



Royal Brompton & Harefield



NHS Foundation Trust

Great Ormond Street
Hospital for Children

NHS Foundation Trust

A joint competency document for staff and carers working with Long Term Tracheostomy Ventilated Children

1. Description of competencies and supporting information
2. Sign off records

These competencies have been developed by the Royal Brompton Hospital and Great Ormond Street Hospital and they describe the knowledge and skills required by carers to manage the care of a child with a tracheostomy and requiring long term ventilation.

This booklet is set out in two parts. The first part is a resource pack which covers in detail the information about the procedures and tasks relating to the care of a child with a tracheostomy and requiring long term ventilation. The second part is the core competencies. All these sections will need to be signed by a qualified professional who deems the carer competent. The carer will need to sign to say they feel confident and competent.

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NHS No:

Relative/carers name:

Contact List

Child's Name _____ Parents/Care Names _____

Treating/ Discharge hospital _____

Named Nurse

Name

Email

Telephone

Tracheostomy Liaison

Name

Email

Telephone

Ventilator Liaison

Name

Email

Telephone

Health OT

Name

Email

Telephone

Social OT

Name

Email

Telephone

Community Physiotherapist

Name

Email

Telephone

Dietition

Name

Email

Telephone

Local Hosiptal

Telephone

Out of Hours contact Name

Name

Email

Telephone

Community Team Contact

Name

Email

Telephone

Continuing care nurse

Name

Email

Telephone

Social Worker

Name

Email

Telephone

Community paediatrician

Name

Email

Telephone

School Nurse

Name

Email

Telephone

Agency lead

Name

Email

Telephone

Tertiary/Specialist Centre

Telephone

All members of staff signing carers of as competent in this booklet should use black ink and complete this section

Printed copies of this document may not be up-to-date. Always obtain the most recent version from your Document Library

NHS No:

Relative/carers name:

Demonstrate awareness of health and safety

Performance criteria/ knowledge required	Comments/Guidance
<p>1. Identify potential hazards and dangers of the ward environment:</p> <ul style="list-style-type: none"> ■ Need for safe & tidy bedspace <p>2. Assess the child's immediate environment for health and safety:</p> <ul style="list-style-type: none"> ■ Check all equipment is in place and stored appropriately (eg. care with electrical leads/ plugs/ trip hazards) ■ Awareness of the child's motor abilities and make appropriate measures to avoid hazard (eg. seatbelts in chairs, ensure cot sides used appropriately, monitor if patient is able to remove tracheostomy) <p>3. Demonstrate the safety checks at the beginning of each shift (see comments)</p>	<p>Start of shift Safety Checks:</p> <ul style="list-style-type: none"> ■ Assess child and gather baseline information on child's well-being if trained to do so ■ Perform a set of observations to include tape tension to ensure tube is secure and tube in place ■ Check all bedside equipment: <ul style="list-style-type: none"> • Ambu-bag/ mask/ airway • Ventilator settings & alarm limits • Ventilator circuit (check for disconnections/blockage) • Suction available & working (check wall and portable) & correct size catheters • Ventilator batteries (available & charged) • Spare ventilator and circuit • Sufficient stock for the shift • Emergency Tracheostomy Box (see page 5) ■ Document safety checks completed and observations ■ Act on any safety discrepancies immediately according to your local policy

NHS No:

Relative/carers name:

Reducing the risk of infection

Performance criteria/ knowledge required

1. Demonstrate effective handwashing

2. Discuss how infection can spread.

- Bacteria or viruses can be passed by direct or indirect contact (eg. touching hands, sneezing or coughing).
- Body fluids such as blood and saliva can contain the infecting organisms and transmission of these fluids can cause the spreading of the infection.

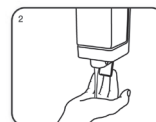
Comments/Guidance

How to Hand Wash - Step by Step Images

Source: World Health Organisation



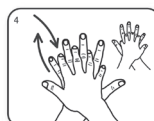
Wet hands with water



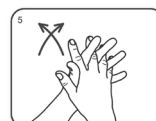
Apply enough soap to cover all hand surfaces



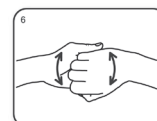
Rub hands palm to palm



Right palm over the back of the other hand with interlaced fingers and vice versa



Palm to palm with fingers interlaced



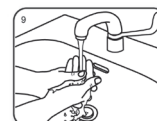
Backs of fingers to opposing palms with fingers interlocked



Rotational rubbing of left thumb clasped in right palm and vice versa



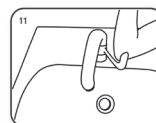
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



Rinse hands with water



Dry thoroughly with towel



Use elbow to turn off tap



...and your hands are safe

Personal hygiene needs of the child

Performance criteria/ knowledge required

1. Demonstrate how to assess the oral status of the child:

- Look for changes in the child's mouth and lips in respect to moisture, cleanliness, infected or bleeding and ulcers.
- Report and document any changes.

2. Safely bath a child with a tracheostomy either attached to a portable ventilator or with Swedish nose:

- Change tapes/tubes after the bath, this could be the daily routine.
- Bathing should be a two person technique, where possible
- Safety aspects regarding bathing



NHS No:

Relative/carers name:

Assessment and monitoring

Performance criteria/ knowledge required	Comments/Guidance
<p>1. Demonstrate how to take the child's vital signs if taught to do so:</p> <ul style="list-style-type: none"> ■ Heart rate (HR) ■ Breathing rate and effort ■ Oxygen saturations (SpO₂) ■ Temperature <p>2. Discuss normal parameters for the child and outline the course of action to be taken</p> <p>3. Know how to access emergency contact numbers and where they are displayed in the child's environment</p> <ul style="list-style-type: none"> ■ Your lead community key worker will inform you of the appropriate path to follow in case of emergency. ■ Community lead nurse ■ GP ■ Local hospital ■ 999 ■ Refer to the child's treatment plan in case of deterioration <p>4. Demonstrate how to recognise signs of distress or changes in clinical status, see comments</p>	<p>Care plans provide a road map to guide carers and nurses with a plan to care for a specific patient.</p> <p>They should include guidance on:</p> <ul style="list-style-type: none"> ■ Diet, including oral intake, gastrostomy and/or NG feeds etc ■ Tracheostomy care, including suctioning and tape and tube changes ■ Ventilation and/or oxygen requirements ■ Communication ■ Play/social development plan ■ Physical development, mobilising, seating, pressure care ■ Physiotherapy ■ Oral hygiene ■ Elimination <p>It is important to assess the child as well as using any monitoring available. Knowing what is normal for the child will be vital in knowing if there is any change in their condition.</p> <p>Assessment must include</p> <ul style="list-style-type: none"> ■ Observation of breathing pattern, including respiratory rate and effort <p>Changes in condition may include:</p> <ul style="list-style-type: none"> ■ Increased respiratory rate ■ Increased heart rate ■ Increased or decreased effort of breathing, look at chest movement ■ Observation of normal circulatory function, including heart rate noting the general colour and temperature of the child ■ Texture of secretions ■ Distended abdomen

NHS No:

Relative/carers name:

Suctioning via tracheostomy

Performance criteria/ knowledge required	Comments/Guidance								
<p>1. Demonstrate how to use portable & walled suction, and hand/foot pump:</p> <ul style="list-style-type: none"> ■ Demonstrate how to charge, set and test pressures and connect suction equipment ■ Demonstrate appropriate cleaning and storage of suction equipment ■ Describe when you would use hand/ foot pump (and therefore the importance) <p>2. Aware of indications for suction in a child with a tracheostomy</p> <ul style="list-style-type: none"> ■ Discuss possible indications for suction (see comments) ■ Observe then suction the child when appropriate & following assessment <p>3. Demonstrate appropriate procedure for suctioning via tracheostomy</p> <ul style="list-style-type: none"> ■ Describes preparation: <ul style="list-style-type: none"> • Appropriate suction catheter size, Identify correct suction pressures and check before using, Monitoring/ assessment in situ before suctioning, Wash hands/apply alco-gel and apply clean gloves ■ Explain procedure and demonstrate appropriate suction technique <ul style="list-style-type: none"> • Introduce catheter without applying suction, suction to correct length, apply continuous suction whilst withdrawing catheter (do not rotate) ■ Dispose of suction equipment in clinical waste and washes hands/apply alco-gel 	<p>Indications for suctioning:</p> <ul style="list-style-type: none"> ■ Noisy breathing (bubbling/ raspy sounds) ■ Visible secretions at the tube opening ■ Child restless or irritable (crying increases secretions) ■ Child's breathing is rapid or slower, or increased effort i.e. indrawing/ recession etc ■ Change in SpO₂/ HR ■ Child's colour changing ■ No noise via tracheostomy could indicate blockage ■ Child's nostrils may flare out with each breath ■ No chest movement <p>Size suction catheter by ID x2 as maximum eg. with 3.5 tracheostomy use 7.0 Fr catheter</p> <table> <tr> <td>Age</td><td>Suction pressure recommended</td></tr> <tr> <td>Neonate</td><td>-8 to -10.6 Kpa (-60 to 80 mmHg)</td></tr> <tr> <td>Child</td><td>-10.6 to 13.3 Kpa (-80 to 100 mmHg)</td></tr> <tr> <td>Adolescent/Adult</td><td>≤16 Kpa (<120 mmHg)</td></tr> </table>	Age	Suction pressure recommended	Neonate	-8 to -10.6 Kpa (-60 to 80 mmHg)	Child	-10.6 to 13.3 Kpa (-80 to 100 mmHg)	Adolescent/Adult	≤16 Kpa (<120 mmHg)
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NHS No:

Relative/carers name:

Suctioning via tracheostomy (continued)

4. Demonstrate how to assess secretions appropriately

- Aware why a change in thickness/ colour of child's secretions may be significant
 - Risk of tracheostomy blockage & potential sign of infection
- Describes how may respond to findings e.g. informing parents/ CCN (at home) or medical team (Also consider nebulisers, saline instillation, humidification etc.

