

CHANGING A TRACHEOSTOMY TUBE

Staff this document applies to:

- Nurses, Physiotherapists and Medical staff, on all campuses including ICU.
- Victorian Respiratory Support Service (VRSS) and the Tracheostomy Review and Management Service (TRAMS) who manage patients with a long term tracheostomy in the community.

Does not apply to tube changes for;

- Microvascular free flap surgery patients.
- Patients identified as 'high risk' for complications by the treating team, TRAMS or as listed on the ICU Tracheostomy Discharge Form. For these patients please contact ICU or TRAMS for further discussion.

Who is authorised to Perform this Procedure:

Individuals who have been trained in changing tracheostomy tubes (TT).

State any related Austin Health policies, procedures or guidelines:

- [Mandatory Tracheostomy Equipment](#)
- [Emergency Response to Accidental Decannulation](#)
- [Emergency Tracheostomy Management Poster](#)
- [Recognising and clearing a blocked Tracheostomy Tube](#)
- [Suctioning via the Tracheostomy](#)

Purpose:

- Removal of one tracheostomy tube and replacement with another of the same or different type/size.
- Changes occur on a PRN, routine or emergency basis.

Definition:

High risk Tracheostomy tube change

- Known complications with previous tube changes
- A patient who presents with insufficient information related to tracheostomy insertion or changes
- A patient who is completely dependent on invasive ventilation, especially on primary tube change
- If 7 days or less since initial tracheostomy insertion

Airway Specialist

- ICU Consultant, Anaesthetist, ENT, Thoracic or Maxillofacial surgeon

Clinical Alerts:

- Changing a TT carries significant risks including loss of airway or bleeding.
- Emergency TT changes occur when the tube has become blocked or accidentally dislodged
- In the ventilated patient, cuff failure may require urgent tube change
- Downsizing a TT carries significant risk. It may cause increased work of breathing, respiratory distress and reduced cuff seal
- Upsizing a tracheostomy can cause bleeding and trauma. It will also reduce the airflow around the TT and may impact on speech. Any upsizing should be discussed with an airway specialist. Speech Pathology consult may be required
- When changing to a different type or size consider fibre optic endoscope examination to confirm tube position within trachea
- A tube change is a two-person procedure in the acute setting because the airway must be secured at all times.
- A patient completely dependent on invasive ventilation optimally requires 3 clinicians to undertake the procedure. One clinician is solely responsible for securing the ventilation in the acute setting.
- TRAMS Community or VRSS Outreach patients with a long term tracheostomy, well formed stoma and stable airway can have their tube changed by one person or with an assistant (i.e. carer).
- If patient considered 'high risk' for tube changes, seek advice from an airway specialist to determine the most appropriate procedure and location for these changes.

Expected Outcome:

- TTs are routinely changed every 6-8 weeks or when clinically indicated.
- A confirmed fault in TT should be rectified as a priority. If the fault compromises the patient a tube change should be considered.

Equipment:

- Appropriate TT for insertion.
- Spare TT of the same size; extra tube one size smaller.
- Lubricant.
- 10ml syringe (non-luer lock).
- Dressing pack.
- Sterile normal saline.
- Stoma dressing.
- Tracheostomy tapes or ties.
- Clean gloves (sterile gloves required if < 7 days post initial insertion).
- Safety eye wear.
- Suction catheters, standard size 12s should always be available.

- Suction device and tubing.
- Yankauer suction catheter
- Cuff manometer (utilised in the hospital setting).
- Stethoscope.
- Tracheal dilators - for use by trained staff only.
- Water for cleaning suction tubing.
- Waste disposal bag.
- Pulse oximetry.
- Air Viva with flex tubing and 15mm tracheostomy swivel connector and face mask available.

Procedure:

Stage 1 – Preparation (applies to all tube changes)

- Check mandatory tracheostomy equipment is available and working.
- Place the oximeter on the patient and if required, pre-oxygenate the patient.
- Explain the procedure to the patient.
- Position the patient comfortably with neck slightly extended (remove head pillow).
- Suction the oral cavity.
- If the TT has an above cuff suction port, remove above cuff secretions.
- Suction via tracheostomy if indicated
- Ensure new suction catheter is connected and ready for use.
- Open dressing pack.
- If the new TT has a cuff, check that the cuff functions correctly.
- Check that the introducer can be removed easily.
- Lubricate the tube and introducer.
- Clean the stoma site with normal saline.

Stage 2 – Tracheostomy Tube change procedure (Refer to applicable patient group in Table 1)

Stage 3 – Post Tracheostomy Tube Change (applies to all tube changes)

- Inflate the cuff (if present) and check adequate cuff pressure via a manometer or using the minimal occlusive volume technique (MOV).
- Secure the TT with tapes or ties (no more than 2 fingers can fit between ties and skin).
- Replace humidification if in use.
- Suction patient if indicated.
- Place clean dressing around stoma.

TABLE 1: Tracheostomy tube change in different patient groups

Hospital Patient– breathing spontaneously

- Clinician 1 deflates the cuff (if present) removes the tapes or ties and holds the TT
- Clinician 2 suctions patient via the tube until secretions are cleared
- Clinician 1 removes the existing TT
- With introducer in situ, clinician 1 promptly inserts new tube into the stoma ensuring that the tip of the TT is directed posteriorly through the stoma.
- Remove the introducer immediately and ensure airway patency.

Hospital Patient– ventilated via TT

- Clinician 1 deflates the cuff (if present) removes the tapes or ties and holds the TT,
- Clinician 2 suctions patient via the tube until secretions are cleared.
- Clinician 1 removes the existing TT.
- With introducer in situ, Clinician 1 promptly inserts new tube into the stoma ensuring that the tip of the TT is directed posteriorly through the stoma.
- Remove the introducer immediately and ensure airway patency.
- Clinician 3 (if available) disconnects the ventilator circuit from the removed tube and reconnects to the new TT.

Community Patient– breathing spontaneously

- Deflate the cuff (if present) and suction if indicated
- Hold hub of TT and remove the tapes or ties
- Holding the hub, remove the existing TT
- With introducer in situ, insert new TT into the stoma ensuring that the tip of the TT is directed posteriorly through the stoma.
- Remove the introducer immediately and ensure airway patency

Community Patient – ventilated via TT

- Clinician 1 (or Assistant) deflates the cuff (if present) and suction if indicated
- Clinician 2 (or Assistant) removes the tapes or ties, then removes the existing TT
- With introducer in situ, clinician 2 promptly inserts new tube into the stoma ensuring that the tip of the TT is directed posteriorly through the stoma.
- Remove the introducer immediately and ensure airway patency.

Post Procedure:

- Observe the patient for signs of respiratory distress (i.e. ↑RR, ↑HR, ↓SpO₂, ↑WOB)
- Report excessive bleeding from stoma or excessive granulation tissue to medical staff.
- Staff members should advise individuals caring for the patient, to notify medical staff if blood-staining in the sputum becomes excessive or does not clear over the next few hours.
- Document the outcome of the TT change:
 - Date of tube change.
 - Cuffed TT (record amount of water/air replaced in the cuff, or manometer pressure reading).
 - Date of next routine TT change.

- Place the product sticker or note the type and size of the tube in the progress notes.

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Legislation/References/Supporting Documents:

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