CORRESPONDENCE

In reply: Apneic oxygenation: Let's all just take a deep breath

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To the Editor,

While we appreciate Dr. Funk's recent editorial¹ in the *Journal* regarding our narrative review article on "The effectiveness of apneic oxygenation during tracheal intubation in various clinical settings",² several points are worth further comment.

In the editorial, Dr. Funk reiterated valid points concerning the possibility of publication bias, the use of surrogate outcome measures, and the deleterious effect of hypercarbia. We agree that providing adequate preoxygenation and ventilation is crucial for general anesthesia (GA) during induction and/or before any attempt at airway manipulation. Therefore, we do not advocate omitting or reducing the duration of bag mask ventilation from the induction of GA until attempting intubation – though others have suggested this when using high-flow heated and humidified nasal oxygen.³

The major role of apneic oxygenation is to maintain arterial oxygen saturation during tracheal intubation when spontaneous ventilation is absent and mask ventilation is halted. The evidence presented in the review article² establishes the basis for advocating the benefits of apneic oxygenation as a modality that offers a longer (and thus safer) apnea time to achieve successful intubation. Multiple attempts at intermittently attempting mask ventilation and intubation potentially increase the risk of airway trauma

and edema, gastric insufflation, pulmonary aspiration, dental trauma, and desaturation— complications that the editorial also highlighted. This is especially crucial in selected high-risk populations, such as morbidly obese and critically ill patients,^{4,5} in whom desaturation may occur rapidly during apnea despite adequate preoxygenation and pre-intubation mask ventilation.

A practical guide to providing apneic oxygenation using nasal cannula during tracheal intubation is described on pages 425–426 of the review.² There have also been case reports of incorporating novel oxygen insufflation methods to provide apneic oxygenation using video laryngoscopes when difficult intubation is anticipated.⁶

In conclusion, apneic oxygenation during intubation attempts, combined with a multipronged approach to prudent airway management, could further optimize patient safety during tracheal intubation. This strategy lengthens the safe apneic time and reduces the incidence of peri-intubation desaturation until the airway is secured.

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