5. Demonstrate how to clean and store suction equipment

- Can describe importance of cleaning and storage
- Seen to rinse suction tubing with sterile water and store appropriately



NHS No:

Relative/carers name:

Tracheostomy care

Performance criteria/ knowledge required

1. Assess tracheostomy site:

- Demonstrate inspection of tracheostomy site
- Discuss signs of site infection/ skin breakdown
- Discuss appropriate action if concerns re: stoma site e.g. swabs & report findings/ensure further review of site

2. Clean and change ties at tracheostomy site

- Discuss reasons for changing tapes daily
- List the equipment to prepare before changing ties/ tapes
- Discuss potential problems with changing ties
- Explain & demonstrate procedure for cleaning tracheostomy site and changing ties (Figure 1)

3. Routine tracheostomy change

- Describe frequency for changing tracheostomy (based on manufacturers guidelines)
- Frequent changes may be done in hospital to facilitate training
- Describes and demonstrate the process as per bedside guidelines (Figure 2)

4. Understand which tube is in use

- Specifics related to tube in use i.e. cuff inflation, how many times it is used

Figure 1



NHS No:

Relative/carers name:

Tracheostomy care

Performance criteria/ knowledge required

5. Clean and store tracheostomies appropriately

- Describe and demonstrate appropriate cleaning of tracheostomy used.
- Demonstrate awareness of manufacturing cleaning procedure.

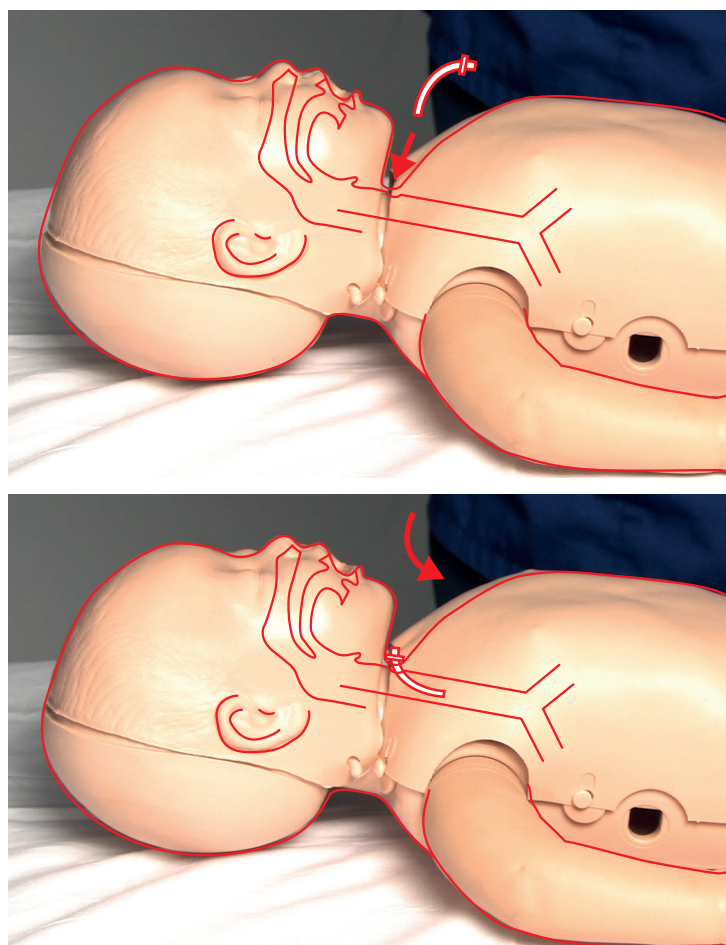
6. Demonstrate awareness of granulomas

- Explain how granulomas may form and the signs seen (trauma with suction, bleeding, difficult to pass catheter etc).

7. Care of patient with cuffed tracheostomy

- Explain indications for cuffed vs. uncuffed tracheostomy if cuffed tube in use.
- Explain procedure for inflating, deflating and monitoring cuff.
- Explain risks and indications for cuff deflation eg.aspiration, increased leak around tracheostomy. Need to deflate cuff prior to tracheostomy change.

Figure 2




- Perform a clinical hand wash
- Put on gloves, apron and protective eye wear
- Lubricate new tube with a “dot” of water-based lubricant on the outside bend of the tube
- Insert obturator into the tube
- Position the rolled up towel under the child’s shoulders, as per tape changes, swaddle baby if appropriate.
- Place clean tapes behind the baby/ child’s neck
- Assistant should hold the tube in position using either their thumb and index finger, or index and middle finger.
- Tube changer should cut the ties between knot and flange
- Remove the dirty ties
- Remove the tube from the stoma with a curved action
- Quickly insert new tube with a curved action
- Remove obturator
- The assistant should take over and hold the tube in position
- The stomal area and back of the neck should be cleaned and dried with the water and gauze using a clean technique
- Secured tube with cotton ties

NHS No:

Relative/carers name:

Emergency Procedures

Performance criteria/ knowledge required	Comments/Guidance
<p>1. Procedure for a blocked tracheostomy tube:</p> <ul style="list-style-type: none"> ■ Suction the tracheostomy tube. ■ If any resistance is felt or you are unable to pass a suction catheter then refer to BLS guidelines. <p>2. Perform a single person tracheostomy tube change:</p> <ul style="list-style-type: none"> ■ See Competency 5 for Tracheostomy tube change guidelines. ■ Discuss signs and symptoms that could lead to an emergency tube change, (see comments). <p>3. Discuss actions to be taken in case of a parent/family member collapsing at hospital/home:</p> <ul style="list-style-type: none"> ■ Call the emergency services, if you have received paediatric and adult BLS follow the relevant algorithm. <p>4. Describe the steps that should be taken in the event of a tracheostomy becoming accidentally decannulated:</p> <ul style="list-style-type: none"> ■ Help should be summoned immediately either by shouting or pulling the emergency button. ■ Replace tube with same tube or the one size smaller, revert to Competency 5 for tracheostomy tube change guidelines. <p>5. Complete Basic Life Support training as per Resus Council Guidelines.</p>	<p>At the start of your shift always check the Emergency tracheostomy box is complete.</p> <p>Contents</p> <ul style="list-style-type: none"> ■ Tracheostomy tube (correct size) ■ Tracheostomy tube (0.5 smaller must be a Shiley tube) ■ Suction catheter (Seldinger technique) ■ Scissors (blunt ended) ■ Velcro straps ■ KY Jelly ■ Disconnection wedge ■ Cotton ties  <ul style="list-style-type: none"> ■ Ensure emergency box is securely shut ■ Items removed from packaging for display purposes only

NHS No:

Relative/carers name:

Joanne Cooke, NP Tracheostomies, GOSH. August 2009

BASIC LIFE SUPPORT OF BABIES AND CHILDREN WITH A TRACHEOSTOMY

Action to take on a blocked tube

SAFETY**STIMULATE****SHOUT****Check and open airway**
Suction the tube**If blocked change immediately**
Caution if stoma is less than 1 month old**Suction the tube****Assess for breathing****Rescue breathing****Signs of life**
(Pulse check)**Chest compressions**
if appropriate**Reassessment**

Action to take if the tube fails to go in

**Attempt to insert
the smaller sized tube****Attempt to pass the smaller
tube into the stoma using
a suction catheter
(Seldinger Technique)****If unsuccessful, ventilate
via the nose and mouth if the
underlying condition allows**

NHS No:

Relative/carers name:

