

Emergency Department Use of Airway Adjuncts in the Setting of Endotracheal Intubation for Traumatic Injury

WHAT WE LEARNED

Airway adjuncts despite featuring ubiquitously in difficult airway algorithms, remain underused in the setting of trauma.

BACKGROUND

- ❑ Airway management is a critical component of care for trauma patients
- ❑ Adjuncts include but are not limited to supraglottic airways (SGA), oropharyngeal airways (OPA), and nasopharyngeal airways (NPA), and noninvasive positive pressure ventilation (NIPPV)
- ❑ Existing literature is insufficient to evaluate which airway adjuncts are most useful after failed initial intubation.

OBJECTIVES

- ❑ To characterize selection and frequency of use of airway adjuncts in trauma patients

METHODS

- ❑ Trauma Quality Improvement Program (TQIP) is a multi-center registry capturing risk-adjusted data on all trauma patients in 900 participating sites including information regarding airway use and management.
- ❑ Secondary analysis of data from encounters included in registry that required airway placement.

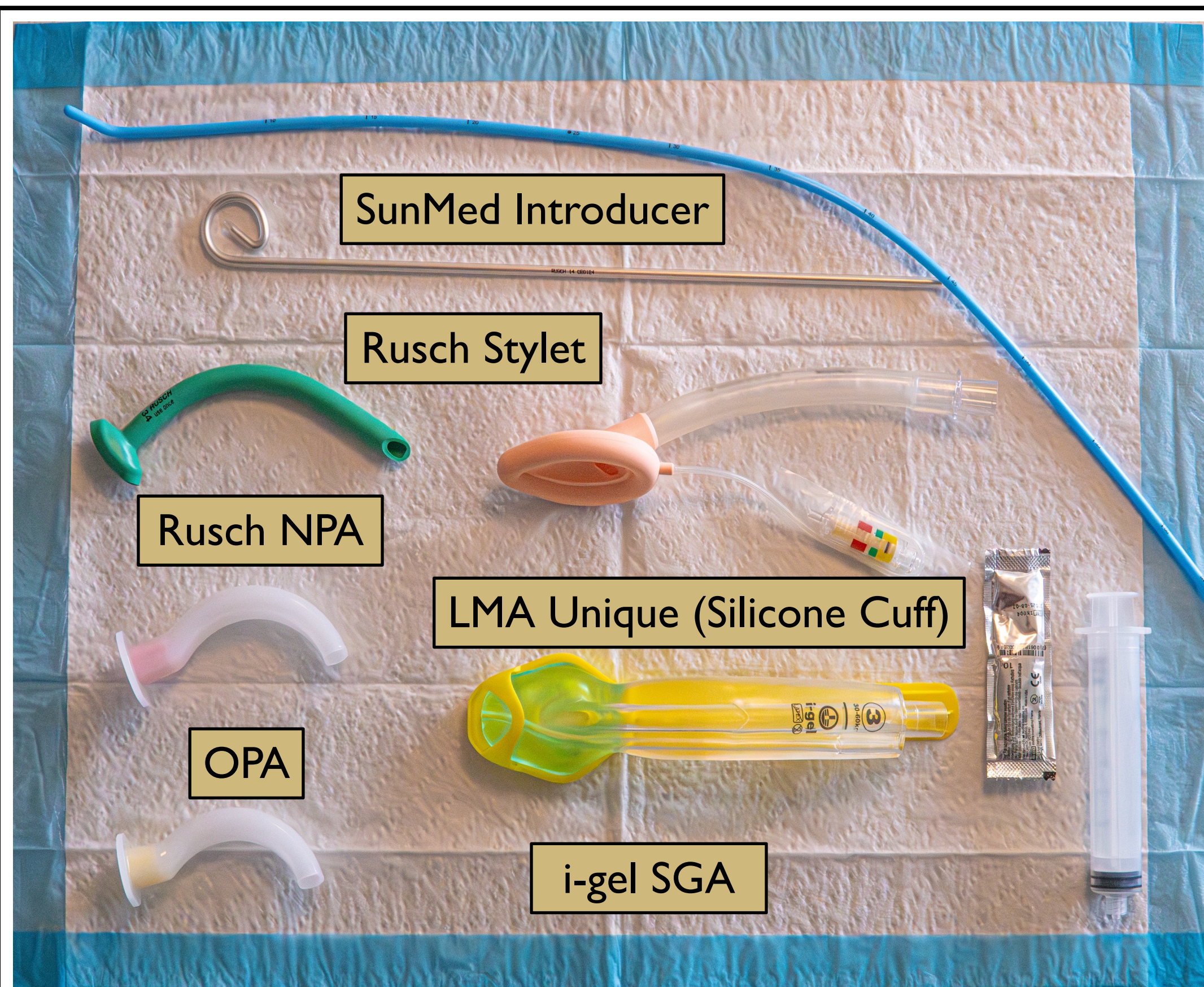


Figure 1: Airway adjuncts depicted above

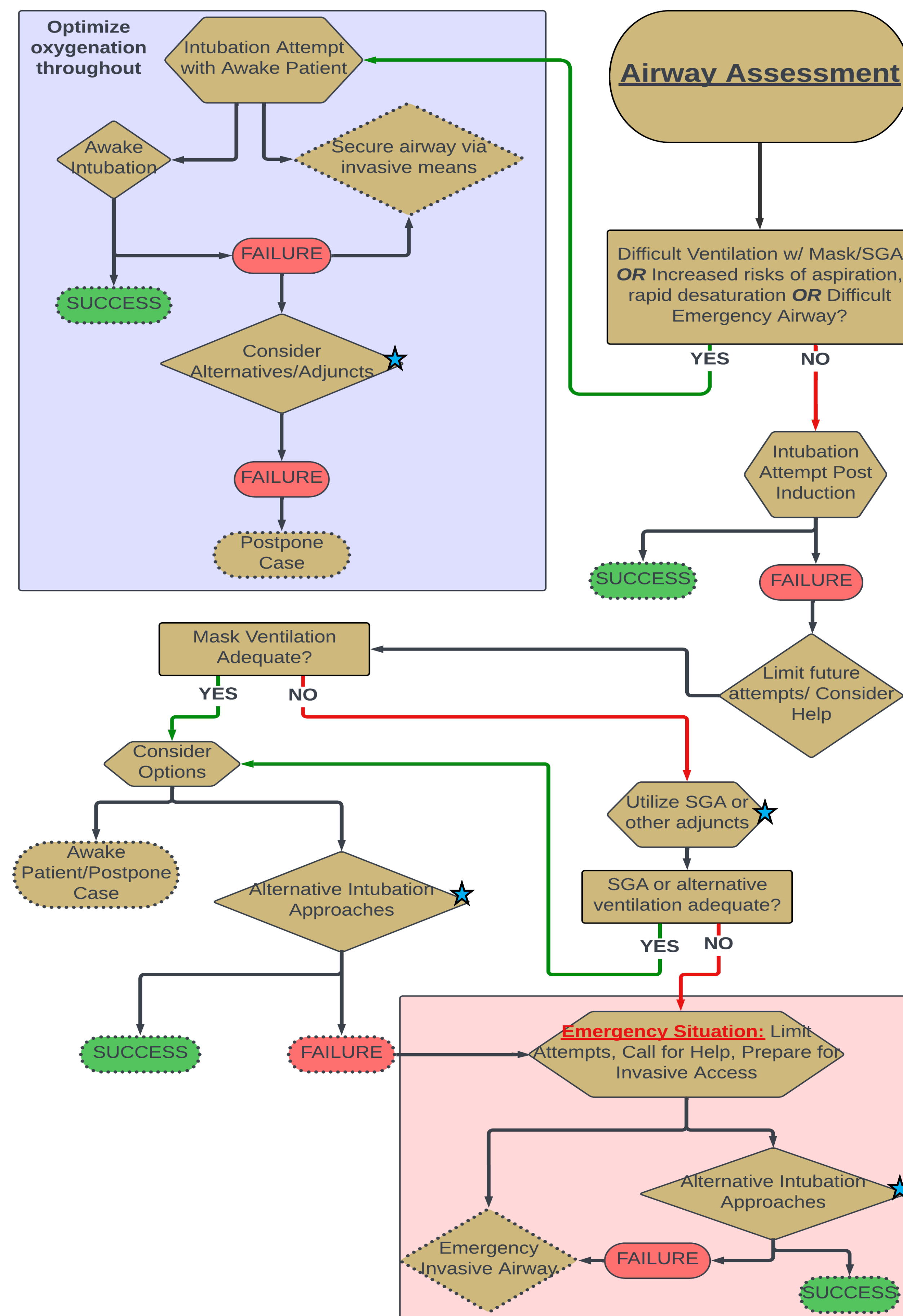


Figure 2: Adapted ASA Difficult Airway Algorithm. In the management of difficult airways, the goal is the optimization of first intubation attempt success, and working to prevent adverse outcomes such as, but not limited to death, brain injury, cardiopulmonary arrest, and airway trauma. Pathways include (1) calling for help, (2) optimization of oxygenation, (3) use of a cognitive aid, (4) noninvasive airway management devices, (5) combination techniques, (6) invasive airway management interventions, and (7) ECMO.

