Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Impact on ULF perceived child safety and health care access: 1) Feel unsafe about their child living in the US (75% vs 33%, p<0.001) and 2) Had fear of accessing care for their child at the hospital (16% vs 3%, p<0.05).

Conclusion: Presidential anti-immigrant rhetoric has had a substantial negative impact on ULFs' perceptions of child safety and decisions to seek medical care for their child. Further research should investigate the role of health care institutions in providing a setting of safety and community education with respect to immigration policy, available health care services, and barriers outside of the hospital setting to promote health care equity.

226 Emergency Department Hyperoxia Exposure and Mortality
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Study Objectives: To investigate the deleterious effects of excess oxygen exposure among patients presenting to the emergency department (ED). Methods: The study was a retrospective cohort study of patients 18 years or older presenting to the Brigham and Women’s Hospital (BWH) ED requiring mechanical ventilation from January 1, 2016 to December 31, 2017. Data were requested from the National Emergency Airway Registry (NEAR), a multi-center observational intubation registry, for patients presenting during this timeframe. Patients who were intubated at a referring hospital, died in the emergency department, or required chronic mechanical ventilation prior to presentation were excluded from the study. The NEAR data was then supplemented with our own chart review and analysis. Patients were classified into groups of hypoxia, normoxia, or hyperoxia based upon oxygen exposure post-intubation (PaO2<60 mmHg, PaO2 60-120 mmHg, PaO2>120 mmHg, respectively, according to literature).

Results: A total of 262 patients were included. ED normoxia occurred in 54 (20.6%) patients, and 202 (77.1%) had exposure to ED hyperoxia. The ED hyperoxia group had a median [IQR] ED PaO2 of 188.50 mmHg [156.00-247.50], compared to an ED PaO2 of 100.50 mmHg [81.25-110.00] in the normoxia group (p<0.001). Patients with ED hyperoxia had greater hospital mortality (26.7%) when compared to those with normoxia (16.7%), but less then hypoxia (66.7%). After multivariable logistic regression analysis, the hyperoxia group had a greater chance of dying compared to the normoxia group (adjusted OR 1.99 [95% CI, 0.91-4.06]).

Conclusion: In the ED, oxygen is often used liberally in the treatment of the patient, resulting in increased oxygen exposure. This can be beneficial in certain settings, but our data suggests it may be harmful in other situations.

227 Impact of Active versus Passive Preoxygenation on Emergency Department Mortality in Kigali, Rwanda
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Study Objectives: Preoxygenation for endotracheal intubation (EI) is well studied in high-income countries (HIC). However, its effect on emergency department (ED) airway management in low- and middle-income countries (LMIC) is not well characterized. This study compared the impacts of active versus passive preoxygenation methods on ED mortality among patients presenting for emergency care and undergoing EI at the University Teaching Hospital-Kigali (UTH-K).

Methods: A prospective cohort of patients requiring ED EI, accrued continuously over twelve months (January 1st, 2017 – December 31st, 2017) with documented preoxygenation methods, were evaluated. The exposure of interest was active preoxygenation (defined as bag-valve mask or positive pressure ventilation) versus passive preoxygenation (defined as non-rebreather mask or oxygen facemask). The primary outcome was ED mortality. Collected data included: duration of preoxygenation, EI indication, clinical characteristics, and pre-intubation vital signs. Magnitudes of effects were quantified using multivariable regression models to yield adjusted odds ratios (aOR) with 95% confidence intervals (CI).

Results: Of 194 patients undergoing EI, 163 met inclusion and were analyzed. Median age was 38.7 years (IQR 68-64), 72% were male, with 52% trauma patients. Within the cohort, 73.6% received passive preoxygenation while 26.4% were actively preoxygenated. The shock index (SI) was higher than 0.4 in 45% of those with passive preoxygenation and 58.6% of those who were actively preoxygenated. The majority of both passively (68.3%) and actively preoxygenated (53.9%) patients were preoxygenated for 3-5 minutes. Actively preoxygenated patients had higher ED mortality (81.4%) as compared to passively preoxygenated patients (45.8%) (p<0.001). This translated to significantly lower adjusted odds of ED mortality for those with passive preoxygenation in multivariable models controlling for EI indication, pre-intubation oxygen saturation, pre-intubation SI, and intubation method (aOR 0.30, 95% CI: 0.11, 0.82, p=0.02).

