

clinical impressions, glycemic issues (OR 4.8; 99.9% CI 3.9-5.7) and wellness checks (OR 6.5; 99.9% CI 5.7-7.3) are more likely to have a non-transport. Non-transporters are more likely at a detention facility (OR 4.1; 99.9% CI 3.2-5.1) or a roadway (OR 2.4; 99.9% CI 2.1-2.8). 5.6% ($n = 798/14094$) of non-transport patients were classified as a potentially adverse non-transport. **Conclusion:** This study demonstrated that a significant portion of patients (18.9%) had a non-transport outcome, but only a small percentage (5.6%) were considered potentially adverse. The results of this study provide timely information to policy makers and healthcare practitioners on the scope of this issue, and suggest potential directions for future study and clinical decision making.

Keywords: non-transport, emergency medical services (EMS), transport

LO020

Obstacle course runs: review of acquired injuries and illnesses at a series of Canadian events (RACE)

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Introduction: The growing popularity of obstacle course runs (OCRs) has led to significant concerns regarding their safety. The influx of injuries and illnesses in rural areas where OCRs are often held can impose a large burden on first responders, Emergency Medical Services (EMS) and local Emergency Departments. Literature concerning these events is minimal and mostly consists of media reports. Recognizing the lack of epidemiologic data, we sought to accurately determine the patterns and frequency of injuries and illnesses that occur at OCRs, the treatments required, and what proportion require further medical care or transfer to hospital. **Methods:** Data were extracted from medical charts completed for all patients presenting to the on-site medical team at OCR events across Canada from May to August, 2015. Frequency and patterns of injuries and illnesses were determined as well as treatments and disposition. There were 45 285 OCR participants in 8 events. There were 572 total patient contacts and 557 patients were included in the study. 15 patients were excluded because they were not race participants. **Results:** Less than 2% of participants at any event required on-site medical care. 11 patients (1.97%) required transfer to hospital by EMS. The majority of injuries were musculoskeletal in nature (74.71%). 495 patients (88.87%) returned to the event with no need for further medical care. The majority of treatments could be provided with first aid training and basic medical equipment. **Conclusion:** Injury and illness rates at this series of OCRs was similar to other mass gathering events. Injuries were mostly musculoskeletal in nature and required minor treatment. Having a medical team on site likely reduced local hospital and EMS volume from these events. This study raises the question of whether having a physician on site at OCRs could significantly reduce the number of patients advised to seek further medical care or the number of ambulance transfers. Prospective research is needed in order to develop plans for more appropriate resources, safety protocols, and medical staffing, thereby improving patient care and reducing the burden on local EMS and rural hospitals.

Keywords: prehospital, sports medicine

LO021

Use of health services among non-institutionalized frail elderly with fracture: preliminary results

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Introduction: Frail older adults experience an increased risk of a number of adverse health outcomes such as comorbidity, disability,

dependency, institutionalization, falls, fractures, hospitalization, and mortality. Identification of frail adults is important. The objective of this study is to examine the association between frailty and use of health services (emergency, general practitioner, hospitalization) prior to and following a visit for a fracture in non-institutionalized seniors. **Methods:** This study is a population-based cohort build from the Quebec Integrated Chronic Disease Surveillance System, an innovative chronic disease surveillance system linking five health care administrative databases. Algorithms using data from this system are accurate and reliable for identifying fractures. The sample includes 179,734 seniors ≥ 65 years old, non-institutionalized in the year before the fracture. Their frailty status was measured using the elderly risk assessment index. Poisson regression models were used to compare use of health services (emergency, general practitioner, hospitalization) 1 year before and 1 year after a visit for a fracture (adjusting for age, sex, comorbidities, social deprivation, material deprivation and site of fracture). **Results:** Overall, preliminary results show that the use of health services increased significantly in the year following the fracture in frail non-institutionalized elderly vs the non-frail one ($p < 0.05$). **Conclusion:** This study suggests that frail seniors with a fracture require more health services after their incident fracture. Furthermore, using a frailty assessment index in health administrative databases can help identify seniors that are at high risk of needing more health services and, therefore, improve their care.

