

transitions (90/247), and were completed most often by staff in the LTC (57/90, 63%). Survey results indicated that ED and EMS staff felt the information on the form was useful to them, although they rarely completed their sections of the form. Implementation challenges included low awareness/recognition of the form among healthcare providers, belief that the form distracted from patient care, lack of time for form completion, negative reinforcement for LTC staff (who saw little return for the time they invested in completing the form), and mistrust among clinicians who work in different settings. **Conclusion:** Future efforts to improve healthcare communications must be acceptable for all clinicians. Innovation should balance the workload required among sites/clinicians and the benefits that the intervention offers to sites/clinicians should be explicitly tracked and reported. For this intervention, more effort should be made to inform LTC sites that the transfer information they provide is useful for EMS and ED clinicians. Moreover, gaps in perspectives and lack of trust among clinicians who work in different settings must be recognized and addressed in any multi-site communication intervention.

Keywords: handover, communication, seniors

MP18

A patient focused information design intervention to support the mTBI Choosing Wisely recommendation

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Introduction: Within Alberta, 30% of patients presenting to emergency with minor traumatic brain injury (mTBI) will receive a CT scan before being sent home, regardless of whether it was clinically indicated. Choosing Wisely (CW) Canada recommends using validated clinical decision support to determine whether a CT scan is necessary for patients presenting with a mTBI. In order to provide patients with information on the risks and benefits of CT scans in mTBI and to encourage discussions between patients and their doctor, the Emergency Strategic Clinical Network (ESCN) designed a patient focused information visualization on CT scans for head injuries. **Methods:** The ESCN, Physician Learning Program and CW Alberta partnered with the Mount Royal University Department of Information Design to develop a patient information visualization (infographic) intervention. Students spent a semester developing these infographics on Choosing Wisely recommendations, which were then presented to stakeholders. A student was then selected to develop a final design. Refinement of the design took place in consultation with clinical experts and tested in two patient focus groups. The final design was evaluated against the International Patient Decision Aid Standards checklist. The infographic was posted in 2 local emergency department waiting rooms. A survey was administered to any patients in the waiting room when volunteers were available. The survey was designed to evaluate whether the tool influenced patient beliefs about the risks and benefits of CT scans, and their willingness to engage in a discussion with their doctor. **Results:** In a 26 day period, 90 patients consented and completed the survey. Before reading the infographic, 33% of patients thought that after a head injury a CT was always a good idea and 63% thought it was sometimes a good idea. 82% and 91% of patients stated the poster helped them understand the indications and risks of CT imaging for mTBI. After viewing the poster, only 15% of patients felt that a CT was always a good idea after a mTBI. **Conclusion:** The mTBI patient infographic significantly changed patient perceptions regarding the need for CT scans in the setting of mTBI. This study demonstrates that targeted patient education materials can help support CW recommendations.

Keywords: Choosing Wisely, head injury, patient education

MP19

Comparison of the psychometric properties of the VAS, FPS-R and CAS in the pediatric emergency department

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Introduction: Appropriate pain management relies on the use of valid, reliable and age-appropriate tools that are validated in the setting in which they are intended to be used. The aim of the study was to assess the psychometric properties of pain scales commonly used in children presenting to the pediatric emergency department (PED) with an acute musculoskeletal injury. **Methods:** Convergent validity was assessed by determining the Spearman's correlations and the agreement using the Bland-Altman method between the Visual Analogue Scale (VAS), Faces Pain Scale-Revised (FPS-R) and Color Analogue Scale (CAS). Responsiveness to change was determined by performing the Wilcoxon signed-rank test between the pre-post analgesia mean scores. Reliability of the scales was estimated using relative (Spearman's correlation, Intraclass Correlation Coefficient) and absolute indices (Coefficient of Reliability). **Results:** A total of 495 participants was included in the analyses. Mean age was 11.9 ± 2.7 years and participants were mainly boys (55.3%). Correlation between each pair of scales was 0.79 (VAS/FPS-R), 0.92 (VAS/CAS) and 0.81 (CAS/FPS-R). Limits of agreement (80%CI) were -2.71 to 1.27 (VAS/FPS-R), -1.13 to 1.15 (VAS/CAS) and -1.45 to 2.61 (CAS/FPS-R). Responsiveness to change was demonstrated by significant differences in mean pain scores, among the three scales, between pre- and post-medication administration ($p < 0.0001$). ICC and CR estimates suggested acceptable reliability for the three scales at 0.79 and ± 1.49 for VAS, 0.82 and ± 1.35 for CAS, and 0.76 and ± 1.84 for FPS-R. **Conclusion:** The scales demonstrated good psychometric properties with a large sample of children with acute pain in the PED. The VAS and CAS showed a stronger convergent validity, while FPS-R was not in agreement with the other scales. Clinically, VAS and CAS scales can be used interchangeably to assess pain intensity of children with acute pain.

