Pandemic Response Protocol #1

This protocol is specific to the 2020 COVID-19/SARS-CoV-2 response. It is authorized by delegation of authority of the MDPB to the Maine EMS Medical Directors for use during the COVID-19 Pandemic.

This protocol is divided into steps which are on unique pages. These steps are essential for EMS clinician and patient safety and **must** be exercised during all patient encounters during the pandemic. Maine EMS, the MDPB and the State Medical Directors expect these steps to remain in place until public health experts determine that these increased safety measures are no longer necessary. These steps **must** be considered in **all** patient encounters while this protocol is in place.

Trigger: Preparation for pandemic and upon first reported cases in Maine.

EMT/ADVANCED EMT/PARAMEDIC

Step 1: EMD surveillance for all callers based on symptoms and contact with presumed positive COVID-19 patients.

Rationale: Allows EMS clinicians situational awareness prior to arrival.

Step 2: Limit the number of clinicians that interact directly with the Person Under Investigation (PUI). Consider safety, operations and patient needs. If possible, limit the number of EMS clinicians who come into contact with the patient.

Rationale: Experience with SARS (also a coronavirus) demonstrated increased transmission when three or more healthcare workers attended a patient. Also assists in preserving PPE.

Step 3: Assess for symptoms [fever, chills, symptoms of lower respiratory illness (e.g., cough or shortness of breath), fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea, vomiting, or diarrhea] using a combination of social distancing (when clinically or operationally indicated) and PPE.

Rationale: Confirms patient is a PUI for COVID-19, protects EMS workforce through social distancing (minimum of 6 feet) and preserves Personal Protective Equipment (PPE) when possible.

Step 4: Clinicians **must** use **AIRBORNE precautions** for all patients who screen positive for a PUI for COVID-19 based on clinical symptoms (above) and/or epidemiologic risk factors (exposure to a laboratory-confirmed COVID-19 patient within the past 14 days). AIRBORNE precautions include gloves, gown, eye protection*, and an N-95 or equivalent respirator. EMS clinicians **must** also don **AIRBORNE precautions** if the patient requires any aerosol-generating procedure (including CPR) or if the patient is unwilling/unable to wear a mask (see Step 5).

Rationale: *Protects EMS workforce*.

Step 5: Place surgical mask on all patients (regardless of PUI status). All clinicians **must** wear a minimum of a surgical mask, eye protection and gloves during all patient encounters. If the patient is a PUI, known COVID-19 positive, or if the patient is unable or unwilling to wear a surgical mask, the crew **must** don **full AIRBORNE PPE** protection including an N95 respirator or equivalent, gloves, gown, and eye protection.* **Rationale**: *Limits spread of virus through the respiratory route. Patients with COVID-19 may not be exhibiting signs or symptoms at the time of the encounter.*

Step 6: Document in the MEFIRS run form every individual in the ambulance with the patient (including drivers and students). In addition, if the patient's condition allows and operations permit, please consider documenting EVERYONE within 6 feet of the patient or with prolonged contact (greater than 15 minutes). This may include law enforcement officers, firefighters, etc. Please note the level of PPE being used by the personnel.
Rationale: Excellent documentation of ALL public safety personnel involved in the patient's care allows thorough contact tracing if an asymptomatic or presymptomatic patient is found to be infected with COVID-19. Contact tracing is an essential tool that limits spread of the disease throughout not only the EMS community and the healthcare workers with whom we interface, but our patients, their families and our communities as a whole.

Step 7: Decontaminate the ambulance and all equipment per CDC Guidelines. **Rationale**: *Prevents transmission of disease to EMS clinicians and other patients. Details may be found in the Maine EMS Clinical Updates found on the Maine EMS website.*

Step 8: Notify the receiving hospital as soon as appropriate of the patient and their PUI/COVID status. **Rationale**: *Allows the receiving hospital to prepare for patient arrival.*

*Eye protection, as defined for AIRBORNE precautions, is goggles or a face shield that covers the front and sides of the face. Protective eyewear (e.g., safety glasses, trauma glasses) with gaps between glasses and the face likely do not protect eyes from all splashes and sprays and do **not** provide adequate protection when AIRBORNE precautions are required.

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Pandemic Response Protocol #2, Management of Acute Respiratory Symptoms during COVID-19 Pandemic

Follow PPE guidelines as outlined in Pandemic Response Protocol #1 (Steps #4 and #5) and alert hospital that patient is suspected to have COVID-19

All patients presenting with acute respiratory symptoms, especially respiratory failure, should be considered to be infected with SARS-CoV-2 which causes the disease COVID-19. This includes patients with known asthma, COPD and CHF. This protocol is written to minimize exposure of the disease to the clinician.

