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Response

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Response



To the Editor:

We read Dr Tobin's letter to the editor regarding our published meta-analysis¹ with great interest. We are pleased that we agree on several issues. However, we would like to clarify several key points raised by Dr Tobin in his letter.

A major criticism of our review¹ was the conflation between weaning failure and extubation failure. In our article, we aimed to understand how the rapid shallow breathing index (RSBI) was evaluated in prior research, to characterize the diagnostic properties of the RSBI, and to pool similar outcomes as reported by study investigators. Our review highlights that researchers who evaluated the properties of the RSBI have confounded spontaneous breathing trial outcome (pass/fail) and extubation outcome (success/failure) in many studies, including the original publication by Yang and Tobin² wherein patients who were considered "weaning failures" included those for whom "mechanical ventilation was reinstated at the end of a weaning trial or who required reintubation within 24 hours."² As such, we believe that our findings justify the "predicate of our research question."

A second related criticism of our review was that we failed to recognize that the RSBI is a "screening test for weanability" and not a confirmatory test. Our review highlights that prior studies have not distinguished adequately between the use of the RSBI as a screening test and a confirmatory test. In the discussion section, we state that the RSBI should be used "in combination with other variables to enhance prediction of successful spontaneous breathing trial completion"¹ and that the RSBI "has only moderate predictive ability to rule out extubation success and does not adequately predict successful extubation."¹ Moreover, we highlighted the limitations of the RSBI as a single measure in the assessment of a multifaceted clinical decision in the associated podcast, editorial,³ and commentary.¹

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Response



To the Editor:

It was with interest that I read Dr Tobin's¹ thoughtful and insightful letter relating to the article by Trivedi et al² and my accompanying editorial.³ Dr Tobin states that the rapid shallow breathing index (RSBI) should not be used to predict successful liberation from mechanical ventilation but instead should be used as a "screening test for weanability or the likelihood of tolerating independent ventilation." I would note that, in the editorial, the word "predict" is used only once, in reference to the meta-analysis. In fact, the central theme to the editorial was antithetical to the idea of the RSBI being a sole indicator for liberation success. The concept that the RSBI should be used as a screening tool for liberation and that other assessments should be used to confirm that liberation could be successful is one with which I completely agree. However, despite what Dr Tobin or I might think, I would observe that many practitioners have come to use the RSBI to "predict" weaning success since the initial reports concerning this metric were published.⁴ The meta-analysis by Trivedi et al² examines existing data on the question of the predictive utility of the RSBI and reveals the limitations of this metric when used in this fashion. I would continue to state that the assessment of a patient's ability to be liberated from a ventilator requires careful clinical judgment and the consideration of a variety of factors.

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Early Tracheostomy as a Strategy for Capacity Strain Must Be More Thoughtfully Considered



To the Editor:

I read with interest a study by Hernández et al¹ published in *CHEST* (January 2022). Therein, the authors present a retrospective cohort study that examined outcomes after differential timing of tracheostomy in patients with COVID-19. They conclude that “early tracheostomy,” performed in the first week of intubation, is a feasible strategy for alleviating ICU capacity strain.

The authors demonstrate well the practical veracity of this claim but fail to grapple with its ethical implications. Until now, literature concerning rationing in the COVID-19 pandemic has dealt predominantly with withholding, redistributing, or postponing care (eg, mechanical ventilation, CPR, and nonurgent surgeries).² Hernández et al¹ propose that clinicians now have another strategy to address scarcity: “early tracheostomy.”

Rationing is always morally confronting. We are accustomed to centering the patient in front of us when weighing benefits and harms; for that reason, “bedside rationing” has earned a rightfully pejorative connotation.³ This is complicated by the nature of tracheostomy, an invasive procedure that may

permanently alter the patient’s anatomy and way of existing in the world. Furthermore, the decision to pursue or decline tracheostomy frequently is a turning point in goals of care. Families often reasonably report that their loved one would desire a time-limited trial of mechanical ventilation, but not tracheostomy. Recommending tracheostomy earlier than otherwise indicated thus risks impacting not only procedural timing but also overall goals of care.

Even if a consequentialist lens is used to assess this strategy, accepting that real world resource limitations sometimes necessitate difficult decisions, further evidence is needed. The authors argue that, because a difference in mortality rate was not detected between tracheostomy timing groups, a policy of early tracheostomy may be enacted without concern for maleficence. However, there are numerous nonfatal complications that may accompany tracheostomy; at a minimum, these should be explored before declaring “early tracheostomy” equivalent. Even the authors’ use of language obscures the strategy’s potential harms. The phrase “early tracheostomy” implies that tracheostomy during the first week of intubation was performed merely earlier than it would have been otherwise. This obfuscates that some fraction of those who underwent “early tracheostomy” would have been extubated successfully without undergoing the procedure.

Capacity strain in critical care has existed since before the COVID-19 pandemic and will persist after. It is essential that as new strategies for addressing strain are proposed they be assessed not only for efficacy but also for their ethical acceptability.

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