



# Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for 2019-nCoV in the United States<sup>1</sup>

*Updated March 20, 2020*

This document is designed to provide Emergency Medical Services (EMS) practitioners with guidance regarding the outbreak of 2019 Novel Coronavirus (COVID-19) that began in Wuhan City, Hubei Province, China in December 2019 which has become widespread<sup>2</sup>. This guidance serves as a reference for general considerations and protection of responders. When preparing for and responding to patients with confirmed or possible coronavirus disease 2019 (COVID-19), close coordination and effective communications are important among 911 Public Safety Answering Points (PSAPs)—commonly known as 911 call centers, the EMS system, healthcare facilities, and the public health system. Each PSAP and EMS system should seek the involvement of an EMS medical director to provide appropriate medical oversight. For the purposes of this guidance, “EMS clinician” means prehospital EMS and medical first responders. When COVID-19 is suspected in a patient needing transport, prehospital care providers and healthcare facilities should be notified in advance that they may be caring for, transporting, or receiving a patient who may have COVID-19.

For updates and additional information regarding COVID-19, please visit the following web pages:

CDC: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

CDPHE: <https://covid19.colorado.gov>

Colorado EMS Google drive: <https://drive.google.com/drive/folders/1k6ut0mw4rIGf3xr3f433xolmDwtkeqww>

Infection prevention and control recommendations:

<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html>.

Additional information for healthcare personnel can be found at:

<https://www.cdc.gov/coronavirus/2019-nCoV/guidance-hcp.html>

Note that this information is changing rapidly and you should go back to recheck these resources regularly.

## Recommendations for PSAPs

PSAPs or Emergency Medical Dispatch (EMD) centers (as appropriate) should question callers and determine the possibility that this call concerns a person who may have signs or symptoms and risk factors for COVID-19. The query process should never supersede the provision of pre-arrival instructions to the caller when immediate lifesaving interventions (e.g., CPR or the Heimlich maneuver) are indicated. Nurse lines and telehealth can also provide a valuable resource for some patients and more information can be found at:

<https://covid19.colorado.gov/telehealth-and-nurselines>

<sup>1</sup> Adapted from CDC Interim Guidance for Emergency Medical Services (EMS) and 911 Public Safety Answering Points for 2019-nCoV in the U.S. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>

<sup>2</sup> High risk countries are those with community transmission of COVID-19. These countries are listed on CDC's travel website. <https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html>

Utilization of tools such as an Emerging Infectious Disease Surveillance (EIDS) may assist medical dispatch in the identification of persons at risk for COVID-19 (link: [https://prioritydispatch-media.s3.amazonaws.com/prioritydispatch.net/pdf/NAE-EIDS\\_Tool\\_v6-0-0.pdf](https://prioritydispatch-media.s3.amazonaws.com/prioritydispatch.net/pdf/NAE-EIDS_Tool_v6-0-0.pdf)). PSAPs, medical directors, and EMS agencies should consider development of plans for triage and responses during epidemic or pandemic outbreaks of COVID-19. Refer to the following link of an example protocol used for pandemic flu: <https://www.emergencydispatch.org/sites/default/files/downloads/flu/NAE%20CC%2036.pdf>

## Patient Assessment

If PSAP call takers advise that the patient is suspected of having COVID-19, EMS clinicians should put on appropriate PPE before entering the scene. EMS clinicians should consider the signs, symptoms, and risk factors of COVID-19 (<https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>).

If information about potential for COVID-19 has not been provided by the PSAP, EMS clinicians should exercise appropriate precautions when responding to any patient with signs or symptoms of a respiratory infection. Initial assessment should begin from a **distance of at least 6 feet from the patient**, if possible. Patient contact should be minimized to the extent possible until a facemask is on the patient. If COVID-19 infection is suspected, all PPE as described below should be used. If COVID-19 infection is not suspected, EMS clinicians should follow standard procedures and use appropriate PPE for evaluating a patient with a potential respiratory infection.

A facemask should be worn by the patient for source control and placed as soon as possible. If patients can follow commands, surgical masks may be thrown to the patients for self-application. If a nasal cannula is in place, a facemask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated. If the patient requires intubation, see below for additional precautions for aerosol-generating procedures.

## Recommended Personal Protective Equipment (PPE)

EMS clinicians who will directly care for or in the compartment with the patient with possible COVID-19 infection should follow Standard, Contact, and Airborne Precautions, including the use of eye protection. The number of providers in contact with the patient should be limited to those only necessary for care.

