

Guideline on Nebulizers and Metered Dose Inhalers (MDI's) in COVID-19/PUI and non-COVID Patient

1. COVID-19 positive or rule out COVID-19 (PUI) in patients who have indications for inhaled medications:

- VENTILATED PATIENTS
 - No preference for nebulizers vs MDIs.
 - For ventilated patients, nebulized medications can be delivered via aerogen nebulizer.
 - Always use appropriate PPE per updated UPHS Guidelines.

- NON VENTILATED PATIENTS
 - MDIs preferred if the patient is able
 - High Flow NC – nebs preferred via aerogen nebulizer
 - Always use appropriate PPE per updated UPHS Guidelines

- HEMLET NON-INVASIVE VENTILATION
 - MDIs should not be given via the helmet
 - It is preferred not to use nebulized medications via the helmet. If necessary, can give intermittent racemic epinephrine (upper airway edema) or albuterol (wheezing) via the aerogen nebulizer
 - **ANY NEBULIZED MEDICATION DELIVERED VIA HELMET NIV MUST RECEIVE APPROVAL FROM RESPIRATORY THERAPY LEADERSHIP AND THE MEDICAL DIRECTOR OF THE UNIT.**
 - 1st call Respiratory Supervisor; 2nd call Respiratory Administrator; 3rd call Respiratory Medical Director
 - Always use appropriate PPE per updated UPHS Guidelines

- Ipratropium should only be given to:
 - Patients maintained on long -acting muscarinic antagonist (LAMA) therapies for a known obstructive lung disease (COPD, asthma, bronchiectasis) that are unable to receive LAMA therapy.
 - Patients maintained on LAMA therapy for a known obstructive or restrictive disease that require as needed short acting therapy in addition to LAMA therapy.
 - Patients demonstrating obstructive physiology on mechanical ventilation
 - Should not be given via Helmet Non-Invasive Ventilation

2. For non-COVID/PUI patients: No preference for nebulizers or MDIs

- Ipratropium should only be given to:
 - Patients maintained on long -acting muscarinic antagonist (LAMA) therapies for a known obstructive lung disease (COPD, asthma, bronchiectasis) that are unable to receive LAMA therapy.
 - Patients maintained on LAMA therapy for a known obstructive or restrictive disease that require as needed short acting therapy in addition to LAMA therapy.
 - Patients demonstrating obstructive physiology on mechanical ventilation.
 - Those demonstrating signs/symptoms of obstructive physiology as demonstrated by auscultating of wheezing (not upper airway).

3. For patients who tested COVID positive and deemed non-infectious by Infectious Diseases/Infection Control

- Similar recommendations to non-COVID patients in section 2 above