upon cardiac arrest (2.3-fold increase), normalized with ROSC, and impaired again at death when compared with baseline. Consistent with clotting impairment, A10, Alpha, and MCF were all reduced with cardiac arrest, normalized with ROSC, and impaired again at death. **Conclusion:** Higher initial indices of coagulopathy in patients with cardiac arrest appear to correlate with death and thromboembolism. In this pilot, CFT is acutely modified by cardiac arrest. Since CFT is affected by overall Th activity, early Th dysregulation may be a critical driver of coagulopathy. Th may therefore be a lead target that is modifiable in the emergency post-arrest setting to decrease morbidity and mortality from PCAS in cardiac arrest survivors.
Keywords: cardiac arrest, coagulopathy, thrombin

P002

Minimum archiving requirements for emergency medicine point-of-care ultrasound: a modified Delphi-derived national consensus

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Introduction: Point-of-care ultrasound (POCUS) has become standard practice in emergency departments ranging from remote rural hospitals to well-resourced academic centres. To facilitate quality assurance, the Canadian Association of Emergency Physicians (CAEP) recommends image archiving. Due in part to poor infrastructure and lack of a national standard, however, archiving remains uncommon. Our objective was to establish a minimum standard archiving protocol for the core emergency department POCUS indications. **Methods:** Itemization of potential archiving standards was created through an extensive literature review. An online, three-round, modified Delphi survey was conducted with the thirteen POCUS experts on the national CAEP Emergency Ultrasound Committee tasked with representing diverse practice locations and experiences. Participants were surveyed to determine the images or clips, measurements, mode, and number of views that should comprise the minimum standard for archiving. Consensus was pre-defined as 80%. **Results:** All thirteen experts participated fully in the three rounds. In establishing minimum image archiving standards for emergency department POCUS, complete consensus was achieved for first trimester pregnancy, hydronephrosis, cardiac activity versus standstill, lower extremity deep venous thrombosis, and ultrasound-guided central line placement. Consensus was achieved for the majority of statements regarding abdominal aortic aneurysm, extended focused assessment with sonography in trauma, pericardial effusion, left and right ventricular function, thoracic B-line assessment, cholelithiasis and cholecystitis scans. In total, consensus was reached for 58 of 69 statements (84.1%). This included agreement on 41 of 43 statements (95.3%) describing mandatory images for archiving in the above indications. **Conclusion:** Our modified Delphi-derived consensus represents the first national standard archiving requirements for emergency department POCUS. Depending on the clinical context, additional images may be required beyond this minimum standard to support a diagnosis.
Keywords: archiving, delphi, point-of-care ultrasound

P003

Productivity patterns in early-career physicians: a multi-center analysis of administrative emergency department operations data

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Introduction: Physician metrics extracted from an electronic medical records (EMR) system can be utilized for practice improvement. One key metric analyzed at many emergency departments (EDs) is 'patients per hour' (pts/hr), a proxy for physician productivity. It is often believed that early-career physicians experience rapid growth in efficiency as they acclimatize to a hospital system and develop clinical confidence. This is the first study to evaluate the following question: Do early-career ED physicians increase their productivity when beginning practice? **Methods:** We performed a retrospective review of EMR data of early-career ED physicians working at one or more urban, academic centers. Early-career physicians must have started practice within three months of residency completion, and were identified by privileging records and provincial medical college registration. Physicians were excluded if they did not have at least 36 months of continuous data. Monthly productivity data (pts/hr) was extracted for each physician for their first 36-months of practice. A 'performance curve' or graph with a trendline of productivity as a moving average was created for each physician. Each performance curve was visually evaluated by two independent reviewers to qualitatively identify the general trend as upward, downward, or stable, with disagreements resolved by conference. Each physician's first and third year average productivity was compared quantitatively as well, with a significant upward or downward trend defined as a difference of at least 0.2 pts/hr. **Results:** A total of 41 physicians met the inclusion and exclusion criteria. Overall monthly pts/hr averages ranged from 1.08 to 7.65. Upon visual inspection, six (14.6%) physicians had upward trends, five (12.2%) had downward trends, and 30 (73.2%) had no discernable pattern. The quantitative analysis comparing first year to third year productivity matched the qualitative inspection exactly, with the same six physicians showing increased productivity, five with decreased, and 30 without significant change. Notably, the majority (30/41) of physicians demonstrated radical productivity variations over short periods with no discernable long-term trends. **Conclusion:** The majority of early career physicians do not demonstrate sustained early-career productivity changes. Of those that do, an approximately equal number will become faster and slower.
Keywords: efficiency, metrics, productivity

P004

The impact of transfusion guideline on emergency physician transfusion orders

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Introduction: Blood transfusions continue to be a critical intervention in patients presenting to emergency departments (ED). Improved understanding of the adverse events associated with transfusions has led to new research to inform and delineate transfusion guidelines. The Nova Scotia Guideline for Blood Component Utilization in Adults and Pediatrics was implemented in June 2017 to reflect current best practice in transfusion medicine. The guideline includes a lowering of the hemoglobin threshold from 80 g/L to 70 g/L for transfusion initiation, to be used in conjunction with the patient's hemodynamic assessment before and after transfusions. Our study aims to augment understanding of transfusion guideline adherence and ED physician transfusing practices at the Halifax Infirmary Emergency Department in Nova Scotia. **Methods:** A retrospective chart review was conducted on one third of all ED visits involving red-cell transfusions for one year prior to and one year following the guideline implementation.

