Airway Management

There is a recent review (2015) of guidelines for management of unanticipated difficult intubation in adults made by the Difficult Airway Society (DAS), based in UK. These guidelines are made to prioritize oxygenation while limiting the number of attempts to intubate to minimize trauma. The last guidelines were revised in 2004, and the introduction of new pharmaceutical agents and video laryngoscopy (to name only those changes) made another review urgent. The Canadian Airway Focus Group (CAFG) also made recommendations in 2013. Their conclusion was that “Irrespective of the technique(s) used, failure to achieve successful tracheal intubation in a maximum of three attempts defines failed tracheal intubation and signals the need to engage an exit strategy”. This article is not meant to revise the entire guidelines, but to point recent trends in airway management to avoid doing more than 3 attempts!

Some methods are still in the guidelines and have proven their efficiency. If you face a difficult intubation, you should preoxygenate your patient adequately, place the patient in optimal condition for laryngoscopy. Apneic oxygenation is slowly taking its place and there were a lot of articles written on the subject, an even number in favor and against. This method is meant to increase the duration of apnea without desaturation, in addition to pre-oxygenation. It should prevent hypoxemia by administrating oxygen during laryngoscopy. It can be achieved by delivering 15 lpm of oxygen through nasal cannula or giving oxygen via transnasal tube, while the patient is in apnea. Half a dozen observational studies with small numbers of patients showing that safe apnea times can be prolonged up to 55 minutes with apneic oxygenation provided by tracheal catheters or equivalent devices! It is mostly used in emergency rooms and ICU.
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The choice of laryngoscope and the skills of the practitioner influence greatly the ease of the technique. In the new guidelines, the DAS recommends that every doctor should be trained to use and have direct access to video laryngoscope because it offers a different view from direct laryngoscopy. Though the video laryngoscope’s success rate for intubation is higher in operating room than in all other hospital setting, it may only because of training and ease of use. New video laryngoscope like APA lightweight video laryngoscope, can be used to do a direct laryngoscopy, as well as an indirect video one, and could be something interesting to consider.

As for the other techniques already in place, like external laryngeal manipulation (BURP), and gum elastic bougie, they can be helpful during video laryngoscopy. For the first one, the person doing it will be able to see directly the effect on the screen. As for the bougie, it will help direct tube during indirect visualization.

The “Can’t intubate/Can’t oxygenate” (CICO) events are rare, but they still occur. Another technique that we see now is the use of ultra-sound to identify the airway structure in surgical airways; a simple and fast technique. Recent article on CICO highlighted the importance of those improvements in well known procedures. The technology incorporated must be user-friendly, without the need of complicated training because of the low incidence of the real CICO events. The most important factors for success remain the knowledge of algorithm, quick decision-making, familiarity with equipment and good communication within the team. Simulations should be done as often as possible on mannequins to maintain a high level of competence.
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