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351 Can the Centor Score Be Used Effectively via Telehealth?  
Hood C, Sikka N, Rutenberg A, Allabban A/George Washington University, Washington, DC

Study Objectives: The modified Centor score is a validated clinical decision rule for estimating the likelihood of streptococcal pharyngitis in patients with less than three days of acute pharyngitis symptoms. The score can then be used to guide testing and treatment combined with other consensus recommendations. With the growth of telehealth, programs are frequently evaluated remotely using real-time audio-visual communication. It is important to better understand how traditionally in-person clinical decision support rules can be utilized in telehealth. We sought to characterize inter-rater reliability in determining the need for strep testing using the Centor score compared between an in-person clinician and a remote clinician with tele-presenter assistance.

Methods: A convenience sample of 32 adult ED patients were enrolled between November 2019 and March 2020. A trained research assistant (RA) collected the Centor criteria: 1) Age, 2) Temperature > 100.4, 3) presence of cough 4) Exudate or Swelling on tonsil 5) assess for anterior lymph nodes (LN). The RA was trained to palpate LN in the neck on a model created by the study team. An image and short video clip of the posterior pharynx was captured. The blinded telemedicine provider evaluated the data asynchronously and assigned the tele-Centor Score. The RA also abstracted from the chart or spoke with the in-person provider to record the in-person score. Rapid strep test results were abstracted on all patients for whom it was available. We used the consensus recommendation for no testing for a score of 1 or less, testing for a score of greater than 2 with the option of treating empirically with a score of 4 or greater.

Results: In the sample 20 patients had complete data of which 50% were male and had an average age of 29.5 years. A total of 4 patients (20%) had a positive strep test. In the positive test group both the in person and telehealth evaluations suggested testing in 3 patients and no testing in 1 patient, though a test was performed anyway. In the 16 patients with a negative strep test there were 4 patients where there was disagreement in testing between in-person and telehealth evaluation. The Cohens Kappa for inter-rater reliability for rapid strep testing was 0.60.

Conclusion: Preliminary analysis of in-person and tele-Centor score shows moderate agreement. This study will also examine the ability to evaluate the anterior chain lymph nodes and the posterior pharynx by video with or without a telepresenter, as the interpretation of this data are subjective components of the Centor score. Accurate Centor scores are important because obtaining outpatient testing can be logistically challenging when utilizing telehealth. Applicability in telehealth is also important because patients could incur lost time, cost, and potential harm from inappropriate testing. Further evaluation of the Centor score in telehealth and other clinical decision support rules is warranted to better understand their safe and effective use by telehealth providers.

352 Virtual Etiquette: A Closer Look at Emergency Medicine Didactics in the Age of COVID  
Turner-Lawrence D, Berman J, Shah P/Beaumont Health System, Royal Oak, MI

Study Objectives: Covid detailed multiple facets of emergency medicine (EM) residency training, including the need to move from in-person to online weekly didactics. While online education has been used within 90% of medical schools, it has not traditionally been used for residency education. Recent studies evaluating postgraduate residents’ perception of online education found a receptive audience eager to incorporate the modality. To date, no study has analyzed how EM programs are approaching online education, including content, efficacy, and attendance etiquette.

Methods: As part of a process improvement project, an online Survey Monkey questionnaire was sent out to 180 EM residency program directors and coordinators. The survey was open from November 2020 to March 2021.

Results: We received 52 responses from program directors and coordinators from all regions of the United States with a majority from academic or university-affiliated programs. Due to COVID-19, over 90% of programs shifted to an online didactic platform with only 10% maintaining in-person didactics. Zoom has been the preferred modality utilized at 89% of programs we surveyed with minimal security and technical issues. Program consensus was that residents should be on time or no more than 5-minutes late for credit (42% of programs), have video cameras on (52% of programs), and appear attentive (44% of programs). Virtual etiquette was also examined, including screen presence: upright posture (less than 18% of programs reported accountable), background (less than 10%), and lighting (less than 6%). A majority of programs had not set expectations for screen presence. If not presenting, the dress code is generally at the resident’s discretion and was noted to be casual (52%). Sixty percent of programs reported increased faculty attendance since moving to a virtual conference. Programs also reported maintaining consistency in content (62% of programs), increased utilization of guest speakers (50% of programs), use of national platforms (21% of programs), and maintaining small group sessions (77% of programs). Many residency programs do not record didactics, and only 15% offer credit if lectures are watched at a later date. When safely able, over 65% of programs plan to return to in-person didactics.

