



TRACHEOSTOMY REVIEW AND MANAGEMENT SERVICE (TRAMS) CLINICAL GUIDELINE

MANDATORY TRACHEOSTOMY EQUIPMENT & EMERGENCY TRACHEOSTOMY MANAGEMENT POSTER

Staff this document applies to:

- Nurses, Medical Staff, Speech Pathologists and Physiotherapists on all campuses, including the Intensive Care Unit (ICU).
- Does not apply to the community.

Related Austin Health policies, procedures or guidelines:

- [Tracheostomy - Stoma Care](#)
- [Tracheostomy - Emergency Response to Accidental Tracheostomy Decannulation](#)
- [Tracheostomy - Humidification of Inspired Gases in Patients with a Tracheostomy](#)
- [Tracheostomy - Management of Patients with Tracheostomy](#)
- [Tracheostomy - Planned Tracheostomy Decannulation Procedure](#)
- [Tracheostomy - Recognising and Clearing a Blocked Tracheostomy Tube](#)
- [Tracheostomy - Suctioning via the Tracheostomy Tube](#)
- [Tracheostomy - The Suctionaide Tube, use of](#)
- [Tracheostomy - Changing a Tracheostomy Tube](#)
- [Tracheostomy Care Changes In Response To Suspected Or Confirmed Covid-19](#)
- [PPE Guideline](#)

Key points:

- [Emergency Tracheostomy Management Poster](#)

Purpose:

All safety information and equipment for tracheostomy care and emergency management must be immediately available for tracheostomy care and emergencies. This document outlines the procedures and equipment for routine and emergency care of patients with a tracheostomy tube.

Definitions:

1. **Mandatory Bedside Tracheostomy Equipment:** Essential equipment that is present and accessible at the bedside and is available for routine and emergency care of patients with a tracheostomy tube.
2. **Mandatory Transport Tracheostomy Equipment:** Equipment that must accompany a patient who has a tracheostomy during all transfers within Austin Health or to another hospital.
3. **Emergency Tracheostomy Management Poster:** This is a cognitive aid that provides important information to assist in the management of tracheostomy emergencies. The front of the poster outlines the immediate response required by ward clinicians. The reverse side of the poster is for Advanced Airway Responders following escalation to RESPOND BLUE.

Clinical Alert:

The patient with a tracheostomy is at risk of respiratory failure and/or arrest in the event of complications or emergencies.

Mandatory Tracheostomy Equipment (Bedside and Transport)

- The primary nurse caring for the patient is responsible for ensuring that mandatory tracheostomy equipment is present at the bedside and during transport of the patient.
- The mandatory equipment must be set up prior to receiving a tracheostomy patient.
- Tracheal dilators must only be used by staff trained in use of tracheal dilators

Emergency Tracheostomy Management Poster

- The [Emergency Tracheostomy Management Poster \(Front side\)](#) must be clearly visible and placed above the patient's bed. This assists with the primary response and ward level management of tracheostomy emergencies.
- The [Emergency Tracheostomy Management Poster \(Reverse side\)](#) is to assist the Advanced Responders in an emergency following escalation to RESPOND BLUE.

Expected Outcome:

- All mandatory equipment will be readily available and visible at the patient's bedside at all times and prior to the patient arriving to the ward.
- When a patient who has a tracheostomy tube is transported anywhere in the hospital or to another campus, the tracheostomy mandatory equipment and poster must be taken with them.
- Any mandatory equipment that is used is to be replaced immediately.
- The [Emergency Tracheostomy Management Poster](#) will be filled in by:
 - The anaesthetist and/or surgeon responsible for forming new tracheostomies in theatre prior to the patient leaving theatre.
 - The intensivist responsible for forming new tracheostomy in the ICU
 - TRAMS for all ward patients except Ear Nose & Throat (ENT) Acute and readmitted Victorian Respiratory Support Service (VRSS) patients

- Primary Nurse where ENT or VRSS is the primary unit
- The [Emergency Tracheostomy Management Poster](#) is clearly displayed, with complete and current patient related information. The poster will remain with the patient at all times.

