Acacium Group

Tracheostomy Tube Care (Adult)

Procedure Reference | SOP VENT 05

Version | V4.1

Procedure Name	Tracheostomy Tube Care (Adult)
Purpose of Document	To ensure that the correct preparation, procedure & outcome are achieved by implementing a consistent and systematic approach to Tracheostomy Tube Care
Target Audience	All appropriately trained and competent healthcare professionals
Version	V4.1
Author	Karen Matthews-Shard
Date of Approval	June 2010
Published Date	July 2010
Lead Director	Karen Matthews-Shard
Review Frequency	2 yearly or when clinical or operation guidelines change
Last Reviewed	April 2024
Next Review Date	April 2026
Equality Impact Assessment (EIA) Form	Acacium Group is committed to Equality, Diversity and Inclusion and in line with our values, we strive to ensure that everyone that is part of the Acacium community is not disadvantaged or discriminated against given their individual need or characteristics. To support this, an Equality Impact Assessment has been undertaken on this policy/procedure. This information is held centrally and can be requested from the Clinical Governance Team.
About Acacium Group	Details of all Acacium Group trading companies that this policy applies to are detailed within Appendix A

Document History			
Version	**Date**	**Changes made/comments**	**By whom**
V1	Dec 2016	Implementation of document history page	KNF/VM
V1.1	Jan 2017	Updated section regarding cuff pressure	KNF/VM
V1.1	July 2018	Annual review	KMS/SJ
V1.2	Feb 2020	Updated to new Template	CC
V2	May 2020	2 yearly review	Clinical Advisory Group
V2.1	Oct 2020	Updated re rebrand	CC
V3	Dec 2022	Review and updated	Clinical Advisory Group
V4	Jan 2024	Rebrand	Clinical Advisory Group
V4.1	Apr 2024	Review and updated	Clinical Advisory Group

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1. Introduction

A tracheostomy opening created in the front of the neck, into the trachea, so a tube can be inserted to assist with airway patency and breathing. The tubes are curved to accommodate the anatomy of the trachea. Patency of the tube is paramount and therefore extreme care should be taken to ensure the tube is not displaced or blocked during the clients care and treatments.

The SOP links to Acacium Group policy on assisted ventilation and should be followed by all Acacium Group staff.

Competence against the policy and SOP will be assessed and reviewed on a regular basis.

2. Aim

To ensure that the tracheostomy is monitored and managed effectively.

3. Equipment

When caring for an adult with tracheostomy, the following should always be near or within easy reach of the client:

- Humidified oxygen with tracheostomy mask, if applicable
- Suction machine with a selection of catheters
- Sterile water or cooled boiled water
- Appropriate PPE in line with current guidance
- Two tracheostomy tubes, one the same size and one smaller
- 10ml syringe for cuffed tracheostomies
- Cuff pressure manometer (for air cuffs)
- Lubricating gel
- Introducer
- Emergency tracheostomy tube box with list of relevant contents

4. Procedure

Always obtain consent for any procedure to be undertaken. Should there be an absolute emergency, it is possible for practitioners to make decisions in the best interest of the client as long as these are clearly identified and documented and there are no advance decisions that dictate otherwise.

Inner and Outer tube changes: Please see separate SOP for tracheostomy tube changes SOP VENT 06.

Dressing changes: Please see separate SOP for tracheostomy dressing changes SOP VENT 01.

Humidification: Please see separate SOP VENT 03 for humidification.

Suction: See separate SOP for suctioning a tracheostomy VENT 04.

Care of the Client with a cuffed tracheostomy tube:

Please note:

- Whilst the cuff does not need to be deflated to protect the trachea, it is recommended that the cuff is deflated on a daily basis, as per the clients specialist recommendation and care plan, this

is done to check the cuff pressure and allow the removal of secretions that may collect above the cuff.

