Highlights from this issue

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Can I discharge this patient?

Editor's Choice: Although COVID-19 has brought a number of new challenges to emergency departments (ED), it shares the same and arguably most common conundrum we face with other symptoms and diagnoses: is it safe to send this person home? There are many studies now published on prediction of poor outcomes for patients with COVID-19, but few that address the question of whether a person who likely has COVID-19 yet who doesn't obviously qualify for admission (eg, an oxygen requirement) can be discharged to manage their disease at home. A popular contender for helping with this decision has been testing oxygen saturation after a brief period of exercise in the ED. In this issue we present the results of a large, multicenter observational study (The PRIEST study) which found that post-exertion saturation provides little prognostic information for these otherwise well-appearing patients. Perhaps this is not surprising. Many of us have used a form 'ambulatory saturation' testing for our asthma, COPD or pneumonia patients, where we are just not sure it is okay to discharge them. However, little evidence exists that this is a useful predictor in these diseases either.

Where is your aerosol box now?

The aerosol or intubating box for COVID-19 was all the rage less than a year ago after it was introduced in a high impact peer review journal. (And yes, EMJ ran a few proof of concept articles on improvements on the design—although with appropriate caveats.). However, many EDs discovered the boxes were difficult to use, and instead worked on improving their PPE for these procedures. In this issue, Azhar and colleagues report a reassuring study in which 36 EM trainees in Malaysia simulated intubation using video laryngoscopy on airway mannikins, using Glo Germ to simulate contamination. Mannikins were intubated with and without the aerosol box. After doffing their PPE, there were no significant differences between methods in the median number of contamination areas but forearms were more likely to remain contaminated

after doffing when the aerosol box was used. In their commentary, Brewster and colleagues present provide a summary of the evidence that suggests its time to put that box in a back closet and remember that 'we cannot let our emotions override critical thinking when trying to protect ourselves and our patients.'

Can (should?) point of care ultrasound be used to diagnose COVID-19?

From the outset of the pandemic, ultrasound has been offered as a way to potentially diagnose COVID-19 in the absence of a reliable and quick diagnostic test, although enthusiasm has to date outstripped the evidence. Our **Reader's Choice** this month presents a study of the diagnostic characteristics of lung ultrasound in patients suspected of COVID-19 using either PCR or lung CT as the reference standard. The sensitivity of ultrasound for COVID-19 was 89%, with a negative predictive value of 93% (95% CI 79% to 98%), perhaps less accurate than many had hoped for. However, when confined to only those without prior cardiopulmonary disease, the negative predictive value was 100% (95% CI 79% to 100%). The wide confidence intervals reflect a small number of patients in this single centre study, conducted at a non-Academic ED so, as the adverts say, results may vary.

Novel approaches to diagnosis in paediatric EM

Ultrasound has a lot of advantages when it comes to paediatric patients, including lack of radiation, ability to be performed at the bedside (maybe even in Mom's arms) and the speed of diagnosis that may shorten their ED stay. In a study by Snelling et al from Australia, nurse practitioners performed ultrasound on paediatric patients 4–16 years old with suspected, non-angulated distal forearm fractures, finding quite respectable sensitivity and specificity. There was no difference in pain reported or duration of imaging, but parents, patients and NPs all expressed a preference for ultrasound imaging.

Those of you who have implemented some form of sepsis screening at triage

are aware of the poor specificity of these tools, which may result in an overuse of resources and, for providers, alert fatigue. To avoid this, Gomes and colleagues designed and implemented a digital screening tool based on six variables in two large paediatric EDs in the UK. However, when the tool triggered an alert, instead of a rush to draw bloods and give fluids, the child underwent immediate evaluation by a physician, who could determine that no sepsis was present, or continue with sepsis treatment. Without the physician, the electronic tool had a PPV of 2.94% (those decimals are in the right place), and missed 12 children. With physician involvement PPV increased to 46.4% with 20 children missed on initial screen, but 11 of those children were identified as septic by further physician evaluation later in the ED visit.

A proper introduction

In January, we began the COVID-19 Top 5, a new reader service to provide updates on emerging evidence on COVID-19 and provide critical commentary on strengths, weaknesses, and where these studies fit with what is already known. Although featured on our cover, we did not properly introduce the Top 5 in our Primary Survey. The Top 5 was originated by the RCEM COVID-19 CPD Journal Club, a group of physicians who scoured the literature and presented articles of interest to RCEM members each week. They've kindly agreed to share their work and knowledge with all EMJ readers in a monthly format. So a proper welcome to you, Top 5 and thank you to all the contributors.

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