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**Introduction:** The incidence of delirium following hip fracture is near 60%. The use of regional anesthesia (RA) with ultrasound (U/S) guidance has suggested a decrease in delirium incidence. In this pilot study, we propose to include the use of femoral block with U/S guidance in the management of the elderly population with hip fracture in the emergency department (ED) to lower the risk of delirium. **Methods:** This paired control case study was conducted from December 2013 to April 2015, and includes patients seen by emergency doctors from the ED of Hospital Enfant Jesus in Quebec City. Patients of the intervention and control groups were paired by age. **Inclusion Criteria:** Patients with (1) a hip fracture; (2) admitted to the hospital after their ED management; (3) and surgically repaired. **Exclusion Criteria:** Patients (1) with delirium upon arrival or a known mental/cognitive status (dementia, unconsciousness or severely ill status) (2) less than 60 years old (3) not able to speak English or French. **Intervention group:** Patients with hip fracture who received femoral blocks by the five emergency doctors who were trained and performed with U/S guidance. **Control group:** Patients with hip fracture who received standard pain control care by emergency doctors and who did not receive a femoral block. **Analysis:** Incidence of delirium and blocks performed by EM doctors were tallied. A comparison of absolute pain reduction at 30 minutes was also done. Odd ratios were derived and adjusted for age, sex, total opiates dose, delay before surgery and morbidity scores. **Results:** A total of 29 femoral blocks were performed through the analysis period. Groups were similar for age, sex and APACHE II and CHARLSON scores. A 30 minutes absolute pain reduction of 3/10 was noted. Two thirds of the blocks were performed by two ED doctors. Need for rescue medication was needed for 7% of patients for pain control at 30 minutes. Adjusted odd ratios for age, sex, morbidity scores, total opiate doses and delay before surgery revealed no decrease in delirium. **Conclusion:** Ten out of 26 patients hospitalized for hip fracture who received a femoral block under U/S guidance from the ED doctors were diagnosed with delirium. A Canadian prospective study «EDURAPID» is underway to demonstrate more the impact of R/A under U/S guidance on the incidence of delirium in this population.

**Keywords:** delirium, regional anesthesia, hip fracture

#### P077

##### Subcutaneous fentanyl administration for pain management in prehospital setting

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**Background:** Intravenous (IV) and Intranasal (IN) route for analgesic administration cannot always be used to provide adequate pain management in pre-hospital setting. **Objective:** In a rural and suburban pre-hospital setting, studying the feasibility, safety and effectiveness of the subcutaneous (SC) route for fentanyl administration by Basic Life Service-Emergency Medical Technician (BLS-EMT) for pain management, with the support of an online medical control (OLMC) center. **Methods:** Retrospective study of patients who received subcutaneous fentanyl and were transported by BLS-EMT to an emergency department (ED). Safety and feasibility were characterized by collecting vital signs, Ramsey sedation scores and adverse events following fentanyl administration, and effectiveness was evaluated by

changes in pain scores. Parametric and non-parametric tests were used for statistical analyses comparing age groups (<70 & ≥70 years old) regarding transport time. **Results:** Pain scores ≥7 were found in 288 patients (14-93 years old) who were eligible for analgesia. 249 (86.5%) of the 284 (98.6%) who received subcutaneous fentanyl were included for analysis. At baseline, no difference ( $p > 0.05$ ) in pain scores pre-fentanyl between groups even if patients <70 years old received a significant higher dose of fentanyl than those ≥70 years old ( $1.4 \pm 0.3$  vs  $0.8 \pm 0.2$  mcg/kg,  $p < 0.05$ ). Post-administration pain score decreased significantly while proportion of patients achieving a pain relief increased significantly ( $p < 0.05$ ) regarding transport time (15, 30 or 45min) to ED. Adverse events were present in 1.6% of the patients [hypotension (n = 2; 0.8%), nausea (n = 1; 0.4%), and Ramsey score > 3 (n = 1; 0.4%)]. **Conclusion:** Under the supervision of an OLMC center, subcutaneous fentanyl administration by BLS-EMT for pain management seems to be a feasible approach, with a safe and effective route without major adverse event in pre-hospital setting. Pain relief increased with longer transport time. Further studies are needed to determine the benefits of SC route when compared to other administration routes in EMS.