### Recommended PPE includes:

- **N-95 or higher-level respirator or facemask** (if a respirator is not available)
  - N95 respirators or respirators that offer a higher level of protection should be used instead of a facemask when performing or present for an aerosol-generating procedure. When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.
- **A single pair of disposable patient examination gloves**. Change gloves if they become torn or heavily contaminated.
- **Gown**
  - If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of EMS clinicians (e.g., moving patient onto a stretcher).
- **Eye protection** (i.e., goggles or disposable face shield that fully covers the front and sides of the face). Personal eyeglasses and contact lenses are NOT considered adequate eye protection.

## Unit Preparation Prior to Transport

All exposed items that will not be used within the patient compartment need to be stowed in an outside compartment or protected position. Any exposed item will need to be thoroughly decontaminated after transport otherwise.

During transport, limit the number of providers in the patient compartment to essential personnel to minimize possible exposures. Drivers, if they provide direct patient care (e.g., moving patients onto stretchers), should wear all recommended PPE. After completing patient care and before entering an isolated driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene to avoid soiling the compartment. Family members and other contacts of patients with possible COVID-19 should **not** ride in the transport vehicle, if possible. If riding in the transport vehicle, they should wear a facemask.

When possible, use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area:

- Close the door/window between these compartments before bringing the patient on board.
- During transport, vehicle ventilation in both compartments should be on non-recirculated mode to maximize air changes that reduce potentially infectious particles in the vehicle.
- If the vehicle has a rear exhaust fan, use it to draw air away from the cab, toward the patient-care area, and out the back end of the vehicle.
- Some vehicles are equipped with a supplemental recirculating ventilation unit that passes air through HEPA filters before returning it to the vehicle. Such a unit can be used to increase the number of air changes per hour (ACH) (<https://www.cdc.gov/niosh/hhe/reports/pdfs/1995-0031-2601.pdf>)
- If a vehicle without an isolated driver compartment and ventilation must be used, open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to the highest setting. This will create a negative pressure gradient in the patient area.

If the transport vehicle does **not** have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. A respirator should continue to be used during transport. All personnel should avoid touching their face while working.

### EMS Transport Infection Control

Patient is required to have a surgical mask in place prior to transport and attending provider must be in full PPE. Providers in the patient compartment will be limited to essential personnel to minimize possible exposures. All non-essential loose items in the ambulance should be stowed or they will need to be decontaminated. **The laptop SHOULD NOT BE used in the back of the ambulance during transport of a presumptive COVID-19 case as this has been identified as a significant risk factor for secondary transmissions.** The laptop should remain in the front of the units and all documentation should be done after the patient has been transferred and the unit has been completely decontaminated. Family members and other contacts of COVID-19 patients should not ride in the transport vehicle.

### Aerosol Generating Procedures (AGP's)

EMS clinicians should exercise caution if an aerosol-generating procedure (e.g., bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, laryngoscopy, supra-glottic airway (SGA) insertion, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR)) is necessary and should be avoided unless the patient presents with respiratory failure.

- BVMs and other ventilatory equipment should be equipped with HEPA filtration as available.
- EMS agencies should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- **Advanced airway:** If an advanced airway is necessary, supra-glottic airways (SGA) may produce less aerosolization than endotracheal intubation (ETT) with insertion. For longer transports or anticipated air transportation of the patient, ETT may be preferred as it maximizes tracheal seal of the airway.
- **Asthma:** For a severe asthma exacerbation with suspected COVID-19 illness, consider administration of IM epinephrine (caution in known CAD/CABG) and IV magnesium instead of nebulized treatment. If an MDI is available, a spacer is recommended and the treatment should be performed prior to transport and brought to the hospital for further therapy as needed.

- **Oxygen:** Give supplemental oxygen therapy immediately to patients with severe acute respiratory infection and respiratory distress, hypoxemia or shock and target saturations > 88% if intubated. High-flow nasal oxygen (HFNO), oxygen face masks, or Non-invasive ventilation (NIV) such as CPAP should only be used in selected patients with respiratory failure and with airborne precautions (respirator mask and face shield with full PPE).
- **Steroids:** Neither the CDC nor the WHO has recommended steroid administration for viral pneumonia. In general, steroid therapy does not appear to add any clinical outcome benefits in the treatment of COVID-19 infection. As well, steroid therapy may slow down clearance of the virus. The decision to use steroids in a patient during the COVID-19 outbreak should be based on patient individual presentation and best clinical judgement, if there is another indication for steroids such as COPD exacerbation. Generally, steroids should be avoided unless they are indicated for another reason such as exacerbation of asthma or COPD.

