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CLINICAL BULLETIN

Bulletin #	Title		Date Issued
#2020-07-28-01	Updates to the Pandemic Response Protocols		28 July 2020
Superseded	Released By:	Source:	Pages
N/A	Maine EMS	Maine EMS; U.S. CDC	2 Pages and Attachments
Approved By:	J. Sam Hurley, MPH, EMPS, NRP Maine EMS Director	Matthew Sholl, MD, MPH State Medical Director	

The Medical Direction and Practices Board, in response to changing definitions and recommendations by the United States Centers for Disease Control and Prevention, has updated the *Pandemic Response Protocols*. This document highlights and provides rationale behind changes which are effective immediately. Major changes are highlighted in the attached draft of the protocol in blue text.

The *Pandemic Response Protocols* have been renamed, removing “Phase” from the title. Unlike the re-opening phases of the state, where there are clear delineations moving from one phase on to another, our *Pandemic Response Protocols* are continuous, meaning that though we have moved forward to the second part, the first part still applies. Much like our patient care protocols, they provide a continuum, they are additive. The *Pandemic Response Protocol #1* (PRP 1.1) outlines safety, PPE and documentation requirements. This remains in place until retracted by the MDPB. The *Pandemic Response Protocol #2/Management of Acute Respiratory Symptoms during the COVID-19 Pandemic* (PRP 1.2) provides specific changes in patient care that are to be instituted during the Pandemic and again, will remain in place until retracted by the MDPB. In the PEARLS section of this protocol, we refer you to the *Cardiac Arrest and Pandemic Response Protocol* when managing the airway of these patients (PRP 1.3) as the *Cardiac Arrest and Pandemic Response Protocol* was written after the release of the original Pandemic Protocols.

You will notice that the symptom list for COVID-19 has been expanded. This has been updated in PRP 1.1 as well as PRP 2.2. The symptoms that have been added to this list of a PUI are: chills, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea, vomiting, or diarrhea. These symptoms were identified to our EMS clinicians via Clinical Bulletin #2020-01-24-01U7 *Novel Coronavirus (COVID-19) Pneumonia Update*, issued June 16, 2020.

The protocols have been updated to reflect the *Universal Masking for EMS Clinicians requirement* sent out to our EMS clinicians via Operational Bulletins #2020-06-16-01 and its update #2020-06-16-01U1; released on June 16, 2020, updated June 29, 2020 respectively. These changes can be seen in PRP 1.1, step 5. We also emphasize that AIRBORNE precautions **must** be taken for all PUIs and known COVID-positive patients, in patients who are not able to

wear a mask themselves, and in patients undergoing aerosol-generating procedures, including cardiac arrest patients (PRP 1.1 steps 4 and 5, PRP 1.3 PEARLS for airway management, and OHCA PRP1). We further define, at the bottom of PRP 1.1 what proper AIRBORNE precaution eye protection is. We cannot emphasize enough the importance of masking and eye protection for the safety not only of our EMS workforce, but for the susceptible population that we serve. *Proper PPE **must** be worn.*

The MDPB and Maine EMS recognize that these new federal guidelines may require additional equipment purchases and that existing PPE supply chains may be stressed. We understand that there may be delays in coming into full compliance with this protocol, particularly obtaining necessary equipment, but *it is expected that all agencies will be compliant by September 1, 2020.*

Documentation requirements have been added to PRP 1.1 (step 6) so that contact tracing may occur if a patient is found to be COVID positive. We know that each patient encounter requires documentation (Brown 2), which should include the names of providers on scene who provide patient care. However, the MDPB further requests that the names of all individuals who provided care or were within 6 feet of the patient are documented as well. This is necessary so that timely contact tracing may be performed in the case where a patient is found to be positive for COVID-19. Contact tracing is an essential tool that limits spread of the disease throughout not only the EMS community and healthcare workers with whom we interface, but our patients, their families and our communities as a whole.

