Above Cuff Vocalisation (ACV) Protocol

NHS Lothian

AIMS

1. To improve communication for alert tracheostomized patients unable to tolerate cuff-down due to ongoing requirement for mechanical ventilatory support
2. To improve laryngeal airflow despite the patient's tracheostomy
3. To improve laryngeal sensitivity, cough, swallowing and vocal cord movement
4. To improve secretion management

INCLUSION CRITERIA

- Blue line Ultra Subglottic Suction (SGS) tracheostomy tube with cuff up
- Alert, cooperative and attempting to communicate
- 72 hours post tracheostomy
- Adult patients > 16 years

EXCLUSION CRITERIA

Patients with:

- Upper airway obstruction (e.g., significant nasal stenosis)
- Problematic stoma - irritated, bleeding
- Sustained subglottic suction
- Misaligned tracheostomy tube
- Leaky cuff
- Recent head and neck surgery
- Laryngeal complications or laryngectomies
- History or risk of severe epistaxis

EQUIPMENT

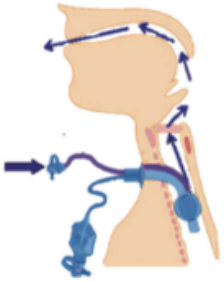

Figure 1 [1]

- 10 or 20ml syringe
- Oxygen tubing attached to wall oxygen
- Tracheal and yankeuer suction
- Thumb port
- Blue line connector

PROCEDURE

Initial assessment of ACV to be completed by a speech and language therapist to establish laryngeal function and safety of ACV. MDT involvement is essential.

1. Explain the procedure to the patient - what it is, what it does. Make sure to include reassurance of the sensation and secretions blown into the mouth.
2. Perform subglottic suction using 10/20ml syringe, document volume.
3. Attach oxygen tubing to subglottic port
4. Fully cover the thumb port and slowly turn oxygen supply on - make sure to let the patient know you are doing so.
5. Start with an oxygen level of 2L, increase in small increments to a maximum of 5L.
6. Ask the patient to blow and vocalise, stop when the patient is able to do so
7. Yankauer suction any secretions blown to mouth
8. Reassess speech, and document outcomes

Trial should be limited to 5-15 minute periods hourly. **Do not leave patient unattended with ACV.**

! SEE NEXT PAGE FOR CAUTIONS AND TROUBLE SHOOTING

STOP IMMEDIATELY IF:

- Discomfort, gagging and nausea
- Excessive oral secretions
- Air leakage around stoma. Try gently adjusting trache tube angle to reduce leak.
- No airflow through upper airway - risk of subglottic pressure build-up. Try syringing 20mls of air into subglottic line, auscultate neck to listen for airflow. SLT may need direct visualisation using FEES (Fibreoptic Endoscopic Examination of Swallowing)
- Neck or facial swelling (subcutaneous emphysema)
- Cuff is down
- Patient complains of pain or asks to stop - *mild discomfort may just need reassurance.*

TROUBLE-SHOOTING

- Inability to suction subglottic secretions. May indicate blockage – try syringing air in to unblock port.
- Copious secretions blown to mouth. Consider medications (atropine drops sublingually) to reduce saliva. ACV trials may aid secretion clearance.
- No voice. May indicate laryngeal pathology or airway patency issue. Direct visualisation by scope or SLT FEES may be indicated. Try adjusting the head or tube position slightly.

! SEE NEXT PAGE TO REPORT OUTCOMES

REFERENCES

[1] McGrath BA, Wallace S, Wilson M, Nicholson L, Felton T, Bowyer C, et al. Safety and feasibility of above cuff vocalisation for ventilator-dependant patients with Tracheostomies [Internet]. Journal of the Intensive Care Society. U.S. National Library of Medicine; 2018 [cited 2023Mar1]. Available from: https://pubmed.ncbi.nlm.nih.gov/30792764/