

# Sunshine ICU management of the COVID 19 positive patient with a tracheostomy



COVID - 19

Be Safe -- Be Smart -- Be Kind

**This document is for use within the Intensive Care Setting Only.**

## Care of the COVID 19 positive patient with a tracheostomy within the ICU setting.

The major indication for a tracheostomy to be performed for a patient that has tested positive to COVID 19 will remain to wean from ventilation when a primary extubation is not possible or has failed, as evaluated by the Intensivist providing primary care for the patient.

The essential principles when caring for patients with a Tracheostomy are based on maintaining patient safety, facilitating communication and preventing complications associated with a tracheostomy and routine care remains unchanged from the current WH Adult Tracheostomy Management Procedure OP-GC3. The content of this QRG is to highlight the changes to tracheostomy management in the ventilated COIVD19 patient.

### 1.0 Management of the COVID-19 Patient with a New Tracheostomy in ICU

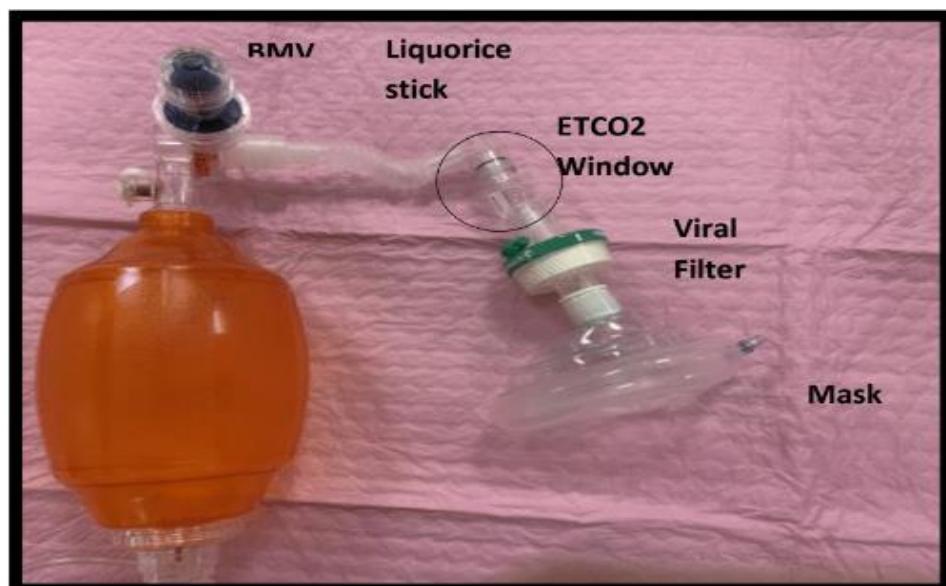
- Specific medical orders must be adhered to.
- Management of a Tracheostomy is considered to be a low risk aerosol generating procedure and does not need to be managed in a negative pressure room.
- All staff entering the bed area must be wearing the recommended PPE including P2/N95 face mask, face shield, gloves and long sleeved gown. Please refer to WH procedure.
- Where possible the McMonty hood should be utilized with the hood down and fan ON.

#### 1.1 Tracheostomy Safety Equipment that MUST be at the Bedside at All Times

- All Tracheostomy safety equipment as per normal practice
  - Two spare tracheostomy tubes (one the same size and one a size smaller than the tube in situ);
  - Tracheostomy Securing neck tapes (2 cotton ties or 1 Velcro strap);
  - Spare inner cannula same size as tube in situ;
  - Cuff manometer;
  - Tracheal dilator;
  - Allevyn Classic Tracheostomy Dressing (can also use Kendall AMD Antimicrobial Fenestrated Foam Dressing or Exu-dry Dressing)
  - 10ml syringe;
  - Oxygen source (wall);
  - Humidification equipment (heater base set for an artificial airway at 37°C and tubing circuit);



- Water for irrigation of suction catheters;
  - Suction catheters of appropriate size for patient's tracheostomy tube (see suctioning section for sizing);
  - Suction bottle, tubing and wall suction;
  - Yankauer sucker;
  - Yellow bag;
  - Stitch cutter (for surgical tracheostomy only);
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- Bag mask valve with a liquorice stick, end tidal and viral filter insitu



## 1.2 Inner Cannula Care

- The inner cannula is changed **QID**
- Changing the inner cannula is considered a low risk aerosol generating procedure and can be attended to at the bedside McMonty hood down and fan ON
- The patient does not need to be paralysed when changing the inner cannula
- The inner cannula can be cleaned using a packet of gauze with 10-20mL sterile water added and a brush. Inner cannulas are not to be cleaned at the sink under running water, this prevents splashes and contamination
- The inner cannula can sit inside a clean packet of gauze and remain at the bedside

### ***Changing the Inner Cannula:***

- Pre-oxygenate the patient on a Fio<sub>2</sub> 100%
- Once pre-oxygenated put the ventilator in standby and disconnect ventilator tubing from the patient
- Stabilise by placing thumb and index finger on the tracheostomy tube to prevent unwanted movement, remove the inner cannula and replace with a new one.

