Airway and Oxygenation Guidelines for Persons Under Investigation (PUI) or Confirmed Positive for COVID-19

Purpose:

This interim guidance is for respiratory therapists and other healthcare staff caring for patients with confirmed infection with COVID 19, as well as persons under investigation for COVID-19 and is specific to that patient population only.

Clinical Guidelines

1. **Use of aerosol generating procedures:**
   - **a.** The use of aerosol generating procedures has been shown to significantly increase the risk of transmission of the virus via aerosolized particles and should therefore be limited or avoided where possible. **When use of these procedures is unavoidable, airborne and contact precautions are required. This includes an N-95 respirator or PAPR, mask with visor, gown, hairnet and gloves x2**. Aerosol generating procedures include the following:

Mechanical ventilation

- The use of active humidification is not advised. Ventilators will be set up using a dry circuit with a heat and moisture exchanger (HME) in line and a bacterial and viral filter placed at the exhalation valve. **The HME must be changed every 3-4 days or as needed. Bacterial and viral filters should be changed every 4 hours, or earlier as needed.**

- If the patient's ventilatory requirements exceed the capability of an HME, active humidity must be used, keeping the bacterial and viral filter on the exhalation valve. **Due to the effect of the additional moisture on the filter, it must be changed every 4 hours or as needed.**

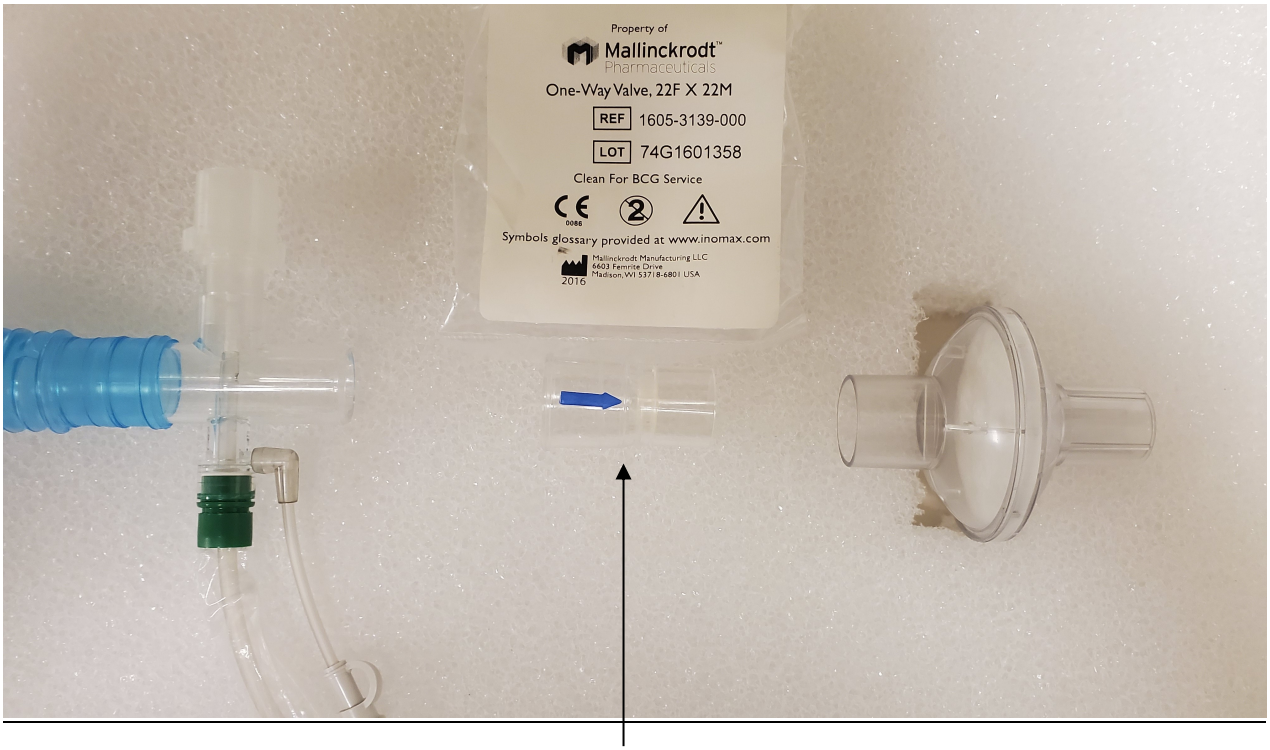
Oxygen administration

- The following items are ok to use on this patient population:
  - Nasal cannula, with or without pendant, flows up to 15 lpm.
  - Simple masks (flow must be greater than 5 lpm)
  - Venti masks

  - Non-rebreather/partial rebreather mask.
- The following oxygen delivery devices should be avoided if possible:
  - Heated high flow oxygen via nasal cannula
  - Manual ventilation via mask (with bagging)
  - Cool mist aerosol devices (except tracheostomy patients)

Humidity for tracheostomy or laryngectomy patient

- Due to the bypass of the upper airway, this patient population must receive humidity from a cool mist aerosol or other aerosol generating device. Dry gas administered through a non-aerosol device will dry out the patient's airway, impede lung function and can result in severe plugging of the airway.
- Secondary to this, the following precautions should be taken when placing these patients on an aerosol:
  - Negative pressure room (if available)
  - Single patient room (if available)
  - Follow airborne + contact precautions during the procedure (N-95 respirator or PAPR, mask with visor, gown, hairnet and gloves x2).
- When possible, the humidification device should be set up in such a way as to facilitate one way expiratory flow that passes through a bacterial and viral filter. (See photo)



Intubation/Extubation

- Both procedures should be performed with minimal staff present in the room and essential staff should

follow airborne + contact precautions during the procedure (N-95 respirator or PAPR, mask with visor, gown, hairnet and gloves x2). Confirmation of ETT placement should be done via EtCO2 colorimeter immediately post intubation. The equipment set up is as follows:

- ETT→ bacterial and viral filter→ ETCO2 colorimeter→ Ambu bag.

Manual Ventilation with a bag valve device

- Manual ventilation with a bag valve device should be performed with a bacterial and viral filter attached to the inspiratory port of the BVM. Manually ventilating a patient with an endotracheal or tracheostomy tube is acceptable if the bacterial viral filter is in place. An HME does not provide adequate coverage and should not be used. Staff should follow airborne + contact precautions during the procedure (N-95 respirator or PAPR, mask with visor, gown, hairnet and gloves x2). Manual ventilation with a bag valve **mask** should be avoided if possible.