

Recent Advances in Difficult Airway Management

Kar-Lok Wong MD, PhD

Associate Professor

Department of Anesthesia & Institute of Clinical Medical Sciences,

Director, Animal Lab & Research Center

China Medical University & Hospital, Taichung, Taiwan

Critical care physicians are encountered with a significant number of difficult airway problems that will cause difficulty in laryngoscopy, intubation, and bag-valve-mask ventilation. Critical care physicians need to be familiar with the difficult airway algorithms and have skill with relevant airway devices and adjuncts.

Recent advances in technology and fiberoptic systems have resulted in an explosion in the availability of intubating devices. The new intubation devices fall into three groups. First, a group of bladed devices including the modified blades for direct laryngoscopy (e.g. Flexiblade, McMorrow and McCoy) and light-bending blades requiring indirect laryngoscopy (e.g. the Glidescope, the McGrath and Macintosh videolaryngoscope). The second group consists of fiberoptic stylets placed within the tracheal tube (e.g. the Shikani Intubating Stylet and Bonfils). Lastly a third group of devices that act both as a fiberoptic blade and conduit through which the tracheal tube is passed (e.g. the Airtraq and the CTrach LMA,).

We focus on several of the newly developed and the ordinary devices that particular emphasis for the difficult airway. Recent information about standardization for those new devices for difficult airway management is also discussed. However, no instrument is perfect in all circumstances. A particular feature of the instrument may be an advantage in certain circumstances but a disadvantage in others. Choice and combination of device based on experienced clinical judgment may be decisive to their application.