

approximately three times an hour. However, the more pain patients are having, the more frequently they wish to be assessed. This association remains statistically significant, even when adjusting for potential confounding variables. Although available data are limited at this point, the study also suggests an association between older age and preference for more frequent pain assessments. No other parameters were associated with pain assessment frequency preferences.

## 402 Apparent Life-Threatening Event: Is There an Increased Risk for Bacterial Infections?

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**Study Objectives:** Many serious infections have symptoms that overlap the presentation of apparent life-threatening event (ALTE). Infections can cause ALTE-defining symptoms such as apnea, changes in color, muscle tone or mental status. We conducted this study to assess the risk of serious bacterial infections in infants presenting with symptoms of ALTE.

**Methods:** A 4-year retrospective review of all patients under one year of age admitted to the pediatric intensive care unit with the diagnosis of ALTE. The medical records of these patients were reviewed from Jan 2004 to December 2007. The causes of these ALTE were investigated (laboratory and radiologic evaluation). Analysis was performed comparing the initial and final diagnoses with special emphasis on infectious causes. In addition, demographic data was also recorded.

**Results:** A total of sixty-seven patients were admitted with the diagnosis of ALTE. Of these, only 16 (24%) were discharged with the final diagnosis of ALTE. In the 67 infants with ALTE, no abnormalities were found in any of the tests obtained. Analysis of laboratory data, radiological studies and esophageal function tests led to the diagnosis of GERD in 28 (41%). Other final diagnoses were seizure (n = 4), intracranial hemorrhage (n = 1); Infectious causes included: pneumonia (n = 4), pertussis (n = 3), urinary tract infection (n = 4), and RSV bronchiolitis (n = 1).

**Conclusion:** A small proportion of patients presented with ALTE were found to have infections. In the absence of an obvious cause of ALTE, urinalysis and chest radiograph should be considered.

## 403 Abstract Withdrawn

## 404 Effects of Intranasal Oxymetazoline on the Pediatric Population Aged 1 to 12 Months: An Interim Analysis

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**Study Objectives:** Young children are obligate nose breathers. When these patients develop severe congestion, they can present to the emergency department (ED) with difficulty feeding, tachypnea, retractions, and respiratory distress, despite nasal saline and suction at home. Intranasal oxymetazoline has been used in the adult population to counter congestion with a minimal side effect profile. It can offer an alternative management for parents and physicians. This is a preliminary safety study of using oxymetazoline in the pediatric population with the hypothesis that medication administration will not have a significant side effect on heart rate, blood pressure, or respiratory rate, and can be a safe treatment option for children 1 month to 12 months old.

**Methods:** This is a prospective, not blinded, experimental study design. Patients were enrolled consecutively as they presented to the emergency or pediatric departments at Madigan Army Medical Center, Washington. Inclusion criteria were age between 30 days and 12 months, and congestion. Exclusion criteria were symptoms that would significantly alter vital signs such as fever, vomiting or diarrhea more than 4 times in 24 hours, chronic lung or heart disease, or hemodynamic instability. All patients were given 1 drop of 0.025% oxymetazoline intranasal, and had vital signs recorded prior to medication, and then 30 minutes and 60 minutes after being given the medication. Primary end points were changes in heart rate, blood pressure, and respiratory rate, measured before and after administration of oxymetazoline. The paired T-test statistical analysis was used to calculate statistical significance.

**Results:** We have collected data on 38 of 65 planned patients. Mean age was 6.2 months. Twenty-two patients (58%) were male and 16 patients (42%) were female. The mean heart rate (HR) at baseline was 140bpm (beats per minute). Thirty minutes after drug administration HR was 136bpm (p = 0.19), and 60 minutes after drug administration HR was 135bpm (p = 0.12). The mean blood pressure (mBP) at baseline was 100mm Hg systolic and 62mmHg diastolic. Thirty minutes after drug administration the mBP was 101mm Hg systolic (p = 0.680) and 58mmHg diastolic (p = 0.1). Sixty

minutes after the drug administration the mBP was 100 mmHg systolic (p = 0.52) and 62mmHg diastolic (p = 0.4). The mean respiratory rate (mRR) at baseline was 36 breaths per minute (brpm). Thirty minutes after drug administration the mRR was 36brpm (p = 1) and 60 minutes after it was 36brpm (p = 0.7).