Equipment:

1. Mandatory Bedside Tracheostomy Equipment

- Emergency Tracheostomy Management Poster
- Tracheostomy checklist (available via SMR Forms: M31.43)
- Humidifier set at 37° C
 - You may use an MR850 humidifier or obtain an AIRVO2 from the TRAMS department Level 3 HSB Monday to Friday 8:30am to 5:00pm. Outside of business hours, an AIRVO2 can be obtained by contacting the after-hours site manager or ward supplies
 - Refer to the [Oxygen Therapy Manual](#) for the setup information
 - Check that the humidifier is set to 37°C and a minimum flow of 30L/min flow (exceptions to the delivery of 37°C may exist within the VRSS)
- Functioning suction device, suction canister and tubing
- Suction catheters: standard size 12FG (If a mini tracheostomy tube is in situ, use size 8 or 10FG)
- Yankauer sucker
- Cuff manometer (if tracheostomy has an air-filled cuff). This can be sourced from TRAMS during business hours (Ext 3095) or from the transferring ward after hours.
- Tracheal dilators, for use by trained staff only. (Sterile Stores Level 2, Ext: 3860)
- Bag-Valve-Mask (BVM) (e.g. AirViva), with tracheostomy connector and face mask. (Sterile Stores Level 2 Ext: 3860)
- 2 spare cuffed tracheostomy tubes (one the same size as the tube in situ and another one a size smaller). (Sterile Stores Level 2 Ext: 3860 or contact TRAMS for advice on Ext 3095)
- 10mL syringe
- Water for cleaning suction tubing
- Waste disposal bag
- Tracheostomy dressings (pre-cut by the manufacturer)
- Tracheostomy tapes
- Routine tracheostomy personal protective equipment (PPE)
 - Clean gloves
 - Protective eyewear* (Safety shield or goggles)
 - Disposable apron*
 - Surgical face masks*

- * For use during aerosol generating procedures (AGP) e.g. tracheostomy suctioning or any procedure that may stimulate forceful coughing (including cuff deflation and one-way valve trials), provision of nebulisers (if required), use of in/ex-sufflation devices or procedures that require the clinician to be in close proximity to the open tracheostomy.

2. Mandatory Transport Tracheostomy Equipment

- Emergency Management Poster
- All items listed above in 'Mandatory Bedside Equipment'
- Portable battery operated suction unit
- Routine tracheostomy PPE should be worn by the healthcare worker responsible for tracheostomy care during transport

3. Emergency Tracheostomy Management Poster

- This should accompany the patient at all times (including during transport)
- Laminated colour version in A3 preferable
- Front side clearly displayed

Procedure:

- At the commencement of each shift, ensure mandatory equipment is available at the patient's bedside and is in working order.
- If the patient is being transported, ensure the mandatory transport tracheostomy equipment and poster is sent with the patient.
- Source [Emergency Tracheostomy Management Poster](#) from TRAMS Mon – Fri 8.30am-5pm or print a temporary copy from below.
- Display 'Front' side of the Emergency Tracheostomy Management Poster above the patient's bed.

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Legislation/References/Supporting Documents:

