monitoring. A trained research associate recorded vitals, EtCO2, EtCO2 waveform, SpO2, the level of sedation by the OAAS scale, and rSo2 (CASMED Fore-sight ELITE; Branford, CT) at baseline and then at 1-minute intervals until the patient returned to the baseline level of alertness.

Respiratory depression is defined as: an SpO2 < 92%, a decrease in EtCO2 > 10 mmHg from baseline, or a loss of EtCO2 waveform for > 6 seconds. Supportive airway measures including increased supplemental oxygen, airway adjunct use, repositioning, stimulus for respiration, and assisted ventilation was recorded. An adverse respiratory event (AE) is defined as the occurrence of a supportive airway measure associated with at least one criterion for respiratory depression.

The primary outcome measure is rSo2 values by level of sedation achieved and the incidence of cerebral hypoperfusion during procedural sedation. The secondary outcome is the occurrence of cerebral hypoperfusion during episodes of respiratory AE.

Results: We enrolled 75 subjects [39 female (52%)]. The median (IQR) rSo2 values by each level of sedation achieved on the OAAS scale 1-5, respectively, are 74 (69-80), 74 (70-79), 74 (68-79), 74 (67-81), 72 (68-76). The incidence of cerebral hypoperfusion, as characterized by rSo2 less than 60%, was 9/75 (12%); 2/9 had rSo2 reduction more than 20% from the baseline value; the median (IQR) observed minimum rSo2 in these subjects was 58 (56-59). We observed respiratory depression in 65% (49/75) of subjects with 51% (38/75) requiring supportive airway measures and 39% (29/75) meeting the definition of an AE. During these AEs, 17% (5/29) were associated with cerebral hypoperfusion with a median (IQR) minimum rSo2 of 58 (58-59). Four patients (5%) had cerebral hypoperfusion without a respiratory AE.

Conclusions: Cerebral oximetry monitoring allowed for the identification of subjects experiencing cerebral hypoperfusion during procedural sedation in the ED. Cerebral hypoperfusion is associated with significant morbidity and mortality. Measuring cerebral rSo2 may allow a more accurate measure of procedural sedation risk and patient distress, and a means of measuring some of the physiologic effects of other markers commonly used in procedural sedation.

379 Sepsis Presenting in Emergency Department Versus Inpatient Settings: Divergences in Prevalence, Patient Characteristics, Initial Resuscitation, Outcomes, and Costs

Angel C, Leisman DE, Schneider SM, D'Amore JA, D'Angelo JK, Doerfler ME/Icahn School of Medicine at Mount Sinai, New York, NY; American College of Emergency Physicians, Irving, TX; Hofstra-Northwell School of Medicine, Hempstead, NY

Study Objectives: Comparisons of community versus hospital presenting sepsis are surprisingly lacking.

1) Characterize baseline differences in emergency department (ED) versus inpatient (IP) presenting sepsis patients; 2) Compare ED versus IP presenting sepsis in 2 outcome domains: process outcomes and patient centered outcomes. 3) Estimate risk-differences for patient centered outcomes attributable to disparities in initial resuscitation.

Design: Retrospective consecutive sample cohort.

Setting: 9 Tertiary and Community Hospitals in New York over 1.5 years.

Patients: All hospitalized patients with sepsis or septic shock, defined simultaneous 1) Infection AND 2) ≥2 SIRS criteria AND 3) ≥1 acute organ dysfunction criterion; with post-hoc confirmation.

Exposure: ED versus IP presenting sepsis. ED sepsis defined as meeting all objective sepsis inclusion criteria while physically in the emergency department. IP sepsis defined as admitted patients meeting criteria after physically leaving the ED.

Outcomes & Analysis: We assessed differences in baseline characteristics for IP versus ED sepsis with a generalized linear model using random effects to account for inter-hospital variability. We then generated a propensity-score for patient "location" when they presented with sepsis, and created a matched (PSM) cohort. We used doubly robust estimation in the PSM cohort to compare outcomes controlling for baseline differences. Process outcomes included 3h-bundle compliance and time to antibiotics. The primary patient outcome was hospital mortality. We calculated attributable risk to determine the proportion of patient outcome differences that were explained by resuscitation differences in groups.