- If necessary, dispose of the removed inner cannula as per infectious waste management (yellow biohazard waste)
- Reconnect the patient to the ventilator and RESTART the ventilator
- Check to ensure patient is ventilating by confirming oxygen saturation and ventilator waveforms

### 1.3 Dressing the Insertion Site

Dressing changes are unchanged from the current WH Adult Tracheostomy Management Procedure OP-GC3. The dressing change should be clustered to coincide with the inner cannula change

### 1.4 Suctioning

**Endotracheal suctioning will only be performed via a closed in line suction catheter set up for COVID 19 positive patients with a tracheostomy within ICU.**

**Frequency:**

Frequency is determined by individual patient assessment of indications for suctioning and clinical need and not based on a fixed schedule. Limiting the amount of suctioning to a needs only basis minimises the potential risks and adverse effects of suctioning.

If resistance or difficulty passing suction catheter consider changing the inner cannula due to potential risk of occlusion with secretion build up.

Consider keeping inline suction set up for patient when transferred to the wards.

### 1.5 Monitoring Cuff Pressure

- Cuff deflation should not occur unless there is a medical indication under supervision of a medical officer.
- Cuff pressure should be maintained between 25-30cmH<sub>2</sub>O unless otherwise indicated.
- Cuff pressure measurements should be performed QID or more frequently if required.
- Cuff pressure measurements should be documented in tracheostomy order set in ICCA
- Excessive cuff leaks will be reported to medical staff.

### 1.6 Nebulisations and Nebulisation Metered Dose inhalers

The use of nebulisers is not recommended for COVID 19 positive patients and use of metered dose inhalers are preferred where possible. Please seek medical advice if patients requires nebulization.

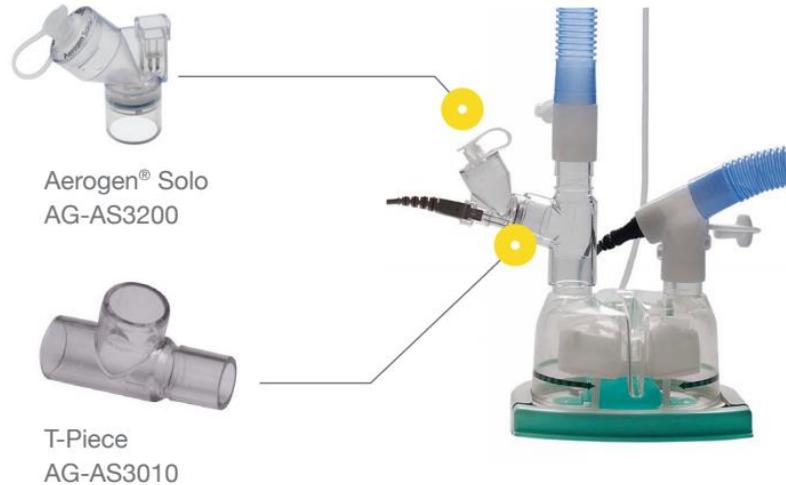
- Administer an MDI using the inhalation port of the ventilator circuit's Y connector.



- If a patient is on High-flow oxygen and Y-connector is not in use, the set-up for administering inhalations is as follows using a spacer and Universal Cuff Adapter. The patient needs to inhale-exhale four times for every puff.



- If a nebulization is required, set-up the Aeroneb system on the dry side of the humidifier to minimise contact with patient.



### 1.7 Supporting the ventilator circuit to prevent circuit disconnection

**PLEASE NOTE VENTILATOR TUBING NO LONGER NEEDS TO BE SLEEKED. ALL CONNECTIONS SHOULD BE CHECKED AT THE START OF YOUR SHIFT AS WELL AS BEFORE AND AFTER TURNS OR PATIENT REPOSITIONING.**

**Step One:** Connect distal end of inline suction to secure cap. Connect soft corrugated tubing to inline suction. Discard tracheostomy connector.





**Step Two:** Secure Velcro tracheostomy securing strap around one side of the inline suction catheter then loop behind patient's neck securing the other end around the other side of the inline suction.

