



Name of staff member: _____ PATIENT ID: _____

Care of the child ventilated via a tracheostomy

Competency, Policy and Procedure

STANDARDS:

- 1. Staff caring for a tracheostomy ventilated / assisted paediatric InVent client will have received training and is deemed competent in all aspects of the care, usage of the equipment and actions to be taken in case of alterations from the norm with no exceptions.**
- 2. Staff will adhere to infection control guidelines during any procedure undertaken.**
- 3. Staff will follow manufacturer's guidance for the usage of the ventilator / respiratory assist device with no exception.**
- 4. A ventilated InVent client with a tracheostomy will be directly supervised at all times.**
- 5. Emergency equipment will be kept in close proximity of any ventilated InVent client requiring mechanical ventilation / mechanical respiratory assistance.**
- 6. All InVent staff will be able to initiate troubleshooting should complications occur with no exception.**
- 7. Observations and complications in relation to the ventilation are documented in the nursing notes at the end of each shift with no exception.**

Scope: All clinical InVent staff



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C 58 - C67 COMPETENCIES FOR THE CARE OF A TRACHEOSTOMY VENTILATED PAEDIATRIC PATIENT:

	<i>The care worker caring for an InVent client will</i>	ASSESSED AS COMPETENT - DATE	NAME & SIGNATURE	TYPE OF ASSESSMENT & Evidence
C58	Recognise the condition needing to the above named child requiring mechanical respiratory support / ventilation. Q			
C59	Describe the main features of the mode of ventilation used for the above named child Q <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> CPAP BIPAP SIMV PRESS SUPPORT CMV </div> <div style="width: 35%;"> _____ _____ _____ _____ _____ </div> </div>			
C60	Demonstrate a working knowledge of the ventilator used for the above named child. Q&D			
C61	Demonstrate and discuss the care of the child requiring mechanical respiratory support Q&D			
C62	Demonstrate the changing of all disposable ventilator components Q&D			
C63	Demonstrate the safety checks to be undertaken whilst caring for a ventilated child at the beginning of the shift, during the shift and prior to any outing. Q&D			
C64	Demonstrate manual ventilation of the child by using a self-inflatable resuscitator Q&D			
C65	Discuss the potential complications of mechanical ventilation and how to prevent such Q&D			
C66	Demonstrate the initiation of appropriate troubleshooting. Q&D			
C67	Document all observations and events in relation to the ventilation. Q&D			



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Overall evaluation of learner and comments:



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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 58 <i>Recognise the condition needing to the above named child requiring mechanical respiratory support / ventilation Q</i></p>	
<ul style="list-style-type: none"> • Discuss common conditions why children may need long term respiratory support. D <ul style="list-style-type: none"> ○ Airway obstruction ○ Neurological and neuro-muscular problems ○ Primary lung disease ○ Congenital abnormalities • Name the condition the above named child suffers from and why is caused for the above named child to require ventilation / respiratory support. D/Q 	

PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS								
<p>C 59 <i>Describe the main features of the ventilation mode used for the above named child Q.</i></p>									
<ul style="list-style-type: none"> • Discuss the difference between respiratory support and ventilation. • Demonstrate a working knowledge of the mode applicable to the above named patient. Q/D • Demonstrate a working knowledge of CPAP (continuous Positive Airway Pressure) Q/D <ul style="list-style-type: none"> ○ Assists spontaneous breathing with some additional 'top up' flow ○ Provides a gentle flow of air to hold the airway open. ○ Patient is breathing with a constant air flow during inspiration as well as expiration. ○ This constant airflow keeps the lungs and airway inflated 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center; padding: 5px;">Resp support</th> <th style="width: 50%; text-align: center; padding: 5px;">Ventilation</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Pat able to make reasonable respiratory effort but not enough to sustain life</td> <td style="padding: 5px;">Patient unable to sustain sufficient self ventilation</td> </tr> <tr> <td style="padding: 5px;">Respiratory support machine offers assistance with breathing</td> <td style="padding: 5px;">Ventilator takes over all breathing work</td> </tr> <tr> <td style="padding: 5px;">Machine requires different specifications</td> <td style="padding: 5px;">Ventilator classified as life support machine and must fulfil different safety criteria.</td> </tr> </tbody> </table>	Resp support	Ventilation	Pat able to make reasonable respiratory effort but not enough to sustain life	Patient unable to sustain sufficient self ventilation	Respiratory support machine offers assistance with breathing	Ventilator takes over all breathing work	Machine requires different specifications	Ventilator classified as life support machine and must fulfil different safety criteria.
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- **Demonstrate a working knowledge of BiPaP (BiPhasic Positive Airway Pressure) Q/D**
 - Assists spontaneous breathing during inspiration and expiration.
 - Provides a continuous airflow at two different pressure levels (IPAP, EPAP)
 - Different levels of support within BiPAP: timed, spontaneous timed, pressure controlled