Keywords: pain, pediatrics, pain intensity scale

MP20

Prevalence of incidental findings on chest computed tomography in patients with suspected pulmonary embolism in the ED

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Introduction: Computed tomographic pulmonary angiograms (CTPAs) are often ordered to evaluate pulmonary embolism (PE) in the emergency department (ED). However, these studies often yield alternative diagnoses and report incidental findings that lead to additional unnecessary investigations. Our objective was to assess the prevalence and significance of such findings and their implications in patient management. **Methods:** This is a retrospective cohort study of adults presenting to two tertiary care EDs in 2015, being evaluated with CTPA for PE. Data was extracted by two reviewers from electronic CT records with inter-rater reliability reported using kappa statistic. We measured prevalence of PE, incidental findings and alternative diagnoses with data reported as mean and standard deviation (SD). Univariate analyses were performed with t-test for continuous variables and Mantel-Haenszel test for categorical variables. A sample size of 770 was calculated based on an expected difference in prevalence between significant and

non-significant incidental findings of 80% ($\alpha = 5\%$, Power = 90%). **Results:** A total of 1629 studies were included (mean 62 yrs, SD 16.7, 56.9% female, median CTAS score 2, 45.2% admitted). PE was found in 233 (14.3%) patients. 173 (10.6%) studies had a finding of an alternative diagnosis, the majority being pulmonary infiltrates ($n = 130$, 75.1%). In patients who underwent both CTPA and chest x-ray (CXR), CXRs alone would have led to the same alternative diagnosis in 116 (77.1%) patients. A total of 223 (13.6%) patients had an incidental finding; the majority included pulmonary nodules ($n = 83$, 37.2%) and adenopathy ($n = 26$, 11.6%). Only 26 (17.1%) incidental findings were significant; most common included pulmonary nodules ($n = 6$, 3.9%) and masses ($n = 7$, 4.6%) that lead to newly identified and biopsied lung cancer diagnoses. Incidental findings led to an additional 301 follow-up CTs with a yield of significant result of 9.2% ($n = 48$ CTs). **Conclusion:** Chest CTs ordered in the ED for clinical suspicion of PE is equally as likely to identify alternative diagnoses or incidental findings as PE. The majority of incidental findings are non-significant and result in an increased use of CT. CXRs should routinely be ordered prior to further investigation for PE with chest CT to reduce unnecessary testing and thus time and cost to the system.

Keywords: pulmonary embolism, chest computed tomography, incidental findings

MP21

An interprofessional delirium assessment tool for healthcare professionals and trainees working in the emergency department

