

COVID-19: Assessment and Transport

Revised March 27, 2020

Medical Procedure

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PURPOSE

To minimize risk of exposure and spread of Coronavirus (COVID-19).

INITIAL ASSESSMENT

- Given the community spread of COVID-19, **EMS practitioners who will have close contact (less than 6') with any potential emergency medical patient should don appropriate PPE as described below.**
- If dispatch advises that the patient is suspected of having an infectious disease (COVID-19), EMS practitioners should put on appropriate PPE (see below) before entering the scene.
- If situation is unclear, or cardiac or respiratory arrest, use full PPE (see below).
- EMS practitioners should evaluate for and suspect the patient may have COVID-19 if any of the following signs and symptoms are present:
 - Patients presenting with fever, or cough, or shortness of breath, **OR**
 - Anyone who has had close contact with someone being monitored for or diagnosed with COVID-19 within 14 days of symptom onset, **OR**
 - A history of travel from outside the United States within 14 days of symptom onset.
- Initial assessment should begin from at least 6 feet from the patient and be limited to one EMS practitioner, if possible.
- A face mask should be worn by the patient for source control. If a nasal cannula is in place, a face mask should be worn over the nasal cannula. If a non-rebreather mask is clinically indicated, place a face mask over it.
- Any additional resources requested (transporting agency, intercepting agency, fire, police) should be notified so they can take precautions.
- Refer to the COVID-19 Field Triage Guidance to determine if the patient requires transport to the Emergency Department.

PERSONAL PROTECTIVE EQUIPMENT (PPE) RECOMMENDATIONS

- Responders who will have close contact (less than 6 feet) with any potential emergency medical patient should don the following personal protective equipment before making contact:
 - Face mask (definition: surgical mask or non-fit-tested "Universal N95 mask"):
 - Fit-tested N95 respirators that offer a higher level of protection should be used instead of a face mask when in the presence of a confirmed COVID-19 case or when performing or present for an aerosol-generating procedure.
 - 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.
 - A single pair of disposable patient examination gloves. Change gloves if they become torn or heavily contaminated.
 - Isolation gown.
 - Prioritize gowns 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).
- Drivers should wear PPE if providing patient care. After completing patient care and before entering an isolated driver's compartment, the driver should remove

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PERSONAL PROTECTIVE EQUIPMENT (PPE) RECOMMENDATIONS (CONTINUED)

- and dispose of PPE and perform hand hygiene to avoid contaminating the compartment.
 - If the ambulance does not have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. An N-95 respirator/PAPR or face mask should continue to be used during transport.
- After transfer of care, EMS practitioners should remove and discard PPE and perform hand hygiene. Used PPE should be discarded in accordance with routine procedures.
- All personnel should avoid touching their face while working.
- Other required aspects of standard precautions (e.g., injection safety, hand hygiene) are not emphasized in this document but can be found in Vermont's [Bloodborne/Airborne Pathogens Policy – 8.4](#).
- If experiencing supply chain interruptions, consider CDC guidance to reuse N-95 respirators:
 - The CDC recommends re-use of an N-95 respirator up to five times unless the manufacturer has more specific reuse recommendations.
 - N95 respirators used during aerosol generating procedures or respirators that have been contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients should be immediately discarded and not reused.
 - If a respirator is removed between uses, it should be hung in a designated storage area or kept in a clean, breathable container such as a paper bag between uses. To minimize potential cross-contamination, store respirators so that they do not touch each other and the person using the respirator is clearly identified. Storage containers should be disposed of or cleaned regularly.
- *The outside surfaces of a used N-95 respirator should be considered contaminated.* Consider the following steps in the donning process to prevent cross contamination:
 - Always use clean gloves when inspecting, handling, donning, and performing a user seal check on a reused respirator.
 - Avoid touching the inside of the respirator.
 - Prior to reusing, inspect the integrity of the respirator, checking for obvious signs of damage.
 - Discard gloves after the N95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal.
 - Clean hands with soap and water or an alcohol-based hand sanitizer after touching or adjusting the respirator.
 - The CDC recommends using a cleanable face shield (preferred) or a surgical mask over an N95 respirator and/or other steps (e.g., masking patients, use of engineering controls), when feasible to reduce surface contamination of the re-used respirator.
- The full CDC guidance on reusing respirators can be found at: <https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceceextuse.html>

