

# 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 (COVID-19)

March 7, 2020

Summary of Recent Changes

**Update: This Interim Guidance was updated on March 7, 2020 to make the following changes:**

- - **Updating recommendations regarding HCP contact tracing, monitoring, and work restrictions in selected circumstances. These include allowances for asymptomatic HCP who have had an exposure to a COVID-19 patient to continue to work after options to improve staffing have been exhausted and in consultation with their occupational health program. (See Additional Considerations and Recommendations at the end of the document)**
  - **Removed requirement under “self monitoring with delegated supervision” for healthcare facilities to actively verify absence of fever and respiratory symptoms when healthcare personnel (HCP) report for work. This is now optional.**
  - **Simplified risk exposure categories based on most common scenarios with focus on presence/absence of source control measures; use of personal protective equipment (PPE) by HCP; and degree of contact with the patient (i.e., prolonged versus brief)**
  - **Added language advising HCP to inform their occupational health program if they have travel or community-associated exposures as defined in [Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus](#)**

## Disease (COVID-19) Exposure in Travel-associated or Community Settings.

### Background

Coronaviruses are a large family of viruses that are common in humans and in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with [SARS-CoV](#), MERS-CoV, and now with SARS-CoV-2.

Published and early reports suggest spread from person-to-person most frequently happens during close exposure to a person infected with COVID-19. Person-to-person appears to occur similar to other respiratory viruses, mainly via respiratory droplets produced when an infected person coughs or sneezes. These droplets can land in the mouths, noses, or eyes of people who are nearby or possibly be inhaled into the lungs. Although not likely to be the predominant mode of transmission, it is not clear the extent to which touching a surface contaminated with the virus and then touching the mouth, nose, or eyes contributes to transmission.

### Purpose

This interim guidance is intended to assist with assessment of risk, monitoring, and work restriction decisions for HCP with potential exposure to COVID-19. For guidance on assessment and management of exposure risk in non-healthcare settings, refer to the [Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease \(COVID-19\) Exposure in Travel-associated or Community Settings](#). The guidance for non-healthcare settings can also be used to identify the movement, public activity and travel restrictions that apply to the HCP included here.

Because of their often extensive and close contact with vulnerable individuals in healthcare settings, a conservative approach to HCP monitoring and restriction from work was taken to quickly identify early symptoms and prevent transmission from potentially contagious HCP to patients, HCP, and visitors. The signs and symptoms<sup>2</sup> described in this guidance are broader than those described when assessing exposures for individuals not working in healthcare. Healthcare facilities should have a low threshold for evaluating symptoms and

testing symptomatic HCP, particularly those who fall into the *high-* and *medium- risk* categories described in this guidance.

This guidance is based on currently available data about COVID-19. Recommendations regarding which HCP are restricted from work may not anticipate every potential scenario and will change if indicated by new information.

Healthcare facilities, in consultation with public health authorities, should use clinical judgement as well as the principles outlined in this guidance to assign risk and determine need for work restrictions. CDC remains available for further consultation by calling the Emergency Operations Center at 770-488-7100. This cautious approach will be refined and updated as more information becomes available and as response needs change in the United States.

#### Other Resources

For guidance on risk assessment and public health management of persons not working in a U.S. healthcare setting refer to: [Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease \(COVID-19\) Exposure in Travel-associated or Community Settings](#).

For infection prevention and control guidance for healthcare settings caring for Persons with Known or Under Investigation (PUI) for Coronavirus Disease (COVID-19), refer to the [Interim Infection Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for Coronavirus Disease \(COVID-19\) in a Healthcare Setting](#).

#### I. Definitions Used in this Guidance

**Self-monitoring** means HCP should monitor themselves for fever by taking their temperature twice a day and remain alert for respiratory symptoms (e.g., cough, shortness of breath, sore throat)<sup>3</sup>. Anyone on self-monitoring should be provided a plan for whom to contact if they develop fever or respiratory symptoms during the self-monitoring period to determine whether medical evaluation is needed.

**Active monitoring** means that the state or local public health authority assumes responsibility for establishing regular communication with potentially exposed people to assess for the

presence of fever or respiratory symptoms (e.g., cough, shortness of breath, sore throat)<sup>3</sup>. For HCP with *high-* or *medium-risk* exposures, CDC recommends this communication occurs at least once each day. The mode of communication can be determined by the state or local public health authority and may include telephone calls or any electronic or internet-based means of communication.

