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**Introduction / Innovation Concept:** Musculoskeletal medicine (MSKM) complaints account for a significant portion of emergency room visits. Furthermore, MSKM diagnostic and management skills are poorly taught in undergraduate medicine and emergency medicine (EM). Here, we successfully developed an MSKM curriculum resulting in objectively improved resident acumen. **Methods:** Curriculum development was achieved by surveying local EM residents on their perceived MSKM deficits, and effective MSK teaching strategies. A literature search was also completed identifying MSKM teaching shortcomings. Finally, orthopaedic surgeons were asked which clinical entities they thought should be emphasized in our curriculum. **Curriculum, Tool, or Material:** A case-based MSKM curriculum was created. Cases emphasized commonly occurring emergency department presentations, topics that EM practitioners self-identified as requiring further teaching, commonly missed problems at first presentation, and high-risk cases if mismanaged. Curriculum implementation consisted of three, half-day, workshops. Workshops included didactic lectures, MSKM physical exam practice, and MSKM cases. MSKM cases required resident history taking and physical exam practice, radiography interpretation, and management plan formulation. Objective assessments of resident MSKM knowledge and skill were given to the learners before and after the workshops. Survey questions were grouped into 3 categories: MSK assessment, investigation, and management. Questions were scored on a 5-point Likert scale, ranging from “not at all confident” to “very confident”. A Wilcoxon Signed Rank Test indicated statistically significant improvement in learner confidence within all three domains after the first workshop (n = 19 learners; assessment: p < 0.001, investigation: p < 0.001, management: p < 0.001), and after the second workshop (n = 24 learners; assessment: p < 0.001, investigation: p < 0.001, management: p < 0.001). **Conclusion:** We successfully incorporated MSKM teaching into our academic curriculum based on previously identified weaknesses, resulting in improved resident MSKM case management. Further MSKM teaching sessions and evaluations to facilitate knowledge and skill maintenance are currently under development. **Keywords:** innovations in EM education, curriculum, medical education

#### P044

**HEADSTRONG: helmet education, advocacy, distribution & social media trial to reduce obstacles & nudge group behaviour**  
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**Introduction:** Head injury is a major cause of bicycling-related disability and death, and more likely to occur in unhelmeted riders. Legislation regarding helmet use varies by province. In Ontario, helmet use is not mandatory for cyclists  $\geq$  age 18, and approximately 50 % of adult cyclists do not routinely wear helmets. Non-legislative approaches to increase helmet use have included education, public health campaigns, and helmet giveaways, but sustained effect is typically limited. The goal of the HEADSTRONG Behaviour Study is to identify injured adult cyclists who do not regularly wear helmets, and effect *sustained* helmet use. The strategy incorporates evidence-based elements of health behaviour change, including: reducing barriers, education and modelling, providing necessary materials, and social support. **Methods:** Prospective cohort study in downtown Toronto teaching hospital, launched Nov 2015. ED clinician (EP or NP) will recruit injured cyclists (consecutive, convenience sample) who report not regularly wearing a helmet nor owning a suitable one. Study endpoint: 100 enrolled (to estimate prevalence of usage of  $\pm$  10%, alpha 0.05, power > 90%, assuming 80% study completion and 50 %

helmet wearing at 12 months). Exclusion criteria: unable to consent, admitted to hospital, age < 18. Each element of the HEADSTRONG Behaviour Strategy is intended to facilitate patient adoption and maintenance of the desired behaviour, including: 1) enrolment/education by research associate while still in the ED; 2) provision and fitting of a free bicycle helmet; 3) social contract commitment and tailored reminders to document ongoing helmet use: participant agrees to respond to brief electronic survey follow-ups at two weeks, two months, six months, and twelve months; 4) social media engagement with participation in the HEADSTRONG Twitter group, which engages other enrollees and cycling advocacy groups; 5) peer nomination: the participant who is complying with the social contract is encouraged to nominate an uninjured non helmet-wearing colleague to enrol in the study. **Results:** Primary outcomes include: recruitment rate, enrolment, and sustained participation through follow-up period. Secondary outcomes include age, gender and social demographics of helmet recipients, and participation of peers. **Conclusion:** Discussion of strategy and interim results at six month interval will be presented at CAEP.

**Keywords:** injury prevention, bicycling, helmets

#### P045

**What do we know about pediatric palliative care patients who consult the emergency department?**

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**Introduction:** There is very little data about pediatric palliative care (PPC) patients' visits to the emergency department (ED). This study's goal was to determine the characteristics of PPC patients who consult the ED. **Methods:** A five-year retrospective chart review, conducted at a tertiary care pediatric university-affiliated hospital. Eligible patients initially consulted with the PPC team between April 1<sup>st</sup> 2007 and March 31<sup>st</sup> 2012. For each eligible patient, ED visits between these dates were included, using the ED's electronic data system. Data about each visit was drawn from the electronic data system and the patient's medical chart. This study was IRB approved. **Results:** During the study period, 290 new patients were followed by the PPC team; of these, 94 (32.4%) consulted the ED at least once (total of 219 visits). The median number of visits per patient was 2 (range: 1-8). Patient median age was 7 years 5 months (range: 1 month-22 years) and most common baseline diagnoses were: oncological diagnosis (39.4%), encephalopathy (27.7%) or genetic/chromosomal anomaly (13.8%). No patients died in the ED, but 36 (38.3%) died during the episode of care following one of their ED visits and 18 (19.1%) of them died within 72h of admission. PPC patients presented to the ED 219 times acutely ill: 11.4% of visits were triaged CTAS (Canadian Triage and Acuity Scale) level 1, 39.3% CTAS 2, 39.3% CTAS 3 and 10% CTAS 4 or 5. Many patients (37.9%) arrived by ambulance, 24.2% were admitted to the resuscitation room. Most patients consulted during day (45.2%) or evening (41.1%) shifts. Median length of stay was 3h50min (range: 13min - 15h10min). Reasons for consultation were respiratory distress/dyspnea (30.6%), pain (12.8%), seizure (11.4%), fever (9.1%), gastrointestinal symptoms (8.2%), fatigue (7.3%) and technical issues with catheters (5.9%). Most (79%) patients had investigations in the ED; 61.2% were admitted to wards, 7.3% to the PICU, and 20.5% were discharged. Two-thirds of patients (65.7%) had previously signed an advanced care directive at the time of their ED visit; discussions about goals of care were present in 37.4% of medical charts. **Conclusion:** Most PPC patients presented to the ED acutely ill, requiring work-up and admission. One-third presented in their end of life. Understanding the characteristics of PPC patients who consult the ED is the first step in offering better care for these complex patients.