Keywords: frailty, fracture, health administrative databases

LO022

Incidence and impact measurement of delirium induced by ED stay - INDEED

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Introduction: Delirium is a dreadful complication in seniors' acute care. Many studies are available on the incidence of delirium, however ED-induced delirium is far less studied. We aim to evaluate the incidence and impact of ED-induced delirium among older non-delirious admitted ED patients who have prolonged ED stays (≥ 8 hours). **Methods:** This prospective INDEED study phase 1 included patients recruited from 4 Canadian EDs. **Inclusion criteria:** 1) Patients aged 65 and over; 2) ED stay ≥ 8 hours; 3) Patient is admitted to the hospital; 4) Patient is non-delirious upon arrival and at the end of the first 8 hours; 5) Independent or semi-independent patient. Eligible patients were assessed by a research assistant after an 8 hour exposition to the ED and evaluated twice a day up to 24h after ward admission. Patients' functional and cognitive status were assessed using validated OARS and TICS-m tools. The Confusion Assessment Method was used to detect incident delirium. Hospital length of stays (LOS) were obtained. Univariate and multivariate analyses were conducted to evaluate outcomes. **Results:** Of the 380 patients prospectively followed, mean age was 76.5 (± 8.9), male represent 50% and 16.5% very old seniors (> 85 y.o.). The overall incidence of ED-induced delirium was 8.4%. Distribution by the 4 sites was: 10%, 13.8%, 5.5% & 13.4%. The mean ED LOS varied from 29 to 48 hours. The mean hospital LOS was increase by 6.1 days in the delirious patients compared to non-delirious patient ($p < 0.05$). Increase mean hospital LOS distribution by site was by: 6.9, 8.5, 4.3 and 5.2 days for the ED-induced delirium patients. **Conclusion:** ED-induced delirium was recorded in nearly one senior out of ten after a minimal 8 hour exposure in the ED environment.

An episode of delirium increases hospital LOS by about a week and therefore could contribute to ED overcrowding.

Keywords: delirium, length of stay

LO023

Association between ED-induced delirium and cognitive & functional decline in seniors

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Introduction: Delirium is a common medical complication among seniors in hospital setting. In the emergency department (ED), its prevalence varies between 7 & 14%. Delirium is associated with increased mortality & longer hospital stay. This condition is also associated with functional & cognitive decline in hospitalized seniors and higher risk of institutionalization up to 2 years after their discharge. However, no data is currently available for ED patients. The aim of this study was to evaluate the association between ED-induced delirium and functional & cognitive decline in seniors at 60 days. **Methods:** This study is part of the *Incidence and Impact measurement of Delirium Induced by ED-Stay (INDEED)* study, an ongoing multicenter prospective cohort study in 5 Quebec EDs. Patients were recruited after 8 hours in the ED and followed up to 24h after admission. A 60-day follow-up phone assessment was also conducted. Delirium was measured by the validated Confusion Assessment Method & the Delirium Index. Functional status was measured by the validated OARS. Cognitive status was measured using the validated TICS-M. Functional and cognitive decline were obtained by comparing the baseline and 60-days follow-up scores. **Results:** 380 seniors were recruited and 280 had 60-day follow-up data available. ED-induced delirium was 8.4% of seniors. There was a difference in mean functional decline among seniors with and without ED-induced delirium 2.95(1.23-4.67) vs 1.55(1.20-1.91, $p_{\text{wlicoxon}} = 0.05$) Proportion of seniors showing a decline ≥ 2 points on the OARS was significantly higher in those with ED-induced delirium (65.0 % vs 40.18 %, $p = 0.03$). Seniors with ED-induced delirium also showed a significant decline in mean TICS scores [3.31 (0.82-5.84) vs -0.01 (-0.071-0.75)], $p_{\text{wlicoxon}} = 0.009$]. There was no significant difference in the proportions of seniors showing a decline ≥ 3 OARS points between those with or without delirium ($p = 0.06$). **Conclusion:** ED-induced delirium seems to be associated with poor functional and cognitive outcomes in older patients 60 days after discharge from the hospital. Further studies are required to confirm clinical importance ED-induced delirium delayed complication.