- Agency for Clinical Innovation (ACI); Care of Adult Patients in Acute Care Facilities with a Tracheostomy: Clinical Practice Guideline; published October 2012, www.aci.health.nsw.gov.au
- Bodenham, A; Bell, D; Bonner, S; Branch, F; Dawson, D; Morgan, P; McGrath, B; Mackenzie, S; Standards for the care of adult patients with a temporary Tracheostomy: Standards & Guidelines; *Tracheostomy Care; Intensive Care Society Standards*, 2014;
<https://www.theawesomcourse.co.uk/ICS/ICS%20Tracheostomy%20standards%20%282014%29.pdf>
- Bontempo, L. J., & Manning, S. L. (2019). Tracheostomy emergencies. *Emergency Medicine Clinics*, 37(1), 109-119.
- Cook, T., Woodall, N., Harper, J., & Benger, J. (2011). Major complications of airway management in the UK: results of the Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Part 2: intensive care and emergency departments. *British Journal of Anaesthesia*, 106(5), 632-642. Retrieved from <https://doi.org/10.1093/bja/aer059>
- Freeman, B. D. (2017). Tracheostomy Update: When and How. *Critical Care Clinics*, 33(2), 311-322.
<https://doi.org/10.1016/j.ccc.2016.12.007>
- McDonough, K., Crimlisk, J., Nicholas, P., Cabral, H., Quinn, E. K., & Jalisi, S. (2016). Standardizing nurse training strategies to improve knowledge and self-efficacy with tracheostomy and laryngectomy care. *Applied Nursing Research*, 32, 212-216. doi:<https://doi.org/10.1016/j.apnr.2016.08.003>
- McGrath, B. A., & Thomas, A. N. (2010). Patient safety incidents associated with tracheostomies occurring in hospital wards: a review of reports to the UK National Patient Safety Agency. *Postgraduate medical journal*, 86(1019), 522-525.
- McGrath, B., Bates, L., Atkinson, D., & Moore, J. (2012). Multidisciplinary guidelines for the management of tracheostomy and laryngectomy airway emergencies. *Anaesthesia*, 67(9), 1025-1041.
- McGrath, B. (Ed.). (2014). *Comprehensive tracheostomy care: the national tracheostomy safety project manual*. John Wiley & Sons.
- McGrath, B. A., & Haley, D. (2017). Tracheostomy – The forgotten difficult airway? *Trends in Anaesthesia and Critical Care*, 13, 22-24. doi:<https://doi.org/10.1016/j.tacc.2016.10.004>
- Mussa, C. C., Gooma, D., Rowley, D. D., Schmidt, U., Ginier, E., & Strickland, S. L. (2020). AARC Clinical Practice Guideline: Management of Adult Patients with Tracheostomy in the Acute Care Setting. *Respiratory Care*. *Respir Care*, published ahead of print September 22, 2020, doi:10.4187/respcare.08206
- National Confidential Enquiry into Patient Outcome and Death. (2014). On the Right Trach? A view of the care received by patients who underwent a tracheostomy. NCEPOD.
http://www.ncepod.org.uk/2014report1/downloads/On%20the%20Right%20Trach_FullReport.pdf
- National Tracheostomy Safety Project
<http://www.tracheostomy.org.uk/healthcare-staff/emergency-care>
- Mitchell, R; Hussey, H; Setzen G; Jacobs, I Nussenbaum B; Dawson C., Brown, C Brandt C; Deakins, K; Hartnick, C; Maerati, A; (2012) Clinical Consensus Statement; Tracheostomy Care Otolaryngology – Head and Neck Surgery published on line September 2012
- Morris, L & Sherif Afifi, M. (2010) *Tracheostomies: The Complete Guide*. Springer Publishing Company, Laws-Chapman C, Rushmer F, Miller R, Flanagan K, Prigmore S, Chabane S.
- Seidman B Goldenberg D; Sinze E; *Tracheostomy Management A multidisciplinary Approach* Cambridge University Press 2011

Serksnys, D., Nanchal, R., & Fletcher, K. E. (2017). Opportunities for interprofessional input into nurse and physician hand-off communication. *Journal of Critical Care*, 38, 47-51.
doi:<https://doi.org/10.1016/j.jcrc.2016.09.004>

Endorsed by:

- TRAMS Tracheostomy Policy and Procedure Committee
- Clinical Nursing Standards Committee
- Deteriorating Patient Committee - (Emergency Tracheostomy Management Poster)
- Austin Health Airway Group

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Emergency Tracheostomy Management Poster (Cognitive Aid): FRONT SIDE