Care of the child ventilated via tracheostomy

Performance criteria/ knowledge required	Comments/Guidance								
<p>1. Demonstrate understanding of child's need for ventilatory support:</p> <ul style="list-style-type: none"> ■ Can discuss common reasons for needing ventilatory support (i.e. neurological; neuromuscular; airway; primary lung problem; other) ■ Identifies reason for child they care for needing ventilatory support. ■ Describes what the implications of inappropriate ventilatory support could be (i.e. apnoea/arrest; increased work of breathing and compromise/ pneumothorax etc) <p>2. Describe in basic terms difference between CPAP & Bilevel support and how ventilation works</p> <p>3. Describe in basic terms how the mode(s) in use assists ventilation</p> <p>4. Can identify the prescribed settings and records these appropriately</p> <p>5. Aware of importance of back-up batteries.</p> <ul style="list-style-type: none"> ■ Can describe and demonstrate how to charge batteries and how to connect external batteries ■ Checks batteries on charge at start of and throughout shift ■ Can describe actions to take in event of power failure at home <p>6. Be aware of frequency of ventilation circuit changes</p> <p>Now refer to ventilator specific competencies (depending on machine in use)</p>	<p>CPAP</p> <ul style="list-style-type: none"> ■ Requires the patient to make reasonable effort ■ Helps by delivering a flow of gas to help keep the airways/ lungs open throughout inspiration & expiration ■ DOES NOT deliver any breaths <p>Bilevel Support</p> <ul style="list-style-type: none"> ■ Can be used at higher levels of support where the child has less or no respiratory effort ■ Additional support is provided on inspiration (either triggered or a set number of breaths per minute) to help move the chest. ■ Expiratory pressure works in the same way as CPAP <table border="1"> <tr> <td>Elisee (Resmed)</td><td>NIPPY junior+™ (B&D electromedical)</td></tr> <tr> <td> PS.SV <ul style="list-style-type: none"> • inspiratory pressure support on triggered breaths • PEEP • "apnoea breaths" can be set as a back up </td><td> PSV – inspiratory pressure support on triggered breaths and for back-up breaths if patient not triggering (end of the breath is usually determined by the patient unless it's a back-up breath) </td></tr> <tr> <td> P.SIMV <ul style="list-style-type: none"> • inspiratory pressure support on triggered breaths • PEEP • additional number of breaths per minute provided by ventilator (ie. the RR, inspiratory time and pressure are set) </td><td> PCV – inspiratory pressure support on triggered breaths and for back-up breaths. Inspiratory time is set for all breaths </td></tr> <tr> <td colspan="2"> CPAP (see above – not a mode of ventilation as no breaths delivered) </td></tr> </table>	Elisee (Resmed)	NIPPY junior+™ (B&D electromedical)	PS.SV <ul style="list-style-type: none"> • inspiratory pressure support on triggered breaths • PEEP • "apnoea breaths" can be set as a back up 	PSV – inspiratory pressure support on triggered breaths and for back-up breaths if patient not triggering (end of the breath is usually determined by the patient unless it's a back-up breath)	P.SIMV <ul style="list-style-type: none"> • inspiratory pressure support on triggered breaths • PEEP • additional number of breaths per minute provided by ventilator (ie. the RR, inspiratory time and pressure are set) 	PCV – inspiratory pressure support on triggered breaths and for back-up breaths. Inspiratory time is set for all breaths	CPAP (see above – not a mode of ventilation as no breaths delivered)	
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NHS No:

Relative/carers name:

Monitoring and maintaining Elisee 150 ventilator

Performance criteria/ knowledge required	Comments/Guidance						
<p>1. Demonstrate and discuss how to check the alarm limits and function</p> <p>2. Demonstrate and explain how to carry out the following:</p> <ul style="list-style-type: none"> ■ Turn ventilator on/ off ■ Can tell whether ventilator is delivering support ■ Can identify whether mains power or battery is in use ■ Able to describe/ troubleshoot how the circuit is attached ■ Can check the functioning of the ventilator prior to connecting to the child. ■ Can connect and use battery power sources ■ Can monitor total respiratory rate and estimated tidal volume ■ How to administer and measure oxygen via ventilator (if needed) ■ Able to calibrate ventilator when different circuit is used. ■ You can identify when a breath is patient triggered or given by ventilator (backup/mandatory breath) <p>3. Can explain what alarms can indicate and how to respond to these (see comments)</p>	<p>Check alarms at the start of each shift and document.</p> <ul style="list-style-type: none"> ■ When tubing is first disconnected check that low pressure/ disconnect and/ or low tidal volume alarms are triggered ■ Occlude the vent circuit whilst running and check the high pressure/ low tidal volume alarms are triggered <div style="background-color: #0070c0; color: white; padding: 5px; text-align: center;"> Ventilator alarm goes off (with double limb circuit in use) </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #d9e1f2;">Low pressure (LP)/ low tidal volume (mini VT) may indicate a leak/ disconnection</th><th style="background-color: #d9e1f2;">High pressure (HP)/ low tidal volume (mini VT) may indicate blockage or obstruction</th></tr> </thead> <tbody> <tr> <td style="background-color: #d9e1f2;"> Assess child Possible causes include: <ul style="list-style-type: none"> Leak around tracheostomy (particularly when asleep) Decannulation </td><td style="background-color: #d9e1f2;"> Assess child Possible causes include: <ul style="list-style-type: none"> Blocked tracheostomy Retained secretions/ increased pulmonary resistance etc </td></tr> <tr> <td style="background-color: #d9e1f2;"> Assess equipment <ul style="list-style-type: none"> Follow circuit from child through to ventilator (ensure all connected – NB humidifier connectors etc may be slightly loose) Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift) </td><td style="background-color: #d9e1f2;"> Assess equipment <ul style="list-style-type: none"> Follow circuit from child through to ventilator (ensure not kinked or obstructed) Is the alarm set appropriately (i.e. as previously recorded) </td></tr> </tbody> </table> <p>If concerns with the machine</p> <ul style="list-style-type: none"> ■ Hand ventilate ■ Call for help ■ Change to other ventilator 	Low pressure (LP)/ low tidal volume (mini VT) may indicate a leak/ disconnection	High pressure (HP)/ low tidal volume (mini VT) may indicate blockage or obstruction	Assess child Possible causes include: <ul style="list-style-type: none"> Leak around tracheostomy (particularly when asleep) Decannulation 	Assess child Possible causes include: <ul style="list-style-type: none"> Blocked tracheostomy Retained secretions/ increased pulmonary resistance etc 	Assess equipment <ul style="list-style-type: none"> Follow circuit from child through to ventilator (ensure all connected – NB humidifier connectors etc may be slightly loose) Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift) 	Assess equipment <ul style="list-style-type: none"> Follow circuit from child through to ventilator (ensure not kinked or obstructed) Is the alarm set appropriately (i.e. as previously recorded)
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NHS No:

Relative/carers name:


Elisee: possible alarm causes and actions

Low pressure (LP)/ low tidal volume (mini VT) may indicate a leak/ disconnection		High pressure (HP)/ low tidal volume (mini VT) may indicate a blockage or obstruction	
1 Assess child Accidental decannulation (i.e. tracheostomy has come out)	Action Immediately insert tracheostomy If difficulty follow emergency algorithm	1 Assess child Possible causes include: Blocked tracheostomy	Action Emergency algorithm: 1. Suction 2. Emergency tracheostomy change
2 Assess child Possible causes include: Leak around tracheostomy (particularly when asleep)	Cause - some leak may be tolerated and may be due to position of child – discuss with community ± medical teams, who can consider need for cuffed trache or upsize	2 Assess child Retained secretions/ increased pulmonary resistance etc	Action <ul style="list-style-type: none"> suction, consider need for nebulisers, physiotherapy refer to advanced treatment plan d/w community or medical team
3 Assess equipment Disconnection within circuit (Follow circuit from child through to ventilator and ensure everything is connected – NB humidifier connectors etc may be slightly loose)	Action <ul style="list-style-type: none"> Reconnect any loose connections Re-assess 	3 Assess equipment Circuit blockage (Follow circuit from child through to ventilator and ensure it is not kinked or obstructed)	1 Assess child <ul style="list-style-type: none"> Correct fault Re-assess
Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift)	<ul style="list-style-type: none"> Check alarm settings are as prescribed and re-set if any discrepancies 	Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift)	<ul style="list-style-type: none"> Check alarm settings are as prescribed and re-set if any discrepancies
If the child is compromised and you can't resolve the issue rapidly – hand ventilate and call for help			

NHS No:

Relative/carers name:

Monitoring and maintaining Elisee 150 ventilator (continued)

Performance criteria/ knowledge required	Comments/Guidance
<p>4. Able to assemble new circuit onto ventilator and check before use</p> <ul style="list-style-type: none"> ■ Able to demonstrate how to put together wet circuit (i.e. with heated humidification) ■ Able to assemble dry circuit (i.e. HME in circuit) ■ Aware of how often to change circuits and where to document ■ Can describe the bacterial filter, know where it should be placed and how often to change it. ■ Can describe the purpose of the grey Pall filter <p>5. Aware that ventilator manuals should be kept in bedspace and aware of arrangements for managing ventilator problems once home.</p> <ul style="list-style-type: none"> ■ Remember if you have a issue with a ventilator switch to the back up/spare ventilator 	

