confidence over a span of seven years' of procedural training in attending physicians at one academic medical center.

Methods: Attending EM physicians at our academic medical center have been required to attend simulation-based procedural practice events annually since 2015. The curriculum of the training program was designed to address high acuity low frequency procedures, with a deliberate practice and coached-learning approach. This study utilizes surveys pre- and post-procedural simulation to determine the number of clinical procedures performed yearly as well as self-reported pre- and post- simulation confidence in procedural skills.

Results: Four procedures had multiple year pre- and post-procedural session data available (fiberoptic intubation (n = 51 pre and 29 post), crichothyrotomy (n = 96 pre and 42 post), vaginal delivery (n = 97 pre and 71 post), thoracostomy (n = 74 pre and 71 post)). The majority of physicians reported "rare" clinical frequency (0–5 per year) on these procedures (Fiberoptic 97%, Crichothyrotomy 87%, Chest tube 87%, Delivery 88%). Overall, confidence prior to the training session showed a trend towards increase on a 5-point likert scale following the training session (+1.11 for fiberoptic, +0.92 for cricothyrotomy, +0.42 for vaginal delivery and +0.33 for thoracostomy, ns).

Conclusion: Ongoing procedural skill training of attending physicians is an imperative for patient safety, especially in procedures shown here to be performed "rarely." This multi-year curricular model was well accepted by physician learners and feasible using a deliberate practice model. Learners showed a trend towards increased confidence following the training sessions.

791 | Incidence and Outcomes of Acute Appendicitis During the COVID-19 Pandemic

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Background and Objectives: The COVID-19 pandemic started to affect us globally in March 2020. While a lot of effort has gone into researching COVID-19 treatments and the course of the disease there are still many unknowns. Over time research has shown a link between COVID-19 and multi-organ injury such as myocardial injury, venous thromboembolism, and acute kidney injury, but there is a paucity of literature investigating the correlation between COVID-19 and surgical emergencies, specifically appendicitis. We hypothesized there would be a difference in outcomes and complications in COVID-19 infected patients with acute appendicitis. Therefore, the objective of this study was to compare the incidence and outcomes of appendicitis in patients with and without acute SARS-CoV-2 infection.

Methods: This was a retrospective chart review at a single academic medical center, with approximately 64,000 annual ED visits. All adult patients diagnosed with appendicitis and acute COVID-19 infection between 4/01/2020 and 2/28/2022 were included. In addition, a random convenience sample of non-COVID-19 infected subjects and appendicitis were included in the analysis. Outcome measures included perforation at diagnosis, post-operative infection, ED length of stay (LOS), time from ED presentation to initiation of surgery, ICU admission, hospital LOS, and return ED visits. Mean, median, standard deviation (SD), and range were used to describe age and LOS. Fisher's exact test looked at associations between patient characteristics and outcomes with COVID status. Wilcoxon rank sum test compared age and LOS with COVID status. p-value <0.05 was considered statistically significant.

Results: 210 patients (22 COVID/ 188 non-COVID) were included in the study and there was no significant difference between age, gender, or race. There was a statistically significant increase in median ED LOS in COVID-19 positive patients (7.5 vs. 5.0 h, p = 0.0031), and increased appendix perforation in non-COVID-19 patients (16.0% vs. 0.0%, p = 0.0495). There was no significant difference in post-operative infection, ICU admission, hospital LOS, or ED return visits.

Conclusion: In this study, there was no statistically significant difference in acute appendicitis outcome measures in COVID-19 positive patients apart from ED LOS. In addition, there was no increased incidence of perforation, ICU admission, or hospital LOS.

792 | Validation of the Oakland Score Among Emergency Department Patients With Lower Gastrointestinal Bleeding

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Background and Objectives: The Oakland Score performs well in predicting 30-day adverse events in hospitalized patients with lower gastrointestinal bleeding (LGIB) and can safely identify patients at low risk of an adverse event who may be safe for discharge. The Oakland Score has not yet been validated among emergency department (ED) patients with LGIB. The primary outcome of the Oakland Score, tailored to an ED population, includes absence of blood transfusion during the index visit (i.e. ED or associated hospital admission), rebleeding (defined as a ≥20% decrease in hematocrit after 24 h of clinical stability among admitted patients or a ≥20% decrease in hematocrit within 7 day among ED discharged patients), hemostatic intervention (including surgery, mesenteric embolization, or therapeutic colonoscopy), index ED or hospital death, or 28-day hospital readmission for a LGIB. The variables include age, sex, previous LGIB admission, systolic blood pressure, hemoglobin concentration and heart rate, and scores range from 0 to 35 points, with higher scores indicating greater risk of an adverse event.

Methods: This was a retrospective cohort study of adult (≥18 years old) patients with sustained membership (Kaiser Health Plan) with a primary ED diagnosis of LGIB across 21 EDs within an integrated delivery system in Northern California from 2018 to 2020. We assessed predictive accuracy of the Oakland score by reporting the

area under the receiver operator curve (AUROC) and the sensitivity and specificity at certain risk thresholds.