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A total of 350 charts were reviewed. The primary data abstracted for the initial transfusion, and subsequent transfusion if applicable, from each reviewed chart included clinical and laboratory data reflective of the transfusion guideline. Based on these data, the transfusion event was classified one of three ways: indicated based on hemoglobin level, indicated based on patient's symptomatic presentation, or unable to determine if transfusion indicated based on charting. **Results:** The year before guideline implementation, the total number of transfusions initiated at a hemoglobin of between 71-80 was 31 of 146 total transfusions. This number dropped by 23.6% to 22 of 136 in the year following guideline implementation. The number of single-unit transfusions increased by 28.0% from 47 of 146 in the year prior to 56 of 136 in the year after guideline implementation. The initial indication for transfusion being unable to be determined based on charting provided increased by 120%. The indication for subsequent transfusions being unable to be determined based on charting increased by 1500% ($P < 0.05$). **Conclusion:** These data suggest that implementing transfusion guidelines effectively reduced the number of transfusions given in the ED setting and increased the number of single-unit transfusions administered. However, the data also suggest the need for better education around transfusion indications and proper documentation clearly outlining the rationale behind the decision to transfuse.

Keywords: transfusions, value-added care

P005

Regional anesthesia in Canadian emergency departments: Emergency physician practices and impressions

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Introduction: The use of regional anesthesia (RA) by emergency physicians (EPs) is expanding in frequency and range of application as expertise in point-of-care ultrasound (POCUS) grows, but widespread use remains limited. We sought to characterize the use of RA by Canadian EPs, including practices, perspectives and barriers to use in the ED. **Methods:** A cross-sectional survey of Canadian EPs was administered to members of the Canadian Association of Emergency Physicians (CAEP), consisting of sixteen multiple choice and numerical responses. Responses were summarized descriptively as percentages and as the median and inter quartile range (IQR) for quantitative variables. **Results:** The survey was completed by 149/1144 staff EPs, with a response rate of 13%. EPs used RA a median of 2 (IQR 0-4) times in the past ten shifts. The most broadly used applications were soft tissue repair (84.5% of EPs, n = 126), fracture pain management (79.2%, n = 118) and orthopedic reduction (72.5%, n = 108). EPs agreed that RA is safe to use in the ED (98.7%) and were interested in using it more frequently (78.5%). Almost all (98.0%) respondents had POCUS available, however less than half (49.0%) felt comfortable using it for RA. EPs indicated that they required more training (76.5%), a departmental protocol (47.0%), and nursing assistance (30.2%) to increase their use. **Conclusion:** Canadian EPs engage in limited use of RA but express an interest in expanding their use. While equipment is available, additional training, protocols, and increased support from nursing staff are modifiable factors that could facilitate uptake of RA in the ED.

Keywords: nerve block, pocus, regional anesthesia

P006

Time for a national conversation: Practices and perspectives on HIV testing in Canadian emergency departments

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Introduction: Improved access to HIV testing would benefit the one in six Canadians living with undiagnosed HIV, and potentially reduce transmission. Emergency departments may be the first or only point of contact with the healthcare system for people exposed to HIV; however, HIV testing remains inaccessible in many EDs in Canada. **Methods:** We used a grounded theory approach to characterize the experiences and context of HIV testing in Canadian EDs. We conducted semi-structured phone interviews with ED and public health practitioners from a purposive sample of urban, rural, academic, and community ED catchment areas. Thematic analysis was performed through iterative readings by two authors. Results were triangulated through consultation with public health and HIV experts. **Results:** Data were obtained from 16 ED physicians and 8 public health practitioners. HIV tests were infrequently performed in the EDs of our sample. Informants from higher incidence regions believed that greater availability of HIV tests in the ED would benefit the populations they serve. In half of the sample, rapid HIV tests were available. However, indications for testing were most often occupational or known high-risk exposure. Notably, two urban EDs in British Columbia screened all patients who otherwise needed blood tests (opt-out), but had shifted to opt-in testing at the time of this study. Consent practices and perceived requirements varied widely between sites; this confused or frustrated physicians. Most EDs were unable to offer a test result to patients during their visit as results were not available until days to weeks later. Commonly, the ordering physician was responsible for communicating results. Some EDs had an assigned physician managing all results on a given day while others relied on public health units for follow-up. All EDs reported access to public health clinics for ongoing care. Barriers to offering a test in the ED included time required for consent, discomfort with pre-test counselling, delay in results availability and unclear processes for follow-up. **Conclusion:** We describe substantial regional and within-site variation in HIV testing practices across a diverse sample of EDs across Canada. These findings highlight disparities in access to HIV testing and warrant a national discussion on best practices for testing in EDs with an emphasis on reducing barriers for high-risk populations and addressing unmet needs.

Keywords: health services accessibility, human immunodeficiency virus, marginalized populations

P007

Cunningham reduction of anterior shoulder dislocation facilitated by inhaled low-dose methoxyflurane – a pilot study

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Introduction: The Cunningham reduction method for anterior shoulder dislocation offers an atraumatic alternative to traditional reduction techniques without the inconvenience and risk of procedural sedation and analgesia (PSA). Unfortunately, success rates as

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