**Keywords:** prehospital subcutaneous administration, fentanyl, pain management

#### P078

##### Handover education in Canadian adult and pediatric emergency medicine residencies: a national survey and needs assessment

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**Introduction:** Emergency department handover is a high-risk period for patient safety. A recent study showed a decreased rate of preventable adverse events and errors after implementation of a resident hand-off bundle on pediatric inpatient wards. In a 2013 survey by the Canadian Associations of Internes and Residents, only 11% of residents in any discipline stated they received a formal teaching session on handover. Recently, the CanMEDS 2015 Physician Competency Framework has added safe and skillful transfer of patient care as a new proficiency within the collaborator role. We hypothesize that significant variation exists in the current delivery and evaluation of handover education in Canadian EM residencies. **Methods:** We conducted a descriptive, cross-sectional survey of Canadian residents enrolled in the three main training streams of Emergency Medicine (FRCP CCFP-EM, PEM). The primary outcome was to determine which educational modalities are used to teach and assess handover proficiency. Secondarily, we described current sign-over practices and perceived competency at patient handover. **Results:** 130 residents completed the survey (73% FRCP, 19% CCFP-EM, 8% PEM). 6% of residents were aware of handover proficiency objectives within their curriculum, while 15% acknowledged formal evaluation in this area. 98% of respondents were taught handover by observation of staff or residents on shift, while 55% had direct teaching on the job. Less than 10% of respondents received formal sessions in didactic lecture, small group or simulation formats. Evaluation of handover skills occurred primarily by on shift observation (100% of respondents), while 3% of residents had received assessment through simulation. Local centre handover practices were variable; less than half of residents used mnemonic tools, written or electronic adjuncts. **Conclusion:** Canadian EM residents receive variable and sparse formal training and assessment on emergency department handover. The majority of training occurs by on shift observation and few trainees receive instruction on objective tools or explicit patient care standards. There exists potential for further development of standardized

objectives, utilization of other educational modalities and formal assessments to better prepare residents to conduct safer patient handoffs.

**Keywords:** handover, education, residency

#### P079

##### Comparison of vital sign documentation for pre-hospital “lift-assist” calls and non “lift-assist” calls

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**Introduction:** When an individual requires assistance with mobilization, emergency medical services (EMS) may be called. If treatment is not administered and the patient is not transported to hospital, it is referred to as a “Lift Assist” (LA) call. We have previously shown that LA are associated with morbidity and mortality. Subtle pathology may exist in those who require LAs and they may benefit from being transported to the Emergency Department for medical evaluation. Given that the majority of LA calls result in no-transport, there may be a bias towards not upholding the same standards of care as patients who are transported to hospital. **Objective:** To determine if there is a difference in Ambulance Call Record (ACR) documentation of vital signs between LA calls and non-LA calls. **Methods:** All LA calls from a single EMS agency were collected over a one-year period (Jan - Dec 2013). A control group of randomly selected calls of low acuity (Canadian Triage Acuity Scale 3,4,5) from the same time period was collected for comparison. ACRs from these calls were reviewed for missing vital sign documentation. **Results:** Of 42,055 EMS calls, 808 (1.9%) were LA calls. A comparison of 784 randomly-selected non-LA control calls were reviewed. There were significantly more missing vitals (12.08% vs 6.64%  $p < 0.001$ ) and refused vitals (1.87% vs 0.51%  $p = 0.013$ ). **Conclusion:** There is a significant discrepancy in the complete documentation of vital signs in LA calls vs non-LA calls. There were also significantly more patient refusals for obtaining vitals compared to transported patients. Abnormal vital signs may be a clue to a subtle disease process that has resulted in a LA call, thus care should be taken to ensure that these patients are treated with the same standards of care and documentation as those patients calling EMS for overt medical reasons.