Lastly, you will notice that we have updated the *Home Care Instructions* (PRP 2b) as well as the *Infection Control instructions* (PRP 2c) to reflect the current CDC guidelines, specifically around the recommendations of universal masking.

We continue to learn more about this disease daily, sometimes hourly. We will strive to keep you updated on clinical recommendations in a timely manner via bulletins from the office as well as protocol updates. Please do not hesitate to reach out to the office with any questions.

Attachments:

- Pandemic Response Protocol
- Pandemic Response Protocol – Management of Acute Respiratory Symptoms during COVID-19 Pandemic
- Pandemic Response Protocol – Low Risk Patient Disposition During Hospital Surge
- Maine EMS Pandemic Response Home Care Instructions
- Cardiac Arrest and Pandemic Response Protocol

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.

E A P

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.

EMT

1. O₂ 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]
7. Restrict nebulizer treatments to patients who are exhibiting signs of moderate to severe bronchospasm/wheezing. Again, MDI is the preferred route for medication administration.
 - 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.



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 healthcare 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>

Pandemic Response - Low Risk Patient Disposition

During Hospital Surge # 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: Widespread disease in Maine communities with strain on hospitals.

THIS PROTOCOL IS ONLY AUTHORIZED FOR PATIENTS WITH SIGNS OR SYMPTOMS CONSISTENT WITH COVID-19, including 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.

EMT/ADVANCED EMT/PARAMEDIC - Follow all steps listed in the *Pandemic Response Protocol (PRP 1.1, page 161)*, including PPE, social distancing, & limiting clinicians exposed to the patient.

Goal: To allow Maine EMS personnel to make decisions regarding patient disposition in the midst of the 2020 COVID-19 pandemic with the assistance of On-Line Medical Control.

This protocol is to be used for patients 16 years and older. It uses a physiologic scoring system called the *Pandemic Medical Early Warning System (PMEWS)* which was created to assist in the decision making regarding a patient's necessity for admission to a higher level of care. It is based on vital signs, including respiratory rate, O₂ saturation, heart rate, blood pressure, temperature, and neurologic status. This score, in combination with history of red flags or burden of chronic disease, helps determine which patients require immediate medical care, delayed medical care, or home care.

EMS clinicians **MUST** consult with On-Line Medical Control before deciding **not** to transfer a patient. If the patient is not transferred, they must be provided with discharge instructions including: Home Care Instructions (**PRP 2a, page 167**), Return to Care Instructions (**PRP 2b, page 168**), and Infection Control Instructions (**PRP 2c, page 169**).

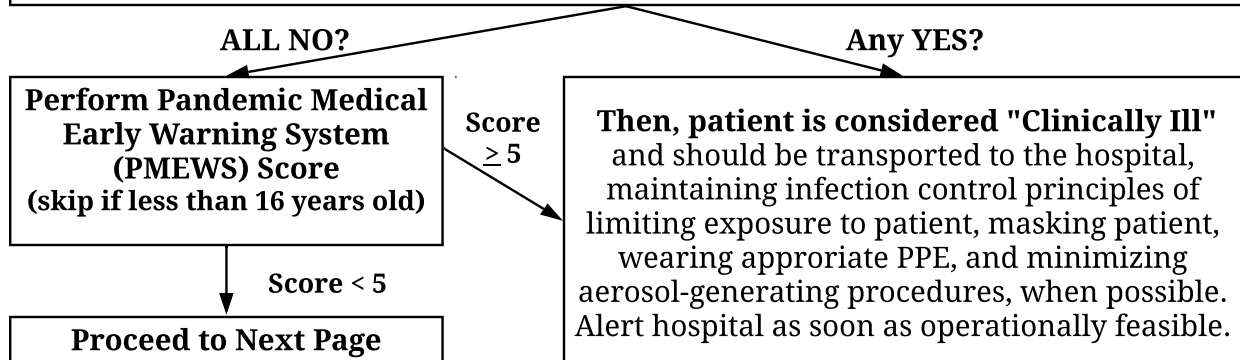
For children under 16 years old , consider the severity of disease, DO NOT PERFORM THE PMEWS, and proceed to PRP 2.3 (page 166)

