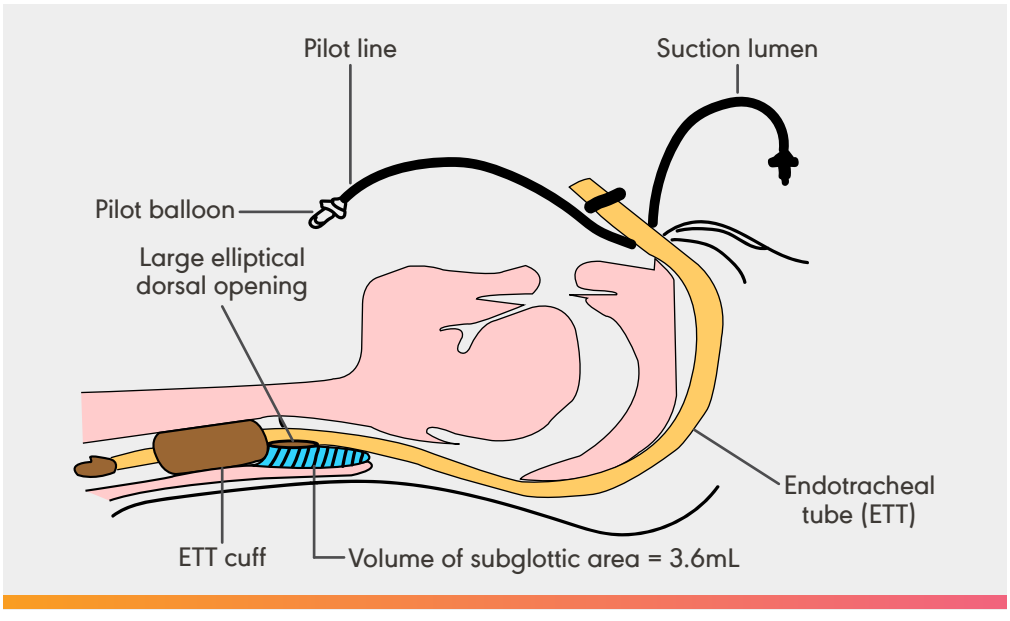
AVANOS

ACUTE CLOG FRUSTRATION: A CRITICAL ISSUE IN SUBGLOTTIC SUCTIONING

Subglottic suction lumens can clog **up to 44%** of the time and prevent effective suctioning of secretions.[1]



(Adapted from Agency for Healthcare Research and Quality AHRQ. Benefits of Subglottic Secretion Drainage Endotracheal Tubes: Facilitator Guide [Internet]. [last reviewed 2017 Jan; cited 2019 Nov 15]. Available from: https://www.ahrq.gov/hai/tools/mvp/modules/technical/subglottic-fac-guide.html)

FACTORS RELATED TO SUBOPTIMAL SUCTIONING DUE TO CLOGGED LUMENS

Increased risk of microaspiration

Clogged lumens prevent effective suctioning, leading to accumulation of subglottic secretions to **up to 13mL per hour** and an increased risk of microaspiration.[2]

Biofilm formation

Contaminated secretions may create biofilms that have the potential to accumulate above the ETT cuff, and also enter ETT proper.[3]

Narrowing/ obstruction of ETT

Obstruction of the ETT lumen due to **incomplete removal of secretions that enter the ETT tube.**[3]