Conclusion: The online learning platform provides opportunities and proves challenges. Many programs have shifted to online learning and diversified their curriculum. EM residency training requires a strong foundation in core content, which may not entirely be suited for an online platform. This coupled with the loss of face-to-face learning may reflect in the desire for programs to return to in-person learning. The benefits of online learning, which include accessibility, flexibility, and broader reach of topics should not be neglected. Further exploration of the efficacy of knowledge acquisition within online didactics would aid in decisions regarding next steps for return to a potential hybrid teaching model.

353 Reliability of Nurse-Performed Lung Ultrasonography of Suspected COVID-19 Patients at the Emergency Department Triage: A Single Center Study  
Evangelista-Gonzalez R, Babasa R/SL. Luke’s Medical Center Quezon City, Quezon City, Metro Manila, Philippines

Study Objective: Point-of-care lung ultrasound is now considered a valuable tool in the emergency department to evaluate patients with respiratory complaints. It is very reliable in detecting artifacts associated with alveolar-interstitial syndrome - a common feature seen in patients with pneumonia, pulmonary edema and more recently, COVID-19. The aim of this study was to determine the reliability of emergency department nurses to interpret point-of-care lung ultrasound artifacts suggestive of COVID-19 respiratory disease at the triage.

Methods: Our single-center study prospectively evaluated all consecutive patients who were suspected of COVID-19 respiratory disease at the emergency department (ED) of St. Luke’s Medical Center Quezon City. Eligible patients underwent lung ultrasonography conducted by a trained ED nurse. The ultrasound scans were recorded, stored and interpreted by nurses as to the presence or absence of B-Lines, C-Lines and/or pleural effusion. These scans were then subsequently viewed and interpreted by an emergency medicine (EM) physician and then finally by a senior ED consultant who is an expert on point-of-care ultrasound (POCUS).

Results: A total of 382 patients were included in the study. In the study, generated 3057 lung ultrasound scans for analysis. Nurse agreement in interpreting B-lines with the emergency physician and the POCUS expert were satisfactory yielding Cohen’s Kappa score of 0.845 (excellent agreement) and 0.781 (good agreement) respectively. On the other hand, nurse agreement in interpreting C-lines with the emergency physician and the POCUS expert were acceptable at a Kappa of 0.678 (good agreement) and 0.272 (fair agreement), respectively.

Conclusion: Our results suggest that nurses who have been trained in the use of point-of-care lung ultrasound can reliably identify and interpret ultrasound artifacts most notably B-lines. In light of the ongoing COVID-19 pandemic, nurse-performed lung ultrasonography can potentially provide a useful and expedient triage strategy for suspected SARS-CoV-2 patients presenting at the emergency physician.

354 Decreased Emergency Department Utilization by Lower Socioeconomic Status Population as a Result of the COVID-19 Pandemic  
Plumber A, Diercks D, Kirk A, Idris A, Metzger J, Chang M/University of Texas at Southwestern, Dallas, TX

