



Algorithmic Approach

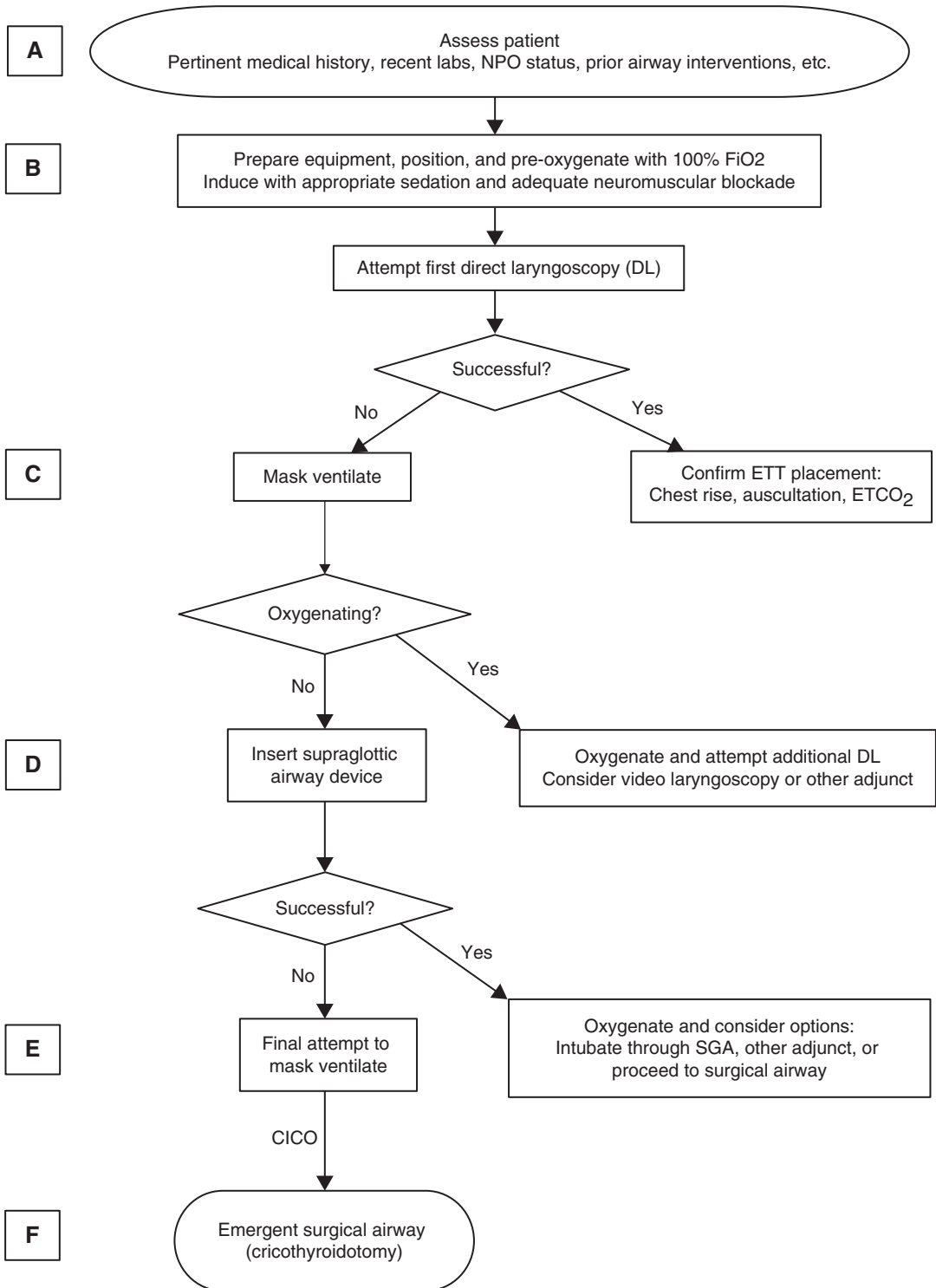
- A. Prior to any airway manipulation, evaluate the patient. This includes assessment of pertinent medical history for findings which may influence your plan or ability to perform different airway procedures (e.g., heart disease, chronic kidney disease, head/neck radiation or surgery, hospital course), performance of a focused physical exam (mouth opening, Mallampati classification, cervical spine range of motion), review of nil per os (NPO) status and recent labs, and review of prior airway intervention records if available. During the initial evaluation, continually monitor for hemodynamic instability and acute worsening of hypoxemia. Do not hesitate to call for assistance if any difficulty is anticipated.
- B. Ensure all appropriate equipment is available and functioning; this includes, but is not limited to, a bag-valve-mask (BVM) apparatus, suction with large-bore rigid catheter (e.g., Yankauer catheter), appropriately sized endotracheal tubes (ETT) and laryngoscopes, ETT introducer (e.g., gum elastic bougie), and supraglottic airway devices. Assume the sniffing position (neck flexion, atlanto-occipital extension) if possible; if patient cannot tolerate the sniffing position or is obese, elevate the head of bed to 20–30 degrees. Pre-oxygenate with 100% FiO₂ for 2 min if the patient is stable; if more expedient intervention is indicated, attempt four inspiratory-expiratory cycles at near-vital capacity. Administer an appropriate sedative and adequate neuromuscular blockade.
- C. Attempt first laryngoscopy. Consider the use of video laryngoscopy or other adjuncts in order to maximize the chance for success on first attempt, as the chance of successful intubation declines with each subsequent attempt [1]. If successful, confirm placement by direct visualization, observation of symmetric chest rise, bilateral auscultation, and capnography. Continuous quantitative capnography remains the gold standard for confirmation of ETT placement [1]. If unsuccessful, attempt to mask ventilate.
- D. If oxygenation is adequate with mask ventilation, oxygenate and attempt up to two additional laryngoscopies. Consider the addition of video laryngoscopy or other adjuncts in order to improve likelihood of success with subsequent attempts. If unable to achieve adequate oxygenation with mask ventilation, attempt insertion of a supraglottic airway (SGA) device.
- E. If SGA insertion is successful, continue oxygenation and consider options for the next step.

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This may include intubating through the SGA with a fiberoptic bronchoscope, utilization of video laryngoscopy if not already attempted, use of additional adjunctive devices if available, or progression to surgical airway intervention (e.g., tracheotomy, cricothyroidotomy). Appropriate consultant services should be notified of the situation (e.g., anesthesiology, airway surgical team, etc.). If you are unable to oxygenate via the SGA, it is reasonable to make one final attempt at mask ventilation.

- F. "Cannot intubate, cannot oxygenate" (CICO) indicates at least one failed attempt at laryngoscopy, at least one failed attempt

at mask ventilation, and failed SGA insertion. CICO situations necessitate emergent surgical airway intervention in order to achieve adequate oxygenation. In such an emergency setting, cricothyroidotomy is the procedure of choice as it allows the fastest reliable tracheal access [1]. Cricothyroidotomy is not recommended in children due to a high incidence of subglottic stenosis. If critical hypoxemia is observed, consider inserting a 14-gauge needle through the cricothyroid membrane in order to initiate passive oxygenation while preparations for the procedure are made.



Algorithm 171.1

Reference

1. Frerk C, et al. Difficult Airway Society 2015 guidelines for management of unanticipated difficult intubation in adults. *Br J Anesth.* 2015;115(6):827–48.