NHS No:

Relative/carers name:

Monitoring and maintaining NIPPY junior+™ ventilator

Performance criteria/ knowledge required	Comments/Guidance		
<ol style="list-style-type: none"> Demonstrate and discuss how to check the alarm limits and function Can explain what alarms can indicate and how to respond to these (see comments) Can silence alarms and take off mute Demonstrates and can explain how to carry out the following: <ul style="list-style-type: none"> ■ Turn ventilator on/off ■ Can check the functioning of the ventilator prior to connecting to the child ■ Can demonstrate an understanding of the screen by describing the function of each key ■ Can identify whether a breath is patient triggered or given by vent (i.e. back-up breath) ■ Can identify whether mains power or battery is in use ■ Can connect and use battery power sources ■ Can identify the rear inlet filter and demonstrate how/ when to change it 	<p>Check alarms at the start of each shift and document.</p> <ul style="list-style-type: none"> ■ When tubing is first disconnected check that low pressure/disconnect and/or low tidal volume alarms are triggered ■ Occlude the vent circuit whilst running and check the high pressure/low tidal volume alarms are triggered. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">Ventilator alarm goes off</p> <table border="1"> <tr> <td style="vertical-align: top;"> <p>High flow alarm Usually indicates leak somewhere e.g. disconnection somewhere in circuit or decannulation with tracheostomy attached to circuit</p> <p>Assess child Possible causes include:</p> <ul style="list-style-type: none"> • Leak around tracheostomy (particularly when asleep) • Decannulation <p>Assess equipment</p> <ul style="list-style-type: none"> • Follow circuit from child through to ventilator (ensure all connected – ie. humidifier connectors etc) </td><td style="vertical-align: top;"> <p>Low flow alarm Usually indicates obstruction e.g. circuit blocked or tracheostomy, or increased lung resistance</p> <p>Assess child Possible causes include:</p> <ul style="list-style-type: none"> • Blocked tracheostomy • Retained secretions/ increased pulmonary resistance etc <p>Assess equipment</p> <ul style="list-style-type: none"> • Follow circuit from child through to ventilator (ensure not kinked or obstructed) • Is the alarm set </td></tr> </table> </div> <ul style="list-style-type: none"> ■ Hand ventilate ■ Call for help ■ Change to other ventilator 	<p>High flow alarm Usually indicates leak somewhere e.g. disconnection somewhere in circuit or decannulation with tracheostomy attached to circuit</p> <p>Assess child Possible causes include:</p> <ul style="list-style-type: none"> • Leak around tracheostomy (particularly when asleep) • Decannulation <p>Assess equipment</p> <ul style="list-style-type: none"> • Follow circuit from child through to ventilator (ensure all connected – ie. humidifier connectors etc) 	<p>Low flow alarm Usually indicates obstruction e.g. circuit blocked or tracheostomy, or increased lung resistance</p> <p>Assess child Possible causes include:</p> <ul style="list-style-type: none"> • Blocked tracheostomy • Retained secretions/ increased pulmonary resistance etc <p>Assess equipment</p> <ul style="list-style-type: none"> • Follow circuit from child through to ventilator (ensure not kinked or obstructed) • Is the alarm set
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NHS No:

Relative/carers name:

Monitoring and maintaining NIPPY junior+™ ventilator (continued)

Performance criteria/ knowledge required

5. Demonstrate care of ventilation circuits

- Able to demonstrate how to put together wet circuit (i.e. with heated humidification)
- Able to assemble dry circuit (i.e. HME in circuit)
- Aware of how often to change circuits and where to document
- Can identify & explain the purpose of the exhalation leak
- Can describe the bacterial filter, know where it should be placed and how often to change it

6. Oxygen therapy

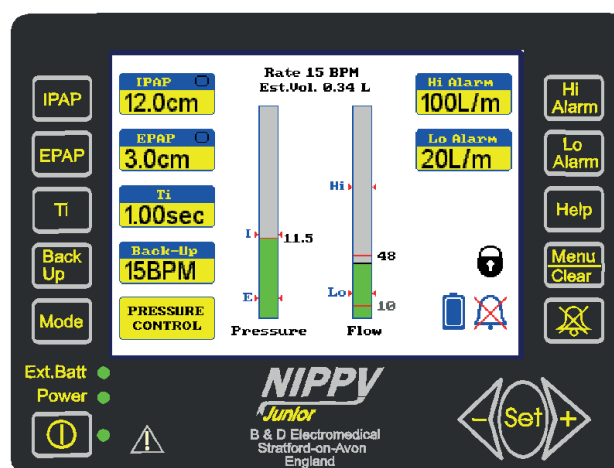
- Can explain how to administer oxygen via circuit

7. Explains purpose of inlets and fans & aware of how to position ventilator safely

Comments/Guidance

Other alarms to describe: Disconnect; Apnoea; High breath rate; Low battery/ Running on battery

Screen parameters that should be understood: IPAP; EPAP; trigger insp; trigger exp; rate; estimated tidal volume; Ti; back up rate; mode; pressure bar & flow bar



Ensure that an expiratory leak of the correct type is present next to the tracheostomy in single limb circuits:



NHS No:

Relative/carers name:

NIPPY: possible alarm causes and actions

High flow/Breathing circuit disconnected may indicate a leak/disconnection		Low flow may indicate blockage or obstruction	
1 Assess child Accidental decannulation (i.e. tracheostomy has come out)	Action Immediately insert tracheostomy If difficulty follow emergency algorithm	1 Assess child Possible causes include: Blocked tracheostomy	Action Emergency algorithm: 1. Suction 2. Emergency tracheostomy change
2 Assess child Possible causes include: Leak around tracheostomy (particularly when asleep)	Cause - some leak may be tolerated and may be due to position of child – discuss with community ± medical teams, who can consider need for cuffed trache or upsize	2 Assess child Retained secretions/increased pulmonary resistance etc	Action <ul style="list-style-type: none"> suction, consider need for nebulisers, physiotherapy refer to advanced treatment plan d/w community or medical team
3 Assess equipment Disconnection within circuit (Follow circuit from child through to ventilator and ensure everything is connected – NB humidifier connectors etc may be slightly loose)	Action <ul style="list-style-type: none"> Reconnect any loose connections Re-assess 	3 Assess equipment Circuit blockage (Follow circuit from child through to ventilator and ensure it is not kinked or obstructed)	1 Assess child <ul style="list-style-type: none"> Correct fault Re-assess
Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift)	<ul style="list-style-type: none"> Check alarm settings are as prescribed and re-set if any discrepancies 	Is the alarm set appropriately (i.e. as previously recorded and checked at start of shift)	<ul style="list-style-type: none"> Check alarm settings are as prescribed and re-set if any discrepancies
If the child is compromised and you can't resolve the issue rapidly – hand ventilate and call for help			

NHS No:

Relative/carers name:

Humidification for a child with a tracheostomy

Performance criteria/ knowledge required

1. Discuss reasons for using artificial humidification in a child with tracheostomy:

- Role of upper airway in humidification
- Effect of bypassing the upper airway via a tracheostomy
- Ventilator delivers dry gases (unless humidified effectively) this or unhumidified oxygen can lead to the following problems:
 - Tracheostomy blockage/obstruction
 - Risk of lung collapse/infection/damage
 - When children may need more humidification i.e. infection/temperatures etc

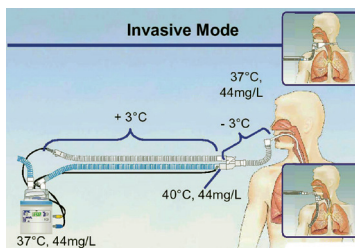
2. Identify different humidification devices

- Heater wire humidification (i.e. with thermostat)
- Heat moisture exchanger (HME) within circuit (e.g. "dry circuit")
- Swedish nose devices when not ventilated

3. Assemble the humidification device into the ventilator circuit.

- Heater wire humidification :
 - Where to position humidifier
 - How to assemble circuit
 - How to turn on/off and set for a child with tracheostomy
 - State the temperature required and where to document this
 - How to troubleshoot

The electronic display on the main unit will display the lowest temperature either in the circuit or in the chamber. If you hold the mute button the unit will display both values.



Comments/Guidance

Impairment and destruction of cilia reduces the proximal transportation of mucus. Secretions become increasingly thick and tenacious, making their expulsion difficult. This may lead to blockage of the tube. Additionally, cold inspired air increases heat loss from the respiratory tract, a particular danger for the small infant. Such problems may be overcome in the hospital environment by nebulisers and humidifiers for ventilation circuits. Heat and moisture exchangers (HME) are more suitable for definitive use, attached to the tracheostomy tube for long periods. These consist of multiple layers of water repellent paper or foam membranes, which trap heat and moisture during exhalation. Cold inhaled air is then warmed and moisturised, thus maintaining the optimum respiratory tract environment.

