

# Improving the First-attempt Success with Hyperangulated Videolaryngoscopy in Emergency Settings

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Airway management is particularly challenging, especially in emergencies. It may require one or more special devices in certain cases. The videolaryngoscope is an important device for rapidly securing the airway. Based on the type of blades in a videolaryngoscope, it is broadly classified into two types: (1) standard-geometry videolaryngoscopy (SGVL) and (2) hyperangulated videolaryngoscopy (HAVL).

Many studies were published on this device, most in operating room settings and a few in emergency department settings. However, studies focusing exclusively on difficult airway scenarios are limited in both settings. Recently, a systematic review and meta-analysis on the comparative efficacy of SGVL versus HAVL was published. It concluded that the SGVL should be prioritized for emergency airway management, while careful operator training is required if an HAVL is used (1).

The HAVL was introduced with the main purpose of improving the laryngeal view in difficult cases, thereby leading to a higher first-attempt success rate. However, the main reason the previous meta-analyses, as well as the recent one (1), could not definitively conclude that HAVL is a better choice in difficult conditions is probably the limited number of studies focusing exclusively on difficult airways in these settings. Notably, a recent study that included only difficult airway conditions of diverse origins concluded that the laryngeal view and first-attempt success

rate were superior with the HAVL compared with the SGVL (2). Importantly, all cases in that study were managed by the expert operators in the operating-room setting (2) and therefore cannot be extrapolated to all situations, as emphasized by von Hellmann et al. (1).

The main focus should be the conclusions of the meta-analysis by von Hellmann et al. (1): “The superior optical view afforded by HAVL did not translate into higher rates of successful first-pass intubation.” The improved laryngeal view with a videolaryngoscope results from the camera’s position, which can bypass anatomical structures that obstruct the view during direct laryngoscopy. However, this, per se, cannot facilitate passage of the tracheal tube. Hence, it is unsurprising that good laryngeal views did not result in a higher first attempt success rate. Moreover, the grading of the laryngeal view on videolaryngoscopy is controversial and beyond the scope of this Editorial. Indeed, clinicians may be better served by focusing on a slightly compromised view (“worse or partial view”) to facilitate passage of the tracheal tube (3).

Furthermore, I agree with the recommendation of von Hellmann et al. (1) “The need for dedicated training, potentially including simulation and deliberate practice, before relying on HAVL for emergency airway management.” Nevertheless, I would like to add a few important points in addition to noting the lack of expertise. 1. The proper “sniffing position” should be strictly adopted for difficult cases warranting an HAVL, except where it is contraindicated. This point is often overlooked in current practice. 2. It is advisable to use the specialized stylet offered by the company rather than other personal choices. This is especially



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true considering the HAVL's unique geometry and variations among manufacturers. Here, I would like to emphasize that it is better to stick to the stylet during the training phase, and the choice between stylet and bougie might be left to the individual preference for the experts. In rare cases, it is possible only to pass the introducer (bougie) under vision, and the tracheal tube subsequently over it. 3. The external laryngeal manipulation by an assistant, with close on-screen monitoring, would contribute further to the successful passage of the tracheal tube.

## Conclusion

I suggest that future training focus on the three points as discussed above. Designing a randomized study presents many practical challenges in emergency settings. Therefore, I recommend conducting an observational, multicenter study involving a large number of participants, focusing exclusively on difficult airway scenarios in which HAVL is applied, and incorporating these three points.

## Footnotes

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