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Emergency Critical Care Ultrasound (ECCU) paramedical course: a novel curriculum for training paramedics in ultrasound
D. Lewis, MB BS, J. Gould, MD, BSc, P. Atkinson, MB, BCh, BAO, MA, A. K. Sibley, MD, R. Henneberry, MD, Dalhousie University, Saint John, New Brunswick, Rothesay, NB

Introduction: Ultrasonography (US), performed in the Emergency Department (ED) by Emergency Physicians, is well established. Educational studies have shown some promise in training paramedics in US use. We have developed and piloted a novel curriculum for paramedic US education. Methods: Based on an informal needs assessment, an US curriculum for paramedics was developed to include: Basic principles, Focused assessment with sonography for trauma (FAST), cardiac, and vascular access. Participants included ED-based and pre-hospital paramedics including all paramedics with critical care training who routinely perform vascular access and procedural sedation within our ED. Comparisons were made using paired non-parametric tests (GraphPad). Results: Participants (N = 9) were provided pre-reading materials prior to completing a 6-hour course, consisting of a mix of didactic and practical sessions with live models and vascular access phantoms. Each module was introduced with a 30 minute didactic session, led by an Emergency Physician trained in US, followed immediately by a 1 hour hands-on session led by either an Emergency Physician or an Emergency Medicine Resident at a learner to instructor ratio of 3:1. At the end of the course, participants were asked to complete a short 10 minute survey that included (1) an assessment of the course quality with regard to preparatory material and course content/delivery (4 point Likert scale; excellent, good, fair, poor); (2) self reported US knowledge pre and post course on a scale of 1-10 (10 high, 1 low); (3) general yes/no questions related to the future of ECCU paramedical and (4) a subjective written section for additional comments. All participants rated the content favourably: 97% scoring it as excellent, and 3% as good. The participants median self-reported US knowledge score increased from 2/10 (IQR 2-3) to 8/10 (IQR 7.25-8; p = 0.009) post-course. All comments from the text field were positive in nature. Conclusion: We report a paramedic US course curriculum, which when piloted resulted in high learner satisfaction and a high rate of self reported improvement in US knowledge. Further study will include an assessment of knowledge acquisition and practical performance. Future modifications in our curriculum will be based on needs assessment and may include additional modules.
Keywords: paramedic, point-of-care ultrasound, education

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Combatting sedentary lifestyles; can exercise prescriptions in the emergency department lead to a behavioural change in patients?
D. Lewis, MB BS, K. Leech-Porter, MD, F. Milne, BSc, J. Fraser, BN, S. Hull, MD, P. Atkinson, MB, BCh, BAO, MA, Dalhousie University, Saint John, New Brunswick, Rothesay, NB

Introduction: Patients with chronic diseases are known to benefit from exercise. Such patients often visit the emergency department (ED). There are few studies examining prescribing exercise in the ED. We wished to study if exercise prescription in the ED is feasible and effective. Methods: In this pilot prospective block randomized trial, patients in the control group received routine care, whereas the intervention group received a combined written and verbal prescription for moderate exercise (150 minutes/week). Both groups were followed up by phone at 2 months. The primary outcome was achieving 150 min of exercise per week. Secondary outcomes included change in exercise, and differences in reported median weekly exercise. Comparisons were made by Mann-Whitney and Fishers tests (GraphPad). Results: Follow-up was completed for 22 patients (11 Control; 11 Intervention). Baseline reported median (with IQR) weekly exercise was similar between groups; Control 0(0-0)min; Intervention 0(0-45)min. There was no difference between groups for the primary outcome of 150 min/week at 2 months (Control 3/11; Intervention 4/11, RR 1.33 (95% CI 0.38-4.6; p = 1.0). There was a significant increase in median exercise from baseline in both groups, but no difference between the groups (Control 75(10-225)min; Intervention 120(52.5-150)min;NS). 3 control patients actually received exercise prescription as part of routine care. A post-hoc comparison of patients receiving intervention vs. no intervention, revealed an increase in patients meeting the primary target of 150 min/week (No intervention 0/8; Intervention 7/14, RR 2.0 (95% CI 1.2-3.4); p = 0.023). Conclusion: Recruitment was feasible, however our study was underpowered to quantify an estimated effect size. As a significant proportion of the control group received the intervention (as part of standard care), any potential measurable effect was diluted. The improvement seen in patients receiving intervention and the increase in reported exercise in both groups (possible Hawthorne effect) suggests that exercise prescription for ED patients may be beneficial.
Keywords: exercise prescription, emergency department, prevention

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Performing the balancing act: emergency medicine physicians’ multifaceted roles and their influence on trainee assessment
T. M. Chan, MD, MHPE, S. Li, MSc, A. Acai, MSc, J. Sherbino, MD, MEd, University of Toronto, Toronto, ON

Introduction: Competency-based workplace assessments are important in clinical training. However, feedback and assessment are still often perceived as unsatisfactory, particularly in busy settings such as emergency departments. Currently, little is known about how attending staff physicians sense of self may interface with the processes they use to assess and give feedback to trainees. We aimed to understand how attendings perceive their roles when tasked with conducting assessments and providing feedback to trainees. Methods: We conducted semi-structured, individual interviews with attendings (n = 16) who used McMAP (McMaster Modular Assessment Program), a workplace-based assessment system at McMaster Universitys Royal College Emergency Medicine program. Attendings were recruited using snowball sampling. Data were interpreted using thematic analysis, sensitized to the dramatical lens and rater cognition frameworks. Results: Attendings identified themselves using three distinct but intimately connected roles when assessing trainee performance: the doctor that ensures the safety and well-being of patients; the coach (educator) that empowers, guides, and supports the next generation of medical doctors; and the assessor that formally assesses a trainees progression through the residency program. These roles are influenced by clinical training and experience, teaching experience and context. Conclusion: The ways in which attendings assess and provide feedback to trainees involve a complex
Introduction: Clinical context is critical for accurate radiologic interpretation of neuroimaging investigations. The aim of this study was to determine the impact of a change in the Emergency Department (ED) computerized provider order entry (CPOE) interface on the quality of clinical information conveyed in ED neuroimaging requisitions for suspected stroke patients. 