**References:**

1. Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected: Interim guidance V 1.2. [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)
2. Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19) <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html#minimize>
3. Italy (2020-03-13) Guidelines for the treatment of people with COVID-19 disease Edition 2.0, 13 March 2020 <https://covid.idwiki.org/books/protocols/page/italy-%282020-03-13%29>
4. Consensus statement: Safe Airway Society principles of airway management and tracheal intubation specific to the COVID-19 adult patient group <https://www.mja.com.au/journal/2020/212/10/consensus-statement-safe-airway-society-principles-airway-management-and>

N-95 or higher-level respirator in addition to a face shield should be worn in addition to the other PPE described above, for EMS clinicians present for or performing aerosol-generating procedures.

If an AGP must be utilized it should be done in a well-ventilated room, outside, or in the back of the ambulance before transport with the HVAC system operating and all doors to the patient compartment fully opened to maximize airflow.

**Receiving Hospital Notification and Transfer of Care**

Please notify the receiving hospital of a presumed positive case by providing them with the following information: respiratory/breathing symptoms and severity, known travel status to affected area, specific area and time of travel, close/direct exposure to someone with travel history to affected area and specific area and time of travel if known.

Follow routine procedures for a transfer of the patient to the receiving healthcare facility (e.g., wheel the patient directly into an examination room).

On arrival, after the patient is released to the facility and ambulance has been decontaminated, EMS clinicians should remove and discard PPE and perform hand hygiene. Used PPE should be discarded in accordance with routine procedures.

Other required aspects of Standard Precautions (e.g., injection safety, hand hygiene) are not emphasized in this document but can be found in the guideline titled [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#).

**Post Transport Decontamination of Units**

After transporting the patient, leave the rear doors of the transport vehicle open to allow time for sufficient air changes to remove potentially infectious particles. All personnel involved in active decontamination must have full **PPE** while conducting decontamination of the unit. A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated.

Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle. Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for COVID-19 in healthcare settings, including those patient-care areas in which AGPs are performed.

Products with EPA-approved emerging viral pathogens claims are recommended. Refer to: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2> on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.

Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have come in contact with the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital grade disinfectant in accordance with the product label. Clean and disinfect reusable patient-care equipment before use on another patient, according to manufacturer's instructions.

Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste. After decontamination procedures all PPE should be doffed in the ambulance bay area and bagged for disposal. Standard disposal procedures can be utilized

Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.

## **Documentation of Patient Care**

Documentation of patient care should be done after EMS clinicians have completed transport, removed their PPE, and performed hand hygiene.

Any written documentation should match the verbal communication given to the emergency department providers at the time patient care was transferred.

EMS documentation should include a listing of EMS clinicians and public safety providers involved in the response and level of contact with the patient (for example, no contact with patient, provided direct patient care) and the PPE used by each clinician and provider who had contact with the patient. This documentation may need to be shared with local public health authorities.

## **EPCR Documentation Guidance for COVID-19 Related EMS Responses**

The Colorado Department of Public Health and Environment (CDPHE) and the Emergency Medical and Trauma Services (EMTS) Branch are working with federal, state, and local partners to facilitate consistent response documentation in the EMS Electronic Patient Care Report (ePCR) system. All licensed ground and air ambulance agencies are encouraged to utilize the following guidance for documenting COVID-19 related EMS responses:

### **Potential Exposures**

If EMS Personnel have a potential exposure during patient care, then this should be documented properly on the ePCR using the following NEMSIS data elements:

- Suspected EMS Work Related Exposure, Injury, or Death (eOther.05) - select 'Yes' (9923003)
- The Type of Work-Related Injury, Death or Suspected Exposure (eOther.06) - select 'Exposure-Airborne Respiratory/Biological/Aerosolized Secretions' (4506007)

These are NEMSIS required data elements that should be present in all V3 NEMSIS compliant ePCR software products and can be used to track field exposures, quarantines, and isolation protocols at the agency level. For guidance on potential exposures, please follow the CDC recommendations found in the [Interim Guidance for Emergency Medical Services \(EMS\) Systems and 911 Public Safety Answering Points \(PSAPs\) for COVID-19 in the United States](#).

### **Personal Protective Equipment Used**

EMS Personnel should record what Personal Protective Equipment (PPE) was used on each patient by each crew member by recording the appropriate choice in Personal Protective Equipment Used (eOther.03). This is a multi-select field, so EMS crew members should record any and all PPE that they use related to the Patient.

