addiction (OR 1.12, 95% CI 1.01-1.25) and side effects (OR 1.25, 95% CI 1.11-1.42) increased the odds of rejecting opioids in the emergency department, while fears of addiction (OR 1.19, 95% CI 1.07-1.32) and overdose (OR 1.15, 95% CI 1.04-1.27) increased the odds of rejecting opioids for at-home use. **Conclusion**: Only half of caregivers reported that they would accept opioids for moderate pain, despite ongoing pain following non-opioid analgesics. Caregiver fears of addiction, side effects, overdose, and masking their child's diagnosis influence their behaviours. These findings are a first step in understanding caregiver decision-making and can guide healthcare providers in their conversations about acute pain treatment with families.
Keywords: opioid, pain, pediatric

LO33

External cold and vibration for pain management of children undergoing needle-related procedures in the emergency department: a randomized controlled non-inferiority trial

A. Ballard, BSc, C. Khadra, S. Adler, E. Parent, E. D. Trottier, MD, B. Bailey, MD, N. Poonai, MD, MSc, S. Le May, PhD, Université de Montréal, Montréal, QC

Introduction: Needle-related procedures are considered the most important source of pain and distress in children in hospital settings. Time constraints, heavy workload, busy and noisy environment represent barriers to the use of available interventions for pain management during needle-related procedures. Therefore, the use of a rapid, easy-to-use intervention could improve procedural pain management practices. The objective was to determine if a device combining cold and vibration (Buzzy) is non-inferior (no worse) to a topical anesthetic (Maxilene) for pain management in children undergoing needle-related procedures in the Emergency Department (ED). **Methods**: This study was a randomized, controlled, non-inferiority trial. We enrolled children aged between 4-17 years presenting to the ED and requiring a needle-related procedure. Participants were randomly assigned to the Buzzy or Maxilene group. The primary outcome was the mean difference in pain intensity during the procedure, as measured with the CAS (0-10). Secondary outcomes were procedural distress, success of the procedure at first-attempt and satisfaction of parents. **Results**: A total of 352 participants were enrolled and 346 were randomized (Buzzy = 172; Maxilene = 174). Mean difference in procedural pain scores between groups was 0.64 (95%CI -0.1 to 1.3), showing that the Buzzy device was not non-inferior to Maxilene according to a non-inferiority margin of 0.70. No significant differences were observed for procedural distress (p = .370) and success of the procedure at first attempt (p = .602). Parents of both groups were very satisfied with both interventions (Buzzy = 7.8 ±2.66; Maxilene = 8.1 ±2.4), but there was no significant difference between groups (p = .236). **Conclusion**: Non-inferiority of the Buzzy device over a topical anesthetic was not demonstrated for pain management of children during a needle-related procedure in the ED. However, considering that topical anesthetics are underused in the ED setting and require time, the Buzzy device seems to be a promising alternative as it is a rapid, low-cost, easy-to-use and reusable intervention.
Keywords: emergency department, pain management, pediatrics

LO34

Predictors of intravenous rehydration in children with acute gastroenteritis in the United States and Canada

N. Poonai, MD, MSc, E. Powell, MD, D. Schnadower, MD, MPH, T. Casper, PhD, C. Roskind, MD, C. Olsen, MSc, P. Tarr, MD, P. Mahajan, MD, MPH, A. Rogers, MD, S. Schuh, MD, K. Hurley, MD, S. Gouin, MDCM, C. Vance, MD, K. Farion, MD, R. Sapien, MD, K. O'Connell, MD, A. Levine, MD, S. Bhatt, MD, S. Freedman, MDCM, MSc, on behalf of Pediatric Emergency Research Canada (PERC) and Pediatric Emergency Care Applied Research Network (PECARN), Western University, London, ON

