

LO098**Education innovation: implementing a point-of-care ultrasound curriculum for emergency medicine residents**

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Introduction / Innovation Concept: Point-of-care ultrasound (POCUS) is becoming standard of care in Canadian emergency departments. However, its integration in Emergency Medicine (EM) residency training is poorly studied. If a four-week curriculum can successfully teach POCUS skills to residents, this program could have potential application across specialties and across Canada. **Methods:** A four-week curriculum was designed, implemented, and evaluated. EM residents registered for the Introductory Ultrasound Rotation at Sunnybrook Health Sciences Centre were invited to participate. Curriculum evaluation included resident feedback, pre-rotation and post-rotation knowledge and skill testing, and a delayed post-rotation survey. Comparison of pre-test and post-test scores were calculated using the paired t-test. **Curriculum, Tool, or Material:** Residents were scheduled for both dedicated ultrasound scanning shifts and clinical shifts with an emphasis on POCUS in patient care. Residents also reviewed the Canadian Emergency Ultrasound Society Emergency Department Echo DVD and manual, completed weekly readings and assignments, and completed a “clinical encounter worksheet” describing how POCUS impacted clinical care in a patient encounter. Other rotation activities included Ultrasound Rounds where residents presented a critical appraisal of a POCUS-related journal article, Pediatric Ultrasound Rounds at The Hospital for Sick Children, and an advanced POCUS workshop day. Of 13 eligible residents, 12 (92%) completed at least one study assessment. However, only 8 residents (62%) completed both the pre-test and post-test, 8 residents (62%) completed the end-of-rotation survey, and even fewer residents (42%) completed the delayed post-rotation survey. Residents felt the quality of the ultrasound rotation was excellent (mean score 4.7 on 5-point Likert scale). There was an increase in test scores from a baseline of 51.5% to 70.8% on the post-rotation test ($p = 0.02$). Three months after the rotation, 100% of residents reported feeling either comfortable or extremely comfortable teaching and using the core POCUS topics covered in the curriculum. All residents reported that they would recommend the rotation to their colleagues without hesitation. All residents passed the national ultrasound certification examination at the end of the rotation. **Conclusion:** A four-week curriculum was effective in teaching EM residents POCUS skills. Further study is required to determine the ideal method for teaching POCUS skills in this group.

Keywords: innovations in EM education, ultrasound, point-of-care ultrasound (PoCUS)

LO099**Colchicine in acute and recurrent pericarditis: a meta-analysis**

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Introduction: Pericarditis is a common disease associated with significant morbidity. In adults with pericarditis, we sought to determine if colchicine, in addition to standard therapies, could reduce the incidence of pericarditis recurrence, shorten the duration of symptoms and minimize adverse effects associated with other therapies. **Methods:** We followed PRISMA guidelines. We performed an electronic search (February 2015) through MEDLINE, EMBASE, CENTRAL, Web of Science, and Google scholar. Online trial registries were searched and reference lists were hand searched. Our search strategy had no limitations on study design, outcome of interest, hypothesis, language,

dates or publication status. Inclusion criteria for selected manuscripts were: RCTs; adults; outpatient therapy; and idiopathic/viral/autoimmune pericarditis etiology. Cohen's unweighted kappa for inter-observer agreement was calculated. Data was extracted using a standardized data collection tool. Following assessment of homogeneity between studies, we performed a meta-analysis using (fixed or random) effect models and report odds ratios (OR) with 95% confidence intervals (CI). We assessed bias using GRADE. **Results:** We screened 647 titles/abstracts, and selected 34 manuscripts for full review (kappa 0.86, CI 0.76-0.96). 7 manuscripts met all inclusion criteria comprising 1,275 patients. We obtained the following OR with 95% CI: 1) For the overall incidence of recurrence of pericarditis (OR 0.32; CI 0.24-0.42); 2) For recurrent pericarditis at 18-months (OR 0.32; CI 0.23-0.44); 3) For event-free of recurrent pericarditis at 18-months follow-up (OR 3.40; CI 2.46-4.70); 4) For persistent symptoms at 72 hours (OR 0.29; CI 0.21-0.41); and 5) For the overall adverse events rate (OR 1.27; CI 0.84-1.92). **Conclusion:** Colchicine reduces the number of pericarditis recurrences and the duration of symptoms in patients with recurrent or acute pericarditis. Unless there are contraindications to its use, colchicine should be prescribed in all cases of uncomplicated pericarditis, along with standard therapy.

Keywords: colchicine, pericarditis, meta-analysis

LO100**Electrical vs chemical cardioversion in patients with acute atrial fibrillation: a multicenter parallel group randomized controlled clinical trial**

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Introduction: Patients with atrial fibrillation (AF) of <48 hours duration often present to Emergency Departments (ED). Electrical or chemical cardioversion can be employed to restore normal sinus rhythm (NSR). Current guidelines make no recommendations between these two methods and the management decisions are left to the discretion of the treating physician. The objective of this study was to compare these two approaches in terms of ED length of stay (LOS), success (conversion to NSR) and health related outcomes. **Methods:** At six western Canadian EDs, eligible adult patients were assigned to one of two groups following concealed allocation and using a centralized computer-generated randomization method: electrical cardioversion (EC) first (followed by chemical cardioversion [CC] if the primary method failed) or CC first (followed by EC if the primary method failed). Baseline evaluation/interview and 3/30 day telephone contact were completed and documented using the REDCap data-platform. Adverse events were externally adjudicated in a blinded-fashion. An intention to treat analysis was performed. **Results:** Overall, 84 patients participated in the study (EC: 43; CC: 41); the median age was 60 years (interquartile range [IQR]: 50, 66), and 38% were female. The baseline patient characteristics in both groups were similar. The median LOS between randomization and conversion to NSR (intervention LOS) was 1.0 hrs (IQR: 0.8, 2.7) in EC vs. 3.1 hrs (IQR: 2.0, 3.9) in CC ($p < 0.001$); more patients in EC were discharged from the ED within 4 hours than in the CC group (65% vs. 32%; $p = 0.002$). The majority of EC patients (84%) converted to NSR after the first attempt while half of the patients did so in the CC group (49%). No differences were observed in terms of adverse events (26% vs. 24%; mostly minimal), hospitalizations (0%), and patients' health outcomes (physician/ED visits, admissions, stroke) and status (SF-8) at 3 and 30 days, in groups EC and CC groups, respectively. **Conclusion:** Electrical cardioversion was associated with a