- **Demonstrate a working knowledge of SIMV (Spontaneous Intermittent mechanical Ventilation) Q/D**
 - Higher level of assisted breathing
 - Patient is guaranteed a minimum level of support
 - Patient is able to initiate spontaneous breathing

- **Demonstrate a working knowledge of Pressure support Q/D**
 - Often used together with SIMV
 - Patient can demand a breath by initiating inspiration (trigger) and is supported with a minimum pressure limit to complete the breath.
 - Can be offered with minimum rate or in spontaneous mode only

- **Demonstrate a working knowledge of CMV (Controlled Mandatory Ventilation) Q/D**
 - The patient is unable to breathe spontaneously.
 - All breathing is controlled by the ventilator (LIFE SUPPORT)
 - The machine will be preset how frequently to give a breath to a patient (BPM) and how much air to ventilate the lungs with (Pressure controlled or volume controlled)

ASSESSMENT GUIDE:

- Indication for long term ventilation for the above named child (how underlying condition affects the breathing)
- Level of support required (partial, full support)
- Level of spontaneous breathing required for this mode
- Combination of different modes used for one patient
- Potential risks
- Troubleshooting



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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 60 <i>Demonstrate an understanding of the ventilator / respiratory support machine and its components used for the above named child. Q&D</i></p> <ul style="list-style-type: none"> • The above named child uses _____ (Name and type of support machine/ventilator) • Locate the manufacturer's instruction guide and familiarize yourself with instructions. D/Q <ul style="list-style-type: none"> ○ Every manufacturer is required to produce an instruction guide in the appropriate language. A guide in English language will be provided with each patient. Other language guide may be provided on request. ○ The instruction guide for patient use will be kept accessible with the patient's documentation. D • Identify the prescribed settings of the machine and discuss their meanings. D/Q <ul style="list-style-type: none"> ○ Demonstrate where to find prescribed settings Q/D ○ Recognise the display control panel D ○ Identify and discuss the meanings of the displayed readings Q/D ○ Recognise alarm warning lights D ○ Understand the term locked and explain the reasons for this D/Q ○ Demonstrate how to change settings D • Demonstrate how to set the alarm limits. D <ul style="list-style-type: none"> ○ Depending on the machine different alarm limits will be set (flow alarm, volume alarm, pressure alarm) ○ Disconnection alarm is commonly indicated by low pressure, low volume or high flow alarm. • Demonstrate an understanding why the alarm is activated. D/Q 	<pre> graph TD A[Ventilator Alarm sounds] --> B[Assess patient] B --> C[Patient well] B --> D[Patient unwell] C --> E[Assess ventilator and rectify reason for alarm immediately if obvious.] D --> F[Disconnect patient from ventilator and Initiate manual ventilation as indicated.] E --> G[If reason for alarm cannot be rectified immediately disconnect patient and initiate manual ventilation as indicated.] F --> H[Call for assistance] H --> I[Investigate ventilator and cause for alarm] I --> J[Patient can be reconnected to ventilator once error has been rectified and ventilator tested for functioning] I -.-> E </pre>



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- **Demonstrate appropriate action to be taken when the alarm sounds. D**
 - Every alarm is responded to and acted upon. D
 - Alarm settings must be within reasonable limits to avoid 'false' alarms (refer to manufacturers guide) D
- **Demonstrate how to safety check the machine prior to a patient being connected. D**
 - Prior to connecting a patient the machine is checked for correct settings and functioning, air leaks and functioning alarms. D
 - Depending on the type of machine used different tests may be performed.
 - Refer to manufacturers guide D
- **Demonstrate the power supply to the machine and action to be taken in case of power failure. D/Q**
 - Depending on the level of ventilator dependency the patient is supplied with a number of external batteries.
 - Identify the indicator whether the machine is operated via the mains or via a battery. D
 - A minimum of one external battery should be supplied to any patient requiring respiratory support / ventilation.
 - Demonstrate how to switch from mains power supply to battery operated mode. D
 - A detailed protocol for power failure is supplied for each individual patient (depending on type of machine and battery supply). D
- **Demonstrate how to charge the batteries for the support machine / ventilator D**
 - Batteries are charged routinely during the night and after each usage as necessary
 - See manufacturer's guide