Conclusion: In adjusted analyses, passively preoxygenated patients had much lower odds of ED mortality. This association could be due to the impacts of active preoxygenation methods or potentially unmeasured confounding factors. Further research is needed to better understand this clinical approach in LMICs where there exists limited data on preoxygenation methods in emergency care and where there are often barriers to oxygen availability.
Conclusion: Our study confirms early reports of a higher mortality in patients intubated for severe COVID-19 infection and higher rates of respiratory failure related to COVID-19 in African American patients. However, intubated survivors in our hospital system were more often younger and African American. More work is needed to clarify what physiological and socioeconomic factors are associated with severe COVID-19 infection and outcome.

229 Simulation-Based Mastery Learning for Ultrasound-Guided IV Insertion Improves CT Contrast Extravasation Rates in the Emergency Department

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Study Objectives: Computed tomography (CT) with intravenous (IV) contrast have become an indispensable component of evaluation and management in the emergency department (ED). Contrast extravasation (CE) is a known complication of contrasted CTs, and results in direct patient morbidity, delays in care, and increased costs. Therefore, patients needing CTs with IV contrast require a reliable point of IV access. For patients with difficult IV access (DIVA), ultrasound guided peripheral IV (USGPIV) insertion is increasingly relied upon to establish IV access for critical studies. However, prior studies have shown rates of CE up to 4× higher with USGPIV compared to traditional IV. While high CE rates may be presumed to be inherent to USGPIVs, these events may instead be related to lines placed by providers with limited and non-standardized training in USGPIV insertion. Simulation-based mastery learning (SBML) provides a potential solution to this training problem. SBML is an extreme form of competency-based training that ensures all learners meet a predetermined mastery standard when objectively tested. SBML has been shown to be highly effective for procedural training in physicians, but has been underutilized in interprofessional education. Our objective was to establish a rigorous SBML USGPIV curriculum for emergency nurses (ENs) to determine if USGPIVs inserted by ENs in patients with DIVA would result CE rates comparable to pre-intervention standards. When comparing USGPIVs placed by MD/APPs and ENs, there are likely important differences in rates of CE, which may be related to differences in procedural training. Increasing attention should be paid to the quality of USGPIV training to prevent these deleterious patient outcomes.

230 Mortality Associated With COVID-19 among ED Patients in Southeast Michigan

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Study Objective: Recent data suggest that comorbidities could explain race-related differences in health outcomes related to coronavirus disease 2019 (COVID-19). Further data is needed on the relationship between race, comorbidities, and mortality due to COVID-19. Our objective was to measure the adjusted association between race, comorbidities, and mortality due to COVID-19.

Methods: A retrospective cohort study of all patients who had COVID-19 confirmed by PCR for SARS-CoV-2 and presented to one of 9 EDs within an integrated health system that cares of a racially diverse population. Patients’ first encounter was included for analysis between the dates of March 7 and April 30, 2020. Through an established Covid-19 data registry that was cross-validated, we collected demographic information, Charlson comorbidities, data on obesity, insurance information, and info on low-income residential areas. Outcome assessment was complete through May 31, 2020 and included cross-checking all deaths with a state-level health information exchange. We used multivariable logistic regression to build 2 a priori models: (1) measuring association between death with demographic, socioeconomic, and comorbidities and (2) addition of ED laboratory, respiratory vital, and oxygen treatment to model 1. Results: There were 3,674 included patients with an average age of 58.6 ± 18.1 years. A majority were female (1,972, 53.7%) and 2,040 (55.5%) were black, non-Hispanic. The overall admission rate was 65.6%. Admission rate did not differ by race but was significantly higher if patients were age > 60 years (82.0% vs. 46.8%), resided in a low-income area (66.2% vs. 60.8%), or had more than 2 comorbidities (19.0% vs. 5%). Unadjusted death rates were higher in white, non-Hispanic patients compared to black, non-Hispanic (16.4% vs. 9.9%) and in patients > 60 years (21.3% vs. 3.0%) or with more than 2 comorbidities (27.8% vs. 6.6%). In adjusted analyses (Table 1), the presence of comorbidities and age > 60 years were highly associated with 30-day death. Black, non-Hispanics had reduced odds of death compared to white non-Hispanics patients.

Conclusions: Similar to early reports on the epidemiology of Covid-19, ED patients with comorbidities, advanced age, and physiological abnormalities in the ED had higher odds of death. To our knowledge, this is the first data demonstrating lower adjusted odds of death among black, non-Hispanic patients.