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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 de delirium in this population.

Keywords: delirium, regional anesthesia, hip fracture

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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 ± 0.3 vs 0.8 ± 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

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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. Secondly, 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