Introduction: Although oral rehydration therapy is recommended for children with acute gastroenteritis (AGE) with none to some dehydration, intravenous (IV) rehydration is still commonly administered to these children in high-income countries. IV rehydration is associated with pain, anxiety, and emergency department (ED) revisits in children with AGE. A better understanding of the factors associated with IV rehydration is needed to inform knowledge translation strategies. **Methods**: This was a planned secondary analysis of the Pediatric Emergency Research Canada (PERC) and Pediatric Emergency Care Applied Research Network (PECARN) randomized, controlled trials of oral probiotics in children with AGE-associated diarrhea. Eligible children were aged 3-48 months and reported > 3 watery stools in a 24-hour period. The primary outcome was administration of IV rehydration at the index ED visit. We used mixed-effects logistic regression model to explore univariable and multivariable relationships between IV rehydration and a priori risk factors. **Results**: From the parent study sample of 1848 participants, 1846 had data available for analysis: mean (SD) age of 19.1 ± 11.4 months, 45.4% females. 70.2% (1292/1840) vomited within 24 hours of the index ED visit and 34.1% (629/1846) received ondansetron in the ED. 13.0% (240/1846) were administered IV rehydration at the index ED visit, and 3.6% (67/1842) were hospitalized. Multivariable predictors of IV rehydration were Clinical Dehydration Scale (CDS) score [compared to none: mild to moderate (OR: 8.1, CI: 5.5-11.8); severe (OR: 45.9, 95% CI: 20.1-104.7), P < 0.001], ondansetron in the ED (OR: 1.8, CI: 1.2-2.6, P = 0.003), previous healthcare visit for the same illness [compared to no prior visit: prior visit with no IV (OR: 1.9, 95% CI: 1.3-2.9); prior visit with IV (OR: 10.5, 95% CI: 3.2-34.8), P < 0.001], and country [compared to Canada: US (OR: 4.1, CI: 2.3-7.4, P < 0.001]. Significantly more participants returned to the ED with symptoms of AGE within 3 days if IV fluids were administered at the index visit [30/224 (13.4%) versus 88/1453 (6.1%), P < 0.001]. **Conclusion**: Higher CDS scores, antiemetic use, previous healthcare visits and country were independent predictors of IV rehydration which was also associated with increased ED revisits. Knowledge translation focused on optimizing the use of antiemetics (i.e. for those with dehydration) and reducing the geographic variation in IV rehydration use may improve the ED experience and reduce ED-revisits.
Keywords: gastroenteritis, intravenous, paediatric

LO35

Characterizing pain in children with acute gastroenteritis presenting to the emergency department

S. Ali, MDCM, C. Maki, BN, J. Xie, MD, MPH, B. Lee, MD, T. Graham, MD, MSc, O. Vanderkooi, MD, S. MacDonald, BN, PhD, N. Poonai, MD, MSc, J. Thull-Freedman, MD, M. Rajagopal, MSc, N. Dow, BA, BN, M. Sivakumar, BN, S. Freedman, MDCM, MSc, Alberta Provincial Pediatric EnTeric Infection TEam (APPETITE), Pediatric Emergency Research Canada (PERC), University of Alberta, Edmonton, AB

Introduction: Although acute gastroenteritis is an extremely common childhood illness, there is a paucity of literature characterizing

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the associated pain and its management. Our primary objective was to quantify the pain experienced by children with acute gastroenteritis in the 24-hours prior to emergency department (ED) presentation. Secondary objectives included describing maximum pain, analgesic use, discharge recommendations, and factors that influenced analgesic use in the ED. **Methods**: Study participants were recruited into this prospective cohort study by the Alberta Provincial Pediatric EnTeric Infection TEam between January 2014 and September 2017. This study was conducted at two Canadian pediatric EDs; the Alberta Children's Hospital (Calgary) and the Stollery Children's Hospital (Edmonton). Eligibility criteria included < 18 years of age, acute gastroenteritis (□ 3 episodes of diarrhea or vomiting in the previous 24 hours), and symptom duration □ 7 days. The primary study outcome, caregiver-reported maximum pain in the 24-hours prior to presentation, was assessed using the 11-point Verbal Numerical Rating Scale. **Results**: We recruited 2136 patients, median age 20.8 months (IQR 10.4, 47.4); 45.8% (979/2136) female. In the 24-hours prior to enrolment, 28.6% (610/2136) of caregivers reported that their child experienced moderate (4-6) and 46.2% (986/2136) severe (7-10) pain in the preceding 24-hours. During the emergency visit, 31.1% (664/2136) described pain as moderate and 26.7% (571/2136) as severe. In the ED, analgesia was provided to 21.2% (452/2131) of children. The most commonly administered analgesics in the ED were ibuprofen (68.1%, 308/452) and acetaminophen (43.4%, 196/452); at home, acetaminophen was most commonly administered (77.7%, 700/901), followed by ibuprofen (37.5%, 338/901). Factors associated with analgesia use in the ED were greater pain scores during the visit, having a primary-care physician, shorter illness duration, fewer diarrheal episodes, presence of fever and hospitalization. **Conclusion**: Although children presenting to the ED with acute gastroenteritis experience moderate to severe pain, both prior to and during their emergency visit, analgesic use is limited. Future research should focus on appropriate pain management through the development of effective and safe pain treatment plans.