Several varieties of HME may be used, but a number of important aspects should be considered. Firstly, the selected HME must be appropriate to the particular child's tidal volume (6-8 ml/kg), in order to limit resistance to airflow and prevent carbon dioxide retention. The HME must also be lightweight, to avoid traction to the tracheostomy tube which might cause skin irritation or even accidental decannulation. For similar reasons, ventilation attachments should be used with care. Additionally, the internal volume of the HME will add to respiratory dead space (already 2-2.5 ml/kg), increasing the work of breathing. This may be further exacerbated by the accumulation of secretions within the device: manufacturers therefore recommend changing the HME daily or whenever contaminated.

Three commonly used HME's can be used with child with spontaneous breathing (these must NOT be used in conjunction with the ventilator).

These are:

- The Mini Vent HME which can be used for all small infants under 10kg



- The Trach-phone HME with no weight restrictions, this can also be used to aid phonation and allow the administration of Oxygen (up to 2 litres)



- The Thermovent T which can be used for children over 10kg.



NHS No:

Relative/carers name:

Humidification for a child with a tracheostomy (continued)

Performance criteria/ knowledge required

Comments/Guidance

3. continued

- HME (heat moisture exchanger) within circuit
 - Can demonstrate how to assemble circuit and correct positioning on HME
 - Aware of how often to change HME i.e. every 24 hours
 - Discuss correct sizes depending on child's weight

4. Nebuliser therapy for a child with tracheostomy

- Can identify which of the child's drugs are nebulised
- Can assemble the nebuliser and position appropriately within the circuit
- Can demonstrate how to use the compressor to drive nebulisation
- Demonstrates how to clean and store nebuliser equipment

Example of HME as used in "dry circuit" (Figure 4). This is not to be used without a ventilation circuit

Nebulisers are added in different ways depending on the individual, the drug administered and the type of ventilator circuit (please refer to your local guidelines)

This picture (Figure 1) shows position of nebuliser for saline, salbutamol/DNase in NIPPY circuit (In single limb circuits the expiratory leak **must never** be taken out of the circuit):

Example (Figure 2) of position of nebuliser for antibiotics in NIPPY circuit (yellow filter only used during nebulisation) the expiratory leak **must never** be taken out of the circuit:

Example (Figure 3) of nebuliser position for Elisee (NB this can be used for salbutamol, saline, Dnase or antibiotics as the expiratory filter scavenges exhaled antibiotic in the double limb circuit):

Figure 1

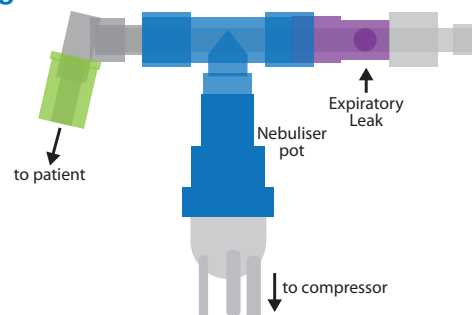


Figure 2

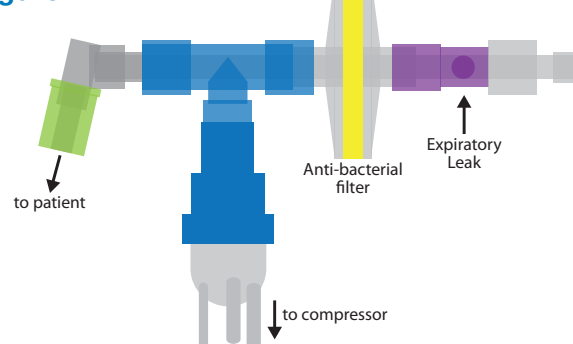


Figure 3

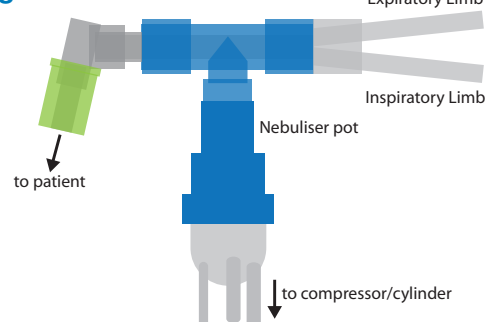


Figure 4

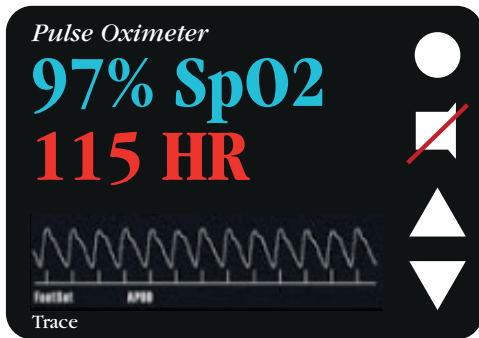



Refer to your local Trust policy

NHS No:

Relative/carers name:

Monitor & maintain adequate oxygenation to a long term ventilated child

Performance criteria/ knowledge required	Comments/Guidance
<ol style="list-style-type: none"> Demonstrate how to correctly place a saturation probe Demonstrate how to measure and record the oxygen saturations of child Demonstrate how to set the parameters and alarms on an oxygen saturation monitor <ul style="list-style-type: none"> ■ Able to explain why parameters are important i.e. implications of too low or too high saturations. ■ Discuss what appropriate alarm settings may normally be for a child ■ Demonstrate awareness as to why individuals may have specific parameters for O₂ saturations ■ Training is required when a new (different model) saturations machine is used Discuss the application of oxygen via a tracheostomy using various devices <ul style="list-style-type: none"> ■ Ventilator circuit (NB different for Elisee 150 and NIPPY junior+™) ■ Swedish nose (used on tracheostomy when ventilator not attached) ■ Passy-muir (speaking) valve ■ Trache mask (if appropriate) Discuss the steps to be taken if the oxygen saturation of the child is low/ poor trace. <ul style="list-style-type: none"> ■ Assess child clinically for cyanosis, respiratory distress. ■ Check patient is ventilating appropriately and machine attached properly, increase O₂ if cyanosed etc. ■ Evaluate trace i.e. for interference due to movement vs. true desaturation ■ Re-site probe and reassess trace 	<p>A good quality saturations trace</p>  <p><i>Pulse Oximeter</i> 97% SpO₂ 115 HR</p> <p>Power button Mute button Volume up Volume down</p> <p>Trace</p> <p>A persistently poor trace must be rectified by repositioning or replacing the probe, please note that this could also indicate clinical deterioration of the child.</p>  <p>One of the correct sites to place a saturations probe, see manufactures guideline for specific attachment procedures</p>

NHS No:

Relative/carers name:

Hand-ventilation via tracheostomy

Performance criteria/ knowledge required

Comments/Guidance

1. Demonstrate an understanding of when hand ventilation (ie via ambu-bag or self inflating bag) may be indicated:

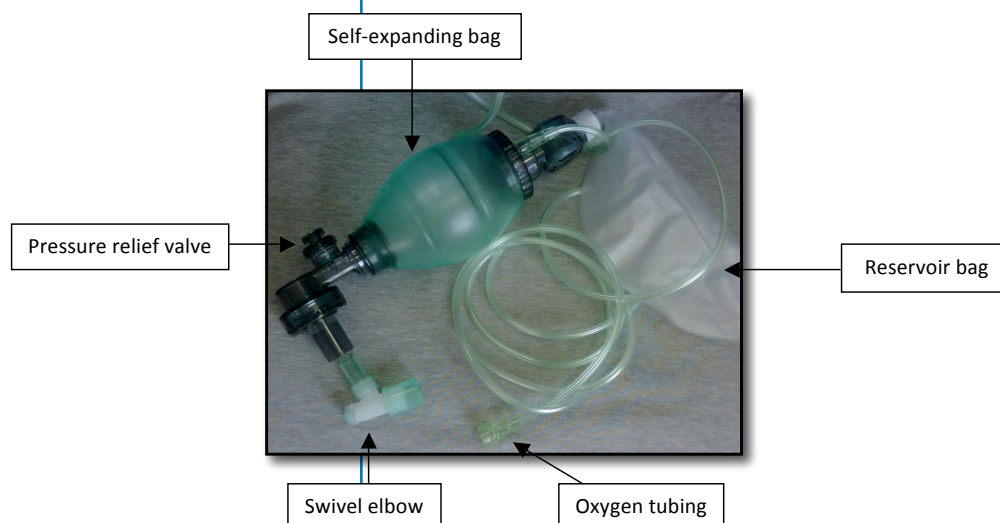
- Machine failure
- Acute deterioration
- Swapping of machines (if child is 24 hours dependent)
- Changing circuit (if child is 24 hours dependent)

2. Demonstrate how to check and set up equipment needed to hand ventilate:

- Connected to O₂ if available
- Ensure there are no leaks apart from the pressure value