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Situation	Procedure	PPE Standard
Suspected COVID-19 Patient (Within 6 feet of any EMS patient)	Non-Aerosol Generating Routine Patient Care	Face Mask or Non-fit-tested Universal N95 Gown Gloves Face Shield or Goggles
Suspected COVID-19 Patient (Within 6 feet of any EMS patient) Cardiac or Respiratory Arrest	Aerosol Generating Procedure MDI/Nebulizer, IN Naloxone BVM or CPAP Supraglottic Airway or Intubation CPR	Fit-Tested N95 Respirator or PAPR Gown Gloves Face Shield or Goggles
Known COVID-19 Patient (Lab Confirmed)	All Patient Care Activities	Fit-tested N95 Respirator or PAPR Gown Gloves Face Shield or Goggles

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AEROSOL-GENERATING PROCEDURES

- To limit risk, avoid aerosol-generating procedures, if possible.
- If possible, consult with **Medical Direction** before performing aerosol-generating procedures.
- Practitioners should wear N95 respirator/PAPR, gown, gloves and face shield or goggles.
- EMS practitioners 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), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR) is necessary).
- BVMs, and other ventilatory equipment, should be equipped with HEPA filtration to filter expired air.
- If possible, the rear doors of the ambulance should be opened, and the HVAC system should be activated during aerosol-generating procedures.
- Consider use of MDI (metered dose inhaler) preferentially over nebulizer.
- Consider use of supraglottic airway preferentially over endotracheal intubation.
 - **Supraglottic airways (SGA):** Please note that use of a SGA (King or i-Gel) is considered a high-risk aerosolizing procedure. **It is critically important to plug the side/gastric port on a SGA to prevent large volume spread of airborne pathogens.**

TRANSPORT

- EMS practitioners should notify the receiving healthcare facility if they suspect COVID-19 so that appropriate precautions may be taken prior to arrival. Share any known details regarding signs/symptoms, travel, or contact history.
- During transport, limit the number of practitioners in the patient compartment to essential personnel to minimize possible exposures.
- Keep the patient separated from other people as much as possible.
- Family members and other contacts of suspect patients should not ride in the ambulance. If unavoidable, they should wear a face mask.
- Isolate the ambulance driver from the patient:
 - Close the door/window between these compartments before bringing the patient on board.
 - Tape opening with plastic if there is no door or window that can close.
- Use non-recirculated mode to ventilate ambulance.
- Open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to the highest setting.
- Follow hospital protocol for transfer of patient.
- Carefully doff and dispose of PPE and perform hand hygiene.

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DECONTAMINATION

Action Completed	Action	Comments
	Leave the doors of the ambulance open during transfer of the patient and decontamination.	This is to allow for air changes to remove potentially-infectious particles.
	EMS practitioners should wear a surgical face mask, gown and gloves. A face shield or goggles should also be worn if splashes during cleaning are anticipated.	This is to protect the provider from exposures during decontamination.
	All surfaces that came in contact with the patient or materials contaminated during patient care should be thoroughly cleaned and disinfected.	Link to Disinfectants: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2
	Clean and disinfect reusable patient care equipment before use on another patient.	
	After an aerosol-generating procedure, clean and disinfect horizontal surfaces around the patient.	
	Follow standard operating procedures for containing and laundering used linen.	Avoid shaking the linen.
	Follow standard operating procedures for the containment and disposal of used PPE.	
	Perform hand hygiene.	

PREPARATION AND COMMUNICATION

- EMS providers wearing all recommended PPE per above are considered to be low risk. If providers were not wearing PPE and are concerned about exposure, please call 802-863-7240.
- For additional information/explanation of this protocol, please see [Coronavirus \(COVID-19\) EMS Response](#).
- EMS agencies can 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 units should have infection control policies and procedures in place, including education for safely donning and doffing PPE. Below are links for videos that UVM HealthNet Regional Transport Service produced and shared with Vermont EMS.
 - PPE Donning - <https://youtu.be/Re2667Ho5UA>
 - PPE Doffing - <https://youtu.be/Zlwefwlg6fo>
- Ensure EMS providers are medically cleared, trained, and initially fit tested for N95 respirators.
- EMS units should have an adequate supply of PPE. More information about optimizing PPE stock can be found at <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>.
- If your facility is experiencing PPE shortages, use the link below to make a request: <https://www.surveygizmo.com/s3/5504100/COVID-Resource-Request-Form>.
- Ensure an adequate supply of disinfectants approved for SARS-CoV-2: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>.

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