For HCP, active monitoring can be delegated by the health department to the HCP's healthcare facility occupational health or infection control program, if both the health department and the facility are in agreement. Note, inter-jurisdictional coordination will be needed if HCP live in a different local health jurisdiction than where the healthcare facility is located.

***Self-Monitoring with delegated supervision*** in a healthcare setting means HCP perform self-monitoring with oversight by their healthcare facility's occupational health or infection control program in coordination with the health department of jurisdiction, if both the health department and the facility are in agreement. On days HCP are scheduled to work, healthcare facilities could consider measuring temperature and assessing symptoms prior to starting work. Alternatively, a facility may consider having HCP report temperature and absence of symptoms to occupational health prior to starting work. Modes of communication may include telephone calls or any electronic or internet-based means of communication.

Occupational health or infection control personnel should establish points of contact between the organization, the self-monitoring personnel, and the local or state health departments of authority in the location where self-monitoring personnel will be during the self-monitoring period. This communication should result in agreement on a plan for medical evaluation of personnel who develop fever or respiratory symptoms (e.g., cough, shortness of breath, sore throat)<sup>3</sup> during the self-monitoring period. The plan should include instructions for notifying occupational health and the local public health authority, and transportation arrangements to a designated hospital, if medically necessary, with advance notice if fever or respiratory symptoms occur. The supervising organization should remain in contact with HCP through the self-monitoring period to manage self-monitoring activities and provide timely and appropriate follow-up if symptoms occur in a HCP. Note, inter-jurisdictional coordination will be needed if HCP live in a different local health jurisdiction than where the healthcare facility is located.

**Close contact** for healthcare exposures is defined as follows: a) being within approximately 6 feet (2 meters), of a person with COVID-19 for a prolonged period of time (such as caring for or visiting the patient; or sitting within 6 feet of the patient in a healthcare waiting area or room); or b) having unprotected direct contact with infectious secretions or excretions of the patient (e.g., being coughed on, touching used tissues with a bare hand).

Data are limited for definitions of close contact. Factors for consideration include the duration of exposure (e.g., longer exposure time likely increases exposure risk), clinical symptoms of the patient (e.g., coughing likely increases exposure risk) and whether the patient was wearing a facemask (which can efficiently block respiratory secretions from contaminating others and the environment), PPE used by personnel, and whether aerosol-generating procedures were performed.

Data are insufficient to precisely define the duration of time that constitutes a prolonged exposure. However, until more is known about transmission risks, it is reasonable to consider an exposure greater than a few minutes as a prolonged exposure. Brief interactions are less likely to result in transmission; however, clinical symptoms of the patient and type of interaction (e.g., did the patient cough directly into the face of the HCP) remain important. Recommendations will be updated as more information becomes available.

Risk stratification can be made in consultation with public health authorities. Examples of brief interactions include: briefly entering the patient room without having direct contact with the patient or their secretions/excretions, brief conversation at a triage desk with a patient who was not wearing a facemask. See [Table 1](#) for more detailed information.

***Healthcare Personnel:*** For the purposes of this document HCP refers to all paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials, including body substances; contaminated medical supplies, devices, and equipment; contaminated environmental surfaces; or contaminated air. For this document, HCP does not include clinical laboratory personnel.

## II. Defining Exposure Risk Category

While body fluids other than respiratory secretions have not been clearly implicated in transmission of COVID-19, unprotected contact with other body fluids, including blood, stool, vomit, and urine, might put HCP at risk of COVID-19.

Table 1 describes possible scenarios that can be used to assist with risk assessment. These scenarios do not cover all potential exposure scenarios and should not replace an individual assessment of risk for the purpose of clinical decision making or individualized public health management. Any public health decisions that place restrictions on an individual's or group's movements or impose specific monitoring requirements should be based on an assessment of risk for the individual or group. Healthcare facilities, in consultation with public health authorities should use the concepts outlined in this guidance along with clinical judgement to assign risk and determine need for work restrictions.

For this guidance *high-risk* exposures refer to HCP who have had prolonged close contact with patients with COVID-19 who were not wearing a facemask while HCP nose and mouth were exposed to material potentially infectious with the virus causing COVID-19. Being present in the room for procedures that generate aerosols or during which respiratory secretions are likely to be poorly controlled (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction) on patients with COVID-19 when the healthcare providers' eyes, nose, or mouth were not protected, is also considered *high-risk*.

