

# COVID-19 Emergency Respiratory Care Procedures for **Pediatric** Services

Proposed modifications to Respiratory Care Procedures during the COVID-19 pandemic outline indications for the use and precautions required for different oxygen delivery/ventilatory assist devices and standard procedures performed by Respiratory Therapy for patients in the following contact precautions categories:

1. Modified Contact / Droplet Isolation: COVID-19 **positive** patients and PUIs
2. Droplet or Airborne Precautions: COVID-19 **negative** patients or COVID-19 status **unknown** who require droplet or airborne precautions for other reasons
3. Contact Precautions and Standard Precautions: COVID-19 **negative** patients or COVID-19 status **unknown** that requires contact precautions or standard precautions.

Recommended conversion from nebulized to MDI delivery systems, as outlined in detail in a separate protocol (COVID-19 Emergency Therapeutic Interchange Modification)

Aerosol generating procedures: **N95, eye protection. If available, a CAPR may be used as an equivalent substitute.** Aerosol generating procedures outlined in this document include - intubation, extubation, non-invasive positive pressure ventilation, bag mask valve ventilation, high flow nasal cannula > 6L/min, NT suctioning. See link below

NON-aerosol generating procedures: **Surgical facemask and eye protection**

For therapies requiring Infection Control approval call:

**444-4773** (office hours), **255-2189** (after hours)

For Medical Director approval, please utilize Lifechart Secure Chat

[AGP List](#)

[AGP Guidelines](#)

Current Practice	Pandemic Modifications
<b>Modified Contact/Droplet Precautions (PUI and COVID-19 Positive)</b>	
Nebulized Medication AGP - follow IC recommendations	MDI/DPI treatments only -non intubated pt. and LTV/Trilogy vents No Continuous Nebs Aerogen Nebs for patients on Servo Vents only* <b>N95 / eye protection</b>
Oxygen Administration - NC, NRB	<b><u>No Standard Large Volume Nebulizers</u></b> Standard NC oxygen may be used Non-Rebreather <b>N95/eye protection or CAPR must be worn</b>
NIV, including transport on NIV AGP - follow IC recommendations	Circuit <b>with</b> Filter only - <b>N95/eye protection</b> <b>NO home CPAP/BiPap machines</b>
Vents	Heated Wire with High -Efficiency Filters Dry Circuit with HME <b>F</b>

	Travel vents with HMEF (size appropriate) <b>Surgical Mask /eye protection</b> <b>N95 / eye protection if concerned with disconnects or AGP</b>
Transport	Standard NC NIV BiPAP/CPAP <b>with</b> filtered circuit On Ventilator <b>with</b> filtered circuit NRB with surgical mask over NRB Avoid use of any other oxygen delivery device Filtered BVM device if intubated <b>N95/eye protection</b>
Intubation / Extubation	<b>CAPR if available or N95/eye protection must be worn</b>
Bag Mask Ventilation	Filter on BVM device <b>N95/eye protection</b>
HFNC >6lpm AGP follow IC recommendations	<b>N95 / eye protection</b> surgical face mask for patient recommended when staff is in room (if possible)
Sputum Induction	Only allowed if approved by Infection Control
Ventilator Suctioning	In-line only
NT Suction AGP - follow IC recommendations	Consult with practitioner for necessity, <b>N95/eye protection</b>
Chest Physiotherapy / Vibratory Device	Consult with practitioner for necessity - <b>N95/eye protection</b> <b>Add Filter to vibratory device</b>
MetaNeb / Cough Assist	Not allowed - Do not perform
Bedside PFT	Not allowed - Do not perform

Current Practice	Pandemic Modifications
<b>Droplet or Airborne Precautions (AND COVID 19-Negative or Unknown)</b>	
Handheld Medication Nebulizers AGP - follow IC recommendations	MDI / DPI - if available HHN with Filter Continuous Nebs after discussion with Attending Aerogen nebs for vented patients only* <b>N95/eye protection</b>
Oxygen Administration - NC, NRB	<b>No Standard Large Volume Nebulizers</b> Standard Practice
NIV, including transport on NIV AGP - follow IC recommendations	Circuit <b>with</b> Filter only <b>NO home CPAP/BiPaP machines</b> <b>N95/eye protection</b>
Vents	Standard Practice Surgical mask/eye protection <b>Expiratory filters or HMEF required</b> <b>Home vents require HMEF (no heated wire circuit)</b>