SAFETY CHECKS PRIOR TO CONNECTION OF PATIENT

CHECK TUBING SYSTEM FOR LOOSE CONNECTIONS

CHECK FOR COMPLETE CIRCUIT ASSEMBLY


CHECK FOR LEAKAGE WITHIN CIRCUIT

CHECK PRESCRIBED SETTINGS

CHECK FOR DELIVERED PRESSURE / VOLUME

CHECK ALARM FUNCTIONS

Name of staff member: _____ PATIENT ID: _____

<ul style="list-style-type: none"> • Demonstrate how to position a Heat-Moisture-Exchanger (HME) within a dry circuit <ul style="list-style-type: none"> ○ The HME must be connected within the inspiratory side and as close to the patient as possible. • Demonstrate how to connect a nebuliser into the ventilator circuit. <ul style="list-style-type: none"> ○ The nebuliser should be connected within the inspiration side of the circuit and as close to the patient as possible ○ Whilst a nebuliser is placed within the circuit the HME should be removed 	 <ul style="list-style-type: none"> 1. Ventilator tubing 2. Exhalation valve 3. HME or nebulizer 4. catheter mount and patient
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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 61 <i>Demonstrate and discuss the care of the child requiring mechanical respiratory support Q/D</i></p> <ul style="list-style-type: none"> • The competencies C10 – C15 for the basic assessment of the non-ventilated child apply to the ventilated patient. • Demonstrate an understanding of the child’s normal breathing pattern whilst mechanically assisted / ventilated. D/Q • Identify the child’s ability to assist or trigger the ventilator. D/Q • Identify common reasons for poor ventilation D/Q <ul style="list-style-type: none"> ○ Identify the chest rise and fall appropriately. D ○ Identify changes in the markers indicating poor ventilation on the ventilator (flow or volume measures, oxygen saturation or CO₂ changes) D 	<p style="text-align: center;"><i>Note:</i></p> <ul style="list-style-type: none"> 1. A child with a general muscle weakness or paralysis will not be able to show increased respiratory effort (i.e. recession) to compensate for poor ventilation. Watch for signs in responsiveness and sleepiness. 2. The ventilated child may not be able to cough effectively. Assess for a clear airway and suction the airway if in doubt.



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<ul style="list-style-type: none"> • Demonstrate an awareness of the risks whilst transferring the child. D <ul style="list-style-type: none"> ○ Special care must be taken when transferring a child in and out of the bed / chair to avoid pulling of any tubes and accidental decannulation. D ○ Take special care of ventilator tubing when moving the child to avoid pooled condensation water to enter the lungs. Empty the tubings prior to transferring the child D • It is good practice to check all ventilator settings during handover together with the staff member leaving the shift. D 	<p>All ventilator settings should be checked by both the leaving and the arriving staff during handover.</p>
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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE C 62 <i>Demonstrate the changing of all disposable ventilator components D</i>	COMMENTS
<ul style="list-style-type: none"> • Identify disposable and non-disposable items of the ventilator circuit. D • Disposable single patient use items are usually changed once per week. Refer to individual checklist for details. D • Disposable medical devices for invasive usage with a patient are usually sterile and all packaging must be intact. Check for expiry dates. D/Q • It is good practice to remove all items to be disposed of from the ventilator and then clean the machine as per instructions by the manufacturer. D • Prepare and assemble new equipment by using clean non-touch technique and adhering to infection control guidelines. D • Attach new circuit. Clean and attach all non-disposable items. D 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Changing ventilation circuit</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Remove and dispose of all used items</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Clean ventilator</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Check new items for intact packaging and expiry dates</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Wash hands and prepare new items with non-touch technique</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Attach new circuit and non-disposable items</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Check machine as per manufacturers instruction</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; width: fit-content; margin: 0 auto;">Reconnect patient</div>



