Concomitant analgesia use with intubation in the emergency department

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BACKGROUND

- The Society of Critical Care Medicine (SCCM) recommends preemptive analgesia prior to many invasive procedures[1]
  - "Analgesia-first sedation" with an opiate based regimen is recommended in mechanically ventilated patients
  - Leads to shorter ICU length of stay and ventilation times
- Patients who recall pain with intubation have a higher incidence of:[2]
  - Post-traumatic stress disorder
  - Chronic pain syndromes
  - Overall, lower health-related quality of life
- Previous studies have demonstrated low rates of analgesia utilization following intubation[3,4]
  - Bonomo *et al* found 53% of patient received analgesia with intubation in the ED[3]
  - Chao *et al* found a similar rate of analgesia use in the ED with 51% of patients who were intubated[4]
- It was hypothesized that the following patient specific factors would influence the prevalence of analgesia use
  - Glasgow Coma Scale (GSC) [5,6]
  - Hemodynamics[5,6]
  - Patient age[7]

OBJECTIVES

Primary

- Determine the prevalence of patients in the emergency department (ED) who received analgesia within 60 minutes of intubation

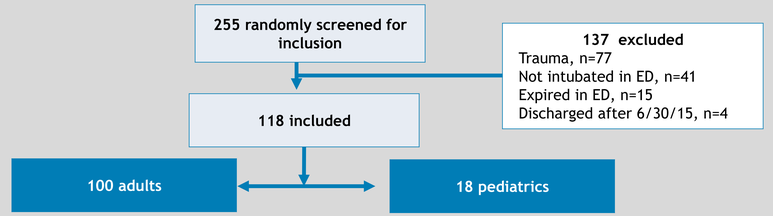
Secondary

- Compare the frequency of sedative versus analgesia use with intubation in the ED
- Determine the prevalence of analgesic use with intubation in the pediatric ED
- Determine the role of Glasgow Coma Scale (GCS) score in the prevalence of analgesia administration with intubation in unresponsive versus responsive patients
- Determine the role of hemodynamics in the prevalence of analgesia administration with intubation in stable versus unstable patients

METHODS

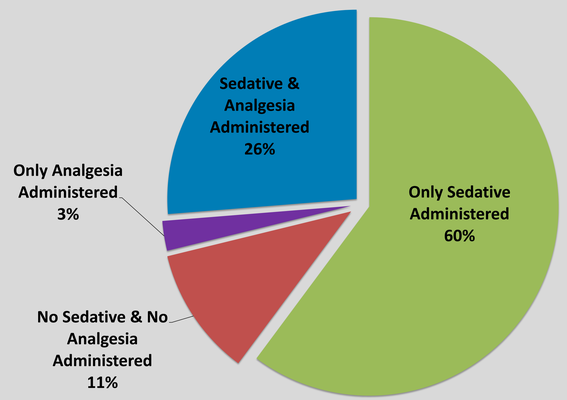
- Single center, IRB approved, retrospective chart review
- Time frame: June 1, 2013 - June 30, 2015
- **Inclusion**
  - Patients intubated in the ED
- **Exclusion**
  - Pregnant women, trauma patients, expired in the ED
- **Data Collection**
  - Demographics (age and gender)
  - GCS score upon admission
  - Hemodynamics (HR, BP, vasopressor use) upon admission
  - Sedative agent use within 60 minutes of intubation (y/n)
  - Analgesic agent use within 60 minutes of intubation (y/n)

RESULTS

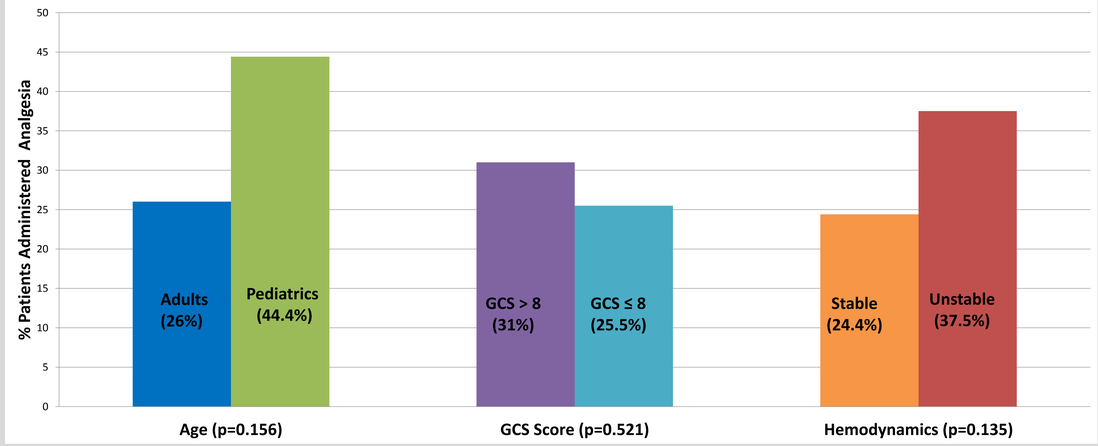


Baseline Demographics	
Patient Characteristic	**N(%)**
Male	59(50)
Adult Age (mean ± SD)	60.9 ± 17.4
Pediatric Age (mean ± SD)	3.5 ± 4.4
GSC ≤ 8	47(40)
Hemodynamically Unstable	40(34)

Frequency of Sedative and Analgesia Use



Patient Factors and Analgesic Use with Intubation



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CONCLUSIONS

- At Lakeland Regional Health, the prevalence of analgesia administration with intubation was lower when compared to studies by Bonomo *et al* and Chao *et al*. (28.8% vs ~50%)
  - This is an opportunity for improvement when considering the current SCCM guidelines
- Sedative use was more common than analgesic use
  - Only 26% of patients received both a sedative and analgesic
- It was hypothesized that hemodynamically unstable patients and patients with GCS score less than or equal to 8 have a lower prevalence of analgesic administration
  - These factors appeared to have no influence on analgesic administration
  - It was found that hemodynamically unstable (37.5%) patients received analgesia more frequently than those who were considered stable (24.4%)
- In the study it was found that pediatric patients received analgesia more often than their adult counter-parts (44.4% vs 26%)
  - Previous studies including a study by Petrack *et al* demonstrated adult patients received more analgesia than pediatric patients[7]

DISCUSSION/FUTURE DIRECTION

- A standardized approach to post-intubation care may increase the use of analgesia first-sedation in the ED
- The data from this study is currently being used as the basis of a multidisciplinary quality improvement project in the ED
  - The goal of the project is to improve compliance with the current SCCM guideline recommendations of an analgesia-first approach to sedation
  - The current order-set for rapid-sequence intubation is also being updated as part of the quality improvement project to encourage physicians to administer analgesia with intubation
  - The standardized approach will be evaluated after a two month wash-out period in the fall of 2016 to determine if any additional changes will be needed to be consistent with the current SCCM recommendations

DISCLOSURES

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Andrea Miller: Nothing to disclose
Brad Hall: Nothing to disclose
June Vasquez: Nothing to disclose
Georgia Keriazes: Nothing to disclose

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