**Please note this does not secure the tracheostomy, this still needs to be secured as per normal practice.**



**Step Three:** Ensure both tracheostomy and circuit are secure.

## 2.0 Practical management of the non ventilated tracheostomy patient

- High flow oxygen will need to be delivered via a humidified circuit ensuring a viral filter is in place to reduce the risk of exposure and minimise aerosolised secretions.
- A closed inline suction circuit should be used at all times even after the patient is weaned off the ventilator.
- The weaning process does not require the use of a negative pressure room.
- Disconnection from the ventilator is considered a low risk aerosol generating procedure when the ventilator is placed into standby prior to disconnection.
- Oxygen therapy needs to be delivered at **2 times** the patients minute ventilation rate recorded on the ventilator prior to disconnection. For example, if the minute ventilation was 8 lt/min, then oxygen flow rate needs to be commenced at 16lt/min.

### ***Indications for weaning***

- Supplemental oxygen requirement is less than 40%
- No longer requiring positive pressure ventilation
- The patient is haemodynamically stable
- The patient is able to cough to spontaneously cough clear secretions
- The patient is able to maintain an upright sitting position in a bed or chair
- The patient is able to stay awake and alert for 15 minutes
- The patient requires occasional suctioning

Please note inner cannula change and suction procedures are unchanged for the management of a Covid 19 positive patient who has been weaned from the ventilator.

## 2.2. High flow oxygen setup via ventilator circuit

**PLEASE NOTE VENTILATOR TUBING NO LONGER NEEDS TO BE SLEEKED. ALL CONNECTIONS SHOULD BE CHECKED AT THE START OF YOUR SHIFT AS WELL AS BEFORE AND AFTER TURNS OR PATIENT REPOSITIONING.**

### Step one:

- Prepare and connect the corrugated ventilator tubing to the viral filter.
- Please note using this short expiratory limb will require the viral filter to be changed daily.



### Step two:

- Pre-oxygenate the patient on a Fio<sub>2</sub> 100%
- Once pre-oxygenated put the ventilator in standby
- Disconnect the expiratory limb from the Y connector



**Step three:**

- Connect the corrugated ventilator tubing with viral filter attached to the Y connector next to the inspiratory limb.



**Step four:**

- Place the ventilator in High Flow mode and press START
- Check to ensure patient is ventilating by confirming oxygen saturation and rise and fall of the chest

## 2.3 High Flow Oxygen setup via Airvo

### Step one:

- Prepare a new in line suction secured to a high flow adapter
- Discard tracheostomy connector.
- Place a viral filter to the end of the corrugated tubing. Please note using this short expiratory limb will require the viral filter to be changed daily.
- Connect high flow tubing with to the distal end on the inline suction.



### Step two:

- Set up Airvo, turn on and ensure it is connected to oxygen.
- Once on dial up required settings.



**Step three:**

- Pre-oxygenate the patient on a Fio2 100%
- Once pre-oxygenated put the ventilator in standby and disconnect the inline suction and ventilator tubing from the patient

**Step four:**

- Connect new inline suction circuit to the patient.
- Check to ensure the patient is ventilating by confirming oxygen saturation and rise and fall of the chest.
- Ensure all connections are secured to prevent unplanned disconnections

#### **2.4 Cuff deflation and Passy Muir Valve (PMV) Use**

Cuff deflation trials and use of PMV should be discussed with ICU medical team prior to commencing. During cuff deflation the McMONTY hood should be down with the fan ON.

Consider indications for cuff deflation and potential risks to staff as this is an aerosol generating procedure, consider timing of cuff deflation trials with COVID-19 precaution status. Refer to WH Adult Tracheostomy Management Procedure for cuff deflation and PMV details.

When performing cuff deflation and PMV trial minimize staff in the bed space to conserve PPE and minimise exposure risk. Consider discussing with Speech Pathology and Physiotherapy prior to cuff deflation trial to maximize assessments completed during cuff deflation trial and minimizing staff exposure.

Discuss cuff deflation and PMV weaning plan with the MDT, and document weaning plan clearly.

Due to requirement for tracheal and potential oral suctioning a surgical mask should be applied to cover the Tracheostomy site. If patient unable to wear surgical mask during cuff deflation. Once cuff deflated and patient stable, patient to wear surgical mask.

**References:**

Austin Health — Tracheostomy Review and Management Service (TRAMS): TRAMS Tracheostomy COVID-19 Update (April 3 2020)

National Tracheostomy Safety Project: Considerations for Tracheostomy in the Covid-19 Outbreak

The Australian and New Zealand Intensive Care Society (ANZICS): COVID-19 Guidelines

WH Adult Tracheostomy Management Procedure OP-GC3.

Western Health COVID-19 PPE Guidelines – Version 4 12304/20

Aerogen Solo High Performance Nebuliser Set-up Guide (PM145)