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Introduction: Multiple studies since the '90's demonstrate that ED staff fail to identify delirium in up to 75% of older patients. Those patients who are discharged have a 3-fold increased mortality. **Methods:** We iteratively developed a 14-item interprofessional tool with 4 clinical vignettes to assess comfort, knowledge and ability to identify delirium among medical students, EM residents, staff MDs and RNs. We conducted a prospective observational study using modified Dillman survey methodology. Surveys were sent on paper to residents and nurses and online to medical students and staff MDs. **Results:** Our response rate was 68% (38/56) for residents, 80%(16/20) for RNs; but only 37% (13/35) for staff MDs and 13%(139/1036) for medical students. Comfort with identifying delirium increased with level of medical training; 38/139(27%) 1st-4th year medical students (MS1-MS4); 25/38(66%) 1st-5th year residents (R1-R5); and 12/13(92%) staff physicians reported being comfortable ($\chi^2 = 34.7$, $df = 2$, $p < 0.001$). MS1-MS2 were the least comfortable, with only 5/82(6%) reporting comfort, increasing to 33/57(58%) among MS3-MS4 ($\chi^2 = 44.9$, $df = 1$, $p < 0.001$). A greater proportion of R4-R5 who completed a geriatric emergency medicine (Geri-EM) curriculum reported comfort, 11/12(92%) compared to 14/26 (54%) of R1-R3 ($\chi^2 = 19.2$, $df = 1$, $p < 0.05$). Only 5/16(31%) nurses reported being comfortable with identifying delirium. Ability to identify all 4 clinical vignettes correctly was higher among MS3-MS4 than MS1-MS2 (32/57(56%) vs. 30/82(37%), $\chi^2 = 5.2$, $df = 1$, $p < 0.05$). There was no difference between respondents from different levels of medical training (62/139(45%) MS1-MS4, 21/38(55%) R1-R5 and 6/13(46%) staff MDs, $\chi^2 = 1.4$, $df = 2$ $p = 0.52$). There was no effect of Geri-EM completion on perfect vignette scores (6/12(50%) R4-R5 vs. 15/26(58%) R1-R3, $\chi^2 = 0.20$, $df = 1$, $p = 0.66$). There was a trend towards a lower proportion of nurses who identified all 4 clinical vignettes correctly compared to physicians (4/16(25%) vs. 27/51(53%), $\chi^2 = 3.82$, $df = 1$, $p = 0.051$). **Conclusion:** Our tool may be useful for assessing comfort and knowledge

of delirium among ED physicians and nurses. Completion of the Geri-EM curriculum was associated with increased comfort with detecting delirium but not knowledge. Future studies should assess current ED delirium comfort and knowledge at different levels of training; between professions and examine differences nationwide.

Keywords: delirium, survey, education

MP22

The impact of collaborative social media promotion on the dissemination of CJEM articles

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Introduction: The *CJEM* Social Media Team was created in 2014 to assist the journal with the dissemination of its research online. It consists of two Social Media Editors (Junior and Senior) and a team of volunteer medical students and residents to assist their work. Collaborative promotional agreements were developed to promote *CJEM* articles on the Skeptics' Guide to Emergency Medicine (SGEM) podcast through the 'Hot off the Press' (HOP) series and the CanadiEM blog through an infographic series. **Methods:** *CJEM* papers were selected for promotion by the Team based on their perceived interest to the online community of emergency physicians. Altmetric scores, which are a measure of online dissemination derived from a weighted algorithm of social media metrics, were collated for articles promoted using the SGEM HOP or CanadiEM blogs. A control group was created using the articles with the top two Altmetric scores in each *CJEM* issue in 2015 and 2016. Erratum, Letters, and articles written by the social media editors were excluded from the control groups. The success of the social media promotion was quantified through the measurement of Altmetric scores as of January 1, 2017. Unpaired two-tailed *t*-tests with unequal variance were used to test for significant differences. **Results:** 106 and 82 eligible articles were published in 2015 and 2016, respectively. Four articles in 2015 and two articles in 2016 were excluded from the control groups because they were written by the social media editors. SGEM HOP podcasts promoted one article in 2015 and five articles in 2016. CanadiEM infographics promoted three articles in 2015 and eight articles in 2016. No articles were promoted in both series. The average Altmetric score was higher for SGEM HOP (61.0) than CanadiEM Infographics (31.5, $p < 0.04$), 2015 controls (15.8, $p < 0.01$), and 2016 controls (13.6, $p < 0.01$). The average Altmetric score for CanadiEM Infographics was higher than 2015 controls ($p < 0.04$) and 2016 controls ($p < 0.02$). There was no significant difference between the control groups. **Conclusion:** The results suggest that collaborating with established social media websites to promote *CJEM* articles using podcasts and infographics increases their social media dissemination. Given the nonrandomized design of these results, causative conclusions cannot be drawn. A randomized study of the impact of social media promotion on readership is underway.

Keywords: social media, podcasts, infographics

MP23

The yield of computed tomography of the head in patients presenting with syncope: a systematic review

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Introduction: Syncope accounts for 1-3% of Emergency Department (ED) visits. Previous studies have reported overuse of computed