E A P

Pandemic Response - Low Risk Patient Disposition During Hospital Surge # 2

E A P

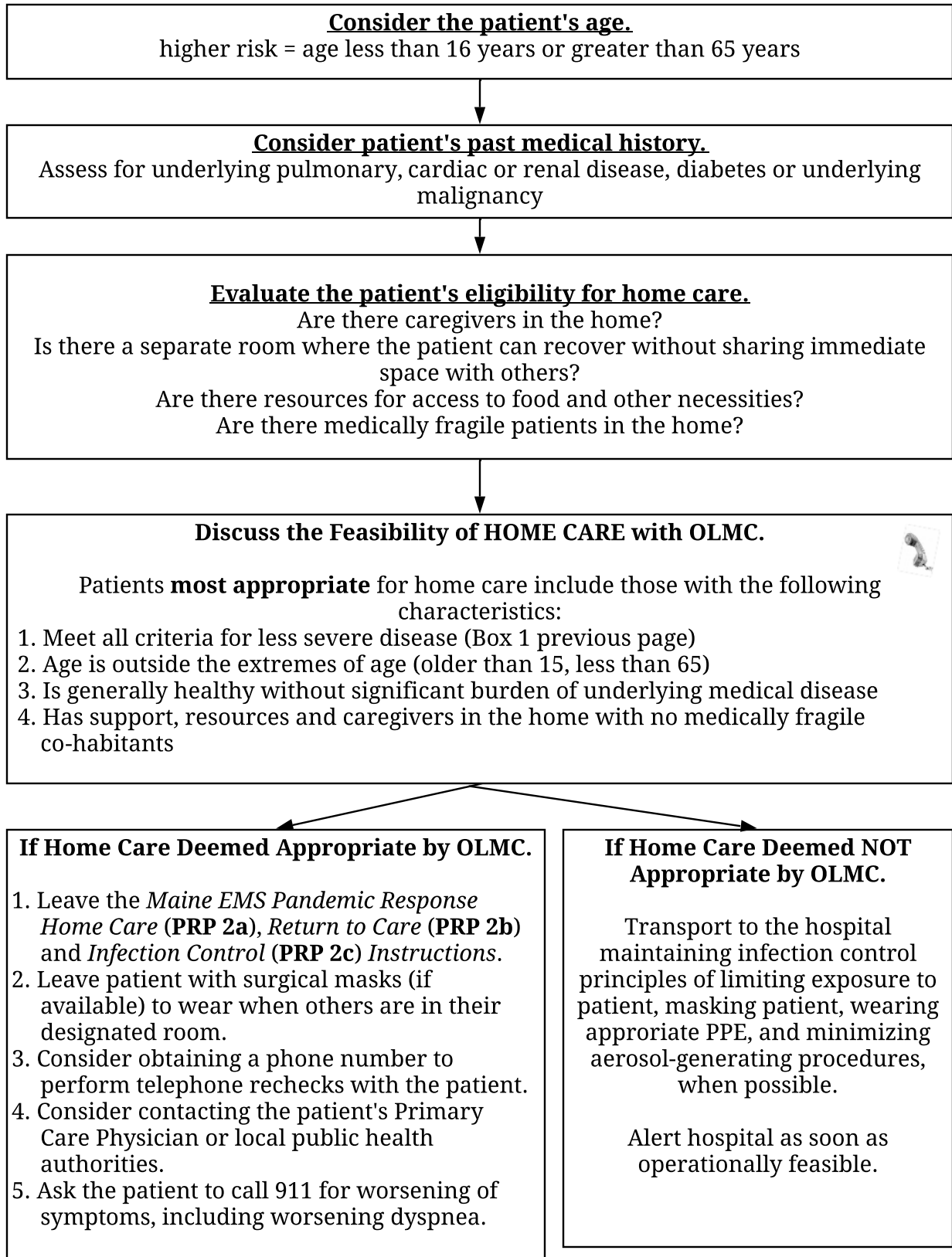
Evaluate patient for severity of disease:		YES	NO
1. Respiratory Distress?	- severe shortness of breath, - unable to finish a sentence in one breath - use of accessory muscles	☐	☐
2. Increased Respiratory Rate?	over 30 breaths per minute in an adult.	☐	☐
3. Oxygen Saturations less than 93% on room air?		☐	☐
4. Respiratory Exhaustion?		☐	☐
5. Evidence of Severe Dehydration or Shock?	- SBP less than 90 mmHg and/or DBP less than 60 mmHg - reduced skin turgor, - severely dry mucous membranes, - dizziness on postural changes	☐	☐
6. Changes in Mental Status?	Any alteration of mental status, agitation, seizures, drowsiness, etc.	☐	☐
7. Chest pain		☐	☐
8. Patient with worsening symptoms? (Especially in second week of illness)		☐	☐
9. Any history of immunosuppression?	Patients treated for HIV, patients receiving chemotherapy, transplant patients, autoimmune disease or immunosuppressive therapy.	☐	☐



