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is missed and ultrasound is the imaging modality of choice to evaluate for the presence or absence of an IUP. We have developed an online learning platform with an image bank of 400 cases and plan to evaluate 135 physician learning with the platform.

### 307 The A to E (ABCDE) Pit Crew Model: A Novel Approach to Team-Based Care of Critical Patients in the Pre-Hospital Setting

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Study Objectives: This study aimed to evaluate the effectiveness of a novel team-based approach to care for a simulated critically ill out-of-hospital patient. Both subjective and objective data were collected and analyzed. The primary outcome of this study was a subjective improvement in communication and team function. Secondary outcomes included completion of critical actions and time to intervention.

Methods: The study protocol was approved by the local research committee and deemed exempt by the Institutional Review Board. The study was conducted with a fire-based emergency medical services (EMS) system with 233 paramedics and 115 emergency medical technicians (EMT) that responds to 16,000 calls per year and covers 1500 square miles. Eight crews comprised of five members each were randomly selected and assigned to either the intervention or the control group. The intervention group (n=20) watched a thirty-minute video before the simulation describing the “Pit Crew Approach,” the control group (n=20) did not watch the video. Each crew was given the same simulated scenario of a pediatric patient that had overdosed on a beta-blocker and fallen down the stairs. Completion of a predetermined critical task was noted and timestamped. A survey was administered to the participants following the simulation to assess team dynamics and level of confidence. Analysis was performed by SPSS. A p < 0.05 was considered significant.

Results: Three outcomes were statistically significant: The interventional group felt they themselves had a more defined role in comparison to the non-interventional group (p=0.021). The interventional group also felt that their team members had a clearer cognitive or fluid administration, pacing, and initiation of vasopressors). Team leaders of non-interventional groups often performed tasks while directing patient care.

Conclusion: The A to E Pit Crew model was developed as a means of mitigating the inherent risks faced by EMS to optimize communication and team function. The greater confidence, completion of additional tasks, and longer on-scene time by the intervention group was in scene departure decision: the interventional arm spent more time on-scene (p=0.031). Of note, the nonintervention group missed performing critical tasks more often than the interventional group (second glucose check, fluid administration, pacing, and initiation of vasopressors). Team leaders of noninterventional groups often performed tasks while directing patient care.

### 308 Implementation of an Influenza Vaccination Program is a Feasible and Effective Public Health Tool in the Emergency Department

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Study Objectives: Apart from tetanus and rabies vaccines, emergency departments have been minimally involved in vaccination efforts. As the country and the world continues to fight the COVID19 pandemic, determining new methods to deliver vaccines to people are now more important than ever. Moreover, finding ways to reach populations that are less likely to receive vaccines is equally as important. The objective of this study was to implement a screening and delivery protocol for influenza vaccine in an emergency department setting to demonstrate that emergency department vaccination protocols are viable and an effective public health tool.

Methods: A screening protocol was developed based on CDC/ACIP guidelines for influenza vaccination. This screening protocol was implemented at two urban academic emergency departments starting 10/01/2020 and ending 01/31/2020. Demographic information was collected through electronic medical records for all patients who were screened. That information was utilized to analyze patients who accepted and those who refused the vaccine and those that ultimately received the vaccine while in the department.

Results: During the trial period, 11,355 patients were screened out of 25,485 total patients who utilized the participating emergency departments. Of those screened, 5,056 (45%) stated they had not received the influenza vaccine. Amongst those 5,056 patients eligible for the vaccine, 1,156 (22.9%) had an order placed for vaccine and ultimately 441 (8.7%) received the vaccination. The median ED length of stay (LOS) for all patients presenting to the department was 5 hours and 4.7 hours for patients who had the flu shot ordered. After omitting excessive LOS patients - greater than 16 hours, there was no evidence that having a flu shot ordered was associated with a longer ED length of stay (p < 0.05). Amongst the participants, the patients identifying as African American or Hispanic were less likely to have already received the influenza vaccine compared to non-Hispanic white and Asian identifying patients. Patients identifying as African American were the least likely to accept vaccination. Conversely, patients identifying as Hispanic were more likely than those not identifying as Hispanic to accept vaccination. Patients identifying as Asian were the most likely to have already received the vaccine and to accept the vaccine when offered.

Conclusions: This study demonstrates that influenza vaccination protocols are both feasible and effective at distributing influenza vaccine in the emergency department without significantly affecting the length of stay. The patient population utilizing the emergency department is more likely to receive influenza vaccination. Influenza vaccination in the emergency department serves as an opportunity to increase vaccination rates among patients who lack other regular access to healthcare. These results should motivate the implementation of vaccination programs in other emergency departments.

### 309 Impact of Pharmacist-Led Stewardship Intervention on Appropriate Antibiotic Selection in the Emergency Department: A Systematic Review and Meta-analysis

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Study Objectives: As many as 50% of antibiotics prescribed in outpatient settings are inappropriate, and antibiotics are prescribed in 16% of all emergency department (ED) visits. Clinical pharmacy practice in the ED improves overall patient outcomes, but the impact of pharmacy involvement on antibiotic stewardship in this setting is unknown. We performed this meta-analysis to analyze the impact of pharmacist-led stewardship intervention on appropriate antibiotic selection in the ED setting.

Methods: This review followed the Preferred Reporting Items for Systematic Review and Meta-analysis guidelines. The search was conducted by an experienced medical librarian with input from the study team. Databases were searched from January 1st, 2000 through January 12th, 2021 and included Ovid Medline®, Embase, Cochrane Library, CINAHL, Web of Science, Scopus, and grey literature. Studies describing antimicrobial stewardship efforts in adult ED patients with pharmacists compared to an alternative practice were included. Appropriate antibiotic selection was determined by the definition within each study; all infection and intervention types were considered for inclusion. Two authors assessed risk of bias with the NIH Study Quality Assessment Tool and the Newcastle-Ottawa Scale for observational studies. Data was extracted by two authors and pooled using a random effects model with Mantel-Haenszel analysis. Cochrane’s Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) methodology was used to assess quality of evidence across all studies.

Results: 24 studies were included and all were retrospective observational cohorts; 7 specifically were post intervention assessments. Eighteen studies were fair quality and 3 had high risk of bias. The overall quality of evidence according to GRADE was low. Twenty-two studies had data for the primary outcome of