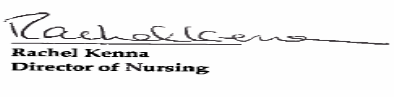
GUIDELINE ON ROUTINE TRACHEOSTOMY TUBE CHANGE	
Version Number	*V2*
Date of Issue	*July 2017*
Reference Number	*GRTTC-07-2017-RMSF-V2*
Review Interval	*3 yearly*
Approved By *Name: Fionnuala O'Neill* *Title: Nurse Practice Development Coordinator*	*Signature:* *Date: April 2017* 
Authorised By *Name: Rachel Kenna* *Title: Director of Nursing*	*Signature:* *Date: April 2017* 
Author/s	*Name: Roisin Mullen* *Title: CNSp Airways* *Name: Siobhan Fitzgerald* *Title: CNSp Airways*
Location of Copies	*On Hospital Intranet and locally in department*

Document Review History		
Review Date	***Reviewed By***	***Signature***
2020		

Document Change History	
Change to Document	***Reason for Change***

CONTENTS

1.0 Introduction

This document is intended to outline to the reader, the procedure of performing a routine tracheostomy tube change safely, on a child or infant.

2.0 Definition of routine tube change of tracheostomy tube

A tracheostomy stoma is an opening in the neck formed by an ENT surgeon under general anesthetic. A tracheostomy tube is then inserted through the stoma. Stay sutures are placed by the surgeon, to ensure the stoma will remain open in the event of an accidental dislodgement of the tube prior to a tract forming. The first tracheostomy tube change is performed post operatively between day three and day five by the ENT team in the intensive care unit. *Strychowsky et al (2016*). After this the ENT surgeon deems that a safe tract has formed between the skin and the trachea, the stay sutures are removed after the first tube change. Routine tube changes are performed by trained caregivers after this.

Routine tracheostomy tube changes are performed as it is deemed essential for the following reasons; to reduce the build-up of mucus, to prevent obstruction, to reduce bacterial colonization and to maintain caregiver proficiency. Trigg and Mohammad (2010)

Using the correct technique when changing the tracheostomy tube will assist in prevention of complications. These may include discomfort, cross infection, anxiety and fear, tissue injury, malposition of the tracheostomy tube or unsuccessful placement of the tube.

3.0 Applicable to

All staff employed by OLCHC that are involved in the care of a child or infant with a tracheostomy tube.

4.0 Objectives of Guidelines

- The objective of the guideline is to standardize the care of changing the tracheostomy tube.
- To ensure and maintain patient safety when changing a tracheostomy tube.
- To ensure research based knowledge underpins nursing practice.
- To ensure safety of the child's airway, the child, and the tracheostomy tube.
- To promote comfort and well-being of the child.
- To prevent infection, malposition of the tracheostomy tube, unsuccessful replacement of the tube, also tissue injury.
- Also to prevent anxiety and fear and discomfort.

5.0 Definition of Terms

The most commonly used tracheostomy tubes in OLCHC are Bivona (Portex) and Shiley (Covidien). The manufacturers include recommendations for routine changes of tracheostomy tubes in their product data sheets. Portex and Covidien both recommend tracheostomy tube usages should not exceed 29 days.

6.0 Indications for routine tracheostomy tube change.

To adhere to manufactures guidelines which state the tube be replaced after 29 days.

- To maintain caregivers proficiency in changing tracheostomy tube.
- To reduce bacterial colonization
- To prevent tracheostomy tube obstruction.
- To reduce build-up of mucus.

7.0 Complications associated with routine tracheostomy tube changes

Correct technique when changing a tracheostomy tube will assist in prevention of complications.