Results: From 3/1/18 through 2/28/20, we identified 8283 patients with LGIB, 52% of whom were female, mean age 68, and 49% were non-white. We found 27% had an adverse event, being more common among older patients, those with greater co-morbid illness, and those with higher use of antiplatelet and anti-coagulant medications. The AUROC for predicting an adverse event was 0.85 (95% confidence interval: 0.84 to 0.86). Patients with Oakland Score of 8 or less (n = 1358, or 16% of the total population) had a 4.9% event rate, and 41% of these adverse events were due to need for a blood transfusion. The sensitivity and specificity of an Oakland Score of 8 and 9 to predict an adverse event was 97% and 21% and 95% and 33%, respectively.

Conclusion: The Oakland Score shows high predictive accuracy in this retrospective cohort of ED patients with LGIB and may be useful for ED risk stratification after prospective validation.

793 | Traditional Preloaded Bougie vs. Kiwi-DuCanto Grip Bougie Technique During Simulated Mechanical Chest Compressions

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Background and Objectives: Investigators have reported bougie use improves first pass intubation success rates when compared to ET tube/stylet technique. We sought to evaluate the time to intubation and operator confidence for the Kiwi-D grip bougie vs. traditional preloaded bougie technique for direct laryngoscopy (DL) during simulated mechanical CPR (mCPR).

Methods: This study was a prospective, randomized crossover trial at a simulation center. Consenting emergency physicians were surveyed about intubation experience, and provided structured practice for techniques. Subjects performed DL (Mac 4) on a moderately difficult airway, adult manikin during simulated mCPR (LUCAS 3.0) at 100 compressions/min. Each subject intubated using Kiwi-D and traditional bougie techniques, respectively, in a randomized order. A study author measured intubation time (blade pick up until cuff inflation) and assessed intubation success. Subjects rated intubation success confidence on a 5-point scale and provided Cormack/Lehane grade. Categorical data analyzed by chi-square and continuous data by t-tests for bivariate analyses. Multivariate linear regression was performed for intubation time. Non-parametric Wilcoxon signed-rank test was performed for the ordinal categorical variables.

Results: There were 31 subjects; 87% with 1–5 years experience, 52% preferred DL during CPR, 71% preferred traditional no preload bougie technique, and 48% had utilized a bougie >10 times. Subjects had first pass intubation success for all but one attempt with both modalities (NS). For Kiwi-D vs. traditional bougie, 48% of subjects rated higher level of confidence for successful intubation (p = 0.01) and 29% (p = 0.1) reported improved glottic view. Mean time to intubation was similar for Kiwi-D vs. traditional (20.6 ± 9 vs. 25.3 ± 17s; p = 0.06). The following subject characteristics were not associated with improved intubation time for Kiwi-D: 6+years of experience (p = 0.6), >10 prior intubations with a bougie (p = 0.6), preloading bougie preference (p = 0.4), and DL preference (p = 0.4). Multivariate linear regression did not identify subject variables that were significantly associated with Kiwi-D use for improved intubation time with Kiwi-D.

Conclusion: Subjects in our study group did not have significant differences in time to intubation using Kiwi-D vs. traditional bougie preload during simulated mCPR.

794 | Predictors of Peri-Intubation Cardiac Arrest in Critically Ill Patients Presenting to the Emergency Department

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Background and Objectives: Rapid sequence intubation has become the standard technique to facilitate emergency airway management. Several immediate complications after emergency airway management have been reported like failed intubation, hypoxemia, hypotension, and even cardiac arrest (CA). Peri-intubation CA is defined as cardiac arrest occurring within sixty minutes after initiation of airway management. In this study, we aimed to determine the risk factors associated with peri-intubation CA in patients presenting to the emergency department (ED).

Methods: This single-center, matched case-control study was conducted at the ED of the Aga Khan University Hospital, Karachi from January 2017 to February 2022. All adult patients requiring emergency airway management in the ED were included. Cases were defined as; patients who developed peri-intubation CA. Each case was matched to four adult controls with regards to age and gender, who did not develop peri-intubation CA. Multivariable logistic regression was performed to identify the risk factors associated with peri-intubation CA considering a significant p-value of ≤0.05.

Results: A total of 47 cases and 188 controls were included during the study period. Multivariable regression analysis showed that the age >50 years (OR: 2.54; 95% CI: 1.11–5.80), pre-intubation modified shock index of 1.3 or more (OR: 5.61; 95% CI: 1.9–16.5), lactic acid of 2 mmol/L or more (OR: 4.24; 95% CI: 1.46–12.27), arterial blood PH < 7.30 (OR:2.58; 95% CI = 1.04–6.39), PaO2 <55 mm Hg (OR: 5.13; 95% CI: 2.39 -10.31), septic shock (OR:5.76; 95% CI: 2.93–17.18), and cardiogenic pulmonary edema (OR:5.76; 95% CI: 2.31–15.13) were independently associated with peri-intubation CA.

Conclusion: We have identified the potential risk factors of peri-intubation CA in critically ill patients presenting to the emergency department of our hospital. Further studies are needed to evaluate the therapeutic interventions to mitigate these risk factors to avoid peri-intubation CA.