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# Prone Versus Supine Ventilation and Mortality Outcome in Intubated COVID-19 Patients, a Revision Letter

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Mohamed Fayed  and Wissam Maroun

Dear Editor,

We have read the article entitled “Prone Positioning in Moderate to Severe Acute Respiratory Distress Syndrome Due to COVID-19: A Cohort Study and Analysis of Physiology” by Shelhamer et al published in the *Journal of Intensive Care Medicine* (2021; 36(2): 241–252).<sup>1</sup> We want to congratulate the authors for this successful cohort article and make some contributions.


In the article, it has been mentioned that prone positioning provided a mortality benefit to intubated patients with COVID-19, as opposed to the patients who did not undergo prone positioning. It was reported that of the patients who underwent prone positioning, 77.4% died, as opposed to 83.9% of patients who did not. The authors mentioned some limitations of the study, but we think it needs to be addressed.

Several factors affected the outcomes. Firstly patients’ demographics were different in both groups. In the supine group, 15.6% of patients were above 80 years old, as opposed to 1.6% in the prone group. Secondly, comorbid conditions were more frequent in the supine group as opposed to the prone group of patients as follows: Congestive heart failure (9% vs 1.6%), chronic kidney disease (12.6% vs 6.5%), and smoking history (6.5% vs 1.6%). Thirdly, critical COVID-19 patients were 67.8% in the supine group as opposed to 46.8% in the prone group. Lastly, the treatment provided differed in both groups, where more patients in the supine group were treated in converted floor intensive care beds (69.8% vs 58.1%) compared to the prone group. Keeping in

mind that temporary intensive care beds were associated with higher mortality.<sup>2</sup> Evidence shows that the sequential organ failure assessment (SOFA) score correlates with mortality; however, in the study, there was a mortality difference despite both groups having the same mean SOFA score.<sup>3</sup>

All of the previous factors could have contributed to increased mortality in the supine group compared to the prone group. These should have been mentioned as a study limitation, and the conclusion should be cautiously drawn and rephrased.

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## References

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