*Medium-risk* exposures generally include HCP who had prolonged close contact with patients with COVID-19 who were wearing a facemask while HCP nose and mouth were exposed to material potentially infectious with the virus causing COVID-19. Some *low-risk* exposures are considered *medium-risk* depending on the type of care activity performed. For example, HCP who were wearing a gown, gloves, eye protection and a facemask (instead of a respirator) during an aerosol-generating procedure would be considered to have a medium-risk exposure. If an aerosol-generating procedure had not been performed, they would have been considered *low-risk*. See [Table 1](#) for additional examples.

*Low-risk* exposures generally refer to brief interactions with patients with COVID-19 or prolonged close contact with patients who were wearing a facemask for source control while HCP were wearing a

facemask or respirator. Use of eye protection, in addition to a facemask or respirator would further lower the risk of exposure.

Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients infected with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures HCP should still perform self-monitoring with delegated supervision.

HCP with no direct patient contact and no entry into active patient management areas who adhere to routine safety precautions do not have a risk of exposure to COVID-19 (i.e., they have *no identifiable risk.*)

*Currently, this guidance applies to HCP with potential exposure in a healthcare setting to patients with confirmed COVID-19. However, HCP exposures could involve a PUI who is awaiting testing. Implementation of monitoring and work restrictions described in this guidance could be applied to HCP exposed to a PUI if test results for the PUI are not expected to return within 48 to 72 hours. A record of HCP exposed to a PUI should be maintained and HCP should be encouraged to perform self-monitoring while awaiting test results. If the results will be delayed more than 72 hours or the patient is positive for COVID-19, then the monitoring and work restrictions described in this document should be followed.*

**Table 1: Epidemiologic Risk Classification<sup>1</sup> for Asymptomatic Healthcare Personnel Following Exposure to Patients with Coronavirus Disease (COVID-19) or their Secretions/Excretions in a Healthcare Setting, and their Associated Monitoring and Work Restriction Recommendations**

*Both high- and medium-risk exposures place HCP at more than low-risk for developing infection; therefore, the recommendations for active monitoring and work restrictions are the same for these exposures. However, these risk categories were created to align with risk categories described in the Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease (COVID-19) Exposure in Travel-associated or Community Settings, which outlines criteria for quarantine and travel restrictions specific to high-risk exposures. Use that Interim Guidance for*

*information about the movement, public activity, and travel restrictions that apply to the HCP included here.*

*The highest risk exposure category that applies to each person should be used to guide monitoring and work restrictions.*

Note: While respirators confer a higher level of protection than facemasks, and are recommended when caring for patients with COVID-19, facemasks still confer some level of protection to HCP, which was factored into our assessment of risk.

Table 1: Epidemiologic Risk Classification<sup>1</sup> for Asymptomatic Healthcare Personnel Following Exposure to Patients with 2019 Novel Coronavirus (2019-nCoV) Infection or their Secretions/Excretions in a Healthcare Setting, and their Associated Monitoring and Work Restriction Recommendations

<b>Epidemiologic risk factors</b>	<b>Exposurecategory</b>	<b>Recommended Monitoring for COVID-19(until 14 days after last potential exposure)</b>	<b>Work Restrictions for Asymptomatic HCP</b>
<b>Prolonged close contact with a COVID-19 patient who was wearing a facemask (i.e., source control)</b>			
HCP PPE: None	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing a facemask or respirator	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing eye protection	Low	Self with delegated supervision	None
HCP PPE: Not wearing gown or gloves <sup>a</sup>	Low	Self with delegated supervision	None
HCP PPE: Wearing all recommended PPE (except wearing a facemask instead of a respirator)	Low	Self with delegated supervision	None
<b>Prolonged close contact with a COVID-19 patient who was not wearing a facemask (i.e., no source control)</b>			
HCP PPE: None	High	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing a facemask or respirator	High	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing eye protection <sup>b</sup>	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing gown or gloves <sup>ab</sup>	Low	Self with delegated supervision	None
HCP PPE: Wearing all recommended PPE (except wearing a facemask instead of a respirator) <sup>b</sup>	Low	Self with delegated supervision	None

HCP=healthcare personnel; PPE=personal protective equipment



<sup>a</sup>The risk category for these rows would be elevated by one level if HCP had extensive body contact with the patients (e.g., rolling the patient).

