

The authors reply:

We thank Cheng et al (1) for their interest in our study (2), published recently in *Critical Care Medicine*, about airway pressure release ventilation (APRV) in patients with COVID-19. It is worth to note that some points had been already addressed in the article (2). Briefly, one of the main drawbacks in our study (2) was the reluctance of bedside clinicians to decrease the time on high pressure to less than 3 seconds, which led to a low mandatory minute ventilation and “transient” episodes of hypercapnia. We also clearly concluded that our results must be interpreted cautiously, as those were preliminary data and sample size was not reached (2, 3).

The relationship between transpulmonary pressure (P_L) and high pressure (P-high) is highly dependent on ventilatory settings and the accurate estimation of patient effort. Based on our center’s prior experience directly measuring the P_L , we acknowledged that excessive spontaneous breaths (SBs) during P-high could result in high P_L , potentially amplifying lung damage (2). However, Cheng et al (1) assume we indicated neuromuscular blocking (NMB) in every case while P-high greater than or equal to 24 cm H₂O, but this is incorrect. There is no reason to suspect a P_L higher than P-high in the absence of SB. We clearly stated in the protocol that NMB was not mandatory but indicated in case of excessive SB, so the main purpose was to avoid potentially dangerous P_L . Our results are consistent, as the median P-high was less than 24 cm H₂O only after day 5, whereas median time of NMB use in APRV was just 57 hours. Contrary to the suggestion of Cheng et al (1), the proportion of patients receiving NMB in APRV group was not higher than in control group; total time of use was also similar (2). Consistent with recent guidelines for NMB use in patients with acute respiratory distress syndrome (4), we aimed to limit NMB to less than or equal to 48 hours; we consider as moot the comparison between our NMB protocol and 9 days of NMB in four of 114 patients (3.5%) of an observational study (5).

Cheng et al (1) suggests our protocol may prolong mechanical ventilation because we assessed readiness to wean when P-high less than or equal to 12 cm H₂O, unlike their own study in which the P-high criterion was 20 cm H₂O. However, they reduced P-high bid, whereas we attempted to reduce it thrice daily as tolerated. They also argue that a patient in the study by Rola et al (6) started spontaneous breathing trial with P-high at 22 cm H₂O, but they fail to recognize that the patient failed the first extubation after being weaned on P-high at 18 cm H₂O and was finally extubated on a second attempt until day 13. Another patient did not tolerate decreasing P-high less than 33 cm H₂O during the first 2 weeks. Along our 10 years of experience with APRV, we have also witnessed the phenomenon of “apparent cure,” which consists of rapid improvement in oxygenation leading to a premature decrease of support by clinicians before alveoli have healed, resulting in derecruitment again, as described by Rola et al (6). This is the reason our weaning protocol is more gradual than suggested by Cheng et al (1). Therefore, we suspect that the main driver of ventilation length is the speed of lung improvement.

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DOI: 10.1097/CCM.0000000000005697

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Dr. Mireles-Cabodevila received funding from Elsevier, Jones & Bartlett Learning, and IngMar Medical. He receives royalties for books and chapters from Elsevier and Jones & Bartlett Learning. He co-owns a patent for Mid Frequency Ventilation. The remaining authors have disclosed that they do not have any potential conflicts of interest.

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Critical Care Resuscitation Unit Model Shows Benefit for Patients, Patient Flow Metrics, and the Medical System

To the Editor:

We read with great interest the authors' timely and important viewpoint (1) on resuscitative care units (RCUs) and their added value to patient care and outcomes published in a recent issue of *Critical Care Medicine*. The authors are indeed correct in summarizing that the literature surrounding RCUs has been bereft of high-quality studies. Although we concurred that demonstration of patient-oriented outcomes remained elusive, we disagreed about the authors' statements: "outcomes data for these novel models have yet to be published." Thus, we wish to communicate to the authors and readers about our experience in the critical care resuscitation unit (CCRU) at the R Adams Cowley Shock Trauma Center at the University Maryland Medical Center, especially in regards to patient outcomes which have been published in recent years. We have published several studies showing impact upon several patient-oriented and logistical outcomes. Since our opening in 2013, we have demonstrated a lower mortality and more rapid time to transfer (2) of critically ill patients, reduction in transfer time in ischemic stroke (3), improved time to neurosurgical intervention (4) and reduced blood pressure variability in the acute period following intracranial hemorrhage (5), decreased time to operative intervention (6), improved patient flow metrics for the medical center as a whole (7), and reduction in Sequential Organ Failure Assessment score of patients with shock during their short stay in the CCRU, which was associated with lower odds of hospital mortality (8).

Although our unit is somewhat specialized in its mission within the realm of RCUs, a significant portion of our impact within the medical system is by "patching the holes" for the facilitation and improvement of care flow metrics within the system and outside facilities but also addressing unexpected emergencies within

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DOI: 10.1097/CCM.0000000000005688