Methods: Four local EDs utilizing a common CPOE ED Stroke order set were studied before and after the introduction of a mandatory blank free text field requiring clinical information for the radiologist before a computed tomography angiography (CTA) request could be submitted. Prior to this modification, the indication (acute stroke) was pre-filled in the CTA request for convenience with the option of providing additional information at the discretion of the ordering physician. ED physicians were informed of the change as well as the rationale for its implementation. A retrospective pre (90 days) post (30 days) analysis was conducted across four local EDs to evaluate the impact of the CPOE user interface change on the quality of clinical information provided on neuroimaging orders. Patients aged 18 with CTA head and/or neck orders submitted from the order set were included. Patients were excluded if the CTA order was submitted outside of the ED Stroke order set, if order entry was by non-physician personnel, or if the order was modified by the diagnostic imaging department after ED submission. Clinical information from CTA orders were scored as complete, partial, or absent/uninformative based on a standardized rubric of critical elements, including: description of neuroanatomical deficit(s), lateralization, and timing of symptom onset or duration. Results were analyzed using chi square analysis. 

Results: Pre-implementation data from Oct 1, 2015 to Jan 1, 2016 (N = 652) was compared to post-implementation data from Nov 1, 2016 to Feb 28, 2017 (N = 227). The proportion of complete, partial, and absent/uninformative clinical histories were: 45.3%, 31.4%, and 23.3% in the pre-implementation period and 62.6%, 37.4%, and 0% in the post-implementation period respectively. There was a 38.2% relative increase in complete clinical histories, a 19.1% relative increase in partial clinical histories, and a 100% reduction in absent/uninformative clinical histories (p < 0.001). 

Conclusion: The introduction of a mandatory free text field significantly increased the overall quality of clinical information provided on ED neuroimaging orders. This CPOE strategy has the potential to improve diagnostic accuracy and reduce unnecessary delays to imaging interpretation caused by lack of clinical information. 

Keywords: quality improvement and patient safety, computerized provider order entry, diagnostic imaging 

Introduction: At academic hospitals, it is a residents responsibility to teach junior learners. Residents endorse that there is limited education on how to effectively teach junior learners, and suggest a more formal curriculum on how to teach would be beneficial. Emergency Medicine (EM) residencies in North America may have a resident as teacher (RAT) curriculum, however, no Canadian EM study has characterized the impact of a RAT curriculum on residents. Our educational concept was to implement a formalized RAT workshop for residents in an EM residency. We assessed residents attitudes and comfort levels towards teaching in response to the curriculum. 

Methods: A formal RAT curriculum, provided at a single center in a 6-hour session, was provided for both Royal College and College of Family Physician EM residents. Residents completed a survey evaluating attitudes and behaviours regarding their ability to teach and give feedback as part of their roles as teachers, consistent with Kirkpatricks second level of program evaluation. The surveys were administered pre-workshop, immediately post-workshop, and at 3 and 6 months following the RAT workshop. 

Results: Residents were surveyed in terms of their attitudes towards teaching on a 5-point likert scale. Our educational concept was delivered through a 6-hour workshop with emphasis on practical teaching skills that residents could incorporate into their practice. Lecture topics included orientation of the learner, giving effective feedback, teaching within a short time frame, as well as an introduction to theory of learning. Lectures were geared to be interactive, and included breakout sessions and group discussions. 21 residents participated in the workshop. Of 18 pre-survey respondents, 89.8% (n = 16) had no previous formal training in how to teach, yet 71.7% (n = 13) ‘sometimes’ or ‘often’ have a learner on shift with them. There were 15 post-survey respondents. 53.3% (n = 8) respondents somewhat agreed or agreed they were more likely to teach in response to the workshop, and 51.6% (n = 8) responded that they somewhat agreed or agreed they were more likely to teach junior learners. Although small and single-centered, our study will help provide a basis for larger RAT studies, evaluating the effect on both residents and junior learners. 

Keywords: innovations in emergency medicine education, resident as teacher, medical education 

Introduction: Hospital admission within 72 hours of emergency discharge is a widely accepted measure of emergency department quality of care. Patients returning for unplanned admission may reveal opportunities for improved emergency or followup care. Calgary emergency physicians, however, are rarely notified of these readmissions. Aggregate site measures provide a high level view of readmissions for managers, but dont allow for timely, individual reflection on practice and learning opportunities. These aggregations may also not correctly account for variation in planned readmissions and other workflow nuances. There was a process in place at one facility to compile and communicate readmission details to each physician, but it was manual, provided limited visit detail, and was done weeks or months following discharge. 

Methods: A new, real time 72 hour readmission notification system recently implemented within the Calgary Zone provides direct and automated email alerts to all emergency physicians and residents