

Adult Respiratory Care Practice Guidelines for COVID-19 POSITIVE or PUI patients

These practice guidelines were structured in order to optimize the safety practices around respiratory treatments and devices in COVID POSITIVE or Persons Under Investigation (PUI) patients.

Clustered Care

- All care should be coordinated with nursing; including treatments, therapies and ventilator-patient assessments.

Transport through the hospital

- Patients on nasal cannula or oxymizer **must** wear a face mask¹ covering their nose and mouth.
- Patients on NIV must be transitioned to non-pressurized oxygen such as nasal cannula, 100% NRB or be intubated for transport.
- Intubated patients should NOT wear a facemask¹ for transport or in their room. Doing so may create a patient safety risk by obscuring view of the mouth/nose, potentially delaying recognition of an airway issue as well as hindering reintubation or mask ventilation.
- A bacterial-viral filter can be placed on the tracheostomy tube directly, allowing for venturi masks during transport

Nebulized Medication

- MDI treatments are preferred. May use higher doses (i.e. 6-12 puffs) with spacer.
- Intubated patients may receive small volume nebulizers (SVN) and nebulized epoprostenol via Aerogen delivery system.
- Non-intubated patients should avoid use of SVN (bronchodilators, corticosteroids). Permissible when strong clinical necessary or patient fails MDI. These may be administered via filtered nebulizer and should be self-administered when patient is compliant. HCP should maintain arms length when initiating nebulizer and minimize time in the room during administration.

Oxygen Nasal Cannula or Oxymizer

- Nasal Cannula / Oxymizer flows should be limited to 5 LPM or less. **Avoid using aerosol/Venturi masks.**
- Patients requiring higher FiO₂ should be transitioned to an alternate oxygen (100% NRB, HFNC, NIV, intubate).
- Patients that desaturate with movement may benefit from 100% NRB PRN for 5-10 minutes before movement.
- Order 100% NRB PRN pre-oxygenate for activity.

High Flow Nasal Cannula (HFNC)

- See also Adult High Flow Nasal Cannula Protocol For Patients with COVID+ Hypoxemic Respiratory Failure
- Maximum setting is 50LPM and 100% FiO₂.
- Patients that desaturate with movement may benefit from 100% NRB PRN for 5-10 minutes before movement. Order 100% NRB PRN for activity. Continuous use of 100% NRB simultaneously with HFNC 100% 50LPM is an indication to evaluate for intubation.
- Nasal prongs must be well seated in the nares with **minimal leak**. If more than minimal leaking occurs, must use alternate oxygen (100% NRB, or intubate).

Non-Invasive Ventilation (NIV=BIPAP or CPAP)

- NIV for Acute hypoxemic respiratory failure in the setting of COVID pna/ARDS is discouraged. Patients that fail 100% NRB or maximum HFNC 100% 50LPM, are likely more appropriate for invasive mechanical ventilation.
- Acute Hypercarbic Respiratory Failure – is appropriate for a trial of NIV. If severe (PCO₂ > 65 or >10 mmHg from baseline), consider intubation
- Acute Hypoxemic Respiratory Failure – NIV has only been shown to be beneficial in Mild to Moderate ARDS. Invasive mechanical ventilation should be anticipated if patient SpO₂ <93% on maximum settings. Skin breakdown from mask, inability to tolerate breaks or take PO are indications for invasive mechanical ventilation.
- **Maximum Settings: IPAP 12 cm H₂O and EPAP 8 cm H₂O.**
- ALL patients on BIPAP are **required** to have an **ABG AND clinical assessment** within 2 hrs to determine either continuance of NIV or advancement to Intubation.
- Continuance of NIV is defined by Sat >93% and improved RR or pH and decreased work of breathing.

- Chronic Respiratory Failure on NIV at home.
 - If COVID Positive / PUI initiate NIV at home settings. If pt fails home settings, intubate.
- Obstructive Sleep Apnea/Obesity Hypoventilation Syndrome on NIV QHS
 - ABG on admission.
 - If PCO₂ <45, 2L NC can be given QHS and ABG will be done in the morning.
 - If PCO₂ >45, NIV QHS can be ordered at home settings.
- Home NIV devices will not be used - ALL NIV will be set up on hospital owned equipment with a **filtered circuit on the expire valve**.
- Good mask seal** *must* be ensured. Leaks >20% should be reported to respiratory supervisor and provider.

Suctioning and Physiotherapy

- Chest PT is restricted to patients with strong clinical necessity. HCP should maintain airway length when administering and minimize time in the room afterwards.
- Nasotracheal/open suctioning should be avoided. Failure to manage secretions is reason for intubation.

Tracheostomy tube

- Chronic respiratory failure on a home ventilator - preferentially placed on hospital ventilators (with filter).
- A bacterial/viral filter can be placed on the tracheostomy tube directly, allowing for venturi masks during transport or ambulation.
- During trials off the ventilator, a closed T-piece filtered system can be attached to provide aerosol oxygenation/humidification with an in-line suction catheter and appropriate filters. The trach **cuff should be deflated** during this time.
- Suctioning should be done *in-line*. Open suctioning results in aerosolization of virus.
- A speaking valve (PMV) on the tracheostomy tube is aerosolizing. It should be covered with a *face mask*.

Extubation

- Resolving Respiratory Failure: *Per usual practice*. Do NOT stand directly in front of the patient. Position yourself optimally to avoid path of coughing. Suction as needed.
- Transitioning to Comfort Measures with ongoing respiratory failure:
 1. Titrate comfort medications to comfort prior to extubation.
 2. Extubate *per usual practice* with appropriate PPE on staff. Minimize staff in the room
 3. Supplemental oxygen via nasal cannula may be provided to the patient, depending on goals of care.
 4. A face mask may be placed on the patient, if comfortable.
 5. Family members should not be present during extubation. If family are present *immediately within 30 minutes* post-extubation in a negative pressure room or 60 minutes in regular pressure room, a respirator should be worn in addition to face shield/eye protection, gown and gloves. If 30-60 minutes passes post-extubation, a face mask (not respirator) is appropriate for use in addition to face shield/eye protection, gown and gloves.
- Patients that have expired while on mechanical ventilation can be extubated per our usual process. If the descendant is going for evaluation by the medical examiner or autopsy, ETT may be left in place with a plastic bag covering the hole.

References:

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Please contact Respiratory Care leadership any questions related to these practice guidelines.