These may include:

- Discomfort cross infection
- Anxiety and fear for the child
- Tissue injury
- Malposition of the tracheostomy tube
- Unsuccessful replacement of the tube

8.0 Guidelines

EQUIPMENT *(if required)*	
Clean dressing trolley or work surface	Skin protector e.g trachi-wipe
Non sterile powder free gloves	Skin emollient
Disposable plastic apron	Goggles (if indicated)
Gauze squares	Tracheostomy dressing
Receiver or gallipot	0.9% Normal Saline ampoules
Waste bag	Double round ended scissors
Stoma and neck cleaning supplies	Clean humidification device
A new tracheostomy tube in date and the correct size (not from the emergency box)	Water soluble sterile lubricant on a piece of sterile gauze
Marpac tracheostomy tube holder	

Preparation

The nurse ensures a safe environment by checking the following items are present:

- The Trachi-Case, which contains the equipment and supplies necessary for an emergency tube change.
- Suction equipment with appropriate sized suction catheters
- Oxygen supply with oxygen attachment for a tracheostomy tube and non rebreathe mask.

A planned tracheostomy tube change is always a two person procedure. Wilson (2005).This is performed by a nurse competent in the procedure with an assistant. The assistant can be a nurse, a student nurse, a healthcare assistant, a carer or the parent. *Glasper et al (2009)*

ACTION	RATIONALE AND REFERENCE
The nurse prepares the child by ensuring that the procedure is performed at least one hour before or after food has been consumed, but not when the child is hungry.	Reduce the risk of vomiting during the procedure. Wilson (2005)
Explain the procedure to the child / parents/ carer.	
Assess their level of pain and administer analgesia if required.	To reduce pain during the procedure and promote comfort for the child.
The use of a portable visual device are used as aids to distract the baby or child. If the baby uses a soother ensure one is available if needed	Promotes distraction and comfort. Bowden and Greenberg (2016)
A saline nebulizer is administered approximately 30 minutes before the tube change. The tracheostomy tube is suctioned before during and after the tube change as needed.	To ensure patency for the tube prior its change. Campisi and Forte (2016).
The baby or child should be at a safe working level.	For the safety of the nurse and assistant whom are performing the procedure.
The baby should lie flat, width ways in the cot with a rolled sheet under the shoulders so that the neck is extended.	To extend the neck to ensure good visualization of the stoma site and aid insertion of the tube. Campisi and Forte (2016). Wilson (2005).
If appropriate, a child can sit upright, with the head tilted slightly backwards, with their back, and their head supported by a hard surface. Clothing around the neck and shoulders exposed.	To observe for signs of respiratory distress.
The humidification device is then removed.	To provide improved accessibility
The nurse and assistant perform hand hygiene and the nurse puts on an apron.	To adhere to infection control universal precautions and prevent cross of infection. Infection control guidelines (2013) OLCHC.

The person who is inserting the new tube stands in a position that will make insertion of a new tube easier, depending on whether they are right or left handed.	To ensure safety for the patient and ease of insertion of the tube.
The assistant interacts with the child and observes their condition during the procedure.	To ensure the patient is comfortable and reassured.
The nurse opens up the new tracheostomy tube and removes the tube by holding the flange of the tube without touching the tube itself. The introducer is inserted ensuring it moves easily in and out of the tube.	To ensure the tube is patent and in good working order, and ensure safety for the patients airway. Smiths Medical Portex Bivona Ped/Neo tracheostomy tube manufacturer instructions.
A small amount of water-based lubricant is placed on the curve of the cannula of the tube with sterile gauze. The tube with the introducer in place is put back into the open box.	To assist with insertion of the tube and promote comfort for the child. Macqueen et al (2012)
The nurse prepares herself by performing hand hygiene and putting on gloves	Adhere to standard infection control precautions and prevent the cross of infection. OLCHC (2011)
The assistant holds the tube in position using a 'u' shaped hold while the nurse cuts the ties with a round ended scissors and removes them from the tube. The nurse takes out the new tube from the box in her dominant had and ensures that the introducer is secure as she holds the tube.	To securely hold the tracheostomy tube and facilitate observation of the child. Macqueen et al (2012)
A count to three is made by the nurse and the assistant removes the old tube and the new one is inserted. This occludes the tube so the child will not be able to breath with it in. Immediately the introducer is removed by the nurse.	To reduce stimulation of a cough and distress to the child
Removal and replacement of the tube is carried out by using controlled gentle curved movement.	Hockenberry and Wilson (2011)
The nurse continues to hold the new tube in a 'u' shaped hold and the assistant brings the equipment closer to the child and starts cleaning the stoma and the childs neck.	To maximize comfort for the child by not pushing down on the tube. See Appendices 1
The tube is secured with the tracheostomy tube holder.	As per the guidelines on Tracheostomy stoma care and changing the tracheostomy tube holder. OLCHC (2015)

