



### EMS Information Bulletin 2020-19

**DATE:** April 29, 2020

**SUBJECT:** Revised Interim Guidance for Cardiac Arrest Treatment by EMS in a Patient with Suspected COVID-19

**TO:** EMS Agencies  
EMS Agency Medical Directors

**Thru:** Dylan J. Ferguson, Director  
Bureau of EMS

**FROM:** Douglas Kupas, MD, Commonwealth EMS Medical Director  
Bureau of EMS

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**This interim guidance will supersede and replace the guidance in EMSIB 2020-18. Every EMS agency/agency medical director should work with their stakeholders to operationalize appropriate recommendations from this document to best fit their local situation.**

The Bureau of EMS (Bureau) is providing this Informational Bulletin to give interim guidance on best practices in cardiac arrest care for patients with suspected COVID-19 infection. **EMS providers should continue to follow the Pennsylvania Cardiac Arrest and Post-ROSC Protocols – BLS #322, 324, 331A/P, 332, and 333; AEMT #3031iA/P, 3032i, 3035i; and ALS #3031A/P, 3032, 3033P, 3035, 3080, 3091. While providers must be cautious about using PPE, viral filters, and other precautions during CPR and other aerosol-generating procedures, it is important to provide optimal treatment to patients with sudden cardiac arrest from etiologies other than COVID-19 infection.**

Our statewide cardiac arrest protocols already have many good practices that are appropriate for suspected COVID-19 patients, like emphasis on generally transporting only patients who attain ROSC (Return of Spontaneous Circulation) and not those with ongoing CPR without ROSC. These practices are good care to increase survival, but in the era of COVID-19, they also keep from potentially spreading disease and stressing emergency departments.

Below is a summary of considerations for treating cardiac arrest in patients with suspected COVID-19 infection:

- Cardiac arrest care, including chest compressions and airway management, are aerosol-generating procedures. EMS medical directors and agency leaders should determine how these considerations may be applied within the EMS agency. Due to the difficulty in determining which cardiac arrest patients may be at risk of transmitting coronavirus, agencies may prefer to use some of these considerations in all cardiac arrest care while COVID-19 cases are occurring locally. Personal Protective Equipment
  - Standard, contact, and airborne precautions

- CPR, assisting ventilations, and placing advanced airways are aerosol-generating procedures. N95 masks or equivalent are required, in addition to eye protection, gown, and gloves. Do not perform CPR without respiratory precautions in place.
- Treatment
  - For patients with known recent history of respiratory illness and fever or possible COVID-19 infection, treat according to Statewide Cardiac Arrest Protocols, AND:
    - Attach a viral HEPA filter between the bag-valve and any ventilatory device (BVM mask or advanced airway).
    - There is controversy about risk of aerosol when comparing placing an endotracheal tube versus ventilating through an alternative airway (King LT or iGel). Placing an alternative airway under a clear drape may have the least risk of aerosol. EMS agency medical directors should define the expectation for advanced airway management in these patients.
    - If available, consider placing a clear drape (medical drape, shower curtain, or drop cloth, over the patient's face and head to reduce exposure to aerosolized secretions
      - BVM ventilation and advanced airway placement can occur under the drape.
      - CAUTION – FIRE RISK: Most of these patients should not have a shockable rhythm, but if using a drape, ensure that it does not accumulate oxygen and that defibrillation pads are not under the drape during defibrillation.
      - After call, dispose of drape as if contaminated.
    - When CPR is being performed, only necessary personnel should be next to the patient. Personnel should distance themselves when not performing interventions.
    - If no ROSC after CPR for >10 minutes with nonshockable rhythm in a patient with suspected COVID-19 as cause of cardiac arrest, consider contacting medical command for possible termination of resuscitation orders.
    - Patients in continuous cardiac arrest should not be transported, regardless of use of mechanical CPR device. If ROSC is not obtained, field termination of CPR should be done through contact with medical command.
      - If ROSC is obtained, transport should be delayed for approximately 10 minutes by completing patient care in the Statewide Post-ROSC Protocol before moving the patient to the ambulance compartment. This will help ensure that ROSC is sustained and that the patient is more stable for transport by optimizing blood pressure and oxygen saturation before initiating transport.
      - If patients with ROSC are transported, the ED should be notified as soon as possible so an appropriate room can be prepared.
  - For witnessed arrests inside the patient care compartment:

- Pull vehicle to a safe space to park, and perform resuscitation in full PPE, with doors OPEN.
- If close to the receiving facility, medical command may order continued transport to the hospital, as long as all personnel in the patient compartment have sufficient full PPE (including N95 mask or equivalent) in place.
- Field termination in the back of the ambulance by medical command order is valid and should be considered if no ROSC after CPR for >10 minutes with nonshockable rhythm in a patient with suspected COVID-19 infection as cause of cardiac arrest. If this occurs, as with other field termination, contact the county coroner/medical examiner before moving for direction on destination.
  - Agency leaders should discuss procedures for field termination during transport with the county coroner or medical examiner's office proactively before this practice. County officials may vary on whether they will permit a field termination with subsequent diversion to a county or hospital morgue.