Intubation / Extubation	<b>CAPR or N95/eye protection must be worn</b>
HFNC > 6 lpm AGP – follow IC recommendations	Standard Practice- <b>N95/eye protection</b> surgical face mask for patient recommended when staff is in room (if possible)
Sputum Induction	<b>Only allowed if approved by the Medical Director of RT and Infection Control on a case-by-case basis</b> <b>N95/ eye protection</b>
Ventilator Suctioning	In-line only
NT Suction AGP – follow IC recommendations	Standard Practice - <b>N95/eye protection</b>
Chest Physiotherapy / Vibratory Device	Consult with practitioner for necessity <b>N95/eye protection</b> <b>Add filter to Vibratory Device</b>
MetaNeb / Cough Assist	<b>Only allowed if approved by the Medical Director of RT and Infection Control on a case-by-case basis</b> <b>N95/eye protection</b>
Bedside PFT	Consult with practitioner for necessity <b>N95/eye protection</b>

Current Practice	Pandemic Modifications
<b>Contact Precautions and Standard Care (AND COVID 19-Negative or Unknown)</b>	
Handheld Medication Nebulizers AGP – follow IC recommendations	MDI DPI if available Filtered Nebulizers only – use with care Continuous Nebs- Consult with Attending <b>N95/eye protection</b>
Oxygen Administration – NC, NRB	<b><u>No Standard Nebulizers unless approved by Medical Director of RT and Infection Control (requires N95/eye protection)</u></b> Standard Practice
NIV, including transport on NIV	Filtered Circuit only - <b>N95/eye protection</b>
Vents	Standard Practice surgical masks/eye protection <b>Expiratory Filters or HMEF required</b>
Intubation / Extubation	<b>CAPR or -N95/eye protection must be worn</b>
HFNC > 6 lpm -AGP – follow IC recommendations	Standard Practice – <b>N95/eye protection</b> surgical face mask for patient recommended when staff is in room (if possible)
Sputum Induction	<b>Only allowed if approved by the Medical Director of RT and Infection Control on a case-by-case basis</b> <b>N95/eye protection</b>
Ventilator Suctioning	In-line only
NT Suction AGP – follow IC recommendations	Standard Practice - <b>N95/eye protection</b>

Chest Physiotherapy / Vibratory Device	Consult with practitioner for necessity <b>N95/eye protection</b>
MetaNeb / Cough Assist <b>AGP - follow IC recommendations</b>	<b>Only allowed if approved by the Medical Director of RT and Infection Control on a case-by-case basis - N95/eye protection</b>

### Pandemic Modifications

#### Other Nebulized Medications for Specific Patient Populations (nebulized medications deemed ESSENTIAL to care plan)

1. CF patients (medications include inhaled antibiotics, Pulmozyme, hypertonic saline)
2. Continuous Nebulizers should be avoided if possible but if deemed appropriate is acceptable with N95/eye protection/gown/gloves.

CF patients requiring nebulized medications MUST be tested for COVID-19 upon admission  
**N95 / eye protection must be worn**  
**AGP - follow IC recommendations**

#### Conversion Chart for Continuous Nebulizers vs. MDI @ Q1 hour

Weight Based Asthma Medications

WEIGHT (KG)	ALBUTEROL INHALED	CONTINUOUS ALBUTEROL
< 10	4 puffs (2.5mg)	5mg/hr.
10-15	6 puffs (3.75mg)	10mg/hr.
15-30	8 puffs (5mg)	15mg/hr.
30+	8 puffs (5mg)	20mg/hr.

If a trach patient based on their symptoms and as a collaborative discussion with Pulm, ED, and PICU, requires a heated/humidified ventilator circuit and/or nebulized medicine, then they are **able to have those** regardless of whether they are COVID positive, negative, or a PUI. The limitation is that they will need to be on a Servo vent with appropriate filters under PICU admission either in the PICU or in a PICU overflow bed on the floor if needed. Vent settings on the Servo will be adjusted as patient physiology demands but will be discussed with all involved parties to address pathophysiology and patient comfort.

\*Nebulizers may be used in mechanically ventilated patients on Servo vents. (Aerogen neb delivery system). This can be determined by the Respiratory Therapy Supervisor on call 255-3520

October 7, 2020