**Keywords:** emergency medical services (EMS)

#### P080

##### Factors predicting morbidity and mortality associated with pre-hospital “lift assist” calls

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**Introduction:** When an individual requires assistance with mobilization, emergency medical services (EMS) may be called. If treatment is not administered and the patient is not transported to hospital, it is referred to as a “Lift Assist” (LA) call. We have previously shown that LA are associated with morbidity and mortality. What places patients at an increased risk for morbidity and mortality is not yet known. **Objective:** To determine factors that are associated with increased risk of 14 day morbidity, determined by an ED visit or hospital admission, and mortality in LA calls. **Methods:** All LA calls from a single EMS agency were collected over a one-year period (Jan - Dec 2013). These calls were linked with hospital records to determine if LA patients had a subsequent visit to the emergency department (ED), admission, or death within 14 days. Logistic regression analyses were run to predict ED visit or hospital admission within 14 days of the LA call from patients’ age,

gender, co-morbidities and vital signs at the initial LA call. **Results:** Of 42,055 EMS calls, 808 (1.9%) were LA calls. There were 169 (20.9%) ED visits, 93 (11.5%) hospital admissions and 9 (1.1%) deaths within 14 days of a LA. Patient age  $> 61$  ( $p < 0.001$ ) and history of cardiac disease ( $p = 0.006$ ) significantly predicted ED visit, while patient age  $> 61$  ( $p = 0.001$ ) and an Ambulance Call Record (ACR) missing at least 1 vital sign ( $p = 0.017$ ) significantly predicted hospital admission. There was a 10% increase in risk of ED visit and hospital admission for every 10 year increase of age after the age of 61. Of the 96 patients with at least 1 missing vital sign, 14 (14.5%) were coded as patient refusals. The sample size was too small to determine predictors for mortality. **Conclusion:** Patients at risk for morbidity are older than 61 years of age and have co-existing cardiac disease. Patients who are greater than 61 years of age and had at least one missing vital sign on the ACR were more at risk for hospital admission.

**Keywords:** emergency medical services (EMS), falls, geriatrics

#### P081

##### Adaptation of DECISION +, a training program in shared decision making on the use of antibiotics for acute respiratory infections in primary care, to the context of emergency department: a mixed methods study

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**Introduction:** Antibiotic overuse for acute respiratory infections (ARIs) is a significant problem in Emergency Departments (EDs). DECISION+, a training program on shared decision making (SDM) and a decision aid for antibiotic use in ARIs, reduces patients’ use of antibiotics for ARIs in primary care, but has never been studied in the ED setting. The objectives of this study are to assess the intention of ED physicians to adopt SDM about antibiotic use in ARIs and to identify barriers and facilitators about adopting SDM and a decision aid for antibiotic use in ARIs. **Methods:** An adapted version of DECISION+ (1-hour seminar) was offered to physicians of two academic EDs (Quebec, Canada) in fall 2015. A validated questionnaire was administered to participants before and after the seminar. This questionnaire contains three items measuring the intention to adopt SDM using a 7-point Likert scale [ranging from 1 (very unlikely) to 7 (very likely)]. We performed descriptive analyses for demographic characteristics and a paired Wilcoxon signed-rank test to compare pre- and post-training intention to adopt SDM ( $\alpha = .05$ ). A debriefing session with the participants identified potential barriers and facilitators about implementing SDM and using a decision aid regarding antibiotic use for ARIs. Two researchers analysed the recorded audio material. **Results:** 41% (23/56) of eligible physicians received the intervention. 74% of participants had already heard of SDM and 40% felt they already used SDM in their practice. The median intention to adopt SDM was 6 (IQR 5-6) before and 6 (IQR 5-6) after the seminar ( $P = .23$ ). One participant did not answer the questionnaire after the seminar and his results were excluded from the comparative analysis. We identified 20 specific barriers to adopting SDM for deciding about antibiotics use for ARIs in the ED (e.g., lack of time) and 13 facilitators (e.g., public health campaign). **Conclusion:** ED physicians’ baseline intention to adopt SDM with patients for antibiotic use in ARIs is high. The adapted tutorial of DECISION+ did not change this intention. This could be explained by the social desirability of SDM. Further studies must be conducted to adapt DECISION+ to the ED setting and also to assess the impact of DECISION+ on the actual prescription and use of antibiotics for ARIs.