The current NEMSIS standard includes:

- 'Gloves' (4503003)
- 'Mask-N95' (4503015)

There is not a NEMSIS selection for 'Gown', therefore, it is encouraged that software vendors add an additional selection 'Gown', and map it to 'Other' (4503019) upon export so that users may track PPE utilization at the agency level.

### **Symptoms**

EMS Personnel should use consistent documentation of signs and symptoms found in COVID-19 related EMS responses as these elements can be used for bio surveillance at the local, state, and national level. The following ICD-10-CM codes have been suggested at the national level for Primary Symptom (eSituation.09) and Other Associated Symptoms (eSituation.10):

- 'Cough' (R05)
- 'Shortness of Breath' (R06.02)
- 'Fever, unspecified' (R50.9)

### **Narrative**

EMS Personnel should consistently include the term "COVID-19" or "Coronavirus" in the Narrative (eNarrative.01) for any COVID-19 related incident such as contact with patient that: has a confirmed positive COVID-19 test, has an exposure to a confirmed patient, or is a suspected case.

For additional questions about documentation in the ePCR, please reach out to Amber Viitanen at [amber.viitanen@state.co.us](mailto:amber.viitanen@state.co.us) or 720.633.5653.

### **Infectious Exposure Guidance**

EMS units should have infection control policies and procedures in place, including describing a recommended sequence for safely donning and doffing PPE.

EMS clinicians should be educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and environment during the process of removing such equipment.

EMS clinicians should be medically cleared, trained, and fit tested for respiratory protection device use or trained in the use of an alternative respiratory protection device (Powered Air-Purifying Respirator, PAPR, half-masks, etc) whenever respirators are required. OSHA has a number of [respiratory training videos](#) [external icon](#)



EMS clinicians should be aware of the follow-up and/or reporting measures they should take after caring for patient with suspected or confirmed COVID-19:

- Local public health authorities should be notified about the patient so appropriate follow-up monitoring can occur. EMS agencies should develop policies for assessing exposure risk and management of EMS personnel potentially exposed to COVID-19 in coordination with state or local public health authorities. Decisions for monitoring, excluding from work, or other public health actions for HCP with potential exposure to COVID-19 should be made in consultation with state or local public health authorities. Refer to the Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 (COVID-19) for additional information.
- For guidance on return to work, refer to: <https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/hcp-return-work.html>
- EMS agencies should develop sick-leave policies for EMS personnel that are nonpunitive, flexible, and consistent with public health guidance. Ensure all EMS personnel, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick-leave policies.
- EMS personnel who have been exposed to a patient with suspected or confirmed 2019-nCoV should notify their chain of command to ensure appropriate follow-up unless the EMS personnel had full PPE donned during this exposure.
  - Any unprotected exposure (e.g., not wearing recommended PPE) should be reported to occupational health services, a supervisor, or a designated infection control officer for evaluation.
  - EMS clinicians should be alert for fever or respiratory symptoms (e.g., cough, shortness of breath, sore throat). If symptoms develop, they should self-isolate and notify occupational health services and/or their public health authority to arrange for appropriate evaluation.

## COVID-19 Testing

Based upon the needs of your community, healthcare system, or agency, you may perform nasal/oral swab sampling for testing of COVID19. There has been emergency expansion of scope of practice for all EMS certification levels (EMT to Paramedic) to perform these nasal/oral swab samples for suspected cases of COVID 19 while wearing required PPE as above. Nasal swab sampling may be sufficient for submitting the sample for testing. Training for the nasal and/or oral swabs must be performed prior to performing the test which can be found along with other guidance documents at:

<https://drive.google.com/drive/folders/1k6ut0mw4rIGf3xr3f433xolmDwtkeqww>

## PPE Supply

Local cooperation to share stock or redistribution of PPE across facilities and agencies according to availability and need is encouraged. Local emergency managers and local public health agencies should be consulted when considering related strategies. Alerting your local ESF-8 contact should be pursued when stock on hand is expected to provide five days of supply -- before crisis levels are reached. ESF-8 contacts can be found with Colorado Department of Homeland Security & Emergency Management at:

<https://www.colorado.gov/pacific/dhsem/local-emergency-managers>

## Additional Resources

The EMS Infectious Disease Playbook, published by the Office of the Assistant Secretary for Preparedness and Response's Technical Resources, Assistance Center, Information Exchange (TRACIE) is a resource available to planners at <https://www.ems.gov/pdf/ASPR-EMS-Infectious-Disease-Playbook-June-2017.pdf>.

