



COVID19 Aerosol Generating Procedures

Alternate Protocol for Aerosol Generating Procedures During COVID19

- A. Effective immediately, all EMS providers should implement protocols to limit the generation of droplets and aerosols during clinical interventions. These protocols should be developed in coordination with local EMS Medical Direction and may include:
- B. The following procedures are defined as aerosol generating per the CDC:
 - Bag valve mask ventilation
 - Oropharyngeal suctioning
 - Endotracheal intubation
 - Nebulizer treatment
 - Continuous positive airway pressure (CPAP)
 - Cardiopulmonary resuscitation
- C. PPE - If an aerosol generating procedure noted above is performed, the minimum PPE standard includes:
 - Gloves
 - Gown
 - Respirator (fit tested)
 - Eye protection
 - Face shield
- D. Nebulized Medications
 - Use should be avoided if possible – do not administer if the patient is (1) not hypoxic, (2) has no increased work of breathing and (3) has only minimal wheezing
 - If a patient has their own Metered Dose Inhaler, its use is preferred over a nebulizer
 - 4 puffs of MDI is roughly equivalent to 2.5mg neb albuterol
 - If a nebulizer must be used:
 - First dose of nebulized medicine should be given on-scene (avoid delivery in back of ambulance if possible)
 - Do not use T-Piece nebulizer, use only mask with flow rate 6lpm or less
 - Use surgical face mask over nebulizer mask
- E. Oxygen administration equipment
 - Nasal cannula is preferred over a non-rebreather mask
 - Place surgical facemask over any use of oxygen delivery devices (cannula, NRB or nebulizer mask)

F. BVM Ventilation

- Use HEPA filter in-line with mask or attached to BVM exhaust if available. Do not use both filters at the same time.
- Maintain tight face seal
- Avoid gastric insufflation and overly forceful ventilation

G. Advanced Airway Management

- Effective immediately, the preferred 1st line advanced airway management is the use of an i-Gel with filter system attached during insertion
- Endotracheal intubation is to be avoided whenever possible

H. Suctioning

- Unnecessary suctioning should be avoided
- The use of a droplet shield should be utilized if available

I. CPAP

- The use of CPAP should be avoided when possible
- The use of CPAP devices with filters is preferred over non-filtered CPAP devices if CPAP must be used
- Avoid use of nebulizer treatments with CPAP when possible. If necessary, be sure to use the port closest to patient as filter will prevent albuterol from getting to patient.

J. Cardiac Arrest

- PPE as noted above should be worn for the management of cardiac arrest, including the provision of CPR

K. Transport

- Avoid aerosol generating procedures performed inside the ambulance
- If intervention in the ambulance must be performed, minimize individuals in the patient compartment during any aerosol generating procedure
- Turn on fan to maximum compartment air flow

L. At Hospital

- Communicate with receiving hospital to ensure they are ready for patient arrival
- Discontinue any nebulizers and CPAP prior to entering hospital
- Transition to nasal cannula with surgical facemask over patient while moving from ambulance to patient room

M. Pediatric considerations

- Use bag-valve-mask filter that does not increase dead space (i.e. an exhaust filter does not increase dead space)
- In the event of short-duration ventilation support (e.g. seizure), bag-valve-mask ventilation is preferred over i-Gel/LMA placement
- In the case of Pediatric Cardiac Arrest, i-Gel/LMA with a filter is the preferred method of airway management.