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- 1. O_2 as appropriate to maintain SpO2 > 93%
 - a. Nasal cannula (NC) with surgical mask placed over the cannula is the preferred method. May use higher than normal flow rates (up to 7 L/min) if needed to maintain desired oxygen saturation
 - b. If persistently hypoxic despite NC, apply nonrebreather (NRB)
- 2. Assist patient with their own albuterol or albuterol/ipratropium **MDI**^{*, **} with a spacer, if available
 - a. 6-8 **puffs** per dose of MDI, may repeat every 20 minutes, as needed
- 3. If needed, assist ventilations with BVM with 100% O₂; BVM should be equipped with a **HEPA** filter
- 4. Request ALS

AEMT

- 5. Albuterol or albuterol/ipratropium **MDI**^{*, **} with spacer, if available. *Use of the patient's* own MDI is preferred.
 - a. 6-8 puffs per dose of MDI, may repeat every 20 minutes, as needed
- 6. For patients who have moderate to severe respiratory distress/wheezing, consider:
 - a. Adult: EPINEPHrine 0.3 mg IM [0.3 mL of 1 mg/mL] in anterolateral thigh every 20 minutes, or
 - b. **Pediatric** EPINEPHrine (in anterolateral thigh every 20 minutes):
 - i. < 25 kg, 0.15 mg **IM** [0.15 mL of 1 mg/mL],
 - ii. > 25 kg, 0.3 mg **IM** [0.3 mL of 1 mg/mL]



- a. Albuterol 2.5 mg by nebulization (use 3 mL premix or 0.5 mL of 0.5% solution mixed in 2.5 mL of normal saline)
- 8. Consider CPAP^{***} for patients in either of the following 2 categories:
 - a. Patients with a history of CHF whose symptoms are more consistent with an acute exacerbation of CHF (i.e. rales, elevated JVD, increasing lower extremity edema) or
 - b. Patients with COPD who fail to improve with increased O2 flow rate, use of their own inhaler and/or IM EPINEPHrine.

If progression to CPAP is necessary in either of these instances, please alert OLMC.



PARAMEDIC

- 9. Do not administer corticosteroids in patients suspected to have COVID-19 unless they are critically ill.
- 10. Consider Magnesium Sulfate after use of MDIs and IM EPINEPHrine.
 - a. Adult: Magnesium Sulfate 2 grams IV/IO over 10 minutes, consider placing this medication on a pump
 - b. Pediatric: Magnesium Sulfate 50 mg/kg IV/IO with a MAX dose of 2 grams over 10 minutes; consider placing this medication on a pump.



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Pandemic Response Protocol #3, Management of Acute Respiratory Symptoms and Care Considerations during COVID-19 Pandemic

PEARLS for the Management of Acute Respiratory Symptoms during COVID-19 Pandemic

- *Nebulized medications should be avoided if at all possible due to aerosolization of the virus.
- **Metered dose inhalers (MDIs) with spacers are at least as effective, and likely more effective than nebulized medications. Albuterol MDIs are currently in shortage. Use of the patient's albuterol MDI conserves resources.
- ***CPAP is associated with **significantly** increased risk of coronavirus aerosol transmission and EMS clinician exposure.
- Steroids are **not** recommended in these patients as it may slow down the clearance of the virus.
- Non-rebreather masks appear to have the lowest risk of causing aerosolized particle spread and should be considered when clinically appropriate.

PEARLS for Airway Management and Management of Out of Hospital Cardiac Arrest during COVID-19 Pandemic

- Please avoid intubations whenever possible as this procedure generates a significant number of aerosolized particles. Please consider the goals of airway management (Oxygenation/Ventilation/Protection) and begin with less invasive means, pausing at the procedure that meets the patient's immediate needs. The most common clinical scenario that leads to intubation is out-of-hospital cardiac arrest (OHCA). Please consider basic measures (BVM with OPA/NPA) during resuscitation. If additional measures are required in the ROSC phase, begin with supraglottic airways. If this step meets the patient's needs, please do not proceed to intubation. Only consider intubation in the circumstance when the patient is not adequately oxygenated or ventilated or when concerned for airway protection.
- Please consider placing a HEPA filter on the exhalation port of BVMs to reduce exposure to aerosolized particles.
- Please consider pre-donning any necessary PPE to reduce time to EMS CPR.
- For more information, please refer to the Cardiac Arrest and Pandemic Response Protocol

PEARLS for Peripartum Care during COVID-19 Pandemic

- There have been some reports of increasing numbers of home births during the COVID-19 pandemic. While there have NOT been associated reports of increased calls for EMS assistance during this increase in home births, there are important nuances to the management of the newborn in the event that the mother is either a PUI for COVID-19 OR is laboratory confirmed to have the disease. Maine EMS expects that MOST of these instances will be managed in the hospital in an effort to oversee the complexities of this circumstance, however, in the event this is not the case and a child is born to a COVID-19 PUI mother or a mother confirmed to have COVID-19 please consider the following:
- The CDC and the American College of Obstetrics and Gynecology BOTH recommend that heathcare clinicians consider "temporarily separating" the newborn from the COVID-19 PUI mother or COVID-19 confirmed mother. The risks and benefits of temporary separation should be discussed with the mother prior to initiation. Should the mother refuse, document her refusal in the medical record and alert hospital staff on arrival. Consider allowing contact with non-infected immediate relatives if necessary. Follow all steps in the Maine EMS Protocols regarding transport of newborns, which includes the provision of transporting mother and newborn in different ambulances.

https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html

Cardiac Arrest and Pandemic Response Protocol Revised July 27, 2020

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 eye protection*, 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 *Pandemic Response Protocols* are highly effective, especially social distancing and limiting the number of clinicians 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

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 Pandemic Response Protocol, **proper PPE** (airborne precautions) MUST 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 clinicians 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 clinician 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 clinicians.

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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 clinicians 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.

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:
 - i. Intubation should be performed by the clinician 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.
- 4 .Treatment Termination of Resuscitation

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

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