Results: Of 11,182 sepsis hospitalizations, we classified 2,509 (22.4%) as IP and 8,673 (77.6%) as ED. Compared to ED sepsis, IP sepsis patients more often had heart failure (OR: 1.31, 95% CI: 1.18-1.47), renal failure (OR: 1.62, 1.38-1.91), or gastrointestinal infection (OR: 1.84, 1.48-2.29); more often presented with hypotension (OR: 1.85, 1.65-2.08), or impaired gas exchange (OR: 2.46, 1.43-4.24). IP sepsis less often were admitted from skilled nursing centers (OR: 0.44, 0.32-0.60), had COPD (OR: 0.53, 0.36-0.78), were febrile (OR: 0.64, 0.52-0.78) or tachypneic (OR: 0.76, 0.58-0.98), and presented with acute kidney injury (OR: 0.82, 0.68-0.97). In a cohort of 1,922 propensity matched pairs (n=3,844), IP sepsis patients had less than half the odds of receiving 3h-bundle compliant care (17.0% versus 30.3%, OR: 0.47, 0.40-0.57) or receiving antibiotics within 3-hrs (66.2% versus 83.8%, OR: 0.38, CI:0.32-0.44) versus. ED sepsis. IP sepsis was associated with higher mortality (31.2% versus 19.3%, OR:1.90, CI:1.64-2.20), but only 23.3% of this association was attributable to initial resuscitation differences (resuscitation adjusted OR:1.69, 1.43-2.00).

Conclusions: Sepsis patients in the ED differed dramatically from IP sepsis by demographics, infection source, chronic and acute illness at presentation, and presenting signs. ED patients receive markedly more timely initial resuscitation, and have substantially better outcomes, but this disparity explains only a modest proportion of mortality differences. If and how these 2 populations should be conflated by treatment recommendations is unclear.

380 Risk of Bias Assessment among Randomized Controlled Trials Referenced in the 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: A Cross-Sectional Review

Kang H, Kang B, Cho Y, Kim C/Hanyang University College of Medicine, Seoul, Korea, Republic of

Study Objectives: Randomized controlled trials (RCTs) provide the most reliable evidence of the impact of medical intervention, however bias can invalidate the results of RCTs. This study aimed to identify the risk of bias of randomized controlled trials (RCTs) referenced in the 2015 American Heart Association (AHA) guidelines update for cardiopulmonary resuscitation (CPR) and emergency cardiovascular care (ECC).

Methods: All RCTs cited as references in the 2015 AHA guidelines update for CPR and ECC were extracted. After excluding non-human trials, crossover studies, cluster trials, etc, 2 reviewers assessed the risk of bias among RCTs included in this study. The Cochrane Collaboration's tool for assessing the risk of bias in 6 domains (random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, and selective reporting) was used.

Results: A total of 166 RCTs were selected for analyses. Of these, 72.9% (121/166) had a high risk of bias for blinding of participants and personnel. Although a small proportion of the trials was at high risk of bias in the remaining 5 domains, 33.7% (56/166) had an unclear risk of bias for random sequence generation, and 45.2% (75/166) had an unclear risk of bias for blinding of outcome assessment. Additionally, among 5 domains of risk of bias excluding random sequence generation, the proportion of trials at unclear or high risk of bias in journals with a relatively high IF (≥5 and <10) and high IF (≥10) was lower than that in journals with a low IF (<5)

Conclusions: The proportion of trials at unclear or high risk of bias was high in the 2015 AHA guidelines for CPR and ECC, especially for random sequence generation and blinding of participants/outcome assessment. This tendency was more prominent in journals with a low IF (<5). Risk of bias should be considered when interpreting and applying the CPR guidelines in the clinical setting.

381 Prospective Observational Study of the Placement of Midline Catheters in the Emergency Department by Emergency Department Physicians

Eraso D, Morley E, Leibner E, Speigel R, Weingart S/Stony Brook University Hospital, Stony Brook, NY; University of Maryland, Baltimore, MD

Study Objectives: The advent of ultrasound and ultrasound-guided IVs have markedly increased the possibilities of peripheral access for the emergency