





**St. James's Hospital
Tracheostomy Care Working Group.**

**Tracheostomy: Humidification of Inspired Gases Standard Operating Procedure
SJH:N069.7 version 5.**

This Standard Operating Procedure (SOP) is effective from September 2020 onwards and is due for renewal in September 2023. It will be reviewed during this time as necessary to reflect any changes in best practice, law, and substantial organisational, professional or academic change. This SOP is supplementary to the [Tracheostomy Care and Management Guideline \(SJH:N069\)](#) and describes standards on humidification of inspired gases for patients with Tracheostomy.

1.0 Humidification of Inspired Gases

- 1.1** All patients with a tracheostomy tube require humidification of inspired gases in order to:
 - To prevent drying of pulmonary secretions.
 - To preserve muco-ciliary function.
- 1.2** The type of humidification selected for use is determined by the patient's status and needs.
- 1.3** The methodology used can be altered as the patient's condition changes (see table 1.0). Only one method of humidification should be used at one time i.e. do not combine methods.

Table 1.0: Humidification Methodology Criteria and Equipment Required	
Humidification Methodology – Selection Criteria	Humidification Equipment Required
<p>Heated Humidifiers AIRVO 2 Suitable for: Patients with newly formed tracheostomies. Dehydrated patients. Immobile patients. Patients with tenacious secretions.</p>	<p>AIRVO 2 machine (check availability-equipment library outside AMAU). 1L bag sterile water (available from pharmacy stores). Heated circuit and chamber. (Available from equipment library or see NSV codes Appendix 10 if stock required in your area) Tracheostomy interface/mask adaptor. Tracheostomy mask.</p>
<p>Heat Moisture Exchange Filters Suitable for: Patients that are adequately hydrated. Mobile patients. Not suitable for patients with copious secretions.</p>	<p>Heat moisture exchange (HME) filter i.e. Swedish nose/ Sofshield bib. Oxygen can be applied via inbuilt O2 port if required.</p> <p>Swedish nose with O2 port. </p> 

<p>Nebulizers</p> <p>Nebulized normal saline can be effective in helping loosen secretions and soothing irritable airways.</p>	<p>Nebulizer unit and disposable mask</p> <p>Oxygen tubing.</p> <p>Sterile saline.</p>
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1.4 Humidification: Nursing Management

1.4.1 Heated Humidifiers (AIRVO 2): The Nurse is required to undertake the following actions:

- 1.4.1.1 Set up in accordance with Operator's manual. Refer to [Tracheostomy Humidification System \(AIRVO 2\) SOP \(SJH:SACC-050\)](#).
- 1.4.1.2 Ensure there is a fine mist coming from the end of the tubing.
- 1.4.1.3 Monitor sterile water level and change when indicated by the machine.
- 1.4.1.4 Using clean technique, change all tubing weekly and record date when tubing changed, and also document in patient's EPR 'Lines and Devices-Airway Management'.
- 1.4.1.5 Refer to '[Trouble shooting guide for AIRVO machine](#)' (as required).
- 1.4.1.6 A free AIRVO2 App can also be downloaded to smart phone/devices. This App includes video demonstrations of machine set up/cleaning and adjustment of settings.

1.4.2 Heat Moisture Exchangers: The Nurse is required to undertake the following actions:

- 1.4.2.1 Change Swedish nose every 24hours or more frequently if soiled with secretions.
- 1.4.2.2 Discard soiled HME's in infectious/risk waste.
- 1.4.2.3 Discard Sofshield humidification bibs when soiled and replace.

Links to related PPPGs:

- [Tracheostomy Care and Management Guideline \(SJH:N069\)](#)
- [Tracheostomy Care and Management Guideline: Associated Documents](#)