

C. Thompson, MSc, A. Sandre, BSc, S.L. McLeod, MSc, B. Borgundvaag, PhD, MD; Schwartz/Reisman Emergency Medicine Institute, Toronto, ON

**Introduction:** Delirium is an acute state of mental confusion that is a frequent complication in older adults with a hip fracture, and is often unrecognized by clinicians in the emergency department (ED). It is associated with prolonged hospitalization, functional decline, hospital readmission, and death. The Identification of Seniors At Risk (ISAR) and Confusion Assessment Method (CAM) are two standardized tools designed to facilitate prompt screening and detection of functional decline and delirium respectively amongst adults 65 and older. The objective of this study was to determine the ED usage and utility of ISAR and CAM assessment tools in identifying hip fracture patients at risk for developing delirium. **Methods:** This was a retrospective chart review of patients aged 65 and older, presenting to an academic ED (annual census 60,000) with a discharge diagnosis of hip fracture from January 1<sup>st</sup> 2014 to July 31<sup>st</sup> 2015. At this institution, both the ISAR and CAM are included in the standard ED nursing documentation and are intended to be completed for all patients over 65 years of age. **Results:** Of the 243 hip fracture cases included in this study, the ISAR and CAM scores were completed for 131 (53.9%) and 69 (28.4%) patients, respectively. There were 43 (17.7%) cases of recorded in-hospital acute delirium. Of the delirium cases, 20 (46.5%) had an ISAR assessment. Patients with an ISAR score of  $\geq 3$  were more likely to experience delirium compared to those with lower ISAR scores (28.3% vs 8.3%;  $\Delta$  20.0%, 95% CI: 6.6%, 34.9%). Of the 43 patients with delirium, 11 (25.6%) had a CAM score recorded. Patients with a positive CAM score (meeting 3 of 4 criteria in the diagnostic algorithm) were more likely to experience delirium compared to those with negative CAM scores (66.7% vs 11.1%;  $\Delta$  55.6%, 95% CI: 17.5%, 79.9%). **Conclusion:** Vigilant efforts are needed to ensure these screening tools are applied for all patients over the age of 65 presenting to the ED to improve the recognition and early management of delirium. Future research should focus on initiatives to improve delirium screening compliance by ED personnel.

**Keywords:** hip fracture, delirium, screening tools

#### LO055

##### Increased utilization of Bier block for pediatric forearm fracture reduction following simulation and web-based training

B. Burstein, MD, PhD, E. Fauteux-Lamarre, MD, A. Cheng, MD, D. Chalut, MD, A. Bretholz, MD; The Montreal Children's Hospital, Montreal, QC

**Introduction:** Bier block (BB) regional intravenous anesthesia is a safe and effective alternative to procedural sedation for analgesia during forearm fracture reductions, yet BB remains infrequently utilized in the Pediatric Emergency Department (PED). No standardized methods of BB training have previously been described. The objectives of this study were to evaluate comfort and level of experience with BB in the PED, and to determine if a multimodal instructional course increases these from baseline and translates to increased utilization of this technique. **Methods:** A novel interdisciplinary simulation and web-based training course was developed to teach the use of BB for forearm fracture reduction at a tertiary PED. Participants were surveyed pre/post training, and at 2- and 6-months regarding their comfort with and willingness to use BB. In parallel, we prospectively assessed the clinical utilization of BB in the PED during the 24-month period immediately following course completion. **Results:** Course participation included 38 members of the PED (N = 26 physicians, 12 nurses), and survey response rate

was 100% at all time points. Respondents reported that course participation increased both their comfort (10% pre vs. 89% post-training,  $p < 0.001$ ) and willingness (51% pre vs. 95% post-training,  $p < 0.001$ ) to use BB for forearm fracture reduction, an effect that was sustained at 6-months following course completion (66% and 92%, respectively,  $p < 0.001$  for both). Before course attendance, only 6% of respondents indicated that they had ever used BB in a PED setting, and all participants indicated that the course addressed their learning objectives. In clinical practice, there were no BB performed prior to course administration. We observed a consistent and sustained increase in the clinical utilization of BB, with 39% of all PED forearm reductions performed using BB at 24-months post-course completion (114 BB, 17 unique physicians). **Conclusion:** A combined simulation and web-based training course increased comfort and willingness to use BB and was associated with increased utilization of this technique for forearm fracture reduction in the PED.

**Keywords:** intravenous regional anesthesia, procedural sedation

#### LO056

##### Perceptions and provision of analgesia for acutely painful conditions in children: a multi-centre prospective survey of caregivers

D. Wonnacott, MD, C. Poonai, BSc, B. Wright, MD, S. Ali, MD, C. Bhat, BSc, S. Todorovich, BSc, A. Mishra, K. Canton, BSc, M. Rajagopal, MSc, G.C. Thompson, MD, A.S. Stang, MD, MBA, MSc, N. Poonai, MSc, MD; Division of Emergency Medicine, Departments of Medicine and Paediatrics, London Health Sciences Centre, Western University, London, ON

**Introduction:** The suboptimal management of children's pain in the emergency department (ED) is well described. Although surveys of physicians show improvements in providing analgesia, institutional audits suggest otherwise. One reason may be patient refusal. Our objectives were to determine the proportion of caregivers that offered analgesia prior to arrival to the ED, accept analgesia in the ED, and identify reasons for withholding analgesia. Our results will inform knowledge translation initiatives to improve analgesic provision to children. **Methods:** A novel survey was designed to test the hypothesis that a large proportion of caregivers withhold and refuse analgesia. Over a 16-week period across two Canadian paediatric EDs, we surveyed caregivers of children aged 4-17 years with an acutely painful condition (headache, otalgia, sore throat, abdominal pain, or musculoskeletal injury). The primary outcome was the proportion of caregivers who offered analgesia up to 24 hours prior to ED arrival and accepted analgesia in the ED. **Results:** The response rate was 568/707 (80.3%). The majority of caregivers were female (426/568, 75%), aged 36 years or older (434/568, 76.4%), and had a post-secondary education (448/561, 79.9%). Their children included 320 males and 248 females with a mean age of 10.6 years. Most (514/564, 91.1%) reported being "able to tell when their child was in pain". On average, children rated their maximal pain at 7.4/10. A total of 382/561 (68.1%) caregivers did not offer any form of analgesia prior to arrival. Common reasons included lack of time (124/561, 22.1%), fear of masking signs and symptoms (74/561, 13.2%) or the seriousness of their child's condition (72/561, 12.8%), and lack of analgesia at home (71/561, 12.7%). Analgesia was offered to 328/560 (58.6%) children in the ED and 283/328 (72.6%) caregivers accepted. The most common reason for not accepting analgesia was child refusal (20/45, 44.4%). **Conclusion:** Most caregivers do not offer analgesia to their child prior to arriving in the ED despite high levels of pain and an awareness of it. Despite high rates of acceptance of analgesia in the ED, misconceptions are common.