



VENTURA COUNTY
HEALTH CARE AGENCY

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Owner: Jessica Lone Elk: VCMC - Respiratory
Policy Area: COVID-19
References:

Guidelines for Respiratory Therapy During COVID-19 Pandemic

A. Personal Protective Equipment for COVID Positive or COVID Suspected patients:

- Full PPE for **Airborne** + contact + eye protection for COVID positive patients or Patient under investigation (PUI)
 - Bouffant, eye protection, N95, gown and gloves
 - High risk aerosol-generating procedures include intubation, extubation, bronchoscopy, nebulizers, EZPap, Metaneb, Heated High Flow Nasal Cannula, CPAP, BiPAP, NG Tube insertion, CPR should be done in negative pressure rooms if available. Preferred to be performed in a negative pressure room. May be performed in non-negative pressure room with door closed if negative pressure room unavailable. Please note ICU 1, 2, 3 and MS3 are considered negative pressure
- Donning and doffing should be observed by a Hygienist when possible. If Hygienist is unavailable, please use a buddy to decrease risk of cross-contamination
 - Donning buddy makes sure as much skin as possible is protected
 - Doffing buddy ensures that PPE is removed without the provider contaminating themselves
- Minimize entries and exits into COVID suspect or confirmed infected rooms
 - Bundle care when possible, including asking RN to obtain blood samples for ABG if there is an A-line.
 - Communicate with RN regarding MDI administration and incentive spirometer instruction
 - If the patient only has a Once a day (QD) or twice a day (BID) inhaler ordered, RNs may reschedule dose to allow for nursing bundle of care, and administer MDIs as ordered
 - Every four hours (Q4), every 4 hours while patient is awake (QID or Q4 w/a) will be administered by Respiratory.
 - When patient is on a Heated High Flow Nasal Cannula, Respiratory Therapy is expected to go into room twice a shift to confirm settings, assess the patient, assure equipment is functional and supplies are stocked. Respiratory Therapist is to check on patient every two hours (Q2) from outside the room, and may go into assess the patient as needed.

B. Respiratory Therapies

- Every shift, all ordered Respiratory Therapy modalities should be evaluated for necessity
 - Prior to starting any APG, Respiratory Therapist must obtain COVID results
 - Positive patient must be in a negative pressure room or area
 - Negative patients may be in a general patient room, however therapist must wear full precautions
- Nebulizers should be avoided. MDIs should be used instead if at all possible. Aerogen nebulizers in-line

with the ventilator may be used as it is closed circuit and does not aerosolize outside of the ventilator circuit

- Heated High Flow Nasal Cannula should be the initial modality for oxygenation beyond 6 liters nasal cannula, with goal to avoid intubation.
 - Place patient in negative pressure room when possible
 - Place a face covering over patient to decrease the amount of aerosol in the atmosphere , particularly when staff members are in the room, to reduce virus in the air, and potentially prior to staff entering the room. Consider waiting number of air exchanges prior to entering the room if possible (see page 3 for number of air exchanges)
 - Patient should be encouraged to self-prone when physically capable
- Non-rebreather mask also has the potential to aerosolize at high flow rates
 - Consider lower flow rates if tolerated (~ 6 liters per minute)
 - Consider non-rebreather with viral filter to reduce aerosolization if available
- EZ Pap is utilized to help with atelectasis and improve overall respiratory mechanics. It also aerosolizes. Respiratory Therapist should trial “Supervised Incentive Spirometry” first prior to attempting EZ-Pap. If patient can properly perform Incentive Spirometry, this would be the preferred treatment modality as it decreases risk to care providers
 - Patient requires pulmonary toilet in order to prevent respiratory deterioration and less-invasive methods (i.e. Incentive Spirometer) have been ineffective
 - Staff wears bonnet, eye protection, N95 with surgical mask over it (so you can reuse the N95), gown and gloves for the treatment
 - Patient must be in a negative pressure room to perform if available, room with a closed door if not available
 - Mouthpiece is used with a good seal and good understanding
 - Patient is cooperative with all aspects of the treatment
- Meta-nebs are last to be used at this time as they aerosolize the most particles
 - If Metaneb is determine to be needed, must be ordered at the attending level for COVID patients
 - Manager of Respiratory Care is to be made aware
 - Patient is to be in a negative pressure room
- CPT and other methods to induce cough and aerosolize are not recommended for COVID suspected or COVID confirmed patients
- Non-invasive Positive Pressure Ventilation (NIPPV): BiPap and CPAP should generally be avoided for COVID suspected and COVID positive patients
 - Inevitable leak around mask aerosolization. Case-by-case with ICU consult. If using, minimize leak around mask as much as possible
 - If using NIPPV, must use non-invasive mode on Servo-i ventilator (dedicated exhalation limb that can be filtered) and not V-60 (no exhalation limb, exhalation out the mask aerosolization)
 - Must be in negative pressure room if using, all staff in full PPE
 - CPAP favored over Bipap if choosing to use, less likely to aerosolize and possibly associated with less negative outcome
 - Patient is to be ICU level of care with NIPPV administration if being used for progressive respiratory failure unless patient is DNI (Do Not Intubate)

C. Guidelines for Intubation

- Equipment to bring into the room so as not to have to enter and exit multiple times
 - Ventilator, with a clear Equipment Cover covering it
 - Blood gas kit if ABG will be needed