Keywords: gastroenteritis, pain, pediatrics

LO36

Hyoscine butylbromide (Buscopan) for abdominal pain in children: a randomized controlled trial

N. Poonai, MD, MSc, S. Elsie, BSc, K. Kumar, BSc, K. Coriolano, PhD, S. Brahmbhatt, BSc, E. Dzongkowski, BSc, H. Stevens, BSc, P. Gupta, BSc, M. Miller, PhD, D. Ashok, MD, G. Joubert, MD, A. Butter, MD, S. Ali, MDCM, Western University, London, ON

Introduction: Abdominal pain is one of the most frequent reasons for an emergency department (ED) visit. Most cases are functional and no therapy has proven effective. Our objective was to determine if hyoscine butylbromide (HBB) (BuscopanTM) is effective for children who present to the ED with functional abdominal pain. **Methods**: We conducted a randomized, blinded, superiority trial comparing HBB 10 mg plus acetaminophen placebo to oral acetaminophen 15 mg/kg (max 975 mg) plus HBB placebo using a double-dummy approach. We included children 8-17 years presenting to the ED at London Health Sciences Centre with colicky abdominal pain rated >40 mm on a 100 mm visual analog scale (VAS). The primary outcome was VAS pain score at 80 minutes post-administration. Secondary outcomes included adverse effects; caregiver satisfaction with pain management using a five-item Likert scale; recidivism and missed surgical diagnoses within 24-hours of discharge. Analysis was based on intention to treat. **Results**: We analyzed 225 participants (112 acetaminophen; 113 HBB). The mean (SD) age was 12.4 (3.0) years and 148/225 (65.8%) were females. Prior to enrollment, the median (IQR) duration of pain prior was 2 (4.5) hours and analgesia was provided to 101/225 (44.9%) of participants. The mean (SD) pre-intervention pain scores in the acetaminophen and HBB groups were 62.7 (15.9) mm and 60.3 (17.3) mm, respectively. At 80 minutes, the mean (SD) pain scores in the acetaminophen and HBB groups were 30.1 (28.8) mm and 29.4 (26.4) mm, respectively and there were no significant differences adjusting for pre-intervention scores ($p = 0.96$). The median (IQR) caregiver satisfaction was high in the acetaminophen [5 (2)] and HBB [5 (1)] groups ($p = 0.79$). The median (IQR) length of stay between acetaminophen [235 (101)] and HBB [234 (103)] was not significantly different ($p = 0.53$). The proportion of participants with a return visit for abdominal pain was 4/112 (3.5%) in the acetaminophen group and 6/113 (5.3%) in the HBB group. The most common adverse effect was nausea (9% in each group) and there were no significant differences in adverse effects between acetaminophen (26/112, 23.2%) and HBB (31/113, 27.4%) ($p = 0.52$). There were no missed surgical diagnoses. **Conclusion**: For children with presumed functional abdominal pain who present to the ED, both acetaminophen and HBB produce a clinically important (VAS < 30 mm) reduction in pain and should be routinely considered in this clinical setting.

Keywords: abdominal pain, Buscopan, paediatric

LO37

Prevalence of cigarette smoking amongst adult emergency department patients

A. Tolmie, BSc, R. Erker, BN, MN, T. Oyedokun, MBChB, E. Sullivan, MD, T. Graham, BA, MSc, PhD, J. Stempien, BSc, MD, University of Saskatchewan, Saskatoon, SK

Introduction: Tobacco smoking is a priority public health concern, and a leading cause of death and disability globally. While the smoking prevalence in Canada is approximately 13-18%, the proportion of smokers among emergency department (ED) patients has been found to be significantly higher. This disparity primes the emergency department as a critical environment to provide smoking cessation counselling and support. **Methods**: A verbal questionnaire was administered to adult patients (18+) presenting to Royal University, Saskatoon City, and St. Paul's Hospital ED's. Patients were excluded if they were underage, too ill, or physically/mentally unable to complete the questionnaire independently. Patients' smoking habits were also correlated with Fagerstrom tobacco dependence scores, chief complaints, Canadian Triage Acuity Scale (CTAS) scores, and willingness to partake in ED specific cessation counselling. Data were analyzed using IBM SPSS software to determine smoking prevalence and compared to Statistics Canada data using chi-square tests. **Results**: In total, 1190 eligible patients were approached, and 1078 completed the questionnaire. Adult Saskatoon ED patients demonstrated a cigarette smoking prevalence of 19.6%, which is significantly higher than the general adult Saskatchewan public at 15.1% ($p < 0.0001$). Comparing smoking and non-smoking cohorts, there are no significant differences in CTAS scores ($p = 0.60$). Of the proposed cessation interventions, ED cessation counselling was most popular among patients (62.4%), followed by receiving a pamphlet (56.2%), and being contacted by a smokers' quit line (49.5%). Out of the smoking cohort, 51.4% indicated they want to quit smoking, and would be willing to partake in ED-specific cessation counselling, if available. Additionally, 88.1% of current smokers started smoking when they were less than 19

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