Guidelines for Respiratory Therapy for Suspected or Positive COVID-19 at VUMC

Respiratory Therapy & COVID-19	Rationale & Clinical Guidelines or Alternatives
Oxygen Therapy	1. Oxygen therapy can be administered via nasal cannula or face mask. 2. Judicious use of HFNC and Non-invasive ventilation may be considered; utilize appropriate PPE. 3. Consider blood gas to assess for respiratory failure prior to starting HFNC. 4. Place surgical mask on patient prior to initiation of HFNC and maintain through HFNC use. 5. Avoid HFNC during transport within the MCJCHV facility to minimize aerosolized particles
Nebulizer Treatments – Use only when necessary due to airway resistance, obstruction, decreased air movement, audible wheezing, or stridor	1. A meter-dosed inhaler (MDI) with spacer (if applicable) is strongly preferred when delivering medication to minimize aerosolized particles 2. If MDI is not available, aerosol nebulizer can be administered 3. Consider substituting Flovent (MDI) for Budesonide 4. Hypertonic saline should be used judiciously and be self-administered by patients whenever possible. 5. Reserve use of bronchodilators for reversible bronchoconstriction, increased airway resistance or obstruction 6. Assess by performing modified RDS score based on respiratory rate, auscultation, retractions, and dyspnea 7. If bronchodilator or other respiratory medication is indicated or needed due to pre-existing chronic condition, consider an MDI with spacer for administration as the first-line option 8. If Continuous bronchodilators are indicated, an Aerogen nebulizer will be utilized (MCJCHV)
Airway Suctioning	1. Routine airway suctioning for nonventilated patients should be avoided unless it is required to maintain a patent airway or clear the airway for adequate ventilation 2. Inline suction catheters (closed system) are required during mechanical ventilation
Secretion Clearance/ Airway Clearance Therapies	1. Limit the use of Airway Clearance Therapies to clinical needs as determined by patient assessment and significant findings on chest imaging in conjunction with the inability to maintain normal O2 uptake 2. If airway clearance is needed for the nonventilated patient, consider modalities that can be self-administered by the patient or family to limit staff exposure to aerosolized particles (i.e., Dr. Burton Vpep, vest) 3. If airway clearance is needed for the ventilated patient, attempt to optimize patient positioning for passive drainage and/or proning the patient 4. Attempt atelectasis management by ventilator manipulation - Increase tidal volume, increase inspiratory time, increase PEEP/MAP, transition to BIVENT
Flow-Inflating Resuscitation Bag	1. When providing bag-valve-mask ventilation (BVM), place a bacterial/viral filter inline between the BVM and the mask or endotracheal tube (ETT) 2. Adjust bagging pressures to maintain adequate chest rise when compensating for added filter dead space 3. Ensure proper PPE (N95/PAPR, eye shield/goggles, gown, gloves)

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Endotracheal Intubation	1. Plan and communicate with the care teams to avoid the need for rescue interventions, which have more significant potential for infectious transmission - If blood gas results are trending more acidotic and hypercarbic, intubate 2. Consider a rapid sequence induction (RSI) to avoid manual ventilation and potential particle aerosolization 3. Ensure proper PPE (N95/PAPR, eye shield/goggles, gown, gloves)
Bronchoscopy	1. Limit procedure to the absolute necessity - Respiratory will not assist for bronchoscopies 2. Ensure proper PPE (N95/PAPR, eye shield/goggles, gown, gloves)
Mechanical Ventilation	1. Only change circuits when visibly soiled 2. Antibacterial/viral filter should be placed on the expiratory limb of the circuit 3. Use closed inline suction system 4. Avoid breaking the ventilator circuit 5. Clamp Endotracheal Tube with any circuit disconnection 6. Transport patients only for procedures and studies deemed essential for patient care
Cleaning of Equipment	1. Expiratory Cassette will be removed after ventilation discontinued and placed in a biohazard bag to be delivered to Central Sterile to be appropriately cleaned and sterilized 2. Ventilator will be cleaned and disinfected per current guidelines
High Flow Therapy / Non-invasive Ventilation	1. Judicious use of HFNC may be considered; utilize appropriate PPE. 2. Consider blood gas to assess for respiratory failure prior to starting HFNC. 3. Place surgical mask on patient prior to initiation of HFNC and throughout HFNC use. 4. BIPAP or CPAP (Noninvasive Ventilation) may be a consideration for impending respiratory failure; utilize appropriate PPE.
Home Regimen Therapies for chronic patients	1. Conversion to a meter dose inhaler (MDI) with spacer (if applicable) is strongly preferred when delivering medication to minimize aerosolized particles 2. Suction only as needed to maintain patent airway 3. Try to limit all other Airway Clearance Therapies until confirmed negative results 4. Patient or Family may administer home airway clearance therapy 5. CPAP (or BiPAP) will be offered to patients using these treatments at home for OSA
Quantitative EtCO2 Monitoring in Patients whose COVID-19 status is Unknown	1. Quantitative EtCO2 Monitoring can be utilized in symptomatic COVID -19 patients under investigation (PUI) and asymptomatic patients whose COVID-19 tests are pending by using a high efficiency bacterial/viral filter between the endotracheal tube or supraglottic airway and the existing EtCO2 Monitoring equipment. 2. EtCO2 monitoring will be implemented on any patient that has a clinical indication; monitoring can be utilized in this manner as long as clinically indicated.