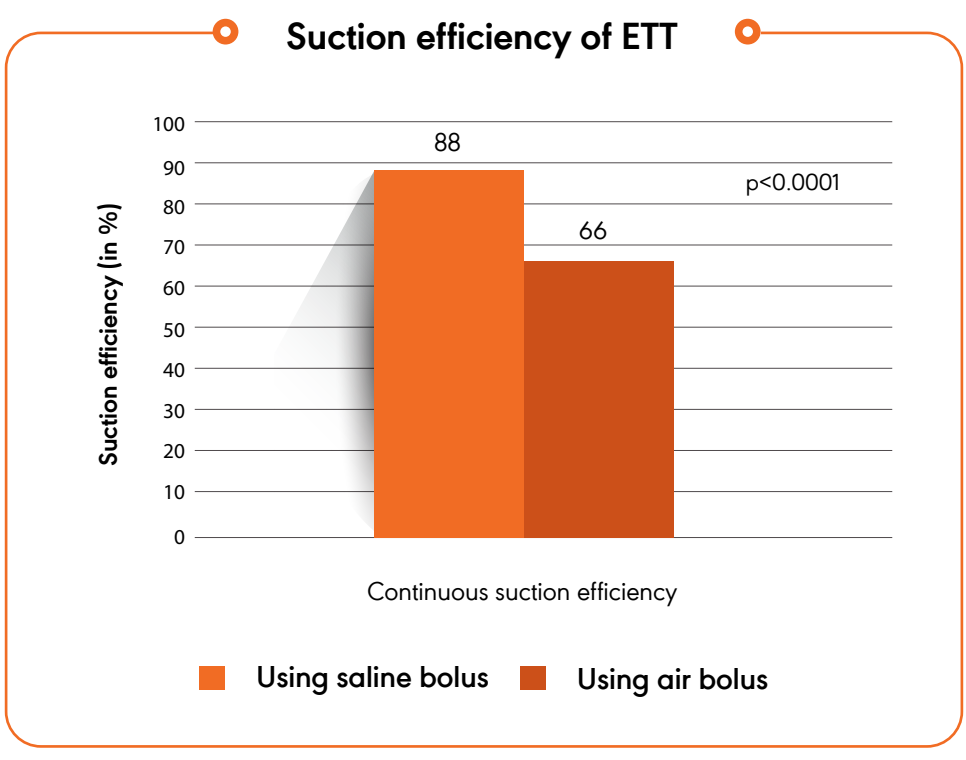
Secretion adherance to ETT lumen can lead to lumen constriction, resulting in **airway resistance and pressure drop** in ETT during mechanical ventilation.[3]

DID YOU KNOW

As per a study published in 2007, suction lumen dysfunction may be majorly caused by occlusion of **the subglottic suction port by the suctioned tracheal mucosa.**[4] This has also raised concerns about safety.[3]

CLEARING SUBGLOTTIC SUCTION LUMENS WITH SALINE VS. AIR BOLUS

Use of a saline bolus has been reported to increase suction efficiency due to minimal obstruction of the suction line.[1]



OUR SOLUTION

MICROCUFF* Subglottic Suctioning Endotracheal Tube combines the more effective subglottic suctioning with advanced MICROCUFF* polyurethane cuff technology. It enables safe use of saline rinsing to effectively clear clogs[6,7,8,9]

Rinse

FDA cleared for saline rinsing.[7,8]

Saline rinsing **more effective than air bolus** to loosen and clear clogged suction lumens.[1]

Suction valve with integrated rinse port enables both suctioning and saline rinsing, **without opening the suction circuit,** preventing cross-contamination to both caregiver and patient.[7]

Suction

Suctions secretions more effectively and efficiently with a push of a button.

Clear

Polyurethane (PU) cuff reduces channel formation, minimizes cuff leakage and enables the use of saline.[6,7]

ETT: Endotracheal tube
Subglottic Secretions Drainage (SSD) is performed through a specially modified ETT equipped with a suctioning channel opening just above the inflated cuff. Suctioning can be delivered continuously (CSSS) or intermittently (SSD) to remove the secretions.[5]

References: 1. Curd D, McCachren B, Baratian S, Couch C, Batchelder P. 393: Bench comparison of suction efficiency for endotracheal tubes with a subglottic suction lumen. Crit Care Med. 2013; 41(12):A94. 2. DePew CL, McCarthy MS. Subglottic secretion drainage a literature review. AACN Adv. Crit. Care. 2007; 18(4):366-79. 3. Waters C, Wiener RC, Motlagh HM. Ex Vivo Evaluation of Secretion-Clearing Device in Reducing Airway Resistance within Endotracheal Tubes. Crit Care Res Pract. 2018;2018. 4. Dragoumanis CK, Vretzakis GI, Papaioannou VE, et al. Investigating the failure to aspirate subglottic secretions with the Evac endotracheal tube. Anesth Analg. 2007; 105(4):1083-5. 5. Mietto C, Pinciroli R, Patel N, Berra L. Ventilator Associated Pneumonia: Evolving Definitions and Preventive Strategies Discussion. Respir Care. 2013; 58(6):990-1007. 6. Lorente L, Lecuona M, Jiménez A, Mora ML, Sierra A. Influence of an endotracheal tube with polyurethane cuff and subglottic secretion drainage on pneumonia. Am J Respir Crit Care Med. 2007; 176(11):1079-83. 7. FDA 510K Clearance K120985, Data on file 8. Directions for Use for the Halyard MICROCUFF Subglottic Suctioning Endotracheal Tube, Data on file 9. Evaluation of Fluid Leakage Past Tracheal Tube Cuffs: Effects of Tracheal Size and Cuff Pressure. Data on file #R151219.