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Randomised controlled trials of videolaryngoscopy vs direct laryngoscopy on intensive care are needed

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Dear Editor,
We read with great interest the editorial by Larsson and Dhonneur [1] regarding the role of videolaryngoscopy in airway management on intensive care units (ICUs).

We have had a dedicated MacIntosh-style videolaryngoscope (VL) on our ICU for 4 years, and believe that this has significantly contributed to safer airway management.

Airway-related complications are both more common in the ICU environment and more likely to result in harm than elsewhere in hospitals [2, 3]. Many factors can explain this: airway management in ICU may often be a true emergency, with less preparation time and increased risk of aspiration; ICU trainees (and consultants) are increasingly from non-anaesthetic backgrounds; ICU nurses have less airway management training than anaesthetic nurses or operating department practitioners; airway equipment may be less readily available than in theatre; and airway complications occur more commonly out of hours when senior clinicians are unavailable [4].

Since its introduction, use of the VL has rapidly become routine practice for all intubations on our ICU. Advantages of videolaryngoscopy as

compared to direct laryngoscopy include training junior doctors (the separate VL screen enables a supervising doctor to see the intubating doctor's view of the larynx, provide practical advice to assist intubation and often enables the completion of intubation by the junior when this would not be possible without a VL); training ICU nurses (the separate VL screen provides real-time monitoring of the effect of cricoid pressure and allows adjustment as needed); improved management of the unanticipated difficult airway (as a VL is immediately to hand) [5]. Perhaps the greatest impact has been on improved human factors and team working, owing to all staff involved being able to watch the intubation and anticipate the next steps.

An important advantage of VLs based on a MacIntosh blade is that the same skills as are used for direct laryngoscopy can be used, with less need for dedicated VL training. We teach our trainees to use the VL blade in the same way as a standard MacIntosh laryngoscope, initially without access to the VL screen (which is used by the trainer): if the view at direct laryngoscopy is difficult the trainee is given access to the VL screen to assist in completing the intubation. A 'difficult airway VL blade' is immediately available when intubation is not easy.

We support Drs. Larsson and Dhonneur's call for more randomised controlled trials (RCTs) of videolaryngoscopy vs direct laryngoscopy on ICU. We hope such trials will be performed soon, before widespread uptake of these popular devices makes this practically difficult. We would suggest that such RCTs would ideally aim to capture not only procedural aspects of the intubation but also broader non-technical safety aspects of the team process (e.g. situation awareness, team working, learning curves) and the impact on

trainees' skill acquisition and success. Such human factors are difficult to quantify, but in a similar way that central venous catheter placement under ultrasound guidance has advantages for training and team working, we believe that VL-guided intubation has human factor-related advantages that should not be ignored.

Conflicts of interest Professor Tim Cook has received payment (>5 years ago) for lecturing for the LMA company/Intavent Orthofix. The department of anaesthesia has received free or at cost airway equipment for evaluation or research from numerous airway companies. This includes loan of equipment by Storz.

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