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<ul style="list-style-type: none"> • Check ventilator for leaks, settings, and full functioning as per manufacturer instruction. D • Re-connect patient to ventilator and observe patient for well being. D 	
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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE C 63 <i>Demonstrate the safety checks to be undertaken whilst caring for a ventilated child at the beginning of the shift, during the shift and prior to any outing. Q&D</i>	COMMENTS
<p>Beginning of the shift:</p> <ul style="list-style-type: none"> • Safety checks are performed at the beginning of each shift as per checklist. <ul style="list-style-type: none"> ○ Check all emergency equipment and document findings D/Q <ul style="list-style-type: none"> ▪ Ambu bag, mask, airway available ▪ Ventilator settings and alarm limits are as prescribed per careplan ▪ Ventilator circuit is checked for leakage, loose connections. ▪ Tracheostomy emergency kit is complete (see tracheostomy competency) ▪ Suction machines available and functioning as per tracheostomy standard ▪ Ventilator batteries are available and charged ▪ Spare ventilator and ventilator circuits available ▪ Torch available in case of powerfailure ▪ Sufficient stock for the shift available ○ Assess child to gather baseline information of child's well being. It is good practice to document a set of observations at the beginning of each shift. D/Q ○ Read relevant documentation and communication book D <p>During the shift</p> <ul style="list-style-type: none"> • Safety checks are required throughout the shift, especially when the child is taken on an outing or is being moved within the house. • Emergency equipment is to be kept in close proximity of the child at all times. D 	<p>PREPARING FOR OUTINGS</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> <p>Prepare equipment</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <ul style="list-style-type: none"> • AMBU BAG (+MASK AIRWAY) • TRACHEOSTOMY KIT • SUCTION EQUIPMENT • OXYGEN </div> </div> <div style="text-align: center; margin-bottom: 10px;"> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> <p>Check equipment</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="color: blue;">Ensure the suction unit is fully charged prior to the outing.</p> <p style="color: red;">Remember: The Portable suction unit lasts for only 1 hour when used continuously</p> <p style="color: red;">Consider taking manual foot pump for longer outings</p> </div> </div>



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Safety checks prior to an outing:

- Parental agreement D
 - Parents as well as the carers / nurses must agree that the child is clinically well and fit to be taken on an outing.
- Prepare all equipment for the outing: D/Q
 - Emergency tracheostomy kit (2 Trachy tubes, trachy tape, sissors)
 - Self Inflatable Resuscitator (inclusive mask and airway)
 - Suction equipment, catheters, gloves, alcohol gel
 - HME, Normasol, spare catheter mount
- Prepare the ventilator and change it into a 'mobile' ventilator (use HME instead of humidifier) D
- Calculate the required amount of oxygen for the outing and ensure sufficient oxygen supply. D

Ensure the child's safety during the outing:

- Whilst on an outing be aware of loose connections and constantly monitor the child. D
- Be aware that you might not be able to hear the alarm going off (due to noisy environment, i.e. traffic). Observe the child closely and check ventilator pressures regularly. D
- Secure all lines and tubing to the chair that they cannot get 'trapped' and are unreachable for the child. D

Safety measures after the outing:

- All equipment used is cleaned, checked and replaced as necessary.
- All batteries are placed on charge at the earliest convenience ready for usage in an emergency D

To work out oxygen requirement:

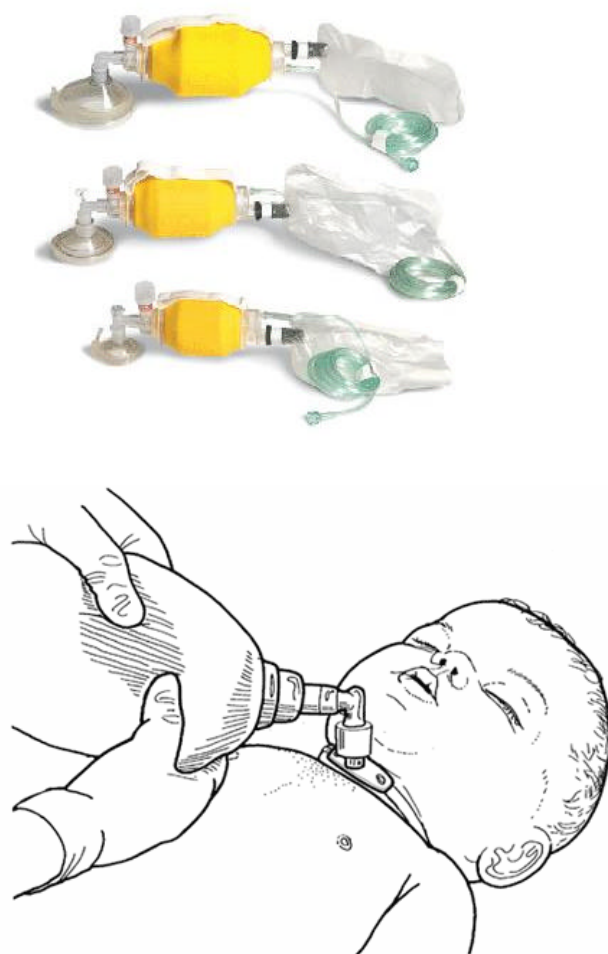
Litres in cylinder (340 full D size cylinder)
divided by
litres needed per minute