EMERGENCY TRACHEOSTOMY MANAGEMENT PRIMARY RESPONDERS

Blocked tracheostomy	Accidental decannulation	Bleeding from tracheostomy
<p>1 Initiate Respond Blue</p> <ul style="list-style-type: none"> ■ Dial 7777 	<p>1 Initiate Respond Blue</p> <ul style="list-style-type: none"> ■ Dial 7777 	<p>1 Initiate Respond Blue</p> <ul style="list-style-type: none"> ■ Dial 7777
<p>2 Remove</p> <ul style="list-style-type: none"> ■ Inner cannula (if present) ■ Speaking Valve ■ HME 	<p>2 Oxygen</p> <ul style="list-style-type: none"> ■ Apply oxygen via nose/mouth and tracheostomy stoma if required <p>Consider:</p> <ul style="list-style-type: none"> > 7 days post initial insertion, experienced staff can reinsert the tracheostomy < 7 days post initial insertion, do NOT reinsert tube. If long blue stay sutures present, pull anteriorly to keep stoma open while waiting for CODE BLUE team 	<p>2 Protect airway</p> <ul style="list-style-type: none"> ■ Inflate cuff ■ Sit patient up <p>Note:</p> <ul style="list-style-type: none"> Hyperinflation of tracheostomy cuff +/- direct digital compression may help in the event of catastrophic bleeding
<p>3 Deflate the cuff</p>		<p>3 Oxygen</p> <ul style="list-style-type: none"> ■ Apply oxygen via tracheostomy if required
<p>4 Instill/Suction/ Nebulise</p> <ul style="list-style-type: none"> ■ Instill 5ml saline lavage ■ Suction ■ Apply saline nebuliser and suction PRN 		<p>4 IV access</p> <ul style="list-style-type: none"> ■ Establish wide bore IV access <p>Note:</p> <ul style="list-style-type: none"> <10mls bright blood activate Urgent Clinical Review <p>Notify surgeon responsible for inserting tracheostomy</p> <p>A CT angiogram neck is recommended to exclude possibility of a tracheo-arterial fistula</p>
<p>5 Oxygen</p> <ul style="list-style-type: none"> ■ Apply oxygen via nose/mouth and tracheostomy <p>If tracheostomy remains blocked:</p> <ul style="list-style-type: none"> > 7 days post initial insertion, consider tracheostomy change by experienced staff < 7 days post initial insertion, do NOT change the tracheostomy. Wait for CODE BLUE team 		

FRONT - this side to be displayed

To be completed by airway specialist at time of insertion (Anaesthetist or ICU Doctor).
If not completed please contact: TRAMS (x3095 - Mon-Fri 8:30 to 5pm) / Anaesthetics (x3186) / ICU Doctor (x8409)

PATIENT

UR _____

Name _____

DOB _____

TRACHEOSTOMY INFORMATION

Insertion method

Surgical Percutaneous

Insertion date / /

Size 6 7 8 9

Cuff Yes - Air / Water No

Last tracheostomy change / /

UPPER AIRWAY INFORMATION

Date / /

Difficult upper airway

Yes No Unknown

Laryngoscopy grade _____

Laryngoscopy device _____

Mask ventilation (BMV)

2 hands Guedel

LMA type / size _____

COMPLETED BY

Name _____

Designation _____

THIS COGNITIVE AID TO REMAIN WITH THE PATIENT AT ALL TIMES

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Emergency Tracheostomy Management Poster (Cognitive Aid): REVERSE SIDE