Study Objective: The SARS-CoV-2 (which causes COVID-19) pandemic has resulted in lower emergency department (ED) volumes. It has precipitated business and school closures along with the implementation of physical distancing measures, which culminated in a Shelter in Place Order (S IPO) issued for a major urban area county in March 2020. The objective of this study was to determine the effect on access to healthcare by patients of different socioeconomic status by examining differences in ED volume by zip code stratified by the SocioNeeds Index.
Methods: This retrospective chart review examines whether there was a quantitative change in patient visits to an urban, tertiary county hospital ED from 2019-2020 by zip codes. The inclusion criterion was any ED visits from a county resident, and the exclusion criterion was any blank, alphanumeric, or PO box zip codes including zip codes located outside of Dallas County. We mapped daily patient visits by zip code for four phases: Phase 1 was the 3 months preceding the first COVID-19 case’s announcement in Dallas, Phase 2 began with the first COVID case, Phase 3 encompassed when the SIPO was in effect for Dallas County, and Phase 4 included the three months following the expiration of the SIPO. The SocioNeeds Index rates each zip code by socioeconomic status, specific to this county. We compared this data to records over the same time period from the previous year to control for seasonal variation in the absence of a pandemic.

Results: There were 275,756 ED patient visits included in this study. The results indicate a statistically significant decrease in ED visits occurred in all zip codes during the pandemic: 24% between Phase 1 and 4 (p<0.0001) in 2020. Additionally, there was a decrease in visits after the first case in Dallas: Phase 2 (-14%, p<0.0001), Phase 3 (-41%, p<0.0001) and Phase 4 (-25%, p<0.0001) when compared to 2019 but an increase in visits (36%, p<0.0001) in 2020 once the SIPO expired. Zip codes with highest need based on poverty, income, unemployment, occupation, education and language (weighted to correlate with preventable hospitalization and premature death rates) were found to have greater reductions in visits whereas zip codes which with the lowest needs saw a 15% increase in visits during the SIPO. The geographic distribution of visits indicate that most zip code by socioeconomic status, specifically as African American. Twenty-three present of patients (n=19) had a one-time, noninvasive, end-tidal CO2 value documented. The median EtCO2 value for all patients with a recorded value was 26 mmHg (interquartile range 20-32 mmHg). The odds ratio of sepsis with EtCO2 ≤25 mmHg was 3.2 (95% confidence interval 0.30 to 34.59, p-value 0.34).

Conclusions: Preliminary analysis for this study does not show a significant difference in prehospital EtCO2 values in patients with and without sepsis. Completion of this analysis will provide a stronger estimate of this biomarker’s potential association with sepsis.

| Sepsis present (N=20) | Sepsis not present (N=6) | P-Value |
|-----------------------|------------------------|---------|
| End-tidal CO2 (mmHg, median, IQR) | 26 (20, 29.25) | 28 (24.5, 33.75) | 0.6601 |

P-value of 0.6601 using 2 group T-test

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Shame and Error in EMS: A Qualitative Analysis of Culture and Attitudes in Prehospital Emergency Care

Hoff JJ, Zimmerman A, Tupetz A, Staton C, Van Vleet L, Joiner A/Duke University Hospital Emergency Medicine, Durham, NC

Study Objectives: The shame reaction is a highly negative emotional reaction shown to have long-term deleterious effects on medical providers’ mental health. Prior studies have focused on in-hospital personnel, so very little is known about what drives shame reactions in emergency medical services (EMS). A field with very high rates of post-traumatic stress disorder, burnout, anxiety, and depression. The objective of this study was to describe emotions, processes, and resilience associated with self-identified adverse events in the work of out-of-hospital providers.

Methods: We conducted a qualitative study using a modified critical incident technique. Participants were voluntarily recruited from two EMS agencies in North Carolina: one urban and one rural. They provided an open-ended, written reflection in which they were asked to self-identify a particular event in their EMS career that felt emotionally difficult. In-person or video in-depth interviews about these events were then conducted in a semi-structured fashion using an iterative interview guide. The codebook was developed through a mix of inductive and deductive analysis strategies and discussed within the research team and a content expert for validation. Interviews were transcribed and data was analyzed following a thematic content analysis approach for types of cases identified as emotionally difficult, common emotional responses and coping mechanisms, and the lingering impact of these experiences on study subjects.

Results: Eight interviews were conducted with EMS personnel: five from an urban agency and three from a rural agency. Participants commonly identified complex