CLINICAL PROCEDURE

TRACHEOSTOMY - USE OF HEAT MOISTURE EXCHANGES (HMES) OF

Staff this document applies to:

- Nurses, Medical Staff, Speech Pathologists, Physiotherapists on all campuses.
- Does not apply to ICU or outpatient staff.

State any related Austin Health policies, procedures or guidelines:

- Humidifying of Inspired Gases in Patients with Tracheostomy
- Suctioning via the Tracheostomy Tube
- Recognising & Clearing a Blocked Tracheostomy Tube
- Tracheostomy Learning Package – Humidification

Who is authorised to perform this procedure?:

- The decision to progress from a heated water Fisher and Paykel humidifier to a HME needs to be made by a Senior Physiotherapist, Clinical Nurse Consultant or member of Medical Staff.
- All members of nursing, medical, physiotherapy and speech pathology staff can place an HME on the patient's tracheostomy tube.

Definition:

- HME’s are a group of humidification devices sometimes referred to as “Swedish noses”. These devises, which house a filter, are placed on the hub of the tracheostomy tube. When the patient exhales, heat and moisture are deposited into the filter. When the patient inhales, the heat and moisture are returned to the lungs.
- The most commonly used type of HME at Austin Health is a “Thermovent T”, which fits directly on to the external connector of the tracheostomy tube. The is other forms of HME available which are fitted in the same way.

Clinical Alert:

- HME's do not provide the same level of humidification as heated water humidifiers. If the patient is inadequately humidified they are at risk of tracheostomy occlusion and/or sputum retention.
- Patients with large amounts of secretions are not suitable for management with an HME as they are unable to clear their secretions with the HME in place.
- HME's may require an increase in work of breathing, which may not be tolerated by some patients. Patients should be monitored for dyspnoea, fatigue and O₂ desaturation.

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**Rationale:**

- To provide a convenient and portable form of humidification to patients who have tracheostomy.
- To provide the patient with a quiet form of humidification (Fisher and Paykel humidifiers can be quite noisy).

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**Expected Outcome:**

The patient’s airway will be adequately humidified during the period that the HME is in use.

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**Procedure:**

- Suction the patient if necessary to ensure a clear airway prior to placing the HME.
- Place the HME on 15 mm hub of the patient’s tracheostomy tube.
- A “Thermovent T” O2 connector can be clipped on to the HME to provide low flow oxygen if required. Some other forms of HMEs allow O2 to be connected directly to the device via a side port.

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**Post Procedure:**

- Ensure the patient is adequately humidified whilst the HME is in use.
- Signs that the patient is inadequately humidified include:
  - Thick or tenacious sputum.
  - An irritable cough.
  - Trouble coughing up or suctioning secretions.
  - Secretions are collecting and drying within the tracheostomy tube.
  - Secretions are very slow to move up the catheter during suctioning.
  - Secretions are collecting on the outside of the catheter during suctioning.
- The HME should be changed when visibly soiled with secretions or every 24 hrs.
- Humidification can be augmented by the use of additional nebulisers such as normal saline or a mucolytic such as Mucomyst.
- Document in the patient’s history.

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In Consultation With
Tracheostomy Procedures Review Committee

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Legislation/References/Supporting Documents:


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Clinical Nursing Standards Committee, Cathy Nall and Clinical Policy and Procedure Committee

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Tracheostomy Review and Management Service (TRAMS)

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