EMERGENCY TRACHEOSTOMY MANAGEMENT ADVANCED RESPONDERS

<p>Difficulty breathing or ventilating via tracheostomy tube</p> <p>Stop when patient is stable</p>	<p>1 Remove attachments and inner cannula</p> <p>Remove / disconnect</p> <ul style="list-style-type: none"> ■ Ventilation circuit and filter ■ Speaking valve or heat moisture exchanger ■ Inner cannula 	<p>2 Suction</p> <p>Pass suction catheter through entire length of tracheostomy tube</p> <ul style="list-style-type: none"> ■ If suction catheter does not pass: DO NOT VENTILATE VIA TRACHEOSTOMY TUBE and proceed to Step 3 ■ If suction catheter passes easily, look listen and feel at tracheostomy - If breathing, apply oxygen via tracheostomy, consider partial obstruction - If not breathing, ventilate tracheostomy with air viva. STOP IF HIGH RESISTANCE 	<p>3 Deflate tracheostomy tube cuff</p> <p>Look, listen and feel at mouth</p> <ul style="list-style-type: none"> ■ If breathing via upper airway, apply oxygen to face ■ If not breathing, manage upper airway - mask ventilate/LMA/ intubate Consider partial obstruction whether or not breathing 	<p>4 Patient causes</p> <ul style="list-style-type: none"> ■ Rapidly consider patient causes e.g. large pneumothorax, anaphylaxis, sputum plugging 	<p>5 Consider immediate bronchoscopy</p> <p>Consider immediate bronchoscopy of tracheostomy tube if scope available and the following apply</p> <ul style="list-style-type: none"> ■ New tracheostomy (<10 days old) and ■ Obstructed upper airway 	<p>6 Remove tube</p> <ul style="list-style-type: none"> ■ Remove tracheostomy tube and proceed to the next emergency pathway (Completely removed tracheostomy tube)
<p>Completely removed tracheostomy tube</p> <p>Stop when patient is stable</p>	<p>1 Assess breathing</p> <ul style="list-style-type: none"> ■ Patient may be breathing adequately via the tracheostomy stoma or upper airway, no immediate action may be required 	<p>2 Consider replacing tracheostomy tube</p> <ul style="list-style-type: none"> ■ If greater than 7 days post initial insertion, experienced staff can reinsert tracheostomy tube 	<p>3 Upper airway</p> <ul style="list-style-type: none"> ■ Manage upper airway - mask ventilate/ LMA / intubate 	<p>4 Upper airway and tracheostomy at same time</p> <ul style="list-style-type: none"> ■ Airway team - manage upper airway ■ Neck team - via tracheostomy 1. Primary measures: LMA or paediatric mask over stoma 2. Secondary measures: endotracheal or tracheostomy tube in stoma Consider: <ul style="list-style-type: none"> - traction on stay sutures - tracheal dilators - endotracheal tube on bronchoscope - bougie / exchange catheter - guidewire and Melker 	<p>5 New surgical airway</p>	
<p>Bleeding from tracheostomy</p> <p>Complete all steps</p>	<p>1 Protect airway</p> <ul style="list-style-type: none"> ■ Sit upright ■ Hyperinflate tracheostomy cuff ■ Consider pushing finger on bleeding point ■ Pass suction catheter if required 	<p>2 Oxygen and IV access</p> <ul style="list-style-type: none"> ■ Oxygen via tracheostomy ■ Establish wide bore IV access 	<p>3 Urgent contact</p> <ul style="list-style-type: none"> ■ ENT and/or Thoracic surgery ■ Charge Anaesthetist 3186 ■ Theatre ANUM 3466 	<p>4 Go to theatre or interventional radiology</p> <p>Note:</p> <ul style="list-style-type: none"> - a small bleed may precede a life threatening bleed from a tracheo-arterial fistula 		

IN ALL CASES

1. Confirm tracheostomy not laryngectomy
2. Confirm airway information on opposite side
3. Apply high flow oxygen via tracheostomy and face mask
4. Call Code Blue 7777 and assess ABC
5. Use capnography as soon as possible
6. Call surgeon if required

THIS COGNITIVE AID TO REMAIN WITH THE PATIENT AT ALL TIMES

An advanced responder is a trainee or consultant doctor with specialist airway skills eg Anaesthetist, Intensivist, ENT/Thoracic/Maxillofacial surgeon.

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