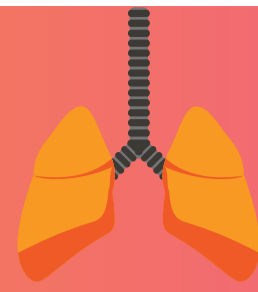


DECISION ON CATHETER SIZE AND INSERTION DEPTH: CRITICAL ISSUES IN PEDIATRIC / NEONATE SUCTION MANAGEMENT



Distinct differences exist in physiology and pathology of the pediatric and adult patients thus limiting in them the use of adult-derived airway clearance and maintenance modalities.¹

DIFFERENCES BETWEEN ADULT AND NEONATE/PEDIATRIC AIRWAYS



Immature respiratory and cardiovascular systems affecting compensatory mechanisms²



Decreased respiratory reserve²



Developing airway until around 8 years of age²



High metabolic and oxygen requirements²



Lower lung volumes at end expiration²



Increased susceptibility to muscle fatigue, leading to respiratory failure²

ASPECTS TO CONSIDER WHILE SUCTIONING INTUBATED INFANTS: SUCTION CATHETER SIZE AND INSERTION DEPTH

Suction catheter size

Use of a suction catheter sized larger than ETT leads to:

- Considerable reduction in airway pressures³
- Considerable reduction in tracheal tidal volume (V_T)³
- Mucosal trauma and atelectasis⁴

Diameter of the suction catheter must provide an internal-to-external diameter of 0.5–0.66 in infants and pediatric patients.^{4,5}

Insertion depth

Passage of the suction catheter beyond the ETT may lead to risks such as:

- Stimulation of vagus nerve causing bradycardia and hypotension⁴

Deep ETT suctioning may cause:

- Irritation to respiratory epithelium, resulting in inflammation and infection⁴
- Trauma to mucosa⁴
- Nasal swelling and epistaxis¹

Appropriate depth to be achieved while suctioning by **inserting the catheter to the predetermined depth and colour marking on the suction catheter** when using a closed suction system.^{4,5}

DID YOU KNOW

As per the AARC guidelines, the use of a shallow suction is recommended to prevent trauma to the tracheal mucosa.^{5,6}

Moreover, the use of a closed suction technique facilitates continuous mechanical ventilation and oxygenation during the suctioning event. It may prevent lung derecruitment associated with open suction systems in patients with higher risk of desaturation, for instance in premature newborns.^{5,6}

OUR SOLUTION

Avanos Closed Suction Systems designed for neonates and pediatric patients.



Improves patient care

Number and color-coded graduations for controlled depth suctioning helps prevent unnecessary tracheal trauma.⁷

Catheter sizes ranging from 5Fr up to 12Fr.⁷



Reduces infections

Closed suction systems reduce the chances for contamination and resultant bacterial colonization within the circuit.⁷