	Action	Rationale
1.	All cuffed tracheostomy tubes have cuff pressure checked as required or as per care plan, during each shift. Air cuffs maintain pressure between 15-25cmH2O (10-18mm Hg) NTSP guidelines using a manometer. If the pressure is below this aspiration may occur. Water cuffs *Manometers are NOT used to regulate cuff presser is water cuffs. The cuff is inflated with sterile water with a certain amount of mls or until no sound/voice can be heard, **Please check care plan as requirements for clients can differ.**	In order to prevent tissue necrosis, stenosis, and/or fistula formation the cuff pressure should not exceed 35cmH20 (NTSP). **However please ensure you read the clients care plan fully as some readings are measured in cmH20.**
2.	Minimal occlusion volume techniques: the use of a monometer should be minimised to adjust cuff pressure. A syringe should be used to add or remove volume.	The complications from the continued use of an over inflated cuff include: • Tracheal stenosis • Tracheomalacia • Tracheo-oesophageal fistula • Tracheo-inominate artery fistula Too low a cuff pressure will cause an air leak and lead to ineffective positive pressure ventilation. The cuff will develop longitudinal folds which permit micro-aspiration of secretions which have collected above the cuff.

Care of the Client with a fenestrated tracheostomy tube

Please note:

Key Points – Fenestrated Tubes

- Fenestrated tubes may be cuffed or uncuffed.
- Fenestrated tubes are used to encourage weaning from the tracheostomy and also for phonation.
- Fenestrated tubes are supplied with two inner cannula; one is fenestrated, and one is non-fenestrated.
- There is a small risk of granulation if the fenestrated tube does not fit well.
- The non-fenestrated inner cannula should always be used during suctioning and overnight.

Cleaning

Action	Rationale

1.	All clients with a fenestrated tracheostomy tube have the fenestrated inner cannula removed prior to tracheal suction and replaced with an un-fenestrated inner cannula.	It is possible to insert the suction catheter through the fenestration causing damage to the tracheal wall.
2.	All clients with a fenestrated tube require an un-fenestrated cuffed tube readily accessible for use in an emergency.	To allow ventilation with emergency equipment as air will exit via the fenestration.

Cuff Leaks

A cuff leak can vary in its significance from ventilator alarms to life threatening complications from aspiration or ventilation failure.

The leak can come from a number of sources and importantly, may be associated with a partially displaced tube.

Sources of leaks include:

- Defective or damaged cuff
- Cuff not adequately inflated
- Patient is requiring high ventilator pressures and/or PEEP/CPAP which exceed the sealing capacity of the cuff (this needs to be discussed with the MDT we do not change setting unless prescribed)
- Tube does not fit the airway, due to the tube being too small, positional changes cause a leak or tracheomalacia or wound breakdown

Adding more air to a cuff or precariously positioning the tube or patient is not a solution to an intermittent cuff leak. Sometimes the weight of an attached ventilator circuit may contribute to partial displacement of a tube and when assessing the patient to locate the source of the cuff leak.

Care of the uncuffed tube

Un-cuffed tubes do not have a cuff that can be inflated inside the trachea and tend to be used in longer-term patients who require on-going suction to clear secretions. These tracheostomies will not facilitate and effective positive pressure ventilation, as the gas will escape above the tracheostomy.

Adjustable flanges

These tubes are used in patients who have an abnormally large distance from their skin to their trachea, and a standard tube would not fit properly (e.g. Patients with very large neck girth). These also allow distal tracheal obstructions to be bypassed through a conventional tracheostomy.

It is essential to review the position of the flange every shift (please follow care plan). The flange may need adjusting in some instances, e.g. if the client has gained or lost weight and the girth of their neck has changed.

Tube with subglottic port

Some tracheostomy tubes have a subglottic suction, which is a small hole in the shaft of the tracheostomy tube, just above the cuff. A channel runs up inside the tracheostomy tube and is connected to a suction port to remove secretions that pool above the cuff.

	Action	Rationale
1.	Aspirate the subglottic port using a 10ml syringe.	This removed the secretions directly from above the cuff, preventing the risk of occlusion and aspiration.
2.	If less than 5ml aspirated, repeat every 4 hours	Frequency may vary- please follow directions in client care plan.
3.	If 5ml or more is aspirated, repeat every 2 hours.	This decreased the risk of micro aspirations
4.	Always aspirate prior to cuff deflation for extubation or weaning and before mobilising the client.	This prevents aspiration, as the secretions are removed prior to cuff deflation minimising the amount going into the lungs.

Blocked or dislodged tracheostomy tube

Actions depend on the tube in-situ. Oxygen may be used to oxygenate the client. A client may be asked to cough to help remove any blockages. Remember to keep calm and reassure the client. Escalation processes and actions required should always be detailed within the clients care plan.

