

## FOCUS more on POCUS

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**Keywords:** Endotracheal intubation, Endotracheal tube tip position, Point-of-care ultrasound.*Indian Journal of Critical Care Medicine* (2023): 10.5005/jp-journals-10071-24427**Dear Editor,**

The article titled "Assessment of the Endotracheal Tube Tip Position by Bedside Ultrasound in a Pediatric Intensive Care Unit: A Cross-sectional Study" by Subramani et al.<sup>1</sup> was read with great interest. We appreciate the authors for their research, but we also want to express our views about the article.

American Heart Association (AHA) recommends EtCO<sub>2</sub> for confirmation of endotracheal tube (ETT) position. Though it detects endotracheal versus esophageal intubations, its use is limited in certain conditions such as cardiac arrest and pulmonary thromboembolism and states where pulmonary blood flow is compromised. Further, it takes 5–6 breaths to detect ETT position and cannot detect the depth of insertion.<sup>2</sup> Hence, confirmation of ETT by ultrasound is gaining interest in recent times.

The total time taken by ultrasound to confirm ETT tip location and assessing the distance between the tip and arch of the aorta could have given additional information regarding how faster the procedure can be done in emergency or intensive care setting since the time taken by the procedure might vary from seconds to minutes which is much quicker than chest X-ray.<sup>3</sup>

Identifying ETT depth by ultrasound also has an added advantage in lung collapse and pneumothorax, where clinical assessment is difficult to ascertain ETT depth.

The criteria for identifying mispositioned ETT by ultrasound were not mentioned clearly in this study and 22.22% children had ETT tips in incorrect positions. A distance of 0.5–1 cm between the ETT tip and aortic arch by point-of-care ultrasound (POCUS)<sup>4</sup> corresponds to ETT in the radiograph between T3 and T5 levels. The measured distance of the same in the study could have been additional information for validating the same. The change of ETT in relation to the position of the neck is adequately studied, and either flexion or extension of the neck will cause a change in ETT position.<sup>5</sup> Hence, an assessment to measure the ETT site and depth of minimal neck movement is necessary. Saline-inflated cuff identification of cuff at suprasternal notch with the neck in the neutral position is increasingly being studied and validated with X-ray.<sup>6,7</sup>

We would like to congratulate the authors for their study, and robust randomized control trials are further needed to validate the use of ultrasound to identify ETT position, depth, and POCUS time of intubation, specifically in emergency departments.

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