3. Demonstrate safe technique in supporting ventilation using an ambu-bag or self inflating bag:

- Remember the child's "normal" respiratory rate
- Remember the child's "normal" depth of breathing
- Each inspiration should last approx 1-1.5 secs (dependent on the child)

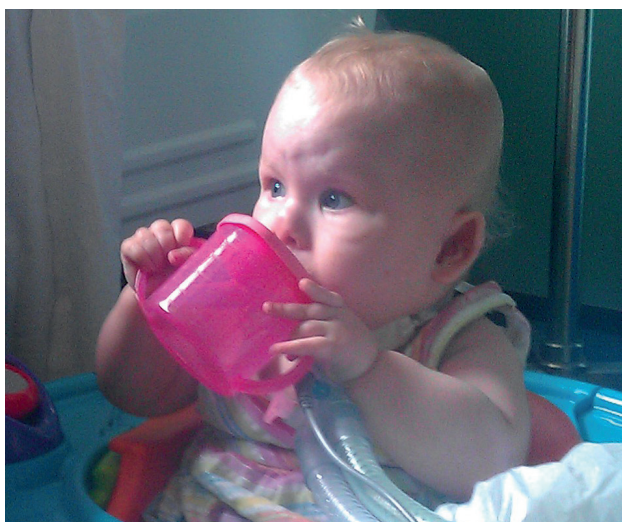


NHS No:

Relative/carers name:

Oral feeding

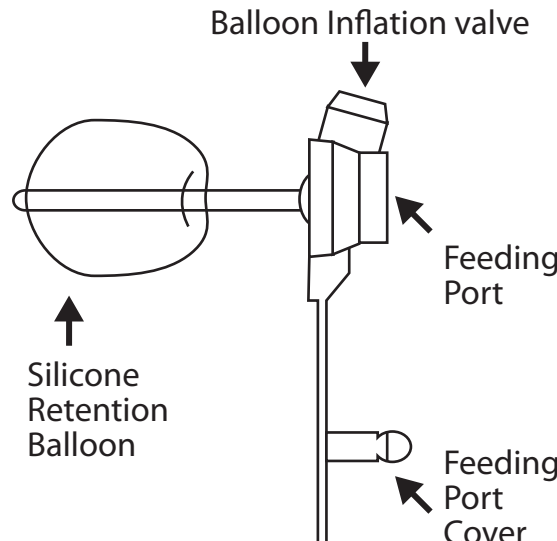
Performance criteria/ knowledge required	Comments/Guidance
<ol style="list-style-type: none"> Demonstrates knowledge regarding signs of aspiration <ul style="list-style-type: none"> ■ See comments Demonstrate knowledge of feeding plan and use of appropriate strategies to help encourage oral feeding <ul style="list-style-type: none"> ■ See comment Knowledge of signs of aversion <ul style="list-style-type: none"> ■ See comment Liaison with other professionals as required <ul style="list-style-type: none"> ■ See comment 	<ol style="list-style-type: none"> Signs of aspiration: <ul style="list-style-type: none"> ■ Coughing, choking or desaturating on any oral intake ■ Evidence of fluids or food in tracheostomy secretions ■ “Wet” sounds to respiration post intake ■ Excessive drooling ■ Eye watering <p>Please notify medical team and refer to SLT (Speech & Language Therapist) if any concerns re Aspiration</p> Strategies to help encourage oral feeding: <ul style="list-style-type: none"> ■ Appropriate positioning ■ Use of specific teat or bottle ■ Timings of oral feeding ■ Follow infant or child’s cues ■ Encouraging self-feeding or participation ■ Encourage messy play ■ Careful mouthcare ■ Offering the dummy with tube feeds if an infant & they have a dummy Signs of aversion: <ul style="list-style-type: none"> ■ Choking and gagging ■ Food/bottle refusal eg. back arching away ■ Desaturations or colour changes when teat/food presented <p>Please refer to SLT if any concerns re: feed aversion</p> Other Professionals that may need to be involved: <ul style="list-style-type: none"> ■ Dietitian ■ Physiotherapist ■ Occupational therapist ■ Psychologist



NHS No:

Relative/carers name:

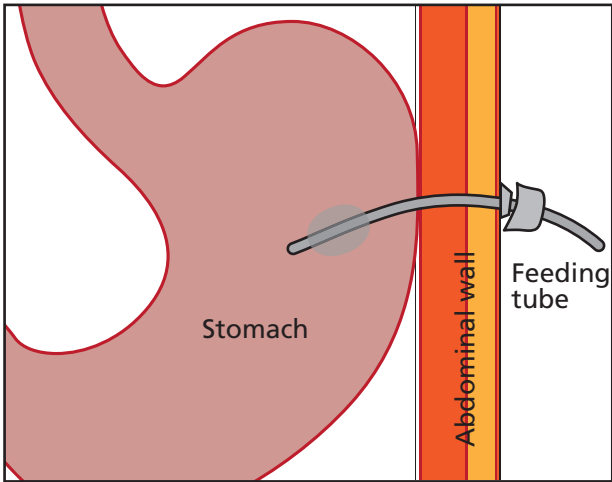
Gastrostomy care

Performance criteria/ knowledge required	Comments/Guidance
<p>1. Demonstrate how to assess a stoma:</p> <ul style="list-style-type: none"> ■ Check for redness ■ Odour ■ Is there leakage from stoma ■ Bleeding ■ Pain or discomfort ■ Does there appear to be growth of extra/new skin at the stoma (over granulation) <p>2. Demonstrate how to clean a gastrostomy site:</p> <ul style="list-style-type: none"> ■ See comments <p>3. Demonstrate how to check the gastrostomy button balloon/PEG tube:</p> <ul style="list-style-type: none"> ■ The water in the balloon is renewed weekly ■ Gather all equipment needed (x2 5ml syringe, use water not saline, distilled water or sterile water for babies under 9 mths age) ■ Remove old water using a 5 ml syringe, fitting syringe into the balloon inflation port (due to natural evaporation there may be 4 mls removed) ■ Replace with 5 mls 	<p>How to Clean gastrostomy site:</p> <ul style="list-style-type: none"> ■ Wash hands before and after ■ Clean the site twice daily (morning and night) ■ Use unscented soap ■ Clean around the area, with gauze (cotton buds may be useful) ■ Dry the skin well ■ If PEG Rotate the tube once daily (360 degrees)  <p>The diagram illustrates the components of a Gastrostomy Button (PEG tube). It features a central tube with a 'Silicone Retention Balloon' at the end, indicated by an upward arrow. The main body of the tube has a 'Balloon Inflation valve' at the top, indicated by a downward arrow. On the side of the tube, there is a 'Feeding Port' with a 'Feeding Port Cover' attached, indicated by an arrow pointing to the cover.</p>

NHS No:

Relative/carers name:

Gastrostomy care (continued)

Performance criteria/ knowledge required	Comments/Guidance
<p>4. Demonstrate/explain the correct position of a MicKey button gastrostomy: [if relevant]</p> <p>5. Demonstrate the administration of a bolus feed:</p> <ul style="list-style-type: none"> ■ Wash hands ■ Collect equipment required for your child (Delivery system for feed ie. syringes/ extensions sets, feed and distilled water) ■ Clean a working surface on which to prepare the feed as per Dietitians instructions ■ Check the expiry date of feed ■ Attach the extension set ■ Flush tube with cooled boiled water ■ Connect the bolus set to your feeding tube ■ Pour feed into the bolus set and elevate above the child's head. Always give the bolus over 10-15 minutes ■ At the end of the feed disconnect the giving set and flush the tube with cooled boiled water ■ Wash hands <p>6. Demonstrate the application of a continuous feed:</p> <ul style="list-style-type: none"> ■ Wash hands ■ Collect equipment required ■ Clean a working surface on which to prepare the feed as per Dietitians instructions (check the expiry date of feed) ■ Prime the giving set and set up pump (set rate and amount to give) ■ Connect/attach giving set to your feeding tube ■ Start feed ■ When feed has been completed flush tube with 5-10 mls of water ■ Remove the extension set and close the safety plug <p>7. What to do in an emergency (ie. tube comes out, tube blockage):</p>	<p>Position of Gastrostomy</p>  <ul style="list-style-type: none"> ■ Gastrostomy is a surgical opening, made through the abdominal wall into the stomach, through which a feeding tube can be passed. ■ They usually have a balloon end which sits inside the stomach and stops the button falling out. <p>Emergency Equipment to be carried at all times</p>

NHS No:

Relative/carers name:

Gastrostomy care (continued)

What to do in an emergency:

Gastrostomy Tube falls out

- If possible, put the clean, old device back in the stoma/tract (make sure the balloon is deflated) and secure it in place with tape
- If the tube falls onto the floor, do not place it back into the stoma. Replace with NG tube, an inch in length into the stoma and tape down then go to hospital
- If you are unable to replace the old device or have no replacement, put a dressing over the stoma and get help immediately, because within a few hours the tract will begin to close up
- If the balloon has burst or the tube has not fully come out push back in place and try re-inflating balloon. If the balloon has burst then tape tube in place and get help from community nurse or local hospital

Gastrostomy Tube blockage

- Flush tube with warm water in a large syringe (flushing and aspirating back and forth)
- Try using sparkling water (10-15 mls) in a 50 ml syringe into the tube, leave it there for 30-60 minutes before flushing it out with water, consider that the tube may be kinked
- Do not use excessive pressure to flush
- If you are unable to unblock the tube contact your community nurses or hospital
- To prevent blockage flush with 10-15 mls of sterile or cooled boiled water (depending on size of child) through the feeding set before and after every feed and medications

NHS No:

Relative/carers name:

Travel and transport

Performance criteria/ knowledge required

1. Identify all emergency equipment:

- Check and recharge equipment as necessary
- Check the child's emergency bag and equipment
- Ensure sufficient ventilator battery power is taken

2. Obtain consent from parents/medical staff:

- Where possible you must also gain consent from the patients
- Explains the benefits of trips out of the hospital environment
- Must ensure that you gain consent before you begin any treatment or care
- Doctors must be made aware in case there are any medical concerns or tests booked

3. Calculate required amount of oxygen for the duration of the outing:

- Length of journey (in Minutes) x Litres per minute prescribed = Total volume of O₂ need for trip (in Litres)
- Volume of O₂ cylinder (in Litres)/Litres per minute Used = Time, in Minutes that the cylinder will last
- Always ensure adequate O₂ volume is taken in case your journey time is extended

4. Demonstrate taking the child out on a trip including using the buggy, safely secure the equipment:

- Build your confidence by visiting the play room first or the hospital school with all the required equipment
- As your confidence grows, trips off the hospital grounds can be taken unsupervised
- Before taking the child out for a day trips you must be fully competent in all aspect of care including Basic Life Support
- On return REMEMBER to plug all electrical equipment into mains to recharge
- REMEMBER in case of an acute deterioration outside the hospital 999 must be call immediately. Make sure an interim medical summary is taken out with the child



Comments/Guidance

Equipment needed for a trip off the ward or out of the house:

- Emergency Tracheostomy box
- O₂ (if needed)
- Suction machine (battery power)
- Ambu bag
- Ventilator (including carry case)
- Appropriate specialist buggy
- Saturations monitor
- Hand suction pump
- Suction catheters

BOC Medical Cylinder data chart:

Cylinder code	Capacity in litres
AZ	170
C	170
D	340
CD	460
E	680
J	6800

Journey time X prescribed O₂ requirement = Total amount needed for journey, double the amount for safety

i.e. the child is on 2L/min O₂ and it going out for one hour or 60mins so he needs 120ltrs, double this to 240ltrs to cover you in the event of an emergency.

NHS No:

Relative/carers name:

Promote child's neurodevelopment

Performance criteria/ knowledge required	Comments/Guidance
1. Identify members of the MDT who should be liaised with to promote the child's development <ul style="list-style-type: none"> ■ While they are an in-patient. ■ When they are discharged. 	a. SLT, OT, Physio, Dietitian, Play Specialist, Specialist Nurse, hospital Social Worker, Welfare Rights Advisor, Psychologist, School Teacher, Family Liaison Team, Nursery Nurses b. Community equivalents, discharge planning nurse, Specialist Nurse, School/Specialist Teacher
2. Discuss the environmental factors that may affect the child's development during their stay on the ward.	Child in isolation, visiting rules (parents, siblings, other family), co-morbidities (eg. syndromes, cerebral palsy), play/school access, 24/24 activity and décor/space (compared to a home environment)
3. Describe the child's potential communication difficulties and strategies that may be used to address these.	Difficulties: compromised voice, co-morbidities, culture/language Strategies: liaise with SLT, communication cards, interpreter, speaking valve (liaise with SLT/Physio), baby sign/makaton, family carers
4. Describe the child's potential play/cognitive difficulties and strategies that may be used to address these.	Difficulties: restrictions eg. sitting/weak muscles/environment, co-morbidities, culture, premorbid activity Strategies: liaise with OT and play specialists, normalising play, play sessions, school, increase opportunities for play in daily framework
5. Describe the child's potential motor/mobility (indoor and outdoor) difficulties and strategies that may be used to address these.	Difficulties: weak muscles, limited positioning, equipment, co-morbidities, environmental considerations (stairs/infection control/transportation) Strategies: liaise with Physio, seating, trolleys, buggies, car/bus, exercises, play
6. Describe the child's potential social/personal difficulties and strategies that may be used to address these.	Difficulties: family opportunity to be carer, access to wider family/friends, environment (cultural practices), dignity/privacy, space, language, access to school/nursery Strategies: liaise with Family Liaison Team, empower parents, opportunities for play and personality development, appropriate interactions, access to school/play time
7. Identify your role in promoting the child's development.	Being aware of above issues, helping to access the strategies identified, be mindful of parental roles and responsibilities
8. Discuss the importance of maintaining a day and night routine.	Consistency, protected time (with parents/for socialisation/for developmental play), establish child's own routine independent of ward/nursing agenda, empower patient/family. Develop a daily framework/timetable

NHS No:

Relative/carers name:

Knowledge of medications

Performance criteria/ knowledge required	Comments/Guidance
<p>1. Identify the uses of medication for the individual child:</p> <ul style="list-style-type: none"> ■ Identify potential side effects of the medication <p>2. Identify factors which may indicate the child requires medication and refer this concern to parent, guardian or professional:</p> <ul style="list-style-type: none"> ■ Pain ■ Discomfort ■ Changes in vital signs ■ Fever <p>3. Identify different ways in which medications can be given:</p> <ul style="list-style-type: none"> ■ Oral ■ Nasogastric tube ■ NasoJejunal tube ■ Gastric feeding tube <ul style="list-style-type: none"> • PEG or Button ■ Nebulised (see competency 11 for setting up a nebuliser circuit) <ul style="list-style-type: none"> • Attached to the ventilator • Disconnected from the ventilator 	<p>List the above patients current medication and purpose</p>

NHS No:

Relative/carers name:

Comments and Notes

NHS No:

Relative/carers name:

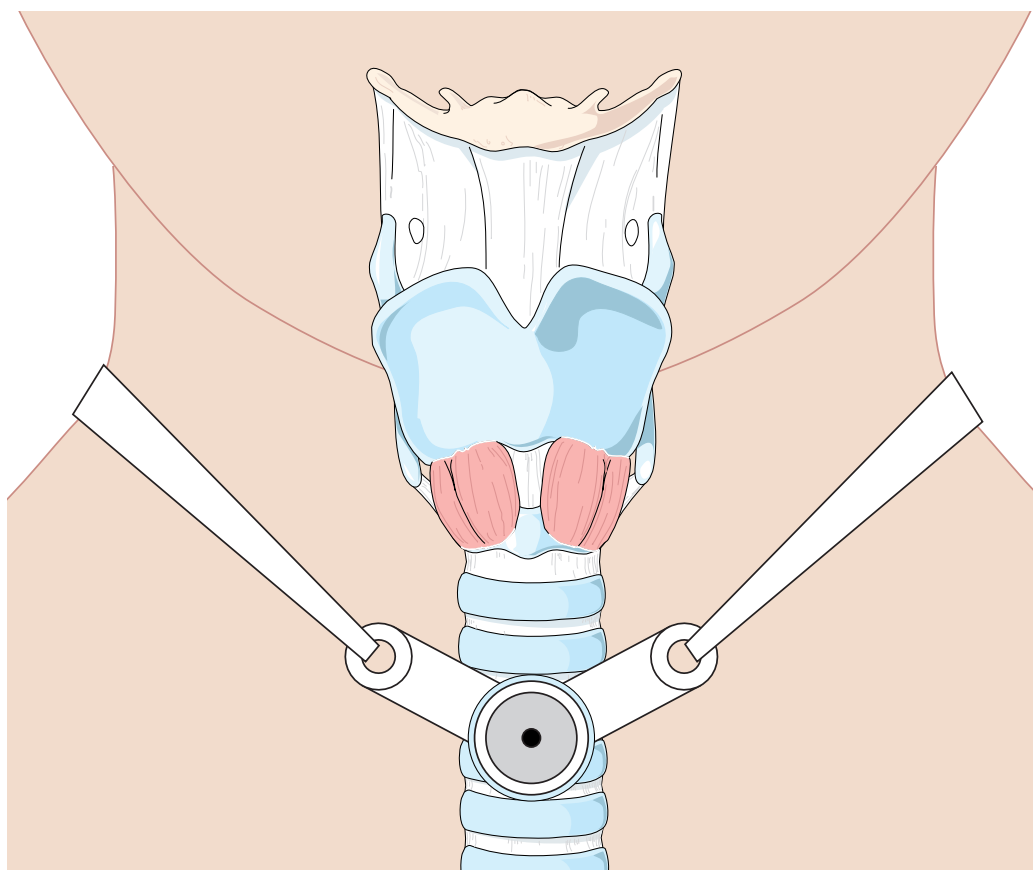
Page 32 of 44

Comments and Notes

NHS No:

Relative/carers name:

A joint competency document for staff and carers working with Long Term Tracheostomy Ventilated Children



Sign Off Records

Child's Name:

Hospital Number:

Date of birth:

Consultant:

Ward:

NHS No:

Relative/carers name:

Competencies section required to be completed	Observed/ discussed (date & Sign)	Performed under supervision (date & sign)	Achieved (trainer sign & date)	Trainee sign & date when confident re: competency	Remarks
Demonstrate awareness of Health and safety					
1. Identify potential hazards and dangers of the ward environment.					
2. Assess the child's immediate environment for health and safety.					
3. Demonstrate the safety checks at the beginning of each shift.					
Reducing risk of infection					
1. Demonstrate effective hand washing.					
2. Discuss how infection can spread.					
Personal hygiene needs of the child					
1. Demonstrate how to assess the oral status of the child.					
2. Safely bath a child with a tracheostomy either attached to a portable ventilator or with Swedish nose.					

