also help to improve physicians' clinical skills by encouraging and enabling follow-up of patients they managed. Thus, bounceback reports are a valuable tool to provide to physicians and should be considered by ED Departments.
Keywords: quality improvement and patient safety, bouncebacks, patient outcome feedback

P116

A randomized cross-over trial of conventional bimanual versus single elbow (Koch) chest compression quality in a height-restricted aeromedical helicopter

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Introduction: Aeromedical helicopters and fixed wing aircraft are used across Canada to transfer patients to definitive care. Given height limitation in aeromedical transport, CPR performance can be affected. An adapted manual compression technique has been proposed by H. Koch (pron. Cook) that uses the elbow to compress the sternum rather than the conventional hand. This preliminary study evaluated the quality of Koch compressions versus conventional bimanual compressions. **Methods:** Paramedics (5), registered nurses (3) and a physician (1) were recruited. Each participant performed a 2 minute cycle of each technique, were randomized to determine which technique was performed first, and rested 5 minutes between compression cycles. A Resusci Anne SkillReporter manikin atop a stretcher in a BK117 helicopter was used. The compressors performed without feedback or prompting. Outcomes include compression rate, depth, recoil, and fatigue. **Results:** The mean conventional compression rate was (bpm) 118 +/− 13 versus 111+/− 10 in the Koch scenario ($p = 0.02$) (target 100 to 120). Mean conventional compression depth (mm) was 44 +/− 9 versus 49 +/− 7 in the Koch scenario ($p = 0.01$) (target 50 to 60). The mean percentage of compressions with complete release in the conventional scenario was 86 +/− 20 versus 84 +/− 22 in the Koch scenario ($p = 0.9$) (target 100%). Using a Modified Borg Scale of 1 to 10, mean provider fatigue after conventional CPR was 7 (+/− 1.6) versus 3 (+/− 1.2) using Koch technique ($p < 0.001$). On average, Koch technique improved the percentage of compressions at target rate by 26%, the percentage at correct depth by 9%, overall compression quality score by 13% and were more less fatiguing. **Conclusion:** Using an elbow in a height-restricted environment improved compression depth and reduced provider fatigue. From our limited data, Koch compressions appear to improve compression quality. Further study and external validation are required.
Keywords: resuscitation, cardiopulmonary resuscitation, aeromedical transport

P117

A pilot program of physician at triage conducted at a tertiary care hospital improved measures of emergency department throughput and provides a potential solution for emergency department overcrowding

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Introduction: Emergency Department Overcrowding (EDOC) is a multifactorial issue that leads to Access Block for patients needing emergency care. Identified as a national problem, patients presenting to a Canadian Emergency Department (ED) at a time of overcrowding have higher rates of admission to hospital and increased seven-day mortality. Using the well accepted input-throughput-output model to study EDOC, current research has focused on throughput as a measure of patient flow, reported as ED length of stay (LOS). In fact, ED LOS and ED beds occupied by inpatients are two "extremely important indicators of EDOC identified by a 2005 survey of Canadian ED directors. One proposed solution to improve ED throughput is to utilize a physician at triage (PAT) to rapidly assess newly arriving patients. In 2017, a pilot PAT program was trialed at Kelowna General Hospital (KGH), a tertiary care hospital, as part of a PDSA cycle. The aim was to mitigate EDOC by improving ED throughput by the end of 2018, to meet the national targets for ED LOS suggested in the 2013 CAEP position statement. **Methods:** During the fiscal periods 1-6 (April 1 to September 7, 2017) a PAT shift occurred daily from 1000-2200, over four long weekends. ED LOS, time to inpatient bed, time to physician initial assessment (PIA), number of British Columbia Ambulance Service (BCAS) offload delays, and number of patients who left without being seen (LWBS) were extracted from an administrative database. Results were retrospectively analyzed and compared to data from 1000-2200 of non-PAT trial days during the trial periods. **Results:** Median ED LOS decreased from 3.8 to 3.4 hours for high-acuity patients (CTAS 1-3), from 2.1 to 1.8 hours for low-acuity patients (CTAS 4-5), and from 9.3 to 8.0 hours for all admitted patients. During PAT trial weekends, there was a decrease in the average time to PIA by 65% (from 73 to 26 minutes for CTAS 2-5), average number of daily BCAS offload delays by 39% (from 2.3 to 1.4 delays per day), and number of patients who LWBS from 2.4% to 1.7%. **Conclusion:** The implementation of PAT was associated with improvements in all five measures of ED throughput, providing a potential solution for EDOC at KGH. ED LOS was reduced compared to non-PAT control days, successfully meeting the suggested national targets. PAT could improve efficiency, resulting in the ability to see more patients in the ED, and increase the quality and safety of ED practice. Next, we hope to prospectively evaluate PAT, continuing to analyze these process measures, perform a cost-benefit analysis, and formally assess ED staff and patient perceptions of the program.
Keywords: quality improvement and patient safety, physician at triage, emergency department overcrowding

P118

Pulmonary Embolism Severity Index (PESI) score as a predictor for readmission in acute pulmonary embolism in emergency department?

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Introduction: Pulmonary Embolism (PE) management in Emergency Department (ED) confers a substantial cost burden representing opportunities for improvements in decision-making. The Pulmonary Embolism Severity Index (PESI) is a validated tool to prognosticate patients with PE supporting admit versus (vs.) discharge decisions from the ED. Despite existing evidence, PESI is under-used in patients with PE. We sought to evaluate PESI scores and patient disposition from 4 EDs within Calgary to determine discordance between them and the effect of the discordance on readmission and mortality. **Methods:** Retrospective review of adult patients 18 years, diagnosed with PE between January-June 2016 at 4 EDs in Calgary Health Region. Patients were divided into high-risk PESI (score > 85) and low-risk PESI (score 0-85). Chi-Square (2) test was used for comparison between the groups. Primary outcome measure was rate of discordance between PESI risk