Pandemic Medical Early Warning System (PMEWS) Score							
Score	3	2	1	0	1	2	3
RR	<8			9-18	19-25	26-29	>30
O2 Sat	<89	90-93	94-95	>95			
Pulse	<40	41-50		51-100	101-110	111-129	>130
SBP	< 70	71-90	91-100	>100			
Temp (C)		<35	35.1-36	36.1-37.9	38-38.9	> 39	
Neuro				Alert	Confused Agitated	Responsive to Voice	Responsive to Pain

Pandemic Response - Low Risk Patient Disposition During Hospital Surge # 3

(continued from PRP 2.2)



E A P

Maine EMS Pandemic Response Home Care Instructions



For more information: www.cdc.gov/COVID19

What to do if you are sick with coronavirus disease 2019 (COVID-19)

If you are known to have COVID-19 infection, are awaiting the results of testing, or suspect you have been infected, please follow the steps below to help prevent the disease from spreading to other people in your home and community:

Stay home except to get medical care

Do not go to work, school, or public areas. Avoid using public transportation, ride-sharing, or taxis.

Call ahead before visiting your doctor

Tell the office that you have or may have COVID-19. This helps them take steps to keep other people safe.

Separate yourself from others at home

Stay in a specific room away from other people and pets. If possible, use a separate bathroom. Avoid touching your eyes, nose, and mouth.

Wear a facemask if you are sick

If you are sick: You should wear a facemask when you are around other people (e.g., sharing a room or vehicle) or pets and before you enter a healthcare clinician's office.

If you are caring for others: If the person who is sick is not able to wear a facemask (for example, because it causes trouble breathing), then people who live with the person who is sick should not stay in the same room with them, or they should wear a facemask if they enter a room with the person who is sick.

Clean your hands often

Wash hands: Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing; going to the bathroom; and before eating or preparing food.

Hand sanitizer: If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol, covering all surfaces of your hands and rubbing them together until they feel dry.

Soap and water: Soap and water are the best option if hands are visibly dirty.

Avoid touching: Avoid touching your eyes, nose, and mouth with unwashed hands.

Cover your coughs and sneezes

Cover your mouth and nose with a tissue when you cough or sneeze. Throw used tissues in a lined trash can; immediately wash your hands with soap and water or clean your hands with an alcohol-based hand sanitizer that contains at least 60% alcohol.

Avoid sharing personal household items

Do not share dishes, drinking glasses, cups, eating utensils, towels, or bedding with other people or pets in your home. Clean items with soap and water.