<sup>b</sup>The risk category for these rows would be elevated by one level if HCP performed or were present for a procedure likely to generate higher concentrations of respiratory secretions or aerosols (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction). For example, HCP who were wearing a gown, gloves, eye protection and a facemask (instead of a respirator) during an aerosol-generating procedure would be considered to have a medium-risk exposure.

#### Additional Scenarios:

- Refer to the footnotes above for scenarios that would elevate the risk level for exposed HCP. For example, HCP who were wearing a gown, gloves, eye protection and a facemask (instead of a respirator) during an aerosol-generating procedure would be considered to have a medium-risk exposure.
- Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients infected with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures, HCP should still perform self-monitoring with delegated supervision.
- HCP not using all recommended PPE who have only brief interactions with a patient regardless of whether patient was wearing a facemask are considered low-risk. Examples of brief interactions include: brief conversation at a triage desk; briefly entering a patient room but not having direct contact with the patient or the patient's secretions/excretions; entering the patient room immediately after the patient was discharged.
- HCP who walk by a patient or who have no direct contact with the patient or their secretions/excretions and no entry into the patient room are considered to have no identifiable risk.

#### III. Recommendations for Monitoring Based on COVID-19 Exposure Risk

**HCP in any of the risk exposure categories who develop signs or symptoms compatible with COVID-19 must contact their established point of contact (public health authorities or their facility's occupational health program) for medical evaluation prior to returning to work**

1. **High- and Medium-risk Exposure Category**  
**HCP in the high- or medium-risk category** should undergo active monitoring, including restriction from work in any healthcare setting until 14 days after their last exposure. If they develop any fever (measured temperature  $>100.0^{\circ}\text{F}$  or subjective fever) OR respiratory symptoms consistent with COVID-19 (e.g., cough, shortness of breath, sore throat): they should immediately self-isolate (separate themselves from others) and notify their local or state public health authority and healthcare facility promptly so that they can coordinate consultation and referral to a healthcare provider for further evaluation.
2. **Low-risk Exposure Category**  
**HCP in the low-risk category** should perform self-monitoring with delegated supervision until 14 days after the last potential exposure. Asymptomatic HCP in this category are not restricted from work. They should check their temperature twice daily and remain alert for respiratory symptoms consistent with COVID-19 (e.g., cough, shortness of breath, sore throat). They should ensure they are afebrile and asymptomatic before leaving home and reporting for work. If they do not have fever or respiratory symptoms they may report to work. If they develop fever (measured temperature  $\geq 100.0^{\circ}\text{F}$  or subjective fever) OR respiratory symptoms they should immediately self-isolate (separate themselves from others) and notify their local or state public health authority or healthcare facility promptly so that they can coordinate consultation and referral to a healthcare provider for further evaluation. On days HCP are scheduled to work, healthcare facilities could consider measuring temperature and assessing symptoms prior to starting work. Alternatively, facilities could consider having HCP report temperature and symptoms to occupational health prior to starting work. Modes of communication may include telephone calls or any electronic or internet-based means of communication.
3. **HCP who Adhere to All Recommended Infection Prevention and Control Practices**  
Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients infected with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures, HCP should still perform self-monitoring with delegated supervision as described under the low-risk exposure category.

4. ***No Identifiable risk Exposure Category***

**HCP in the *no identifiable risk* category** do not require monitoring or restriction from work.

5. ***Community or travel-associated exposures***

HCP with potential exposures to COVID-19 in community settings, should have their exposure risk assessed according to [CDC guidance](#). HCP should inform their facility's occupational health program that they have had a community or travel-associated exposure. HCP who have a community or travel-associated exposure should undergo monitoring as defined by that guidance. Those who fall into the *high-* or *medium-* risk category described there should be excluded from work in a healthcare setting until 14 days after their exposure. HCP who develop signs or symptoms compatible with COVID-19 should contact their established point of contact (public health authorities or their facility's occupational health program) for medical evaluation prior to returning to work.

**Additional Considerations and Recommendations:**

While contact tracing and risk assessment, with appropriate implementation of HCP work restrictions, of potentially exposed HCP remains the recommended strategy for identifying and reducing the risk of transmission of COVID-19 to HCP, patients, and others, it is not practical or achievable in all situations. Community transmission of COVID-19 in the United States has been reported in multiple areas. This development means some recommended actions (e.g., contact tracing and risk assessment of all potentially exposed HCP) are impractical for implementation by healthcare facilities. In the setting of community transmission, all HCP are at some risk for exposure to COVID-19, whether in the workplace or in the community. Devoting resources to contact tracing and retrospective risk assessment could divert resources from other important infection prevention and control activities. Facilities should shift emphasis to more routine practices, which include asking HCP to report recognized exposures, regularly monitor themselves for fever and symptoms of respiratory infection and not report to work when ill. Facilities should develop a plan for how they will screen for symptoms and evaluate ill HCP. This could include having HCP report absence of fever and symptoms prior to starting work each day.

