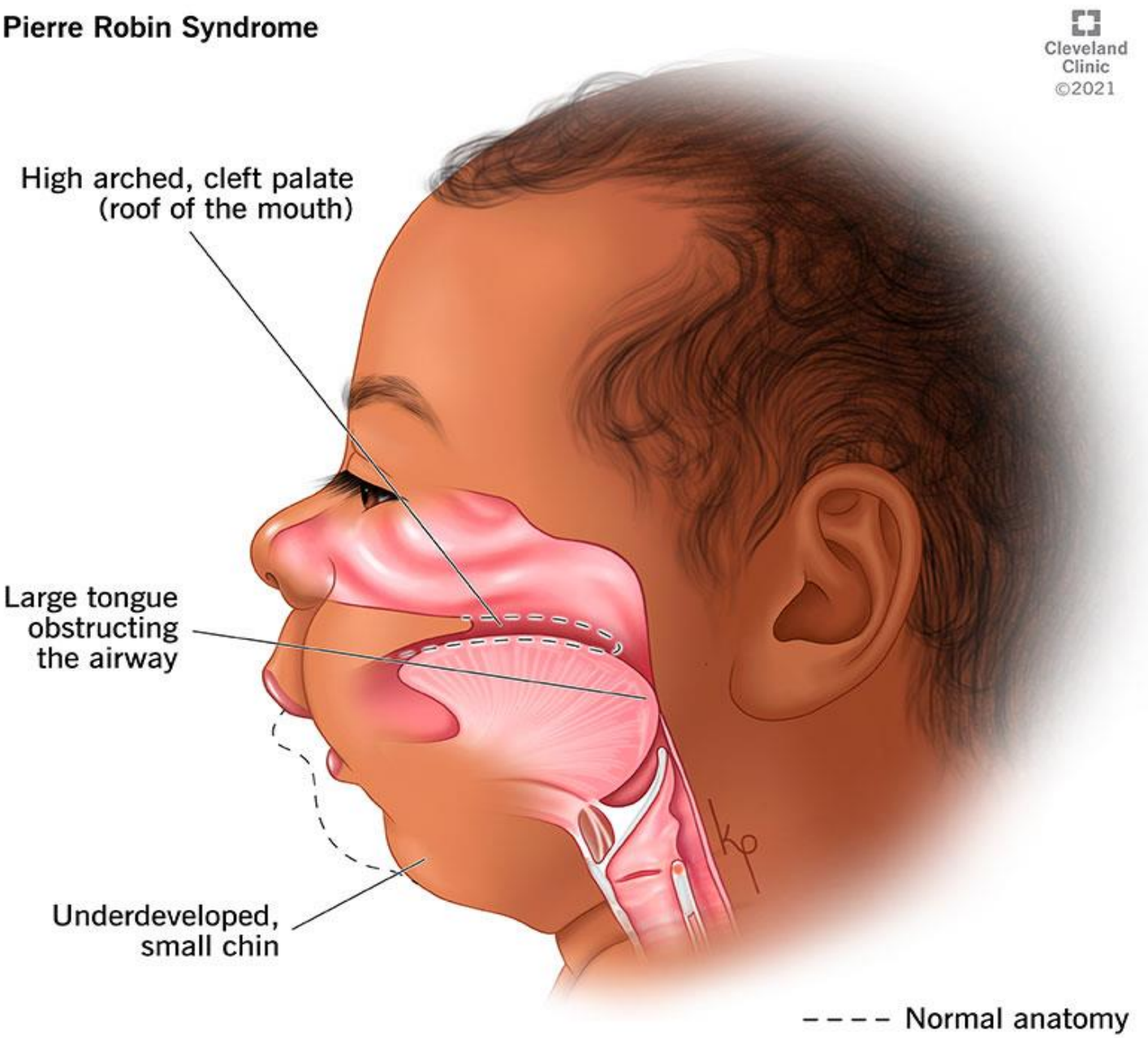




Case Presentation: Pierre Robin Sequence Airway Management

Michael (Misha) Yakobi, MD¹, Sarah Palsen, MD¹

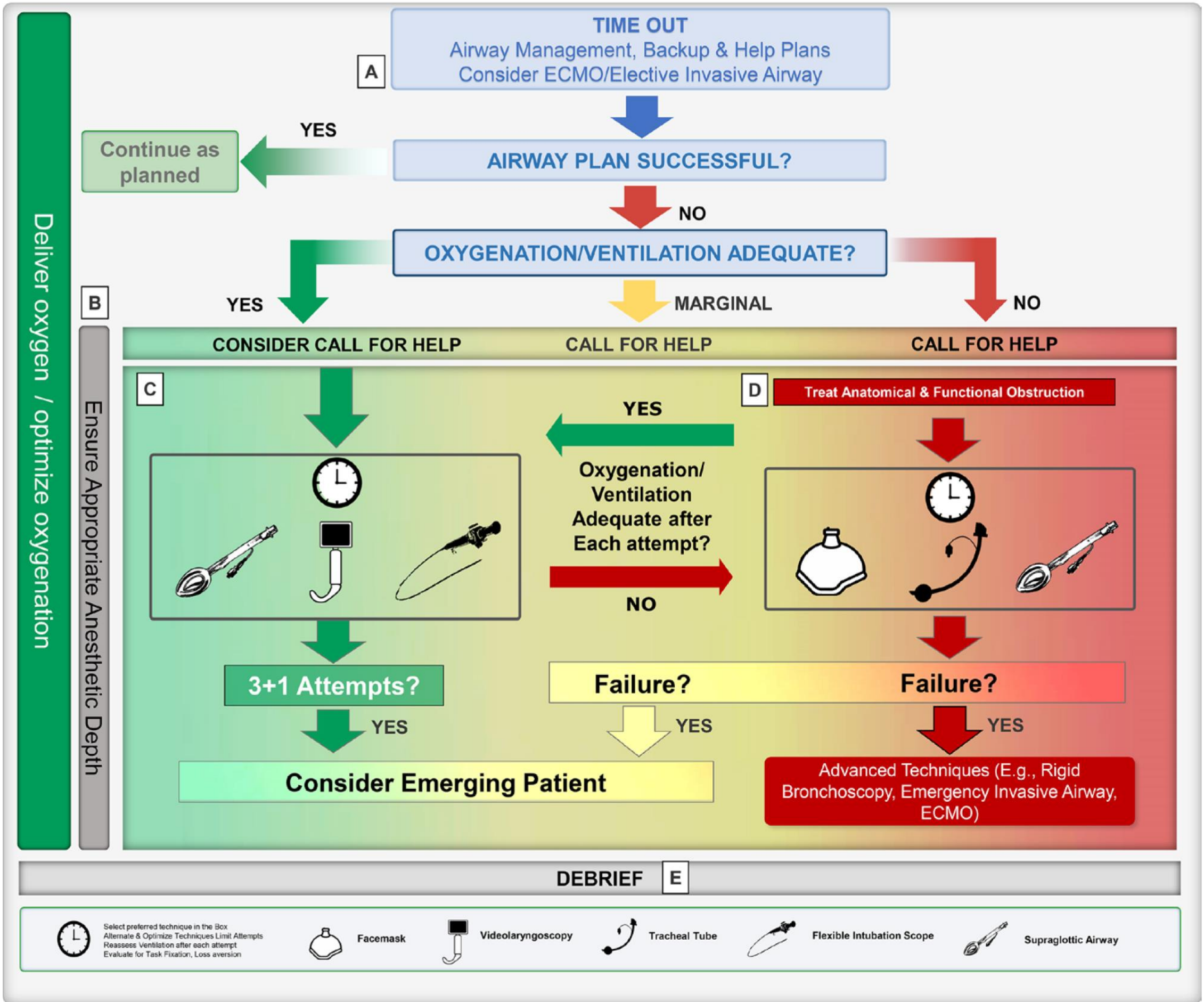
¹ Department of Anesthesiology, Perioperative and Pain Medicine, Icahn School of Medicine at Mount Sinai, New York, NY



Learning Objectives

Pediatric patients with syndromes and sequences, including Pierre Robin sequence, present challenges to airway management.

Familiarity with the pediatric difficult airway algorithm and preparation are essential.



Case Description

A 14-month-old with Pierre Robin sequence and history of prior difficult intubation presented for tympanoplasty, cleft palate repair, circumcision, and hip arthroscopy under a combined anesthetic. After inhalational induction and confirmation of mask ventilation, peripheral intravenous access was obtained and rocuronium and glycopyrrolate were administered.

Attempt	Equipment	Result	Implementation of Difficult Airway Algorithm Principles
1	Glidescope LoPro S2	Unsuccessful – grade 1 but limited by anterior airway, secretions and quick desaturation	Preparation for difficult airway, advanced airway equipment used early
2	Direct laryngoscopy Miller 1 by otolaryngologist	Unsuccessful – limited view and desaturation	Change of provider and equipment
3	Air-Q LMA placed and intubation using fiberoptic bronchoscope	Success	Limited attempts, supraglottic airway placed, change of equipment
Overall			Confirmed ability to mask ventilate before and between attempts, apneic oxygenation via low-flow nasal cannula

Discussion

Compared to adults, pediatric airway anatomy includes a proportionately larger tongue, relatively anterior larynx, and floppy and omega-shaped epiglottis. Certain syndromes can present additional challenges to airway management. Pierre-Robin sequence is associated with glossoptosis, micrognathia, airway obstruction, and often cleft palate.

This case demonstrates utilizing the pediatric difficult airway algorithm to a specific clinical situation. Antisialagogues can decrease secretions but take 15-30 minutes to take effect. Apneic oxygenation with low-flow nasal cannula did not significantly impact time to desaturation. High-flow nasal cannula may be more beneficial. As demonstrated, familiarity with the pediatric difficult airway algorithm and comfort with pediatric equipment are critical in these cases.

References

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Dexamethasone 1mg/kg was given for multiple attempts and planned cleft palate repair. The remainder of the procedures were uncomplicated, and the patient was extubated awake in the operating room with obstruction relieved using a tongue stitch. The patient was monitored overnight and discharged the next day.