Respiratory Care – Adult COVID-19 Practice Guidelines

Yale NewHaven Health

Exposure Limitations

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

Transport through the hospital

●Patients on nasal cannula ***must*** WEAR A SURGICAL MASK covering their nose and mouth.
●Patients on NIV or HFNC ***must*** transition to either 100% NRB or be intubated during transport.

THE FOLLOWING AEROSOL GENERATING APPLICATIONS increase risk of COVID transmission.

●Initiation, continuence and manipulation of these devices *should* occur within a NEGATIVE PRESSURE ROOM.
●Providers *must* wear N95, face shield or goggles, gown and gloves.

Oxygen Nasal Cannula

●Nasal Cannula flows should be limited to 5 LPM or less. **Do not use aerosol /Venturi masks** to deliver oxygen.
●Patients requiring higher FiO2 should be transistioned to an alternate oxygen (100% NRB, HFNC, NIV, intubate).
●If a negative pressure room is not available, patient ***must*** have a private room, wear a mask, door closed with isolation sign.

High Flow Nasal Cannula (HFNC)

●Maximum setting is 30LPM and 100% FiO2. If Sat <93%, consider intubation.
●Negative Pressure Room *is required*. Ask patient to wear a surgical mask.
●Nasal prongs must be well seated in the nares with **minimal leak**. If more than minimal leaking occurs, must use alternate oxygen (100% NRB, NIV, intubate)

Non-Invasive Ventilation (NIV=BIPAP or CPAP)

●Negative Pressure Room *is required*. NIV use is discouraged in the setting of COVID infection due to risk for health care providers.
●Acute Hypercarbic Respiratory Failure - if PCO2 > 65 consider intubation
●Acute Hypoxemic Respiratory Failure – Mild ARDS with PaO2/FiO2 >200, otherwise consider intubation
●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.
●Chronic Respiratory Failure on NIV at home.
    ●If COVID PUI initiate NIV at home settings only until test resuts. If pt fails home settings, intubate.
    ●If COVID positive, pt is unlikely to improve, and early safe intubation preferred.
● 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, sleep or pulmonary consult should be ordered.
●ALL NIV will be set up with a **filtered circuit on the expire valve.**
●**Good mask seal** *must* be ensured. Leaks >20% should be reported to respiratory supervisor and provider.

Treatments/ Physiotherapy

●MDI treatments are preferred. May use higher doses (i.e. 6-12 puffs) with spacer.
●Use of continuous nebulizers is not permitted.
●Avoid use of small volume nebulizers (bronchodilators, corticosteroids). Permissible when strongly indicated or patient fails MDI. *Negative pressure room* is required with filtered nebulizer.
●Chest PT is restricted. *Negative pressure room* is required with use of a tent with HEPA filter.
●Nasotracheal/open suctioning should be avoided. Failure to manage secretions is reason for intubation.

Tracheostomy tube

●Chronic respiratory failure on a home ventilator. Most home ventilators do NOT allow for filters on the exhale valve resulting in large exposure to aerosolized virus. **All** patients are preferentially placed on hospital ventilators (with filter).
●Suctioning should be done *in-line*. Open suctioning results in aerosolization of virus.
●A speaking valve should cap the tracheostomy tube with a surgical mask covering the patient's mouth, *or* a surgical mask should cover the tracheostomy tube while another one covers the patient's mouth.
●A respiratory therapist should be consulted to advise the management of tracheostomy tubes in the setting of COVID PUI/positive patients, in order to minimize the risk of aerosol generation and transmission of the virus.

Extubation

●PPE (see above) AND protective footwear recommended.
●Do NOT stand directly in front of the patient. Postion yourself optimally to avoid path of coughing.
●Double glove. Immediately after disposing of dirty materials the outside gloves should be removed, inside out.

References:

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Yu IT, Xie ZH, Tsoi KK, et al. Why did outbreaks of severe acute respiratory syndrome occur in some hospital wards but not in others? *Clin Infect Dis* 2007; **44:** 1017–25.

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