Keywords: delirium, geriatrics, emergency department

LO024

Time to perform ultrasound guided femoral nerve block in older hip fractures patients by emergency physicians

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Introduction: Ultrasound-guided femoral nerve block (USFNB) is optimal for providing analgesia for patients with hip fractures, but is rarely performed. Time of the procedure was cited as a barrier in our previous survey. **Methods:** We conducted a knowledge-to-practice intervention that included a two-hour training session on USFNB, use of a block kit, and reminders to improve uptake of USFNB. We measured the time it took for trained EPs to complete the block during a 20 month period. **Results:** Of

36 EPs, 34 (94.4%) were not routinely performing USFNB at the beginning of the study, and 4 declined to participate, leaving 30 participants who received training. The 30 trained EPs performed 100 USFNB over the next 20 months (range 1 to 20 blocks per EP). The mean reduction in pain was -4.47 on a 10 point numeric rating scale. The median time to perform the blocks was 15.0 minutes (IQR, 10 to 20 minutes), and 90 % of blocks took less than 30 minutes. The most common reason given for not performing a block was excessive clinical load. **Conclusion:** Given that we included 88.2% of eligible EP's and included the first time EP's performed a USFNB, our estimates of time to perform USFNB block should generalize to other Canadian academic ED's. Time to complete USFNB is in keeping with other commonly performed ED procedures and should not be a barrier to optimizing analgesia.

Keywords: older adults, hip fracture, regional anesthesia

LO025

In support of Choosing Wisely: variation in CT ordering for patients presenting to emergency with minor head injury

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Introduction: Individual and institutional disparities in CT imaging rates for patients with head injuries have long been recognized, leading to the development of well-validated clinical decision rules designed to standardize clinical practice. To assess their impact on current practice, we sought to evaluate variation in CT imaging by emergency physicians for patients presenting with head injury across the province of Alberta. **Methods:** A unique data warehouse merging administrative, clinical, and imaging platforms for 11 Alberta emergency departments (EDs) was created. Unique identifiers were obtained for all emergency physicians who were included in this analysis if they evaluated in excess of ten ED patients presenting with a chief complaint of "head injury". Patients with high triage acuity (CTAS 1) were excluded, as were patients who were admitted to hospital. Descriptive statistics were employed to describe variation between physicians and sites for a 24 month period from 2013-2015. **Results:** 311 emergency physicians treating 20,797 patient encounters for head injury were included. Overall a total of 8,245 head injury patients (40%) received one or more CT scans. Physician variation across the 11 sites ranged from 4% -100% of head injury patients receiving a CT. Within sites CT ordering between physicians varied from 9-fold (4% - 36%) at the lowest variation site, to more than 20-fold (4% - 90%) at the highest variation site. After removing the 5% lowest and highest ordering physicians, variation in ordering continued to range from 10% - 72%. No trends were observed across the two years examined. **Conclusion:** This is the largest study to date examining physician level variation in CT ordering practices for ED head injury patients. We have identified marked persistent practice variation despite the presence of well-validated clinical decision rules and a relatively low risk medicolegal environment. Variable risk tolerance and limited use of validated clinical decision rules are likely contributors making this area an ideal focus for targeted interventions to improve imaging appropriateness and reduce practice variation.

Keywords: Choosing Wisely, CT scans, practice variation

LO026

Outcomes of a provincial cardiac reperfusion strategy: a population-based, retrospective cohort study

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