



Difficult Airway in a Preeclamptic Patient

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Introduction

The risk of a difficult intubation in obstetric patients is estimated to occur at more than twice the rate of a difficult intubation in non-obstetric patients, due to physiologic changes that occur pregnancy and labor as well as the urgency that often surrounds these patients.

Case Presentation

A 28 year old primigravida admitted at 33 weeks and 1 day for pre-eclampsia with severe features. On hospital day 4 labor was induced for labor for persistently severe range blood pressures. On hospital day 6 the fetal tracing began to deteriorate so the decision was made to proceed with an urgent Cesarean section. She had not had labs drawn since hospital day 3, and two new urgent attempts resulted in clotted blood. The urgency for delivery increased, so she was induced for general anesthesia. Of note on exam, she had a very limited mouth opening.

A rapid sequence induction was performed. On video laryngoscopy, the oropharynx appeared swollen and erythematous, however the vocal cords were adequately visualized. There was significant difficulty passing the endotracheal tube into the patient's small mouth. A tonsil was noted on the video screen and the intubation attempt was aborted. Mask ventilation was successful, and the obstetric team was encouraged to proceed with an uneventful surgery. Intubation was again attempted by a more senior provider, but the view was entirely obscured by brisk bleeding. LMA placement was attempted but unsuccessful, then followed by ineffective mask ventilation and oxygen desaturation. A scalpel cricothyrotomy was performed as her SpO2 dropped below 50% for approximately 4 minutes. Large amounts of clotted blood were removed periodically from her mouth. Otolaryngology was contacted and the patient was transferred to the main operating room for a tracheostomy. The surgical note reported that a large laceration of the right tonsil had “virtually dissected the tonsil from the anterior to posterior direction” and the tonsil was removed.

The patient was admitted to the ICU postoperatively. On postoperative day 0 she was liberated from mechanical ventilation. Her tracheostomy was removed on hospital day 9 and she was discharged to home on hospital day 11.

Discussion

Difficult airways not only occur more frequently in obstetric patients but are also tougher to predict. Reduced apnea time, increased aspiration risk, and the urgency surrounding difficult clinical scenarios involving two patients can result in scenarios where rapid risk-benefit decisions must be made. This case demonstrates the risk associated with foregoing neuraxial anesthesia in an obstetric patient. It also shows the importance of making every effort to investigate thrombocytopenia and coagulopathy. Ultimately, the decision to proceed with neuraxial anesthesia is different for each case and should be based on the clinical context. However, currently an exact safe threshold for platelet count when performing neuraxial anesthesia is unclear, but a symptomatic subdural or epidural hematoma is exceedingly rare regardless of platelet count. SOAP recommendations support the evidence-based use of neuraxial anesthesia in patients with a platelet count greater than 70 and a risk-benefit analysis is recommended below this level.

Given the risk of difficult or failed intubation is higher in laboring patients, providers should be knowledgeable in the obstetric difficult airway algorithm. The World Federation of Societies of Anaesthesiologists published a resource that outlines the obstetric difficult airway algorithm.

Further, video laryngoscopy also has been shown to have its own associated complications, having to do with the size of the blade limiting space in the oropharynx, and technique of inserting the endotracheal tube. There is a statistically higher risk of injury with video laryngoscopy than for direct laryngoscopy, with the right tonsillar pillars and soft palate being the most common sites of injury.

