Respiratory Care Practice Guidelines for Pediatric COVID-19 Negative or Not Suspected

Yale NewHaven

To ensure all Respiratory Care staff are familiar with practice recommendations when caring for **pediatric patients negative or not suspected** for COVID-19, the following guidelines will be implemented.

●These guidelines differ from those of the adult patient because pediatric patients are not developmentally or cognitively capable of assuming primary responsibility of their therapies.

● Please refer to the Respiratory Care Practice Guidelines for Adult COVID-19 Negative or Not Suspected if your patient is sized or cognitively more appropriate to be treated as an adult.

COVID-19 Status

●COVID-19 testing is recommended within 24hrs of INITIATION of the following devices, assuming that a new requirement signals a change in respiratory status that may be consistent with COVID-19 infection. While awaiting test results, please refer to Respiratory Care Practice Guidelines for Pediatric COVID-19 Positive or PUI.

●Routine COVID-19 testing should be done every 4 days on patients requiring daily NIPPV use.

●Treatment should not with delayed or withheld while awaiting testing. Rather, precautions, as detailed below may be followed while awaiting test results.

Transport through the hospital

●For patients < 2years old or otherwise unable to tolerate a face mask , transport on a respiratory device is still appropriate.

●Patients on nasal cannula, HFNC or oxymizer should wear a face mask or 100% NRB covering their nose and mouth when able. Transport on HFNC is limited due to the technical limitations of the device. It is permissible within the *same ward* or *adjacent wards*.

●Non-invasive continuous bronchodilator nebulizers can be paused for the brief period of transport on most patients[1]. On the occasion that patients cannot tolerate a pause, patients on continuous nebulized bronchodilators for severe asthma exacerbation may transport per *usual* procedure.

●Continuous nebulized epoprostenol or nitric oxide gas should never be paused. When delivered non-invasively, patients may transport with a face mask when able, covering their nose and mouth (see transport on HFNC above).

●Continuous nebulized or gas medications (bronchodilators, epoprostenol, nitric oxide) administered in a closed circuit, i.e. mechanical ventilation can be continued on transport.

●Most patients on NIPPV can tolerate a break for transport. Patients unable to tolerate a break should have minimal leak from the mask interface and a face mask placed over the exhale vent in the mask interface prior to transport.

●A bacterial-viral filter can be placed on the tracheostomy tube directly, allowing for venturi masks during transport or ambulation.

●Patients on mechanical ventilation should always have good visualization of their endotracheal tube or tracheal tube. A face mask should not be used, as it obstructs this view.

Nebulized Medications

●A curtain can be drawn between 2 patients sharing a room in order to create space for respiratory distancing.

●These medications should be limited to patients with clinical necessity, as in bronchospasm from asthma or COPD exacerbation.

●Nebulized bronchodilators and anticholinergics should not be ordered for asymptomatic patients.

Note 1: The peak effect of continuous nebulized bronchodilators (albuterol, ipratropium) may be seen after 1-2 hours, with a half life of 4-6 hrs, making the 2 hour mark a reasonable time to pause medication for transport.

Rev 04/18/2022

Oxygen Nasal Cannula / Oxymizer

●Patients wearing nasal cannula (age ≥ 2) that are able to tolerate a face mask should be encouraged to use it when HCP are present.
●Oxymizer use is reserved for COVID positive patients transitioning off (descalating) from HFNC device. For COVID negative patients, it is reserved for patients that are already using an oxymizer at home or comfort measures (CMO) / hospice care.
●HCP should maintain arms length whenever possible.

High Flow Nasal Cannula Device (HFNC)

●Nasal prongs should be placed, evaluated for good fit and face mask[1] placed prior to starting flow.
●Nasal prongs must be well seated in the nares with **minimal leak**.
●Patients wearing HFNC (age ≥ 2) that are able to tolerate a face mask should be encouraged to use it when HCP are present.
●HCP should maintain arms length whenever possible.

Non-Invasive Positive Pressure Ventilation (NIPPV=BIPAP or CPAP)

Acute Respiratory Failure - defined by *new* use or increased use of NIPPV

- ●Acute Hypercarbic Respiratory Failure - consider intubation if unable to stabilize at maximum settings
- ●Acute Hypoxemic Respiratory Failure –consider intubation if unable to stabilize at maximum settings
- ●**Maximum Settings**: IPAP 25 cm H2O and EPAP 15 cm H2O.

Chronic Respiratory Failure on NIPPV at home

- ●Home machines and home interface devices (i.e. nasal mask, face mask) are permitted when hospital machines/interfaces are not tolerated by patient. An order for "patient owned equipment" (NIPPV order set) must be placed.
- ●Higher settings indicate patients have acute respiratory failure (see above).

●**ALL patients on NIPPV are required** to have a **clinical assessment** within 2 hrs to determine either continuance of NIPPV or advancement to intubation.
●**Good mask seal** must be ensured. Consider sedation to improve mask tolerance. Consider alternate mask interfaces (full face mask) Leaks >20% should be reported to respiratory supervisor and provider.
●ALL NIPPV will be set up with a **filtered circuit on the expire valve**
●HCP should keep their face and body to the side of the patient's mouth or nose to avoid direct alignment to the path of coughing.

Suctioning / Physiotherapy

●Chest Physiotherapy (vest or manual percussor), Cough assist device and OPEP (Acapella/Aerobika) are indicated in patients with cystic fibrosis, bronchiectasis and neuromuscular disorders. For patients that do not have these diagnosis, application of these therapies should be reserved for patients with clinically significant indications. Please see the Respiratory Care Guidelines for Cystic Fibrosis for guidance on safe practice . HCP should maintain arms length when administering and minimize time in the room afterwards.
●Nasotracheal/open suctioning - HCP should maintain arms length when administering and keep their face and body to the side of the patient's mouth or nose to avoid direct alignment to the path of coughing.

Patient's Home Equipment

●Chronic respiratory failure on a home ventilator or NIPPV often require a hospital devices to manage their acute condition. If their reason for hospitalization does not involve a respiratory change, they may opt to continue their home ventilator or NIPPV use. An order for patient owned equipment must be placed.

Tracheostomy Tube

●Standard humidification delivery system should be maintained (per institution).
●During suctioning, HCP should maintain arms length when administering and keep their face and body to the side of the patient's mouth and trach to avoid direct alignment to the path of coughing.

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. Extubate *per usual practice* with appropriate PPE on staff.

● Patients that have expired while on mechanical ventilation can be extubated per our usual process. If the decedant is going to medical examiner or autopsy, the ETT may be cut to the lip (for viewing purposes) and left in place.

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