NHS No:

Relative/carers name:

Competencies section required to be completed	Observed/ discussed (date & Sign)	Performed under supervision (date & sign)	Achieved (trainer sign & date)	Trainee sign & date when confident re: competency	Remarks
Assessment and monitoring					
1. Demonstrate how to take the child's vital signs if taught to do so.					
2. Discuss normal parameters for the child and outline the course of action to be taken.					
3. Know how to access emergency contact numbers and where they are displayed in the child's environment.					
4. Demonstrate how to recognise signs of distress or changes in clinical status.					
Suctioning via Tracheostomy					
1. Demonstrate how to use portable & walled suction and hand/foot pump.					
2. Aware of indications for suction in a child with a tracheostomy.					
3. Demonstrate appropriate procedure for suctioning via tracheostomy.					
4. Demonstrate how to assess secretions appropriately.					
5. Demonstrate how to clean and store suction equipment.					

NHS No:

Relative/carers name:

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Tracheostomy care					
1. Assess tracheostomy site.					
2. Clean and change ties at tracheostomy site.					
3. Routine tracheostomy change.					
4. Understand which tube is current in use.					
5. Clean and Store tracheostomies appropriately.					
6. Demonstrate awareness of granulomas.					
7. Care of patient with cuffed tracheostomy.					
Emergency Procedures					
1. Procedure for a blocked tracheostomy tube.					
2. Perform a single person tracheostomy tube change.					
3. Discuss actions to be taken in case of a parent/family member collapsing at hospital/home.					
4. Describe the steps that should be taken in the event of a tracheostomy becoming accidentally decannulated.					
5. Complete Basic Life Support training as per Resus Council Guidelines.					

NHS No:

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Competencies section required to be completed	Observed/ discussed (date & Sign)	Performed under supervision (date & sign)	Achieved (trainer sign & date)	Trainee sign & date when confident re: competency	Remarks
Care of the child Ventilated via Tracheostomy					
1. Demonstrate understanding of child's need for ventilatory support.					
2. Describe in basic terms difference between CPAP & Bilevel support and how ventilation works and records these appropriately.					
3. Describe in basic terms how the mode(s) in use assists ventilation.					
4. Can identify the prescribed settings.					
5. Aware of importance of back-up batteries.					
6. Be aware of frequency of ventilation circuit changes.					
Monitoring and maintaining Elisee 150 ventilator					
1. Demonstrate and discusses how to check the alarm limits and function.					
2. Demonstrate and explain how to carry out the following.					
3. Can explain what alarms can indicate and how to respond to these.					
4. Able to assemble new circuit onto ventilator and check before use.					
5. Aware that ventilator manuals should be kept in bed space and aware of arrangements for managing ventilator problems once home.					

NHS No:

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Competencies section required to be completed	Observed/ discussed (date & Sign)	Performed under supervision (date & sign)	Achieved (trainer sign & date)	Trainee sign & date when confident re: competency	Remarks
Monitoring and maintaining NIPPY junior+™ ventilator					
1. Demonstrate and discuss how to check the alarm limits and function.					
2. Can explain what alarms can indicate and how to respond to these.					
3. Can silence alarms and take off mute.					
4. Demonstrates and can explain how to carry out the following.					
5. Demonstrate care of ventilation circuits.					
6. Oxygen therapy.					
7. Explains purpose of inlets and fans & aware of how to position ventilator safely.					
Humidification for a child with a tracheostomy					
1. Discuss reasons for using artificial humidification in a child with tracheostomy.					
2. Identify different humidification devices.					
3. Assemble the humidification device into the ventilator circuit.					
4. Nebuliser therapy for a child with Tracheostomy.					

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Competencies section required to be completed	Observed/ discussed (date & Sign)	Performed under supervision (date & sign)	Achieved (trainer sign & date)	Trainee sign & date when confident re: competency	Remarks
5. Appropriate Use of the Heat and Moisture Exchanger, with the various boxes as has already been done					
Monitor and maintain adequate oxygenation to a long term ventilated child					
1. Demonstrate how to correctly place a saturation probe.					
2. Demonstrate how to measure and record the oxygen saturations of child.					
3. Demonstrate how to set the parameters and alarms on an oxygen saturation monitor.					
4. Discuss the application of oxygen via a tracheostomy using various devices.					
5. Discuss the steps to be taken if the oxygen saturation of the child is low/poor trace.					
Hand-ventilation via Tracheostomy					
1. Demonstrate an understanding of when hand ventilation may be indicated.					
2. Demonstrate how to check and set up equipment needed to hand ventilate.					

NHS No:

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3. Demonstrate safe technique in supporting ventilation using a self inflating bag.					
Oral Feeding					
1. Demonstrates knowledge regarding signs of aspiration.					
2. Demonstrate knowledge of feeding plan and use of appropriate strategies to help encourage oral feeding.					
3. Knowledge of signs of aversion.					
4. Liaison with other professionals as required.					
Gastrostomy Care					
1. Demonstrate how to assess a stoma.					
2. Demonstrate how to clean a gastrostomy site.					
3. Demonstrate how to check the MicKey button balloon/PEG tube.					
4. Demonstrate/explain the correct position of a MicKey button gastrostomy (if relevant).					
5. Demonstrate the administration of a bolus feed.					
6. Demonstrate the application of a continuous feed.					

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7. What to do in an emergency (i.e. Tube comes out, tube blockage).					
Travel and transport					
1. Identify all emergency equipment.					
2. Obtain consent from parents /medical staff.					
3. Calculate required amount of oxygen for the duration of the outing.					
4. Demonstrate taking the child out on a trip including using the buggy, safely secure the equipment.					
Promote child's neurodevelopment					
1. Identify members of the MDT who should be liaised with to promote the child's development.					
2. Discuss the environmental factors that may affect the child's development during their stay on the ward.					
3. Describe the child's potential communication difficulties and strategies that may be used to address these.					

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4. Describe the child's potential play/cognitive difficulties and strategies that may be used to address these.					
5. Describe the child's potential motor/mobility (indoor and outdoor) difficulties and strategies that may be used to address these.					
6. Describe the child's potential social/personal difficulties and strategies that may be used to address these.					
7. Identify your role in promoting the child's development.					
8. Discuss the importance of maintaining a day and night routine.					
Knowledge of medication					
1. Identify the uses of medication for the individual child.					
2. Identify factors which may indicate the child requires medication and refer this concern to parent, guardian or professional.					
3. Identify different ways in which medications can be given.					

NHS No:

Relative/carers name:

Patient Hospital No: _____

Relative/carers name: _____

Tracheostomy and Ventilation Competency Certificate

I certify that I (name of assessor) _____

have a current NMC registration or I am affiliated with a Professional governing body. I am experienced and have attained my own competency in Tracheostomy and Ventilator care and teaching, in order that I am able to assess and sign off the competency of the carer below.

Print full name _____ Designation _____

Signature _____ Date _____

I certify that I (name of carer) _____

have undergone a period of theory and practical training and am confident and competent in the procedures detailed in this booklet. I will only use this training in respect of the child specifically named on the front of this booklet and I will not carry out any procedures which have not been covered by this training.

I will continue according to local policy, ensure that my practice is kept up to date with regular checks and training. If there are any concerns I will seek appropriate advice and guidance in order for me to continue to operate within these competencies.

Print full name _____ Designation _____

Signature _____ Date _____

I certify that (carers name) _____

has undergone a period of training and has been deemed competent to practice the procedures outlined in this booklet.

Print full name _____ Designation _____

Signature _____ Date _____

A copy of this document, when complete, must be kept in the child's medical notes.