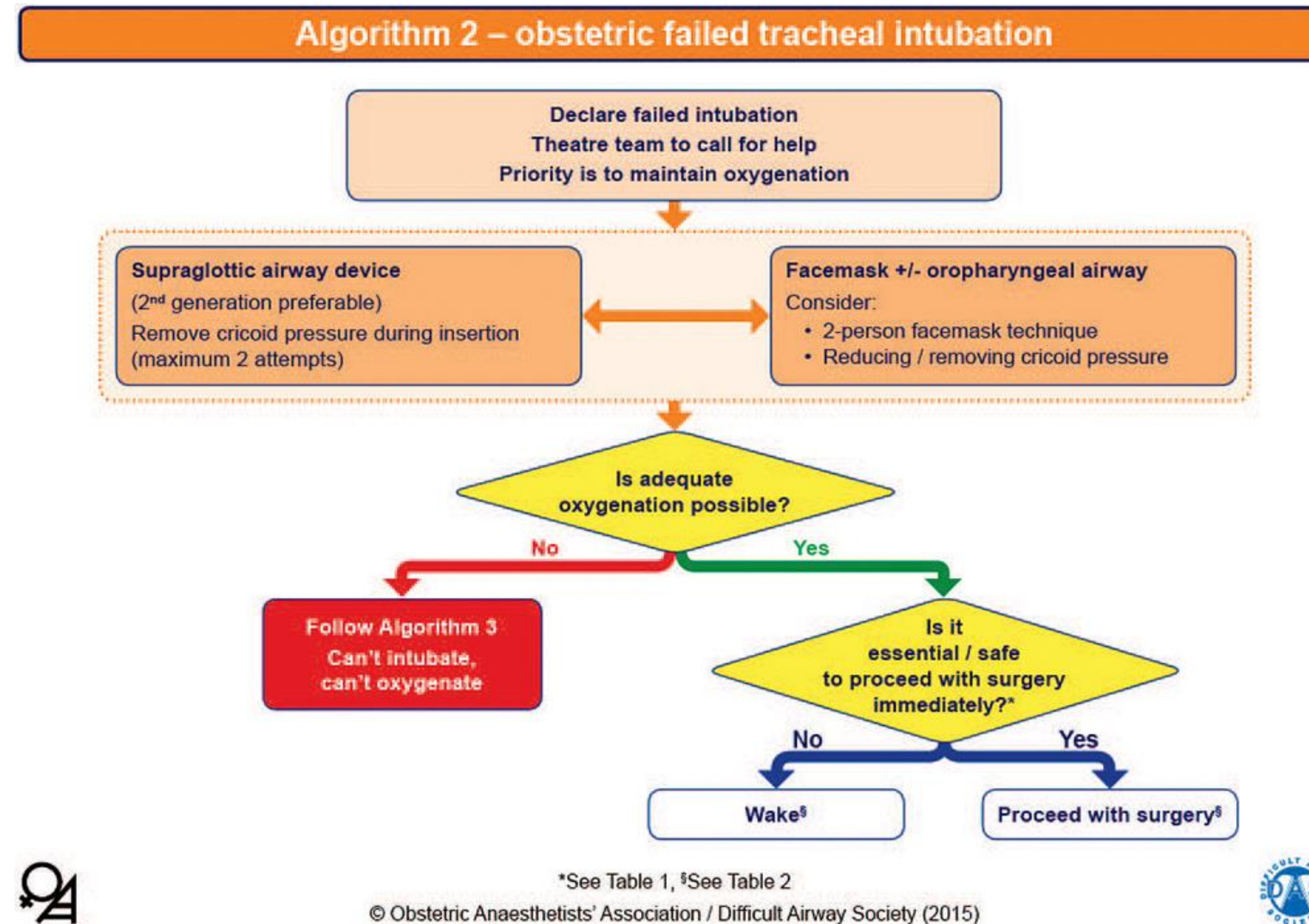
Conclusion

The risks, benefits, potential morbidity and frequency of a difficult or failed airway should be carefully considered prior to withholding neuraxial anesthesia in obstetric patients.

References

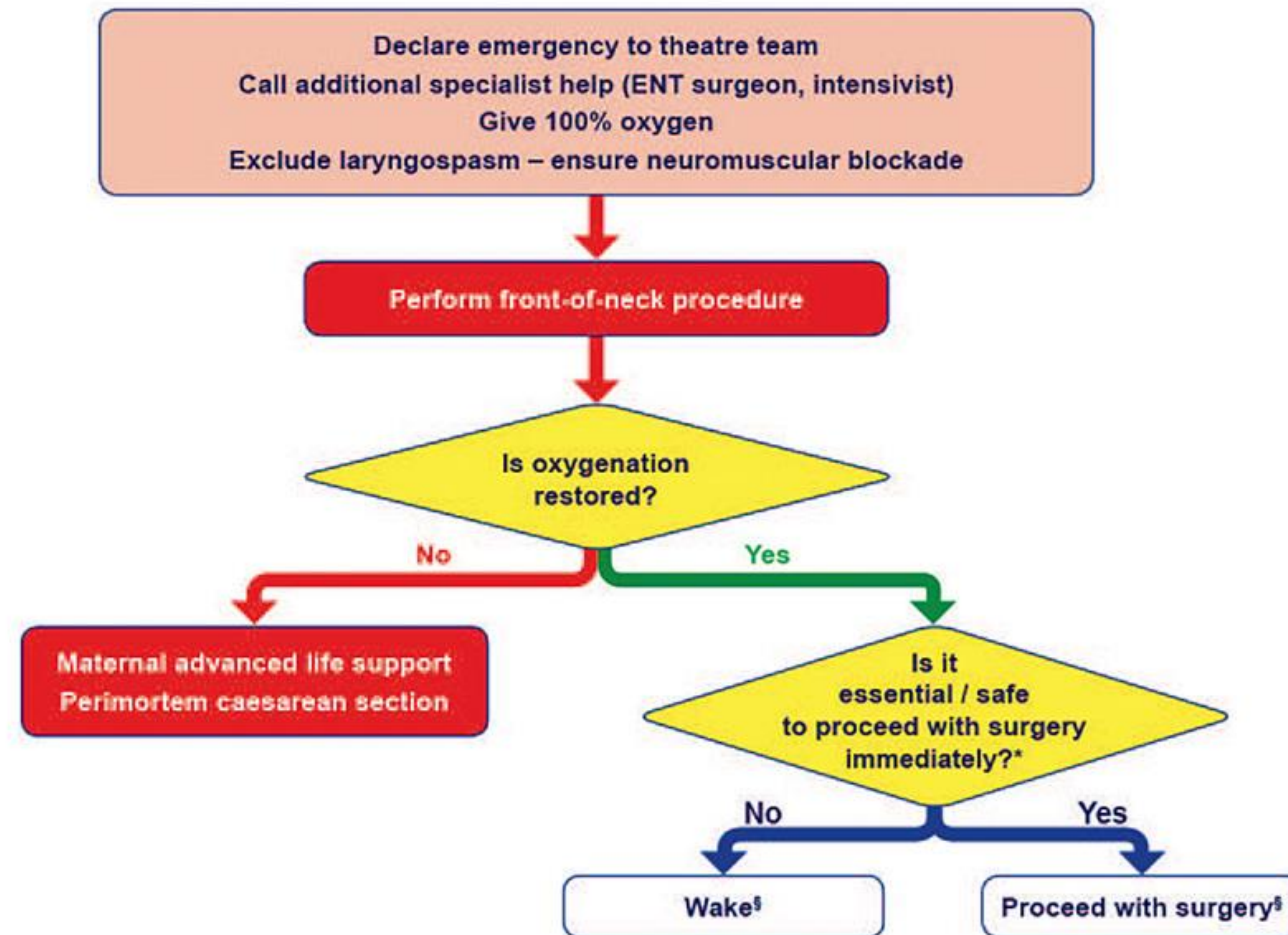
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WFSA Obstetric Failed Intubation



WFSA Can't Intubate, Can't Ventilate

Algorithm 3 – can't intubate, can't oxygenate



*See Table 1, [§]See Table 2

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