example: $340 \text{ l} / 3 \text{ l per minute}$
= 113 minutes of available oxygen.

Remember:

Check for leaks. Take half of the calculated amount as additional supply in case of an emergency.

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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 64 <i>Demonstrate manual ventilation of the child by using a self-inflatable resuscitator</i> D</p> <ul style="list-style-type: none"> • Every child requiring assisted or controlled ventilation must be supplied with the self-inflatable resuscitator. D/Q <ul style="list-style-type: none"> ○ Self-inflatable bags come in three sizes: 250 ml, 500 ml and 1500 ml. The smallest bag is ineffective except in very small babies. ○ The device is also known as Bag-Valve-Mask or Ambu bag. ○ The use of the device is also called 'bagging a patient'. ○ The devices have a reservoir which can fill with oxygen. The functioning of the device does not rely on oxygen flow. ○ To avoid excess pressures being applied to the child's lung the paediatric bag has a high pressure valve. • Bagging is indicated when the patient's breathing is insufficient or has ceased completely and/or the ventilator is unavailable. It may also be used to assist with chest physiotherapy (deep breathing exercises) D • If the patient's ventilator is not available it is necessary to assist the breathing manually. The bag is squeezed to direct the air (and/or oxygen) into the lungs. The efficacy of the bagging is assessed by monitoring the child's chest which must rise and fall synchronic with the bagging. D/Q • Squeezing the bag once every 5 seconds for an adult or once every 3 seconds for an infant or child provides an adequate respiratory rate (12 respirations per minute in an adult and 20 per minute in a child or infant). D • Demonstrate the testing of the high pressure valve and test for leakages in the bag D 	



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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 65 <i>Discuss the potential complications of mechanical ventilation and how to prevent such</i></p> <ul style="list-style-type: none"> • To prevent patient complications ongoing and thorough assessment is indicated: D/Q <ul style="list-style-type: none"> ○ Assess airway for potential obstructions D ○ Assess the airway secretions regularly and the need for saline nebulisers and chest physio D/Q ○ Assess patient for general well being and level of consciousness and interaction D/Q ○ Assess patient for signs of changing respiratory effort D ○ Monitor patient for signs of infection D ○ The patient is supervised at all times D • To prevent potential equipment failure ongoing maintenance of all equipment is of vital importance. D/Q <ul style="list-style-type: none"> ○ All equipment is checked daily D ○ Charge status of all batteries is checked per shift. Batteries are being charged after each use. D ○ Be aware of potential pulling of ventilator tubing which places increased risk of leakage and disconnection. D ○ Ventilator tubing are positioned loosely to allow child to be moved D • To prevent human errors all staff has a duty to speak up if faced with a machine they are not familiar with. Training and assessment has to be provided prior to the allocation of an unsupervised shift. D 	<ul style="list-style-type: none"> PATIENT COMPLICATIONS <ul style="list-style-type: none"> • Infection • Hypoventilation • hyperventilation EQUIPMENT FAILURE <ul style="list-style-type: none"> • Power failure • Leakage • Disconnection HUMAN ERROR <ul style="list-style-type: none"> • Training • Risk management



