

represents a core activity within the supervisor-trainee relationship in which trust plays a central role. Clinical supervisors value the OCP as a form of authentic assessment of skills and perceive it to be a key determinant in making entrustment decisions. Future studies designed to evaluate the utility of the OCP as an educational tool should consider entrustment as an essential element.

**Keywords:** entrustment, oral case presentation

#### P076

##### Calcium, magnesium and phosphorus dosing: impacts and relevance in the emergency department

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**Introduction:** With rising health care costs impairing access to care, the judicious use of diagnostic tests has become a critical issue for most jurisdictions. Among tests regularly performed in the emergency department (ED), calcium (Ca), magnesium (Mg) and phosphorus (P) laboratory testing represents an annual expenditure of more than \$4 million for the Québec health care system. We then sought to determine the best indications for ordering these serum levels by identifying patient risk factors predicting abnormal results. **Methods:** We are conducting a retrospective cohort study in two academic hospitals of Québec City, one providing acute general care and the other providing specialized care to oncologic and nephrologic patients. We included 1000 patients who had serum Ca and/or Mg and/or P levels prescribed by an emergency physician between January 1<sup>st</sup> 2016 and May 1<sup>st</sup> 2016. We are collecting demographic (e.g. age) and clinical (e.g. comorbidities) characteristics identified from literature review as potential explanatory variables of an abnormal serum level. Predictive models of a positive test result will be derived from logistic regressions. **Results:** We have evaluated 143 patients. ED prevalence rates of hypo- and hyper-calcemia (10.1% and 4.3%), hypo- and hyper-magnesemia (13.0% and 7.2%), hypo- and hyper-phosphatemia (9.5% and 13.9%) were similar to those reported in literature. Preliminary bivariate analysis ( $p < 0.05$ ) have shown that, for patients who had serum Ca/Mg/P levels prescribed, one in four complained of weakness, one in five complained of abdominal pain and one in five presented on physical examination an abnormal mental status. Acute and chronic renal failure appears to be a strong predictor of anomalies of any of those electrolytes. Neoplasia, metastasis, hallucinations, bone pain and confusion are more specifically associated with hypercalcemia. Use of corticosteroids is associated with hypocalcemia. **Conclusion:** Our bivariate analyses have identified potential risk factors of abnormal Ca/Mg/P results. Multivariate logistic regressions will be conducted on the complete planned cohort to further test these preliminary results.

**Keywords:** electrolytes, laboratory testing, emergency department

#### P077

##### Observance des médecins face aux indications de tomodensitométrie cérébrale chez les patients ayant subi un TCC léger et facteurs associés à la non-observance

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**Introduction:** Lors d'un traumatisme cranio-cérébral léger, les complications hémorragiques sont rares et ne nécessitent qu'exceptionnellement une intervention neurochirurgicale (<1%). Dans le but de limiter les radiations inutiles et les coûts, *Choosing Wisely* s'est récemment

positionnée avec CAEP afin de recommander l'usage de la *Canadian CT Head Rule* (CCHR) suite un à TCCL. L'objectif principal de cette étude vise à évaluer l'observance des médecins d'urgence concernant l'utilisation de la règle CCHR chez les patients ayant subi un TCCL. L'objectif secondaire consiste à identifier les facteurs associés au risque de non-observance dans cette situation clinique. **Methods:** Des analyses univariées et multivariées ont été effectuées sur les données de 854 patients ayant subi un TCCL et ayant été recrutés dans les 24 heures suivant leur visite dans un centre tertiaire québécois de traumatologie. Des analyses descriptives ont permis d'estimer la proportion de médecins d'urgence ayant utilisé les critères de la règle CCHR et ceux n'ayant pas été observants. Nous avons ensuite évalué les facteurs potentiellement associés au risque de non-observance. **Results:** 62.9% des patients avec TCCL ont subi une TDM au département d'urgence. La non observance globale des médecins face à la règle était de 29.9%. De plus, la proportion de TDM effectuée sans indication selon la règle est égale à 20% (177/854). Les facteurs suivants semblent associés au risque de surutilisation de la TDM: la prise d'acide acétylsalicylique (RR = 1.8, [IC 1.3-2.6]), la présence de céphalée décrite par le patient au moment de l'évaluation (RR = 1.5, [IC 1.2-1.9]), et l'âge (55-64 ans versus moins de 55 ans) (RR = 1.6 [IC 1.2-1.9]). **Conclusion:** L'évaluation de l'observance des médecins face à ces recommandations, combinée à l'identification des facteurs en cause lors de la non-observance favoriseront une meilleure orientation des interventions de transfert de connaissances dans le futur en plus d'améliorer la qualité des soins et l'efficacité des ressources.

**Keywords:** mild traumatic brain injury, Canadian CT Head Rule, compliance

#### P078

##### Derivation and validation of a non return to work predictive model three months after a mild traumatic brain injury

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**Introduction:** Mild traumatic brain injury (mTBI) is a common problem and until now, ED physicians don't have any tool to predict when the patient will return to work. The purpose of this study is to develop and validate a clinical decision rule to identify the ED patients who are at risk of non-return to work or to school three months after a mTBI. **Methods:** Patients were recruiting in five Level I and II Trauma Centers ED in the province of Québec. All patients were referred for a systematic telephone follow-up after three months. Information about their return to work/school, partial or complete, was collected. Log binomial regression was used to develop a predictive model and the validation of this model was performed on a different prospective cohort. **Results:** 13.7% of the patients did not return to work/school at three months. The final model was derived from a prospective cohort of 398 patients and included three risk factors: motor vehicle accident (2 points), loss of consciousness (1 point) and headache during the emergency department assessment (1 point). With a one-point threshold, this model has a sensitivity of 97% and a negative predictive value (NPV) of 98%. However, the specificity is only 23% and the positive predictive value (PPV) is 17%. The area under the curve is 0.786. Validation of the model was performed with a new prospective cohort of 517 patients, and demonstrated a sensitivity of 86% and a NPV of 91%. **Conclusion:** Although this model is not very specific, its high sensitivity and NPV indicate to the clinician that mTBI patients who don't have any of the three criteria are at low risk of prolonged work stoppage after their trauma.

**Keywords:** mild traumatic brain injury, predictive model, non-return to work