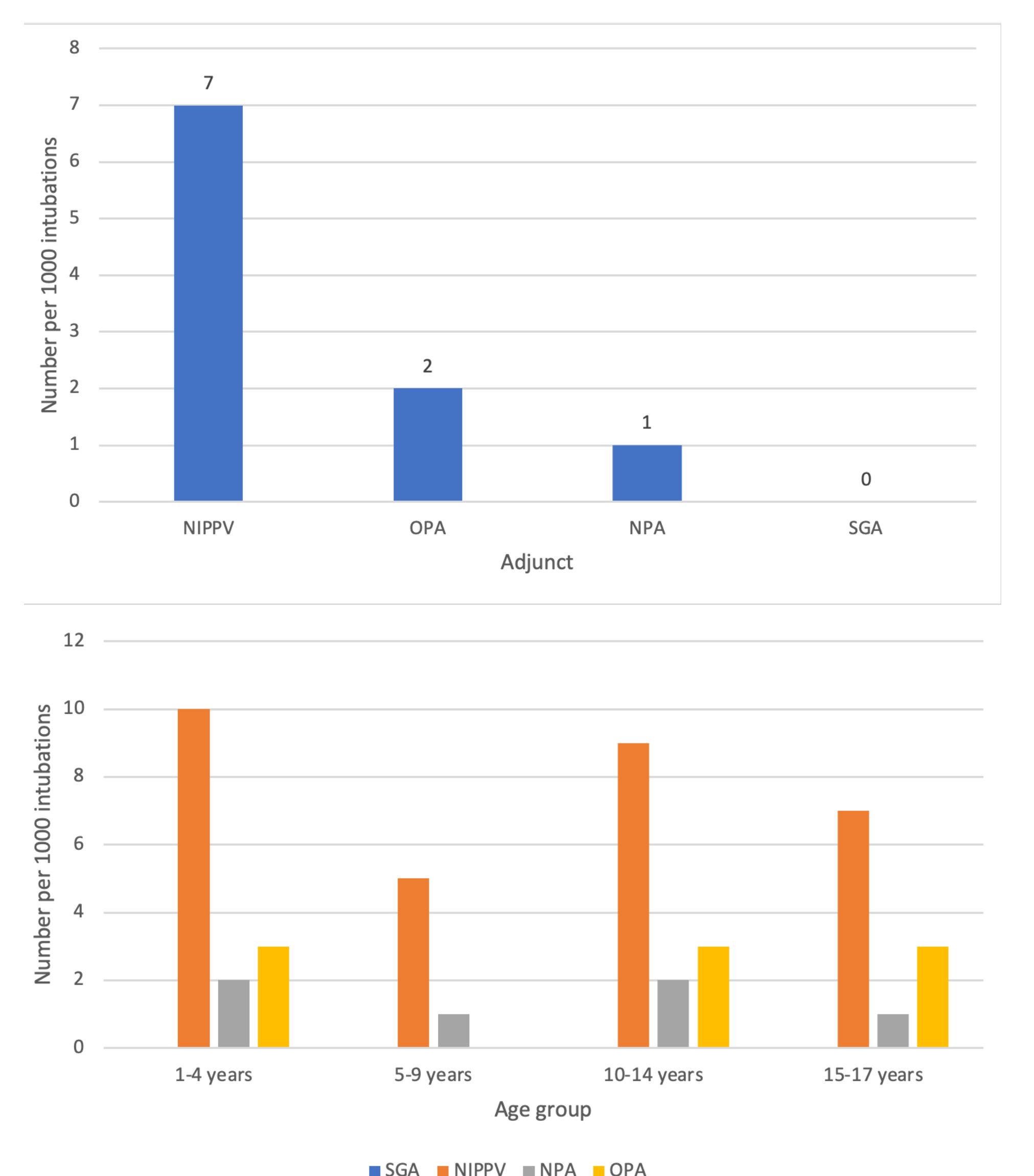


Figure 3: Proportion of patients undergoing endotracheal intubation who received an airway adjunct, overall cohort (top) and pediatric sub-group (bottom)

CONCLUSIONS

- ❑ Data suggests significant underuse of airway adjuncts, despite being integrated into difficult airway algorithms.
- ❑ Frequency of use of adjuncts from highest to lowest was NIPPV, OPA, NPA, and then SGA.

FUTURE DIRECTIONS AND IMPLICATIONS

- ❑ Airway algorithms feature airway adjuncts, but more data is needed regarding airway adjunct use in the ED.
- ❑ Well designed, prospective studies should incorporate airway focused registries and attempt to capture medical decision making behind airway management.
- ❑ Earlier integration and targeted education could expand usage of AA in trauma, increasing comfort of use by operators.