Blue Ridge Emergency Medical Services Council, Inc.

April 6th, 2020

BREMS Directive for COVID-19 Respiratory Considerations & Airway Management

A focus on high quality patient care has always been central to the BREMS Region, and that will not change during this pandemic. The particular characteristics of this disease process will, however, require careful alterations to practice pathways in order to ensure care that is safe for both patient and provider.

Attached you will find the procedure pages below outlining recommended best practices for managing airway concerns, while mitigating exposure and contamination.

Thank you for your attention to this matter.

BREMS Staff on behalf of Regional OMD Dr. Wendy Wilcoxson

Wendy J. Wilcoxson

Pandemic Response - COVID19

Respiratory Considerations & Airway Management

Purpose:
To provide best practice guidance regarding respiratory treatment and airway management in the setting of a patient with suspected or confirmed infectious respiratory disease, and to recommend tactics to mitigate risk to providers.

EMT	EMT	EMT
A	Advanced EMT	A
I	Intermediate	I
P	Paramedic	P

Background:
We have an obligation and desire to provide high quality patient care while mitigating provider exposure and conserving the EMS resources of the Region; this requires close attention and careful adjustment to typical care pathways to ensure both patient and provider safety.
There is increased risk of infectious exposure to providers when administering aerosol-generating procedures (AGP), including bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary
resuscitation. This document discusses appropriate use of these interventions during an airborne/ droplet based infectious pandemic.

General Considerations

- Care provided in fresh air and UV light should be maximized. This means assessing the patient outside when possible, and maintaining maximum ventilation when in the truck/indoors.

- PPE for providers, and reverse isolation for patients (ie a surgical mask) is critical.

- Many medications are in shortage, and the patient's MDIs/spacer should accompany them to the hospital when possible, preferably in a container of some sort labeled with the patient's name. See below for guidance on provider use of these medications.

- Home CPAP devices including mask should also be brought with the patient.

- Individual agencies should provide guidance to providers regarding ideal settings for ambulance ventilation and air flow, including the use of negative pressure.

- Steroid use should be restricted to those in whom a diagnosis of COPD or asthma exacerbation is suspected; ideally, suspicion for this should be supported by previous diagnosis of these conditions.

- While COVID-19 is currently present in the community at large, it must be recognized that other pathology remains as well.

- When possible, non-respiratory routes of medication administration (ie IM/IV) are preferred.

Patient Care Considerations

- **If the patient is in mild or no respiratory distress with appropriate oxygen saturations, then care is as usual while maintaining appropriate PPE.**

- **If the patient is in moderate respiratory distress, then the following considerations may be made:**
  - When indicated, oxygen should be supplied by device such as nasal cannula or nonrebreather.
  - The patient's albuterol or albuterol/ipatropium MDI may be used in lieu of a nebulizer treatment; the provider should assist the patient in taking 4-5 puffs with adequate breaths in between. Be aware that this may provoke cough; encourage shielding and quick mask replacement for the patient, and ensure provider PPE is in place.
  - If a nebulizer is felt to be necessary prior to hospital arrival, consider providing this via a mask- type device prior to loading the patient, while still outside.
  - In every instance, a surgical mask should be placed over the oxygen or nebulizer mask prior to initiating oxygen flow to catch droplets/aerosols generated.
  - Consider early use of Magnesium IV, as well as Epinephrine 1:1,000 IM, in appropriate patients.
  - If a vasopressor is needed, the medication of choice would be Levophed/Norepi. Refer to protocol and chart reference for dosing.

- **If the patient is in severe respiratory distress, then the following considerations may be made:**
  ***Severe respiratory distress, for the purpose of this protocol, is defined as an oxygen saturation of 85% or less, despite use of a non-rebreather and/or severe physical symptoms, such as retractions. Understand that permissive hypoxia is acceptable.**

  o If COVID-19 infection is suspected or confirmed, then early DAI in open air may be appropriate rather than CPAP/BiPAP.
  o During this pandemic, CPAP/BiPAP should be restricted to patients in whom the provider strongly suspects the absence of COVID-19 infection, or if the withholding of this modality would likely cause harm to the patient. Provider PPE in this instance should be impeccable, understanding that contamination of vehicle, and provider's uniform and exposed skin/hair will likely still occur and require decontamination.
  o If airway management is indicated, this should be performed by the most experienced provider.
  o Video laryngoscopy which allows some distance between the patient and provider is preferable. If this is not an option, then placement of supraglottic airway is preferable to direct laryngoscopy.
  o Some providers prefer a barrier device such as a clear plastic drape tented over the patient's head during intubation to limit aerosol spread; if this is desired as an option, it must be trialed beforehand during simulated airway management with Advanced Practice Paramedic or OMD supervision on an airway mannequin to ensure complete competency.
  o Both BVM and ventilator used should have HEPA filtration; if this is not possible, then at minimum a spare N95 must be firmly secured over the exhalation port.
  o Confirmation and documentation of placement by end tidal capnography is mandatory.

- If the patient is in cardiac arrest, then the following considerations may be made:
  - As always, resuscitation in place is recommended.
  - Providers must have complete PPE in place.
  - Attention must be paid to minimizing aerosolized secretions. This could include:
    - A nonrebreather with oxygen running over the patient's mouth during the initial 200 compressions for passive oxygenation
    - Ventilation with a Bag-valve-mask with HEPA filter or N95 secured over exhaust port.
    - Supraglottic airway placement and filtered BVM as described above.
    - A mechanical compression device should be placed and used as soon as possible.
    - Supraglottic airway is preferable to endotracheal intubation.
    - Standard management guidelines for Cardiac Arrest care should be followed otherwise.