- Lukens trap for COVID sputum test
- 2 patient addressograph (white) labels
- Biohazard bags
- Pre-oxygenate with nasal cannula or non-rebreather (NRB)
 - NRB lower flow rates less likely to aerosolize
 - 6 liters per minute on non-rebreather x 20 minutes prior to intubation if patient does not desaturate with that flow rate will decrease aerosolization
 - higher flow rates can be given if needed but will lead to more aerosolization
- Place Hepa filter on Resuscitation bag but avoid bagging
 - Option #1: Passive bag valve mask (BVM) with viral filter, PEEP valve, O2 flow—avoid actual bagging when patient not yet intubated if possible
 - Option #2: Facemask to ventilator set to CPAP
- Prior to removal of facemask, assure patient is paralyzed and sedated
- Use video laryngoscope with disposable blade
 - Some anesthesiologists may prefer direct laryngoscopy; disposable blades preferred in this case
- Some providers may choose to clamp the ETT before removing it from BMV and immediately place patient on ventilator.
 - MUST ASSURE patient is Paralyzed and Sedated prior to clamping ET tube
 - Use either rubber-tipped clamp or wrap tape around plastic or metal clamp teeth to soften the potential damage to ET tube by clamping it

D. Guidelines for Care of intubated and ventilated patients

- Perform Oral care per standards
- Pause or place vent in Standby mode before any disconnection
- Assure alarms are on highest audio setting
- Change expiratory Hepa filter every 24 hours per recommendation of Dr. Bajwa

E. Guidelines for Extubation

- If patient is to be extubated while still positive for COVID-19, wear a PAPR or N95 + face shield + bouffant + gown + gloves
- Simple mask should be prepared for the patient prior to plan to extubate
- Proper steps for extubation to minimize aerosolization

1. Complete oral care prior to plan for extubation
2. Place chuck onto patient's chest
3. Place nasal cannula onto patient's nares at 6 liters or less to reduce aerosolization
4. Place procedure mask near patient's face for quick covering once extubated
5. Suction patient tracheal and oral
6. Turn off ventilator
7. Rapidly extubate after ventilator turned off
8. Place procedure mask on patient

F. Transportation of Vented Patients

- After intubation, consider waiting appropriate time for number of air exchanges to remove all aerosolized particles from the room prior to moving the patient

- 45 minutes in negative pressure room
- 3.5 hours in non-negative pressure room at VCMC
- 1.5 hours in non-negative pressure room at SPH
- After intubation and transportation for other reasons (i.e. CT scans)
 - Place clean sheet on patient from neck down prior to transportation
 - Transportation is to be done with the same ventilator without breaking the circuit
 - Remove the bag in the room
 - Perform hand hygiene on top of your gloves and allow wet time 20 seconds
 - Remove the equipment cover from the ventilator
 - Clean the equipment with appropriate wet time with wipe from purple top container

G. Transportation of Non-Vented Patients

- Patient who is not intubated wears procedure mask, and has clean sheet covering from neck down during transport
- For patients on more than 6 liters per minute flow of oxygen by either nasal cannula or simple facemask or non-rebreather (any method), the patient is at risk for aerosolizing during the transport.
 - To reduce aerosolizing during transport, patient is to have intubation box or PVC pipe frame placed over them, followed by large plastic sheet covering from above the head to at below abdomen
 - plastic equipment covers can be used if there is no other drape large enough
 - all edges of the plastic drape must be touching the bed
 - See transportation policy on Medical Staff Office Website, Inpatient Resources

H. Considerations for Tracheostomy Patients

- Simple facemask should be worn by patients with tracheostomy who are COVID positive or COVID suspected
- For non-ICU patients who are not vented but are COVID positive or COVID suspected
 - Cuffed tracheostomy should be inflated and patient should be attached to ventilator to close their respiratory circuit and allow for closed suctioning
 - ICU consult if patient is not ICU status

I. Equipment and Equipment Care

- Use disposable equipment when possible
- If disposable equipment is not available, cover the equipment with a clear Equipment Cover plastic to prevent aerosolized particles from landing on the equipment as much as possible
 - Dispose of the plastic cover prior to the equipment leaving the room
 - Clean the equipment as per current workflow for cleaning / disinfection
- A disposable stethoscope shall be placed in patient room
- Continue current workflow for cleaning/disinfecting of equipment

J. ABG or Sputum Sample Processing for Negative Pressure/ Isolation Room

- Ask for assistance from staff to have donned gloves and a clean biohazard bag that is open and ready outside of the room to receive the biohazard bag with specimen in it once sample is obtained (so, 2 biohazard bags, one from in the room with collecting provider and one outside the room with another staff member)
- Prior to donning PPE, write Cerner name of collector, date, time, and type of specimen on a white addressograph label
- Don PPE, and bring equipment to collect specimen along with one specimen collection bag and the

addressograph label into the room

- Collect sample from patient and label specimen at bedside
- Use sanitizer on gloves, allow wet time for 20 seconds, then open patient room door a crack
- Drop sample into clean biohazard bag – provider accepting the specimen is careful not to let the bag with the specimen touch the outside of the outer clean biohazard bag
 - Provider accepting the specimen closes the bag and transports the sample to the ABG room for processing
- Close door, use hand sanitizer on gloves again, allowing at least 20 seconds of wet time
- Specimen collector adheres to Doffing guidelines upon exiting the room
- Again use foam sanitizer onto gloves, allowing at least 20 seconds of wet time

K. Handling of Sputum

- Sputum sample obtained will be sent to lab in original container collected in.
- Lab is to manipulate sample per policy and guidelines. Respiratory therapist is to never open a sputum container.

L. Staff Floating

- Ideal state: Recommend to limit floating from adult to newborn to reduce risk

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Attachments

No Attachments

Approval Signatures

Step Description	Approver	Date
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Policy Owner	Jessica Lone Elk: VCMC - Respiratory	2/2/2021