**Conclusion:** There is no statistical difference between the means of the heart rate, blood pressure, and respiratory rate before or after the administration of intranasal oxymetazoline, during a 1-hour observational period. Further studies are needed to show any drug benefit by comparing drug to placebo.

## 405 Higher Severity of Illness in Pediatric Patients Presenting at Night and by Ambulance

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**Study Objectives:** It is unclear if sicker children are more likely to arrive via ambulance to the emergency department (ED) or at particular times of day. This study aimed to determine the impact of arrival time and method of arrival on patients' triage acuity and need for admission or transfer to a higher level of care.

**Methods:** A retrospective data analysis of 7,869 children less than 18 years of age presenting to an urban level I trauma center emergency department from January 1 to December 31, 2007 was performed. The ED information system was reviewed to determine if the patient arrived via EMS or their own transportation; the Emergency Severity Index level of triage; and if the patient was admitted, transferred to a pediatric hospital, deceased, or discharged. 83 patients were excluded because of incomplete data. Patients' time of presentation and method of arrival were compared via chi-square analysis and Fisher exact test.

**Results:** Children more commonly presented during the 7a-3p shift (38%) and 3p-11p shift (45.1%) than the 11p-7a shift (17.4%). Patients arriving at night were more likely to be triaged at higher levels of acuity; 47% of children arriving between 11pm and 7am were triaged as level 1-3. Meanwhile, only 35% of children arriving between 3pm and 11pm, and 30.1% of patients arriving between 7am and 3pm were triaged as level 3 or above (p<0.0001). In addition, patients arriving via EMS (75.1%) were more likely to be triaged as level 3 or higher compared to patients arriving by their own transportation (30.1%) (p<0.001).

Children arriving between 11p-7a were also more commonly admitted or transferred (10.3%) than patients arriving between 7a-3p (7.7%), and between 3p-11p (8.2%) (p=0.02). Similarly, children arriving via EMS were more likely to be admitted or transferred (20.7%) compared to patients arriving by their own transportation (6.4%) (p<0.001).

**Conclusion:** While children are less likely to present at night, those who arrive later in the day are more likely to have higher triage acuity and require admission. Similarly, patients arriving via ambulance are more likely to have higher triage acuity and require admission.

## 406 Chinese American Pediatric Parents' Emergency Department Utilization and Needs Assessment

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**Study Objective:** Very little published research has addressed the health care needs of Chinese American parents. The purpose of the study are: 1) identify Chinese American parents' pediatric emergency department utilization patterns and 2) conduct a needs assessment of the same community 3) to discover if any difference exists between perceived illness and actual illness in the same population.

**Methods:** A Chinese language questionnaire was administered to Chinese parents in the ED or community. The questionnaire assessed demographics, access to health care, and utilization/expectation of the ED. Chief complaint and emergency severity index (ESI) scores were recorded. Data were entered and analyzed via SPSS 15.0.

**Results:** Three hundred fifteen (54% in the ED) completed the survey. The children ranged in age from 0 to 17 years of age (median = 4.4 years). Fifteen percent of the parents had post high school education. Only 39% of the parents understood the English language, and only 12% speak it. Thus, they (93%) visit a pediatrician who speaks Chinese. The main reasons the parents go or will go to the ED are: referred by pediatrician (49%), pediatrician's office closed (25%), ED close to the house (17%), and child has fever (3%). Of the 169 ED parents, the chief complaints were: fever (23%), pain (14%), laceration (8%), vomiting (6%), and rash (5%). Eighty percent of the parents expect to be in ED < 3 hours; 7% expect to be > 6 hours. Of our most sick patients, with an ESI score of 2 or 3 (124), 28% felt