Facilities could consider allowing asymptomatic HCP who have had an exposure to a COVID-19 patient to continue to work after options to improve staffing have been exhausted and in consultation with their

occupational health program. These HCP should still report temperature and absence of symptoms each day prior to starting work. Facilities could have exposed HCP wear a facemask while at work for the 14 days after the exposure event if there is a sufficient supply of facemasks. If HCP develop even mild symptoms consistent with COVID-19, they must cease patient care activities, don a facemask (if not already wearing), and notify their supervisor or occupational health services prior to leaving work.

\* Fever is either measured temperature  $\geq 100.0^{\circ}\text{F}$  or subjective fever. Note that fever may be intermittent or may not be present in some patients, such as those who are elderly, immunosuppressed, or taking certain medications (e.g., NSAIDs). Clinical judgement should be used to guide testing of patients in such situations. Respiratory symptoms consistent with COVID-19 are cough, shortness of breath, and sore throat. Medical evaluation may be recommended for lower temperatures ( $< 100.0^{\circ}\text{F}$ ) or other symptoms (e.g., muscle aches, nausea, vomiting, diarrhea, abdominal pain headache, runny nose, fatigue) based on assessment by public health authorities.

## Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for COVID-19 in the United States

This guidance applies to all first responders, including law enforcement, fire services, emergency medical services, and emergency management officials, who anticipate close contact with persons with confirmed or possible COVID-19 in the course of their work.

Updated March 10, 2020

### Summary of Key Changes for the EMS Guidance:

- Updated PPE recommendations for the care of patients with known or suspected COVID-19:
  - o Facemasks are an acceptable alternative until the supply chain is restored. Respirators should be prioritized for

- procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to HCP.
- o Eye protection, gown, and gloves continue to be recommended.
    - 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 HCP.
  - o When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.
  - Updated guidance about recommended EPA-registered disinfectants to include reference to a list now posted on the EPA website.

## Background

Emergency medical services (EMS) play a vital role in responding to requests for assistance, triaging patients, and providing emergency medical treatment and transport for ill persons. However, unlike patient care in the controlled environment of a healthcare facility, care and transports by EMS present unique challenges because of the nature of the setting, enclosed space during transport, frequent need for rapid medical decision-making, interventions with limited information, and a varying range of patient acuity and jurisdictional healthcare resources.

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 emergency 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 infection.

Updated information about COVID-19 may be accessed at <https://www.cdc.gov/coronavirus/2019-ncov/index.html>. Infection prevention and control recommendations can be found here: <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>.

## **Case Definition for COVID-19**

CDC's most current case definition for a person under investigation (PUI) for COVID-19 may be accessed at <https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>.

## **Recommendations for 911 PSAPs**

Municipalities and local EMS authorities should coordinate with state and local public health, PSAPs, and other emergency call centers to determine need for modified caller queries about COVID-19, outlined below.

Development of these modified caller queries should be closely coordinated with an EMS medical director and informed by local, state, and federal public health authorities, including the city or county health department(s), state health department(s), and CDC.

### **Modified Caller Queries**

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. Patients in the United States who meet the appropriate criteria should be evaluated and transported as a PUI. Information on COVID-19 will be updated as the public health response proceeds. PSAPs and medical directors can access CDC's [PUI definitions here](#).

Information on a possible PUI should be communicated immediately to EMS clinicians before arrival on scene in order to allow use of appropriate personal protective equipment (PPE). PSAPs should utilize

medical dispatch procedures that are coordinated with their EMS medical director and with the local or state public health department.

PSAPs and EMS units that respond to ill travelers at US international airports or other ports of entry to the United States (maritime ports or border crossings) should be in contact with the CDC quarantine station of jurisdiction for the port of entry (see: [CDC Quarantine Station Contact List](#)) for planning guidance. They should notify the quarantine station when responding to that location if a communicable disease is suspected in a traveler. CDC has provided job aids for this purpose to EMS units operating routinely at US ports of entry. The PSAP or EMS unit can also call CDC's Emergency Operations Center at (770) 488-7100 to be connected with the appropriate CDC quarantine station.

