GUIDELINE

Cuffed Endotracheal Tube (ETT) Management

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this disclaimer

Aim

The aim of this guideline is to outline the criteria and process for cuffed endotracheal tube (ETT) management in the neonatal population.

Risk

Incorrect use of a cuffed ETT may result in ineffective ventilation or potential damage to the airway of the neonate.

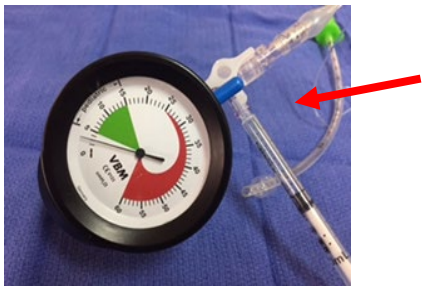
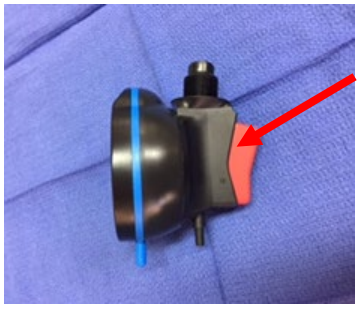
Background

- Cuffed ETTs are routinely used by anaesthetists for operative procedures at PCH.
- Uncuffed ETTs are routinely used and inserted by the neonatal team at PCH.
- Cuffed ETTs should be used for
  - infants >2.7kg with surgical or cardiac diagnoses
  - infants who are suspected/positive for COVID-19.
- Cuffed ETTs may be used in infants who have a large ETT leak (interfering with ventilation) with a 3.5mm uncuffed ETT insitu. This decision is at the discretion of the treating consultant.
- There may be consideration for the use of cuffed ETT's in other cases.

Key points

- The ventilator leak % (from ventilator screen) is to be recorded hourly on the observation chart.
- The nurse (or doctor) is to set/adjust the cuff pressure on ETT insertion or admission from theatre. It is then reset 4 hourly **or** if the leak becomes consistently >20%*.
  - The cuff pressure should be recorded 4 hourly on the observation chart.
- The cuff pressure should never exceed 20cmH_2O.
- The ETT should not be shortened however may be cut if ordered by the medical team.
- The cuff must be deflated prior to ETT adjustment or removal.
- A cuff pressure of 0cmH_2O is equivalent to a deflated cuff.
- If the cuff pressure is 0cmH2O and the leak remains <20%*, a cuff adjustment procedure is not necessary.
- ***When using cuffed ETTs in suspected/positive COVID patients, aim for an ETT leak of 0%.**
- **NB On the Drager VN500, the ETT leak reads as '0%' if it is <10%. If the ETT leak is 10% or greater it gives a reading in increments of 1%.**

Procedure

Steps	Additional Information
1. Connect the manometer, ETT balloon and 1 ml syringe using a 3-way tap as shown. The 3-way tap should be open to everything (ETT, syringe and the manometer).	
2. Press the red button on the back/side of manometer until the needle comes to 0cmH_2O.	

Steps	Additional Information
3. Observe the ventilator leak % reading for ~30secs. If leak is >20% then, using the syringe, introduce air into the cuff until the leak reads about 10%*, ensuring the cuff pressure does not exceed 20cmH_2O.	If the cuff pressure is 0cmH2O and the leak remains <20%*, a cuff adjustment is not necessary. **NB** Discuss with the medical team if the leak does not reduce sufficiently with a cuff pressure of 20cmH_2O.
4. Turn 3 way tap so it is off to all ports, and briskly detach the whole setup from ETT.	
5. Record the cuff pressure 4 hourly on the observation chart.	
6. Reset the cuff pressure (+/- adjustment) every 4 hours or earlier if there is a consistent leak >20%.	

Related CAHS internal policies, procedures and guidelines
Neonatal Viral Infections of Infection Prevention Significance
Ventilated Neonate: Nursing Care of

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