

Cardiac Arrest and Pandemic Response Protocol

The following is a list of what is KNOWN about COVID-19 and the risk of transmission to EMS clinicians.

- 1) SARS-CoV-2/COVID-19 can be spread by aerosolized particles. Certain procedures may either *generate* or *expose* EMS clinicians to those aerosolized particles.
- 2) Airborne precautions and proper PPE in the form of goggles, gown, gloves and an N95 mask or equivalent respirator are highly protective, even in the face of exposure to COVID-19 patients.
- 3) In addition to proper PPE, other infection control measures described in Maine EMS Clinical Bulletins and the *Phase 1 Pandemic Response Protocols* are highly effective, especially social distancing and limiting the number of providers attending to a patient, when possible.

There remain certain unknowns surrounding the care of patients suffering from COVID-19, such as the true risk of each different aerosol-generating procedure to EMS clinicians in proper PPE and the best means to manage a patient's airway that best balances patient outcome and EMS clinician protection.

In addition to these, we also know important fundamental facts surrounding the management of patients suffering out-of-hospital cardiac arrest, including:

- 1) The most important therapy provided to patients suffering from OHCA is high-performance CPR (HP-CPR).
- 2) HP-CPR includes compressing at the proper rate and depth, allowing for adequate recoil and minimizing interruptions.

Based on the KNOWN risks of COVID-19 transmission and what is known regarding the effective management of OHCA, the MDPB recommends the following when caring for a patient with OHCA during the COVID-19 pandemic:

1) Personal Protective Equipment

- a. *PPE is the most protective measure EMS clinicians can take when caring for a patient with COVID-19.* Per the Phase 1 Pandemic Response Protocols, **PPE should be worn in all cases of OHCA.** Consider strategies of pre-donning to reduce time to patient care. CPR, assisting ventilations, and placing airways are all aerosol-generating procedures. N95 masks (or equivalent) as well as gowns, gloves, and eye protection are essential prior to management of these patients.

2) Treatment – CPR

- a. While CPR is being performed, please limit the number of providers to those absolutely necessary. EMS Clinicians should establish a 6-foot distance from the patient when not performing procedures.
- b. If available, consider changing chest compressors every 2 minutes to reduce individual provider exposure during CPR.
- c. If available, consider placement of a mechanical CPR device. If such a device is available, initiate resuscitation with manual CPR, placing the device on between the first and second pause for rhythm check, initiating the device as early as the third round of CPR.

3) Treatment – Airway Management

- a. If available, place a HEPA filter between the BVM and airway device (e.g. Mask, BIAD, or ETT). Place the filter as close to the patient as possible. Minimize any disconnections between the HEPA filter and the patient.
- b. The MDPB strongly recommends placing a clear plastic shroud over the patient's head and neck, while performing all airway management techniques, including ongoing bagging underneath the shroud. This strategy reduces the risk of ongoing exposure to EMS providers.

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The above figures are examples of the clear plastic shroud. The shroud may be placed directly over the patient's head and neck while the EMS clinician managing the airway does so with the airway management device and their hands **UNDER** the shroud.

Controversy remains regarding the most protective airway management strategy. There is risk inherent in performing the procedure and risk of exposure after the procedure. In balance, the MDPB recommends maintaining the strategy of basic airway measures first, maintaining these measures as long as they are effective. This strategy reduces the risk to providers of performing intubation, which generates significant aerosolized secretions.

CAUTION: FIRE RISK: If a drape is being used AND the patient requires defibrillation, ensure the drape does not accumulate oxygen and that defibrillation pads are not under the drape during defibrillation.

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c. If Blind Insertion Airway Devices are used and the device has a gastric port for insertion of OG tube, consider blocking that port in an effort to further reduce release of aerosolized secretions.

d. If intubation is necessary, the MDPB strongly recommends performing this under a clear plastic shroud to limit exposure to aerosolized respiratory secretions. Consider the following:

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- i. Intubation should be performed by the provider most experienced with intubation. No more than 2 attempts should be performed.
- ii. Consider video laryngoscopy, if available and the intubator is experienced in its use.
- iii. Do NOT pause chest compressions to perform intubation. Instead, consider intubating during the 2-minute rhythm/pulse checks.
- iv. Continue ventilations under the clear plastic shroud.

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4 .Treatment – Termination of Resuscitation

a. Follow all existing Maine EMS guidelines for Termination of Resuscitation (**Page 46, RED #13**)