#### Recommendations for EMS Clinicians and Medical First Responders

EMS clinician practices should be based on the most up-to-date COVID-19 clinical recommendations and information from appropriate public health authorities and EMS medical direction.

State and local EMS authorities may direct EMS clinicians to modify their practices as described below.

#### 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 is suspected, all [PPE](#) as described below should be used. If COVID-19 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. 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.
- During transport, limit the number of providers in the patient compartment to essential personnel to minimize possible exposures.

#### Recommended Personal Protective Equipment (PPE)

- EMS clinicians who will directly care for a patient with possible COVID-19 infection or who will be in the compartment with the patient should follow Standard, Precautions and use the PPE as described below. Recommended PPE includes:
  - o 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
  - o 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.
  - o A single pair of disposable patient examination gloves. Change gloves if they become torn or heavily contaminated, and isolation 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).
- When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.
- 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.

- o 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 or facemask should continue to be used during transport.
- All personnel should avoid touching their face while working.
- On arrival, after the patient is released to the facility, 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](#).

#### Precautions for Aerosol-Generating Procedures

- If possible, consult with medical control before performing aerosol-generating procedures for specific guidance.
- An N-95 or higher-level respirator, instead of a facemask, should be worn in addition to the other PPE described above, for EMS clinicians present for or performing aerosol-generating procedures.,
- EMS clinicians should exercise caution if an aerosol-generating procedure (e.g., bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR)) is necessary.
  - o BVMs, and other ventilatory equipment, should be equipped with HEPA filtration to filter expired air.
  - o EMS organizations should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- If possible, the rear doors of the transport vehicle should be opened and the HVAC system should be activated during aerosol-generating procedures. This should be done away from pedestrian traffic.

## EMS Transport of a PUI or Patient with Confirmed COVID-19 to a Healthcare Facility (including interfacility transport)

If a patient with an exposure history and signs and symptoms suggestive of COVID-19 requires transport to a healthcare facility for further evaluation and management (subject to EMS medical direction), the following actions should occur during transport:

- EMS clinicians should notify the receiving healthcare facility that the patient has an exposure history and signs and symptoms suggestive of COVID-19 so that appropriate infection control precautions may be taken prior to patient arrival.
- Keep the patient separated from other people as much as possible.
- 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.
- Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut.
- 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> pdf icon).
- 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.

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

#### 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). This documentation may need to be shared with local public health authorities.

## Cleaning EMS Transport Vehicles after Transporting a PUI or Patient with Confirmed COVID-19

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a PUI:

- After transporting the patient, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
  - The time to complete transfer of the patient to the receiving facility and complete all documentation should provide sufficient air changes.
- When cleaning the vehicle, EMS clinicians should wear a disposable gown and gloves. 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 severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
- Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. Refer to [List Nexternal icon](#) 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.
- Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.

## Follow-up and/or Reporting Measures by EMS Clinicians After Caring for a PUI or Patient with Confirmed COVID-19

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

- State or 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 SARS-CoV-2 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 SARS-CoV-2 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.
- 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 COVID-19 should notify their chain of command to ensure appropriate follow-up.
  - o 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.
  - o 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.

## EMS Employer Responsibilities

The responsibilities described in this section are not specific for the care and transport of PUIs or patients with confirmed COVID-19. However, this interim guidance presents an opportunity to assess current practices and verify that training and procedures are up-to-date.

- EMS units should have infection control policies and procedures in place, including describing a recommended sequence for safely donning and doffing PPE.
- Provide all EMS clinicians with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.

- Ensure that EMS clinicians are 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.
- Ensure EMS clinicians are medically cleared, trained, and fit tested for respiratory protection device use (e.g., N95 filtering facepiece respirators), or medically cleared and trained in the use of an alternative respiratory protection device (e.g., Powered Air-Purifying Respirator, PAPR) whenever respirators are required. OSHA has a number of [respiratory training videos](#)<sup>external icon</sup>.
- EMS units should have an adequate supply of PPE.
- Ensure an adequate supply of or access to EPA-registered hospital grade disinfectants (see above for more information) for adequate decontamination of EMS transport vehicles and their contents.
- Ensure that EMS clinicians and biohazard cleaners contracted by the EMS employer tasked to the decontamination process are educated, trained, and have practiced the process according to the manufacturer's recommendations or the EMS agency's standard operating procedures.