

P105**BC's public health emergency and naloxone administration by the BC Ambulance Service**

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Introduction: In 2015, there were 476 apparent illicit drug overdose deaths, prompting BC's Provincial Health Officer to declare a public health emergency on 14 Apr 2016. Paramedics of BC's Ambulance Service (BCAS) are on the front lines in this crisis. Here we examine recent trends in the number of suspected overdose events attended by the BCAS and the use of naloxone, an opioid antagonist, by BCAS paramedics.

Methods: The BC Centre for Disease Control receives a weekly data feed from BC Emergency Health Services that includes all records from the BCAS Patient Care Record where: naloxone was administered by paramedics; the primary impression code indicates poisoning or overdose; or, the originating call is associated with ingestion poisoning ('card 23'). Here, we report a descriptive analysis of these data for suspected drug overdose events during the period January 1, 2010 to September 30, 2016.

Results: Between January 2010 and September 2016 BCAS paramedics attended 164,227 suspected overdose events; 12% of these events (n = 16,944) included naloxone administration by BCAS paramedics. Paralleling the rise in illicit drug overdose deaths in BC, naloxone administration by paramedics has been increasing rapidly, doubling from approximately 180/month in 2014, to 370/month in 2016. When naloxone was administered by paramedics, 90% of these patients were transported, whereas 77% were transported when naloxone was not administered. Administrations occurred most frequently on Friday and Saturday evenings. Almost half (46%) of all naloxone administrations by paramedics were recorded as being in a home or residence; 18% were recorded as occurring on a street or highway. The proportion of naloxone administrations among males has increased yearly. In 2010, 58% of naloxone administrations were in males compared to 69% in 2016. **Conclusion:** The number of overdose deaths in BC has risen drastically in recent years and the proportion of ambulance calls requiring administration of naloxone by BCAS has climbed correspondingly. The vast majority of overdose cases—especially those requiring naloxone—are transported to the emergency department. With the overdose crisis showing little sign of abating, the administration of naloxone by BC paramedics will continue to be a critical element of the provincial response.

Keywords: overdose, public health emergency, naloxone

P106**Does training with a modified high-fidelity manikin improve junior residents' ability to establish transcutaneous pacing in an advanced cardiovascular life support course?**

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Introduction: Transcutaneous cardiac pacing (TCP), a skill taught in Advanced Cardiovascular Life Support (ACLS) courses, is recommended to treat unstable bradycardia. Training manikins currently available fail to reproduce key features of TCP and might be suboptimal to teach this procedure. The objective of this study was to measure the impact of a modified high-fidelity manikin on junior residents' TCP competency during an ACLS course. We hypothesized that the use of this high-fidelity manikin improves junior residents' performances.

Methods: This prospective cohort study was conducted at the Université de Montréal in July 2015 and 2016. First-year residents

undergoing their mandatory ACLS course were enrolled. The control group (2015) received the traditional curriculum, which includes hands-on teaching on Advanced Life Support manikins. The intervention group (2016) received a similar curriculum, but used a modified high-fidelity manikin that reproduces key features of TCP (e.g. use of multifunction pads, TCP induced patient twitching, ECG artifacts). Cohorts were tested with a simulation scenario requiring TCP. Performances were graded based on six critical tasks: turns on pacer function, applies multifunction pads, recognizes TCP is ineffective, achieves captures, verifies mechanical capture and prescribes sedation. Our primary outcome was successful use of TCP defined as having completed all tasks. Secondary outcomes were the success rates for each task. These were compared using Pearson's chi-squared test. We anticipated that the success rate of TCP would increase from 20% to 50%. To obtain a power of more than 90%, 48 participants were needed in both cohorts.

Results: A total of 50 residents were recruited in both cohorts. No resident that received the traditional curriculum was able to successfully establish TCP while 18 residents trained on the modified high-fidelity manikin succeeded (0 vs 36%, $P < 0.001$). Furthermore, the latter were more likely to recognize when pacing was inefficient (12 vs 86%, $P < 0.001$), obtain ventricular capture (2 vs 48%, $P < 0.001$), and check for a pulse rate to confirm capture (0 vs 48%, $P < 0.001$). **Conclusion:** Successful use of TCP is a difficult skill to master for junior residents. A modified high-fidelity manikin during ACLS training significantly improves their ability to establish effective pacing.

Keywords: simulation, advanced cardiovascular life support, transcutaneous cardiac pacing

P108**Fast track in Calgary hospitals: measures for quality improvement**

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Introduction: Fast track (FT) implementation in emergency departments (ED) has shown a decrease in patient wait times, length of stay (LOS), left without being seen rates, and has increased patient satisfaction. The objective of this study was to analyze the demographics and presenting complaints of patients presenting to FT in Calgary EDs using local administrative databases to understand the current selection of FT patients, as well as to uncover potential throughput efficiencies through LOS analysis. **Methods:** Sunrise Clinical Manager data was pulled from the Foothills Medical Center (FMC), Peter Lougheed Center (PLC), and Rockyview General Hospital (RGH) EDs between October 2015 and September 2016. Based on consensus achieved by the Calgary FT-Minor Treatment Sub-committee, data was descriptively analyzed based on the following criteria: (1) triage profiles of the Calgary ED sites; (2) site admission rates by complaint, Canadian Triage and Acuity Scale (CTAS), vitals, and age; (3) LOS for orthopedic patients admitted from FT/Minor; and, (4) LOS in FT for non-admitted back pain patients. **Results:** A total of 53911 patients were triaged to FT, with 16224 patients triaged to FMC, 18299 to PLC, and 19388 to RGH. 6.9% of FT patients were admitted to hospital at FMC, 4.8% at PLC and 4.8% at RGH. 14.4% of patients at FMC, 18.3% at PLC and 17.6% at RGH were CTAS 2; 40.9% of patients at FMC, 46.2% at PLC and 37.9% at RGH were CTAS 3; 34.0% of patients at FMC, 27.8% at PLC and 33.3% at RGH were CTAS 4; 10.7% of patients at FMC, 7.7% from PLC and 11.2% for RGH were CTAS 5. For FT patients 80 years or older, 10.4% were admitted at FMC, 13.1% at PLC and 9.4% at RGH. The top FT presenting complaints at all sites were lower extremity injury, upper extremity injury, and laceration/puncture. The annual FT bed hours for patients admitted to orthopedic surgery (consultation request to time of orthopedic admission) was 802.3 hours at