The tube is checked for patency and any evidence of build-up of secretions	This might indicate, more humidification is required.
Remove apron and gloves and discard in an appropriate waste bag.	OLCHC (2014) Infection Control Standard Precautions
Perform hand hygiene and praise the child.	To ensure comfort, dignity and privacy
Document how the procedure was tolerated. Record and report to the ENT team if abnormalities or difficulties were experienced for example: • Bleeding from the stoma • Difficulty inserting the tube • Discharge or odour from the stoma • Altered skin integrity including granulation tissue. • Discomfort / distress for the child	Good recording is keeping part of the professional and legal accountability of registered nurses and midwives. NMBI Recording clinical practice. Professional guidance. White et al (2010). Glasper et al (2010)

9.0 Implementation Plan

Communication and Dissemination

- The guidelines will be available on the hospital intranet
- Hard copies of the guideline available in the Nurse Practice Guidelines Folder in each clinical area.
- Education and training delivered in the clinical area for nursing staff who change tracheostomy tubes.
- Education is included in the induction packages in the clinical area for nursing staff who will be caring for infants and children who have tracheostomies.

10.0 Evaluation and Audit

Monitoring of compliance is an important aspect of procedural documents. However, it is not possible to monitor all procedures. Therefore, this guideline will be reviewed on a three yearly basis or when indicated by a change in best practice using the following methods:

Feedback from nursing staff who provide tracheostomy care and change the tracheostomy tube in OLCHC on this guideline will contribute to ongoing guideline development.

Monitoring Near Misses/ Adverse Incidents in accordance with OLCHC policy

11.0 References

Bowden, V.R. and Greenberg, C.S. 2016. *Pediatric Nursing Procedures 4th Ed*. Philadelphia: Wolters Kluwer.

Campisi, P. and Forte, V. 2016. Pediatric tracheostomy. *Seminars in Pediatric Surgery*. Vol 25. Pgs 191-195.

Glasper, A. Aylott, M. and Battrick, C. 2009. *Developing practical skills for nursing children and young people.* London: Hodder Arnold.

Hockenberry, M.J. Wilson, D. 2015. *Wongs Nursing Care of Infants and Children*. 10th Edition. St. Louis: Mosby.

Infection Control Guidelines OLCHC.
Available from: http://olchcnet.hse.ie/Policies,_Guidelines,_Protocols_SOP's/Infection_Control_Manual_A-Z/Standard_Precautions.pdf

MacQueen, S. Bruce, E and Gibson, F 2012. *The Great Ormond Street Hospital Manual of children's nursing practices.* Oxford: Wiley – Blackwell

Our Ladys Hospital for Sick Children, 2015. Tracheostomy Care Guidelines. Dublin. OLCHC.
Available at: http://olchcnet.hse.ie/Nurse_Practice_Development_Unit_/Guidelines/Tracheostomy_-_Care_of_Tracheostomy_Stoma_and_Changing_Trach_Tube_Holder_2015.pdf

Recording Clinical Practice – Professional guidance. Nursing and Midwifery Board of Ireland. (2015). Available from: https://www.nmbi.ie/Standards-Guidance/More-Standards-Guidance/Recording-Clinical-Practice

