



## SECTION 7: CARE OF THE CHILD WITH A RESPIRATORY CONDITION

### 7.4 Care of the Child with a Tracheostomy

#### 7.4.9 Recognising and Clearing a Blocked Tracheostomy Tube

##### Aim

To rapidly assess and respond to a blocked tracheostomy tube to ensure a patent airway is maintained.

##### Key points

- A child with a tracheostomy tube is at an increased risk of respiratory emergency:  
**A blocked tracheostomy tube is a medical emergency and can rapidly progress to respiratory arrest.<sup>1</sup>**
- The nurse who cares for a child with a tracheostomy must have the necessary competency and skills to anticipate potential complications and to manage an emergency.
- A child's **first** tube change must be performed by ENT or PICU/NICU medical staff only. Children will usually remain in the Intensive Care Unit until their first tube change has been performed. However on occasion children assessed by the ENT Consultant to have a safe and patent upper airway may be discharged to the ward area prior to their first tube change.
- A tracheostomy tube blockage can be avoided with appropriate tracheostomy tube management including effective suction, assessment of any resistance in passing a suction catheter, adequate humidification and hydration.
- Sudden respiratory distress, increased work of breathing, or reduced tidal volumes in ventilated patients, must be assessed for partial or complete tube obstruction.<sup>2</sup>
- This guideline must be read in conjunction with all documents relating to the care and management of a child with a tracheostomy (see related procedures, policies and guidelines at the end of this document).

##### Indications of a Patent Tracheostomy tube include:

- Ability to pass a suction catheter easily
- Expiration felt coming from the tracheostomy connector
- Chest rise on bagging

### Indications of a Blocked Tracheostomy Tube Include:

- **Partial Blockage:** resistance felt when passing a suction catheter or when the inside of the tracheostomy tube feels roughened by accumulated secretions.<sup>1</sup>
- **Complete Blockage:** inability to pass a suction catheter and significant respiratory distress.<sup>1</sup>

### Signs and symptoms of a blocked tube:

- A sudden increase in the child's work of breathing.
- Colour change indicating hypoxaemia and/or reduction in oxygen saturations.
- Reduced air entry on auscultation.
- The child is making unusual sounds ie. vocalization, stridor, wheeze (louder than usual crying indicates exhaled air is passing through the upper airway rather than the tracheostomy tube indicating a possible tube obstruction).
- Nil or reduced air flow out of the tracheostomy tube connector.
- Stoma sucking in with inspiration, air escaping from stoma or bubbling at stoma.
- In the ventilated child a reduction in their tidal volumes will occur. The low minute volume, low tidal volume or high pressure alarms are crucial to alert carers of a blocked or partially blocked tube as breath size (tidal volume) will be reduced.<sup>1</sup>
- Change in level of consciousness.

### Management of a Blocked Tracheostomy Tube:

- The nurse must have up to date Paediatric Life Support training, be able to anticipate complications and be prepared to manage an emergency situation. (Refer to flowchart in the [Appendix](#) ).
- On the rare occasion a child on the ward has **not** had their first tube change by ENT or PICU, only the most experienced nurse/doctor can attempt to reinsert a new tube and only if adequate ventilation cannot be maintained before ENT/emergency assistance arrives.

### Following the procedure

- Assess and reassure the patient.
- Restock all equipment.
- Ensure the child's family and Consultant (including ENT) have been notified.
- Document in the medical records +/- Code Blue/MET data sheet +/- Clinical Incident form if indicated.
- Efforts should be made to reduce the likelihood of tube obstruction recurring:
  - Reassess humidification.
  - Consider altering delivery method of humidification.

**Following the procedure (cont.)**

- Consider more frequent tracheostomy tube changes.
- Treat infection.

Seek expert advice from CNC for Technology Dependent Children and/or medical team to assess and treat the cause.

**Additional points**

Consider obstruction below the end of the tracheostomy tube if signs of airway obstruction are not relieved by a tube change:


- Granulation
- Airway collapse ie. Tracheomalacia
- Tube position i.e. tip pushing into anterior/posterior tracheal wall
- Insertion of tube into a false passage
- Obstruction by a Foreign body
- Respiratory deterioration r/t infection, LRTI, pneumothorax

**References:**

1. Austin Health. Tracheostomy clinical procedure: Recognising and clearing a blocked tracheostomy tube. [Expert Opinion]. Heidelberg, Vic: Austin Health; 2006.
2. Cochrane L & Bailey C. Surgical aspects of tracheostomy in children. [Expert opinion]. Paediatric Respiratory Reviews. 7(3):169-174; 2006.
3. Cooney T. Personal communication [Expert opinion]. In: Tracheostomy Working Party, editor. Otolaryngology Department, Paediatric ENT Services. Princess Margaret Hospital for Children. Perth WA; n.d.
4. Knight G. Recognising and clearing a blocked tracheostomy tube [Expert opinion]. In: Paediatric Intensivist, PICU. Princess Margaret Hospital for Children. Perth;
5. Royal Children’s Hospital, Melbourne. Tracheostomy Management Guidelines. Available from:  
[http://www.rch.org.au.pklibresources.health.wa.gov.au/rchcpg/hospital\\_clinical\\_guideline\\_index/Tracheostomy\\_Management\\_Guidelines/](http://www.rch.org.au.pklibresources.health.wa.gov.au/rchcpg/hospital_clinical_guideline_index/Tracheostomy_Management_Guidelines/) Accessed April 2013

Related policies, procedures or guidelines.
<a href="#">Care of the Child with a Tracheostomy</a> (PNPM Section 7.4)
<a href="#">Mandatory Equipment for a Child with a Tracheostomy</a>
<a href="#">Suctioning a tracheostomy tube and normal saline instillation</a>
<a href="#">Changing A Tracheostomy Tube</a>
<a href="#">Code Blue (55) and Emergency Resuscitation,</a>
<a href="#">Emergency Resuscitation of a Child with a Tracheostomy.</a>



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