

**Consensus statement: Safe Airway Society principles of airway management and tracheal intubation specific to the COVID-19 adult patient group**

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In Reply:

We thank the authors of this letter for their interest in our Consensus Statement and for reporting their experience with tracheal intubation in a group of COVID-19 patients.<sup>(1)</sup> They identified hypoxaemia during airway management as a frequent occurrence and suggest this is exacerbated by the practice of minimising mask ventilation via a bag-valve-mask (BVM) following the induction of anaesthesia and avoiding apnoeic oxygenation techniques during tracheal intubation.

In the first version of our Consensus Statement (released online on 16th March 2020) we advocated that mask ventilation be used only for rescue oxygenation, in order to minimise the use of a potentially aerosol generating procedure (AGP). This recommendation was consistent with US and UK guidelines released on 23rd and 27th March, respectively.<sup>(2, 3)</sup> We became aware, through our own experience and personal correspondence, that profound hypoxaemia was a common occurrence during airway management in COVID-19 patients with respiratory failure. In the second version of our statement (released online on 2nd April 2020), we recommended careful mask ventilation during the onset of muscle relaxant for patients with severe disease.

In both versions of our Statement, we recommended against the use of apnoeic oxygenation techniques during tracheal intubation, such as nasal oxygen via high-flow or standard cannulae.<sup>(1)</sup> Despite becoming aware of the apparent incidence of hypoxaemia during airway management in COVID-19 patients, these techniques may pose a significant risk of aerosol generation in close vicinity to the airway operator and their assistant and have unproven evidence of benefit. The US guidelines do not mention apnoeic oxygenation techniques, while the UK guidelines advise against high-flow nasal oxygen.<sup>(2, 3)</sup>

Published on 10th April 2020, a case series of 202 COVID-19 patients from Wuhan, China reinforced the suspicion that hypoxaemia during airway management for respiratory failure is a common phenomenon (73% in their series)<sup>(4)</sup> The hypoxaemia was short-lived in 82% of these patients and there were no deaths due to hypoxaemia around the time of intubation. No patients received high flow nasal oxygen during tracheal intubation in this series, however the majority received mask ventilation after induction of anaesthesia and prior to laryngoscopy (93%).

Pre-pandemic guidelines for airway management in critically ill patients recommend mask ventilation during the apnoea period and apnoeic oxygenation, with nasal oxygen, during tracheal intubation.<sup>(5)</sup> It is unclear which of these techniques is most beneficial in preventing hypoxaemia during airway management in COVID-19 patients with respiratory failure. Until further data are available, we favour the use of careful mask ventilation, (using a Vice (V-E) grip and a two-person technique) over apnoeic nasal oxygenation, as we believe it poses a lesser risk of aerosol generation.

References

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