**Introduction**: The number of CT scans prescribed in the Emergency department (ED) for suspected renal colic has increased over recent years without an associated improvement in patient-centred outcomes. We assessed whether Point-of-Care Ultrasound (PoCUS) decreases the use of formal radiologic imaging. **Methods**: We completed a retrospective cohort study on consecutive patients 18 years of age and older presenting to the ED with suspected uncomplicated renal colic in a tertiary care centre in Québec in 2016. Exclusion criteria included: previous urologic intervention, solitary kidney, dialysis, fever, pyuria, acute kidney injury, pregnancy, suspicion of a serious alternative diagnosis or persistent symptoms despite analgesia. We compared the proportion (95%CI) of formal radiologic imaging performed (Ultrasound or CT) in patients who had PoCUS in the ED vs. those who did not. Two-tailed Fisher exact test ($\alpha = 0.05$) and odds ratios (95%CI) calculated from multivariate logistic regression models adjusted for age, gender, Charlson Index and previous renal colic were used to compare the two groups. The reliability of data collection was evaluated with a kappa score (95%CI). **Results**: 169 patients with uncomplicated renal colic were included. There was no difference between the groups in terms of age, gender, Charlson Index, or previous renal colic. The PoCUS level of training and the doctor's education level was significantly higher in the PoCUS group. There was a non-significant trend towards less formal imaging in patients of the PoCUS group 65/88 (73.9% [63.4-82.7%]) vs. the non-PoCUS group 69/81 (85.2% [75.6-92.1%]), p = 0.087. After adjustment for confounders, the patients not evaluated with PoCUS were more likely to have formal imaging with a significant odds ratio of 2.41 [1.05-5.56]). Among patients who underwent a CT, incidentalomas were found in 16.5% and only 2.0% demonstrated significant findings leading to changes in ED management, such as an alternative diagnosis, need for admission, or an urgent urological intervention. Inter-observer agreement was excellent between assessers with a kappa score of 0.88 [0.66-1.00]. **Conclusion**: ED patients with uncomplicated renal colic who are investigated with PoCUS tend to have fewer formal imaging test. When CT scans were performed, incidentalomas were found in 16.5% and ED management changed only 2.0% of the time. PoCUS appears to be a useful tool for decreasing CT utilisation in this low-risk ED population.

**Keywords:** computed tomography, point-of-care ultrasound (PoCUS), renal colic

## LO70

### Functional & cognitive decline in older delirious adults after an emergency department visit

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**Introduction**: While negative consequences of incident delirium on functional and cognitive decline have been widely studied, very limited data is available regarding functional and cognitive outcomes in Emergency Department (ED) patients. The aim of this study was therefore to evaluate the impact of ED stay-associated delirium on older patient's functional and cognitive status at 60 days post-ED visit. **Methods**: This study is a planned sub-analysis of a large multicentre prospective cohort study (the INDEED study). This project took place between March and July of the years 2015 and 2016 within 5 participating EDs across the province of Quebec. Independent non-delirious patients aged □65, with an ED stay at least 8hrs were monitored until 24hrs post-ward admission. A 60-day follow-up phone assessment was also conducted. Participants were screened for delirium using the validated Confusion Assessment Method (CAM) and the severity of its symptoms was measured using the Delirium Index. Functional and cognitive status were assessed at baseline as well as at the 60-day follow-up using the validated OARS and TICS-m. **Results**: A total of 608 patients were recruited, 393 of which completed the 60-day follow-up. Sixty-nine patients obtained a positive CAM during ED-stay or within the first 24 hours following ward admission. At 60-days, those patients experienced a loss of 3.1 (S.D. 4.0) points on the OARS scale compared to non-delirious patients who lost 1.6 (S.D. 3.0) (p = 0.03). A significant difference in cognitive function was also noted at 60-days, as delirious patients' TICS-m score decreased by 2.1 (S.D. 6.2) compared to non-delirious patients, who showed a minor improvement of 0.5 (S.D. 5.8) (p = 0.01). **Conclusion**: People who developed ED stay-associated delirium have lower baseline functional and cognitive status than non-delirious patients and they will experience a more significant decline at 60 days post-ED visit.

**Keywords:** cognitive decline, delirium, functional decline

## LO71

### Evaluating the application of the prehospital Canadian C-Spine Rule by paramedics in sport-related injuries

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**Introduction**: The Canadian C-Spine rule (CCR) was validated for use by paramedics to selectively immobilize stable trauma patients. However, the CCR "Dangerous Mechanism" is highly prevalent in sports. Our objective was to compare the CCR performance in sport-related vs. non-sport-related injuries and describe sport-related mechanisms of injury. **Methods**: We reviewed data from the prospective paramedic CCR validation and implementation studies in 7 Canadian cities, which already included identification of sport-related injuries. A single trained reviewer further categorized mechanisms of injury using a pilot-tested standardized form, with the aid of a sport medicine physician in 15 ambiguous cases. We compared the CCR's recommendation to immobilize sport-injured versus non-sport-injured patients using chi-square and relative risk statistics with 95% confidence intervals. **Results**: There were 201 amateur sport-injuries among the 5,978 patients. Sport-injured patients were younger (mean age 36.2 vs. 42.4) and more predominantly male (60.5% vs 46.8%) than non-sport-injured patients. Paramedics did not miss any c-spine injuries when using the CCR. Although cervical spine injury rates were similar between sport (2/201; 1.0%) and non-sport injured patients (47/5,777; 0.8%), the absolute number of sport-related injuries was very small. Although CCR recommended immobilization equally between the two groups (46.4% vs 42.5% p = 0.29; RR 1.17 95%CI 0.87-1.57), the reason for immobilization was more likely to be a dangerous mechanism in sport injuries (68.6% vs 54.5%, p = 0.012). Although we observed a wide range of mechanisms, the most common dangerous mechanism responsible for immobilization in sport was axial load. **Conclusion**: The CCR identified all significant c-spine injuries in a cohort of patients assessed and transported by paramedics. Although an equal proportion of sport and non-sports related injuries were immobilized, a dangerous mechanism was most often responsible for immobilization in sport-related



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