Cuffed tube with inner tube

	Action	Rationale
1.	If still no chest movement, call 999.	Do not delay, in case unable to commence breathing.
2.	Remove inner tube and Suction via the tracheostomy, replace with new tube. Follow suction SOP.	Clear airway and open airway.
3.	Attempt to ventilate.	Recommence respiration.
4.	Cut the tapes, deflate tube and remove tube.	Inserting a new tube may remove blockage.
5.	Replace tube with new-cuffed tracheostomy tube. Consider use of smaller tube if usual tube size is not able to go back into site.	As above.
6.	Inflate cuff as per care plan.	To ensure good ventilation.
7.	Confirm tube placement before attempting to ventilate. By checking vital signs and completing respiratory assessment.	To ensure good ventilation and appropriate placement.
8.	Observe for chest movement.	If respiration has not re-commenced ambulance should be on the way.

Cuffed tube no inner tube

	Action	Rationale
1.	Suction via tracheostomy.	Remove secretions and potential blockages.
2.	Attempt to ventilate.	Recommence respiration.

3.	If no chest movement, call 999.	Do not delay, in case unable to commence breathing.
4.	Cut the tapes and remove tube.	Ready to insert new tube.
5.	Replace tube with a cuffed tracheostomy tube. Consider use of smaller tube.	Inserting a new tube may remove blockage. A cuffed tube prevents air loss and leaks.
6.	Attempt to ventilate.	Recommenced respiration.
7.	Observe for chest movement.	If respiration has not re-commenced ambulance should be on the way.

Silver tube (no cuff)

	Action	Rationale
1.	Remove tube immediately.	Remove obstruction.
2.	Replace tube with a cuffed tracheostomy tube. Consider use of smaller tube.	Inserting a new tube may remove blockage. A cuffed tube prevents air loss and leaks.
3.	Attempt to ventilate.	Recommenced respiration.
4.	If no chest movement, call 999.	Do not delay, in case unable to commence breathing.
5.	Observe for chest movement.	If respiration has not re-commenced ambulance should be on the way.

5. Associated Policies / SOPs

Policies
CLIN 02 Assisted Ventilation Policy

SOPs
SOP VENT 01 Tracheostomy Dressing Change (Adult & Child)
SOP VENT 02 Tracheostomy Care General Guidelines
SOP VENT 03 Humidification of a Client's Tracheostomy
SOP VENT 04 Tracheal Suctioning (Adult & Child)
SOP VENT 06 Tracheostomy Tube Change (Adult)
SOP VENT 07 Tracheostomy Tube Change (Child)
SOP VENT 08 Administration of a Nebuliser through a Ventilator Circuit
SOP VENT 09 Assembling a Ventilator Circuit
SOP VENT 10 Cleaning the Ventilator Equipment
SOP VENT 11 Safe Management of a Ventilated Service User During Outings
SOP VENT 12 Safe Management of a Ventilated Service User During Power Cuts
SOP VENT 13 Safe use of Battery Packs
SOP VENT 14 Assisted Airway Maintenance and Cough (Adult)
SOP VENT 15 BiPAP
SOP VENT 16 Oral and Nasal Suctioning

SOP VENT 18 CPAP
SOP VENT 19 Mechanical Cough Assist
SOP VENT 20 Changing Tracheostomy Cotton Ties (Child)
SOP VENT 21 Changing Tracheostomy Velcro Tapes (Child)
SOP VENT 22 Phrenic Nerve Pacing
SOP VENT 23 Laryngectomy Care General Guidelines
SOP VENT 24 Emergency Tracheostomy Tube Change (Adult)
SOP VENT 25 Emergency Tracheostomy Tube Change (Child)
SOP VENT 26 Nasopharyngeal Airway Management (Adult & Child)
SOP VENT 27 Nebuliser Therapy

6. References

- The Royal Marsden Hospital Manual of Clinical Nursing Procedures, Tenth edition, Dougherty L and Lister S, 2009, Wiley-Blackwell
- Mallett J, Albarran JW, Richardson A (2013) Critical Care Manual of Clinical Procedures and Competencies. Wiley-Blackwell, Oxford.

Appendix A: About Acacium Group

Acacium Group consists of a number of trading companies, each providing services within core niche areas of the health and social care industries. Therefore, as this document is a Group Policy, the Policy herein applies to all trading companies detailed below:

pulse Part of Acacium Group	Thornbury Nursing Services Part of Acacium Group
Thornbury Community Services Part of Acacium Group	Scottish Nursing Guild Part of Acacium Group