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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE C 66 <i>Demonstrate the initiation of appropriate troubleshooting.</i>	COMMENTS
<p>Disconnection:</p> <ul style="list-style-type: none"> • Disconnection of the ventilator from the patient causes a drop in pressure and will be indicated by an audible and optic alarm warning system. Identify the alarm. D • Identify the source of disconnection and re-connect immediately. D • If for some reason the tubing cannot be re-connected assess for the need of manual ventilation and assist the patient's breathing manually. D • Ask for assistance and re-connect the tubing system. Check ventilator for correct pressures prior to reconnecting to the patient. D <p>Ventilator failure:</p> <ul style="list-style-type: none"> • In the event of ventilator failure the child needs to be assessed for the need of manual ventilator / assistance (refer to care plan). D/Q • Ask for help. D • Disconnect the child from the faulty machine and manually ventilate as indicated. D/Q • Refer to manufacturer's guide to address machine fault. D • Identify the alarm indicating the source of error. D • Investigate reason for machine failure and rectify if possible. D • If error cannot be rectified change the machine D • Complete incident form and notify nurse in charge on next working day D <p>Humidifier failure</p> <ul style="list-style-type: none"> • Identify the source of error as indicated by the alarm D • Refer to manufacturer's guide D • Turn humidifier off whilst addressing the fault. D • In case of temperature probe failure change the temperature probe D • In case of heater wire failure change heater wire. D 	<div style="text-align: center; margin-bottom: 20px;"> <p>Disconnection</p> <p>↓</p> <p>Reconnect</p> </div> <hr/> <div style="text-align: center; margin-bottom: 20px;"> <p>Ventilator failure</p> <p>↙ ↘</p> <p>Assess patient → ventilate manually</p> <p>↓</p> <p>Rectify fault</p> <p>↓</p> <p>If not possible</p> <p>↓</p> <p>Change ventilator and report</p> </div> <hr/> <div style="text-align: center;"> <p>Humidifier failure</p> <p>↓</p> <p>Change temperature probe</p> <p>↓</p> <p>Change heater wire</p> <p>↓</p> <p>Change entire circuit</p> <p>↓</p> <p>Apply HME and report</p> </div>



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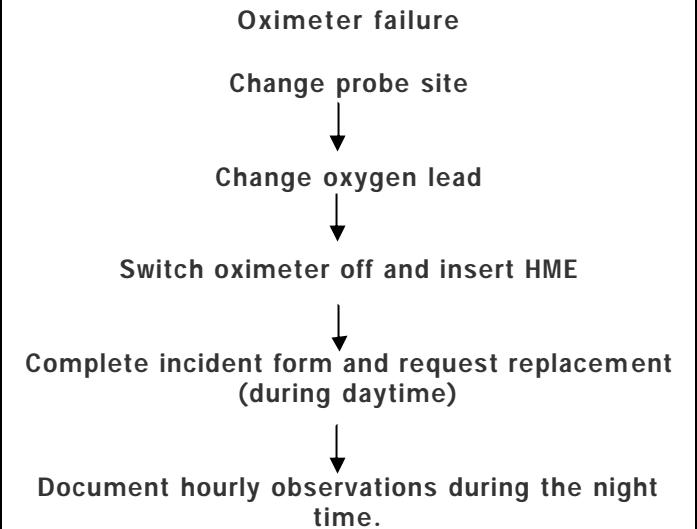
- If neither Temperature probe nor Heather Wire are the source of error change entire ventilator circuit D
- If machine is still malfunctioning switch off and place HME into circuit and report error to Nurse in Charge at the next working day. D

Oximeter failure

- Refer to manufacturer's guide for possible source of errors D
- In the event of false reading change the site of for the saturation probe D
- Assess patient for general well being and check oxygen source (as applicable). D
- If false reading persists change saturation probe D
- If error still not rectified change oxygen lead D
- If machine cannot be restarted disconnect and observe patient closely until the end of the shift. During the daytime call the nurse in charge and ask for replacement monitor. D
- Should machine failure happen during the night, disconnect and take hourly observations of the patient until the morning. If patient's condition deteriorates or if there is reason to be concerned wake the parents and ask for help. D

Suction machine failure

- Check machine carefully and rectify error if possible. D
- Use portable suction if necessary. D
- Keep foot pump on standby D
- If all three suction machines fail inform parents and call for an ambulance for the child to be taken into hospital until replacement machine can be provided. D





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PERFORMANCE CRITERIA / UNDERPINNING KNOWLEDGE	COMMENTS
<p>C 67 <i>Document all observations and events in relation to the ventilation. Q&D</i></p> <ul style="list-style-type: none"> • Document observations in relation to the ventilation D • Document any changes in the child's condition and actions taken D • Document signs and symptoms of child during weaning process D • Document any incidents / near misses of mechanical failure and what action was taken D • Document any complications that occurred in relation to the ventilation D • Complete an incident form in case of any malfunctioning or human error or near miss events D 	

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