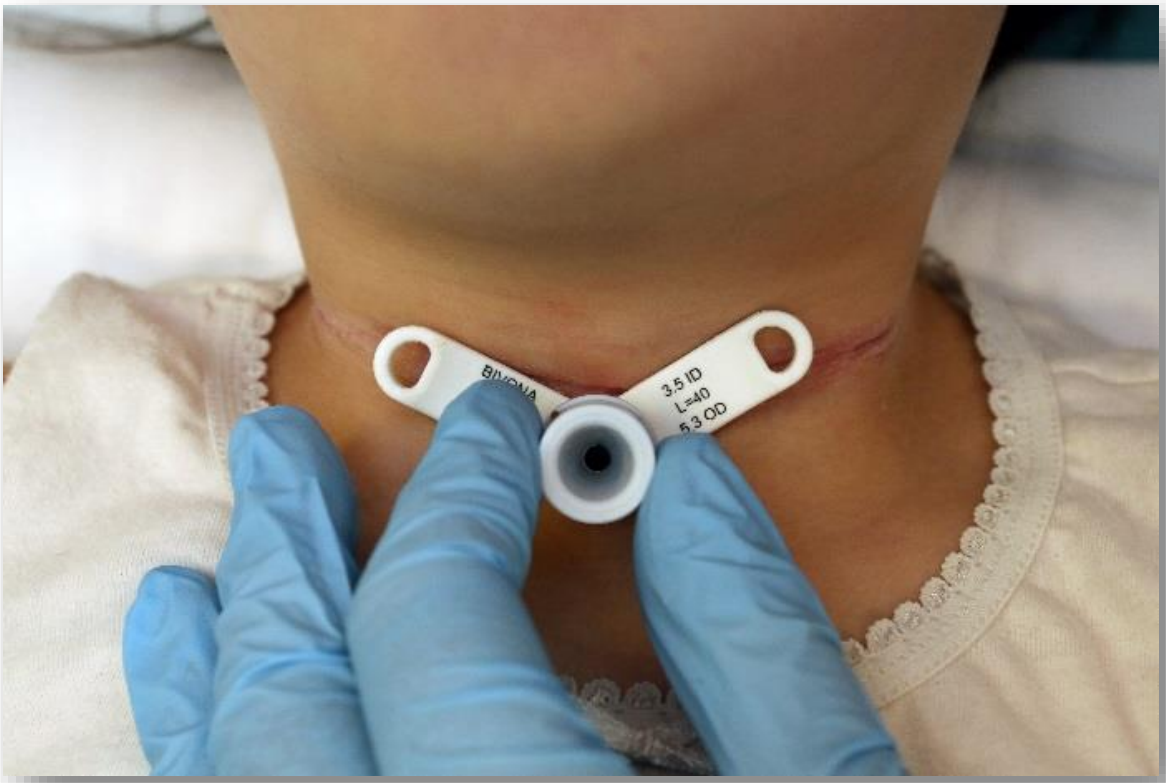
Strychowsky, J.E. Albert, D, Chan, K. Cheng, A. Daniel, S.J. DeAlarcon, A. Garabedian, N. Hart, C. Hartnick, C. Inglis, A. Jacobs, I. Kleinman, M.E. Mehta N.M. Nicollas, R. Nuss, R. Rransky, S. Russell, J. Rutter, M. Schilder, A. Thompson, D. Triglia, J.M. Volk, M. Ward, B. Watters, K. Wyatt, M. Zalzal, G. Zur, K. Rahbar, R. 2016 'International Pediatric Otolaryngology Group (IPOG) consensus recommendations: Poutine peri-operative pediatric tracheotomy care '. *International Journal of Pediatric Otorhinolaryngology.* Vol 86. Pages 250-255.

Trigg, E. and Mohammed, T.A. 2010. *Practices in Childrens Nursing*: *Guidelines for Hospital and Community* 3rd Edition. Edinburgh: Churchill Livingstone.

Wilson, M. 2005. Paediatric Tracheostomy. *Paediatric Nursing.* Vol 17 (3), pages 38-44.

White, A.C. Kher, S and O'Connor H.H. 2010. When to Change a Tracheostomy Tube. *Respiratory Care.* Vol 55 (8). Pages 1069-1075.

Appendix 1



(U – Shaped hold)