

**P014****Does a positive Dix-Hallpike rule out a central cause of vertigo?**

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**Introduction:** Dizziness is a common presentation in emergency departments (ED), accounting for 2-3% of all visits. The majority are due to benign causes the most common of which is benign paroxysmal positional vertigo (BPPV). The Dix-Hallpike maneuver is used to diagnose BPPV with an affected posterior semicircular canal. A positive Dix-Hallpike exam should lead physicians to exclude central causes for a patient's symptoms and confirm no need for further imaging. The purpose of our study was to verify the accuracy of the Dix-Hallpike maneuver for ruling out a central cause of dizziness. **Methods:** We performed a medical records review of adult patients with dizziness/vertigo presenting to a tertiary care ED (September 2014 and March 2018). We included those with a suspicion for BPPV and underwent a Dix-Hallpike maneuver. We excluded patients who presented with dizziness for longer than two weeks, syncope, systolic hypotension <90 or a GCS <15. Individual patient data were linked with the Institute of Clinical Evaluation Science (ICES) database. Our outcome was a central cause defined as: ischemic stroke (IS), brain tumour, intra cerebral haemorrhage (ICH), or multiple sclerosis (MS) diagnosed on either neurology assessment, computed tomography, magnetic resonance imaging, or diagnostic codes related to central causes found within ICES. **Results:** 3109 patients were identified of these 469 patients underwent a Dix-Hallpike manoeuvre. Central causes of dizziness accounted for 1.1% of all diagnoses. Probability of a central cause for dizziness in those with a positive Dix-Hallpike was 1.3%(3/229). Only 85(18.1%) patients were appropriate for the Dix-Hallpike(intermittent, position-evoked vertigo without any neurological deficits). In appropriate patients the prevalence of central cause of dizziness was 3%(1/31). This patient had > 3 risk factors for stroke (age > 65, hypertension, diabetes, ischemic heart disease). A positive Dix-Hallpike in appropriate patients with <3 risk factors for stroke was 100% (95%CI 88.8% -100%) sensitive in ruling out a central cause for dizziness. **Conclusion:** The Dix-Hallpike manoeuvre is performed on a large number of inappropriate patients. When performed on appropriate patients with <3 risk factors for stroke a positive Dix-Hallpike can rule out a central cause of vertigo. Educating physicians as to the appropriate patient population could reduce unnecessary imaging and improve diagnostic accuracy.

**Keywords:** clinical examination, Dix Hallpike, vertigo

**P015****A phase IV protocol for a real world study on the use of low dose methoxyflurane (PENTHROX™) for the treatment of moderate to severe trauma pain in the Canadian emergency department (ADVANCE-ED)**

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**Introduction:** Pain is a significant driver of demand in emergency care and 65% of adult patients with trauma also report moderate to severe pain. Inhaled low dose methoxyflurane (MEOF) a rapid-acting patient administered inhalational analgesic was recently approved in Canada for the short-term relief of moderate to severe acute pain associated with trauma or interventional medical procedures in

conscious adult patients. This study will generate real-world evidence to complement the global clinical development program through evaluation of the effectiveness of MEOF in Canadian emergency departments. **Methods:** This is a phase IV, prospective open label, multi-centre study. Approximately 100 adult ( $\geq 18$  yrs) patients with moderate to severe acute pain (NRS0-10 $\geq 4$ ) associated with single system trauma will be enrolled at 5-10 EDs across Canada. Patients will receive a single treatment of up to 2 x 3 mL MEOF (2nd 3 mL to be provided only upon request), self-administered by the patient under medical supervision. Rescue medication will be permitted at any time, if required. **Results:** Planned Assessments and Outcome **Measures:** Pain will be assessed using the NRS0-10 at 4 time points: screening/triage, 5 minutes and 20 minutes post-start of administration (STA) of MEOF, and when ready for discharge. Secondary assessments will include the speed of action of analgesia (from STA of MEOF); patient and physician satisfaction with treatment (as assessed through Global Medical Performance (GMP) at 20 minutes post-STA and when ready for discharge); patient and physician fulfilment of pain relief expectations (assessed when ready for discharge); use of rescue medication and treatment-emergent adverse events. Exploratory outcomes will include the time to disposition, time to readiness for discharge and responder analysis. The primary outcome measure will be the change in pain intensity over 20 minutes from the start of administration of MEOF as measured on the NRS0-10. **Conclusion:** We report on the methodology of a phase IV, prospective open label, multi-centre study, evaluating the use of MEOF for the management of acute traumatic pain in Canadian Emergency Departments.

**Keywords:** low-dose methoxyflurane, real-world evidence, trauma

**P016****Utilization and outcomes of children presenting to an emergency department by ambulance**

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**Introduction:** Children account for a low proportion of paramedic transports. Evidence suggests that many pediatric transports are of low acuity, but there are few studies comparing these patients to those that self-present to the ED. Our primary objective was to determine if illness severity was associated with presentation by ambulance among pediatric patients. **Methods:** We undertook a single centre, retrospective cohort study at a tertiary care pediatric centre. All patients presenting to the ED in 2015 by any route other than air ambulance were eligible. Patients were divided into 2 groups based on the route of presentation – ambulance or self-presentation. The primary outcome was disposition decision; the secondary outcome was CTAS level. To determine whether patient discharge disposition or CTAS was associated with method of arrival, we conducted generalized estimating equations (GEE) to account for correlation within patients with multiple ED visits. **Results:** Of the 69,092 visits, 69,034 were eligible and analyzed. Of those, 4478 arrived by ambulance, while 64,556 self-presented. Those arriving by ambulance had a median age of 10 years [IQR: 2-5 years] vs. 4 years [IQR: 1.75-10 years] in the self-presenting group, and were 52.6% male (vs. 52.8%). Two percent of the ambulance cohort were admitted to the ICU (vs. 0.2%), and 16.6% were admitted to the ward (vs. 5%). Patients presenting by ambulance had higher CTAS scores – 5.3% CTAS 1 (vs. 0.3%), 16.4% CTAS 2 (vs. 7.0%), 61.2% CTAS 3 (vs. 45.8%), and 17.1% CTAS 4-5 (vs. 46.9%). The odds of arriving by