quantify the incidence and timing of major adverse cardiac events (MACE: MI, death, or urgent revascularization) in the 30-days following the index ED encounter among patients who had MI ruled out using a 2-hour high-sensitivity troponin T (hs-cTnT) algorithm. We also sought to identify patient characteristics associated with very low risk of MACE.

Methods: This was a secondary analysis of data prospectively collected from adult patients presenting with a primary complaint of chest pain or symptoms of ACS. This analysis focused on patients who had an MI ruled out using a validated 2-hour serial hs-cTnT diagnostic algorithm. Incidence of 30-day MACE was quantified. Sex-specific Kaplan–Meier curves were constructed to describe timing of MACE events after MI rule-out. Demographic and clinical variables of patients who did or did not have MACE were compared using simple bivariable analyses.

Results: This analysis included 550 patients with serial 2h hs-cTnT testing. Of these, MI was ruled out in 344 (62.5% of patients), ruled in 67 (12.2%), and 139 (25.3%) had non-diagnostic hs-cTnT results. Among the 344 patients who had MI ruled out, 11 (3.2%) experienced a MACE in the 30 days following their index ED encounter. These included 10 (2.9%) unplanned revascularizations and 1 (0.3%) fatal MI. MACE occurred at a median of 5 days (range: 0-23 days) after the index ED encounter. Of the 11 patients experiencing MACE, 9 (81.8%) had a normal ECG at their index ED encounter. None of the 93 (27.0%) ruled-out patients under the age of 50 experienced a MACE in the follow-up period. Patients experiencing MACE were more likely to have a history of coronary disease and multiple vascular risk factors compared to those not experiencing MACE.

Conclusion: The validated 2h hs-cTnT AMI algorithm ruled-out MI in a large proportion of patients. The 30-day MACE incidence after MI rule-out was 3%. Most MACE events were unplanned revascularizations. We determined that age < 50 was associated with event-free survival and may be of value in identifying patients who do not need additional cardiac testing after MI has been ruled out using high-sensitivity troponin testing.

Keywords: chest pain, high-sensitivity cardiac troponin, rapid rule-out algorithm

LO18
The state of the evidence for emergency medical services (EMS) care of prehospital hypoglycemia: an analysis of appraised research from the Prehospital Evidence-based Practice Program
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Introduction: The Prehospital Evidence-based Practice (PEP) program is an online, freely accessible, continuously updated repository of appraised EMS research evidence. This report is an analysis of published evidence for EMS interventions used to assess and treat patients suffering from hypoglycemia.

Methods: PubMed was systematically searched in June 2019. One author screened titles, abstracts and full-texts for relevance. Trained appraisers reviewed full text articles, scored each on a three-point Level of Evidence (DOE) scale (based on study design and quality) and three-point Direction of Evidence (DOE) scale (supportive, neutral, or opposing findings for each intervention’s primary outcome), abstracted the primary outcome, setting and assigned an outcome category (patient or process). Second party appraisal was conducted for all included studies. The level and direction of each intervention was plotted in an evidence matrix, based on appraisals.

Results: Twenty-nine studies were included and appraised for seven interventions: 5 drugs (Dextrose 50% (D50), Dextrose 10% (D10), glucagon, oral glucose and thiamine), one assessment tool (point-of-care (POC) glucose testing) and one call disposition (treat-and-release). The most frequently reported study primary outcomes were related to: clinical improvement (n = 15, 51.7%), feasibility/safety (n = 8, 27.6%), and diagnostics (n = 6, 20.7%). The majority of outcomes were patient focused (n = 18, 62.0%).

Conclusion: EMS interventions for treating hypoglycemia are informed by high-quality supportive evidence. Both D50 and D10 are supported by high-quality evidence; suggesting D10 may be an effective alternative to the standard D50, “Treat-and-release” practices for hypoglycemia are supported by moderate-quality evidence for the patient related outcomes of relapse, patient preference and complications. This body of evidence is high-quality, patient-focused and conducted in the prehospital setting thus generalizable paramedic practice.

Keywords: emergency medical services, hypoglycaemia, prehospital
from the drone and initiated resuscitative efforts on a manikin. The second phase (2 scenarios) were done in a similar manner save for the drone being dispatched from a regionally optimized location for drone response. **Results:** Phase 1: The distance from dispatch location to scene varied from 6.6 km to 8.8 km. Mean (SD) response time from 911 call to scene arrival was 11.2 (+/- 1.0) minutes for EMS compared to 8.1 (+/- 0.1) for AED drone delivery. In all four simulations, the AED drone arrived before EMS, ranging from 2.1 to 4.4 minutes faster. The mean time for trained responders to retrieve the AED and apply it to the manikin was 35 (+/- 5) sec. No difficulties were encountered in drone activation by dispatch, drone lift off, landing or removal of the AED from the drone by responders. Phase 2: The ambulance response distance was 20km compared to 9km for the drone. Drones were faster to arrive at the scene by 7 minutes and 8 minutes with AED application and 7 minutes prior to ambulance respectively. **Conclusion:** This implementation study suggests AED drone delivery is feasible with improvements in response time during a simulated SCA scenario. These results suggest the potential for AED drone delivery to decrease time to first defibrillation in rural and remote communities. Further research is required to determine the appropriate distance for drone delivery of an AED in an integrated EMS system as well as optimal strategies to simplify bystander application of a drone delivered AED.

**Keywords:** defibrillation, emergency medical services, out-of-hospital cardiac arrest

**LO20**

The characteristics, clinical course and disposition of long-term care patients treated by paramedics during an emergency call: Exploring the potential impact of community paramedicine

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**Introduction:** An increasing number of Canadian paramedic services are creating Community Paramedic programs targeting treatment of long-term care (LTC) patients on-site. We explored the characteristics, clinical course and disposition of LTC patients cared for by paramedics during an emergency call, and the possible impact of Community Paramedic programs. **Methods:** We completed a health records review of paramedic call reports and emergency department (ED) records between April 1, 2016 and March 31, 2017. We utilized paramedic dispatch data to identify emergency calls originating from LTC centers resulting in transport to one of the two EDs of the Ottawa Hospital. We excluded patients with absent vital signs, a Canadian Triage and Acuity Scale (CTAS) score ≥ 5, and whose transfer directives could not be identified. **Results:** Of the 381 included patients were mean age 82.5 years, 57.7% female, 59.7% hypertension, 52.6% dementia and 52.1% cardiac features (p < 0.001), extremity weakness/symptoms of cerebrovascular accident (p < 0.001), fever (p < 0.001), shortness of breath (p < 0.001), syncope (p = 0.02), and hyperglycemia (p = 0.03). Triage consistency was similar pre and post eCTAS implementation for the presenting complaints of altered level of consciousness, anxiety/situational crisis, confusion, depression/suicidal/deliberate self-harm, general weakness, head injury, palpitations, seizure, substance misuse/intoxication or vertigo. **Conclusion:** A standardized, electronic