Clean all "high touch" surfaces regularly

Use a household cleaning spray or wipe, according to the label instructions. Labels contain instructions for safe and effective use of the cleaning product including precautions you should take when applying the product, such as wearing gloves and making sure you have good ventilation during use of the product.

Monitor your symptoms

Seek medical attention if your illness is worsening (e.g., difficulty breathing). **Before** seeking care, call your healthcare clinician and tell them that you have, or are being evaluated for, COVID-19.

Persons who are placed under active monitoring or facilitated self-monitoring should follow instructions provided by their local health department or occupational health professionals. If you have a medical emergency and need to call 911, notify the dispatch personnel that you have, or are being evaluated for COVID-19. If possible, put on a facemask before emergency medical services arrive.

Discontinuing home isolation

Patients with confirmed COVID-19 should remain under home isolation precautions until the risk of secondary transmission to others is thought to be low. The decision to discontinue home isolation precautions is made on a case-by-case basis, in consultation with healthcare clinicians and state and local health departments.

From: <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html>



For more information: www.cdc.gov/COVID19

What to do if your symptoms worsen from coronavirus disease 2019 (COVID-19)

If you develop **emergency warning signs** for COVID-19, seek **medical attention immediately**.

If you call 911, let the dispatcher know if you have COVID-19, are awaiting test results or suspect that you have been infected.

Emergency warning signs include:*

1. **Difficulty breathing or shortness of breath**
2. **Persistent pain or pressure in the chest**
3. **New confusion or inability to arouse**
4. **Bluish lips or face**
5. **Lightheadedness or feeling faint**

*** This list is not all inclusive. Please consult your primary medical clinician for any other symptoms that are severe or concerning**

https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Fsymptoms.html

Maine EMS Pandemic Infection Control Instructions



For more information: www.cdc.gov/COVID19

Infection control strategies to prevent coronavirus disease 2019 (COVID-19)

If you or your loved one are known to have the COVID-19 infection, are awaiting the results of testing, or suspect you have been infected, please consider these steps to decrease spread of COVID-19:

Clean your hands often

- **Wash your hands** often with soap and water for at least 20 seconds especially after you have been in a public place, or after blowing your nose, coughing, or sneezing.
- If soap and water are not readily available, **use a hand sanitizer that contains at least 60% alcohol**. Cover all surfaces of your hands and rub them together until they feel dry.
- **Avoid touching your eyes, nose, and mouth** with unwashed hands.

Avoid close contact

- **Avoid close contact** with people who are sick
- Put **distance between yourself and other people** if COVID-19 is spreading in your community.

Stay home if you are sick

- **Stay home** if you are sick, except to get medical care.

Cover coughs and sneezes

- **Cover your mouth and nose** with a tissue when you cough or sneeze or use the inside of your elbow.
- **Throw used tissues** in the trash.
- Immediately **wash your hands** with soap and water for at least 20 seconds. If soap and water are not readily available, clean your hands with a hand sanitizer that contains at least 60% alcohol.

Cover your mouth and nose with a cloth face covering when around others

- You could spread COVID-19 to others even if you do not feel sick.
- The cloth face covering is meant to protect other people in case you are infected.
- Everyone should wear a cloth face covering in public settings and when around people who don't live in your household, especially when other social distancing measures are difficult to maintain.
- Do NOT use a facemask meant for a healthcare worker. Currently, surgical masks and N95 respirators are critical supplies that should be reserved for healthcare workers and other first responders.
- Continue to keep at least 6 feet between yourself and others. The cloth face covering is not a substitute for social distancing.

Clean and disinfect

- **Clean AND disinfect frequently touched surfaces daily**. This includes tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, and sinks.
- **If surfaces are dirty, clean them**: Use detergent or soap and water prior to disinfection.

Cardiac Arrest and Pandemic Response Protocol

Revised July 20, 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 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.

Continued

Cardiac Arrest and Pandemic Response Protocol, #2

Continued from previous page



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**)

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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