



PERSONNEL AND
READINESS

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MEMORANDUM FOR CHIEF MANAGEMENT OFFICER OF THE DEPARTMENT OF
DEFENSE
SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
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AFFAIRS
DIRECTORS OF DEFENSE AGENCIES
DIRECTORS OF DOD FIELD ACTIVITIES

SUBJECT: Force Health Protection Guidance (Supplement 5) – Department of Defense
Guidance for Movement and Medical Treatment of COVID-19 Patients,
Symptomatic Persons Under Investigation, or Potentially Exposed COVID-19
Persons

The COVID-19 outbreak continues to spread globally and as a result, medical treatment recommendations are rapidly changing. This memorandum provides: (1) DoD medical personnel with the best practices for the evaluation, treatment, and management of COVID-19; and (2) DoD medical and other personnel with COVID-19 patient movement guidance to protect the transportation crew and other patients, as well as post-transport management of contaminated vehicles. This memorandum serves as a COVID-19 specific supplement to patient movement instructions found in DoD Instruction (DoDI) 6000.11, "Patient Movement," June 22, 2018; DoDI 6055.06, "DoD Fire and Emergency Services Program," October 3, 2019; and DoDI 3025.24, "Defense Support to Civil Authorities," January 30, 2017.

Actions to Protect the Transportation Crew & Post-Transport Decontamination

The movement of patients with COVID-19 should be limited. For personnel who require medical treatment, all efforts should be made to treat patients and persons under investigation (PUIs) at the nearest appropriate medical facility. However, patient movement, or movement of PUIs may be necessary when local resources are overwhelmed, a higher level of medical care is required, or if mission requirements dictate. Movement of asymptomatic persons who were exposed to COVID-19, but may be contagious, may be necessary, as well.

- The attached *Guidance on Air Medical Transport for COVID-19 Patients and/or COVID-19 Exposed Patients* provides DoD guidance for air movement of COVID-19 patients and COVID-19 exposed persons, on DoD aircraft, decontamination procedures, and post-mission crew monitoring (Attachment 1).

- The attached *Guidance on Ground Medical Transport for COVID-19 Patients and/or COVID-19 Exposed Patients* provides DoD guidance for ground movement of COVID-19 patients, PUIs with signs/symptoms of respiratory illness, and COVID-19 exposed persons, on DoD ground vehicles, vehicle decontamination procedures, and crew monitoring procedures (Attachment 2).

Best Practices for Medical Evaluation, Treatment, and Management of COVID-19 Patients

The guidance for health care professionals in the evaluation, treatment, and management of COVID-19 continues to evolve. It is important that DoD health care providers become familiar with and stay current on the latest developments in COVID-19 medical care and in Force Health Protection measures. All DoD health care providers are expected to regularly review the following:

- The Centers for Disease Control and Prevention (CDC) is frequently updating its guidance for healthcare professionals regarding personal protective measures, transportation of infected patients, infection control measures, and patient treatment for patients with COVID-19 infection. The latest CDC Information for Healthcare Professionals may be accessed at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/index.html>.
- The DoD medical experts have published the COVID-19 Practice Management Guide (PMG). This PMG combines data and recommendations from the CDC and other Government agencies, U.S. and international hospitals on the front lines of COVID-19 care, clinical specialty communities, and available evidence in the medical literature to give DoD healthcare providers the most up-to-date data for treating COVID-19 patients. This PMG is updated regularly and is accessed at: <https://health.mil/reference-center/technical-documents/2020/03/24/DOD-COVID-19-Practice-Management-Guide>.

This guidance is critical to providing the best medical care available to COVID-19 patients and PUIs, and managing COVID-19 exposed persons, while simultaneously protecting crew, medical personnel, and non-medical attendants and preventing the degradation of DoD transportation assets during the COVID-19 crisis.

My point of contact for this guidance is COL Steven Ward, who may be reached at (703) 681-8310 or steven.r.ward2.mil@mail.mil.



Matthew P. Donovan

Attachments:
As stated

ATTACHMENT 1

Department of Defense Guidance on Air Medical Transport for COVID-19 Positive Patients and/or COVID-19 Exposed Persons

This guidance is intended to assist air medical transport (AMT) service providers in using specialized and/or specially equipped aircraft to transport COVID-19 positive or COVID-19 exposed persons (referred to as COVID-19 patients for the remainder of this document) while ensuring the safety of patients and transport personnel.

The recommendations are based on standard infection control practices, AMT standards, and epidemiologic information from investigations of Severe Acute Respiratory Syndrome (SARS), including experience from air transport of patients during the 2003 SARS outbreak, known airflow limitations in DoD aircraft, and evolving information available on COVID-19.

A. Air Transport of COVID-19 Patients: General Considerations

- **Treatment in place** is directed for COVID-19 patients.
- International SOS (under contract with DoD) can assist with Host National Facility care coordination.
- If patient movement (PM) is requested, notify the USTRANSCOM Surgeon (TCS).
 - Contact Centers for Disease Control and Prevention (CDC) Emergency Ops Center (770) 488-7100.
 - Confirm accepting facility is able to receive in accordance with CDC guidelines.
 - Civil Aviation Assets (e.g., Phoenix Air Group) should be primary means of PM (if capable).
 - DoD-only movement requires approval of an exception to policy in accordance with USTRANSCOM Instruction (USTCI) 41-2.
 - Movement of COVID-19 patients, even with minimal symptoms, is not recommended in open aircraft due to airflow limitations in DoD aircraft.
 - Biocontainment unit transport is recommended for transport of COVID-19 patients in DoD aircraft.
 - Although not advisable, operational constraints may necessitate patient movement in open aircraft. Additionally, during flight a patient or passenger may develop symptoms consistent with COVID-19 infection. The following considerations apply:
 - Avoid transporting sick and asymptomatic individuals in the same group (cohorting). If a non-medical attendant is required, such as a parent accompanying a sick child, the parent should use personal protective equipment (PPE) during transport. See “Infection Control,” below.
 - Follow the USTCI 41-2 *Contagious PM checklist* and CDC guidelines.

- Refer to Air Force Instruction 48-307, v. 1, Attachment 14 (Aircraft Airflow) and Attachment 15 (Airborne Precautions).
 - The number of caregivers should be limited to those required to provide essential care during the trip.
- Infection control measures should focus on:
 - Source control (i.e., confining the spread of respiratory secretions at the patient level).
 - Containment of the area of contamination (i.e., designating “clean” and “dirty” areas on the aircraft).
 - Use of PPE: Surgical masks for patients and passengers and N-95 respiratory or equivalent (aviator mask, M50 or PAPR) for aircrew and medical crew. Medical crew should also have gown, gloves and eye protection (goggles or face shield) at a minimum.
 - The size and type of aircraft will influence the extent to which these measures can be implemented.
 - Consideration must be given to the need for “PPE breaks” during long trips. Personnel will need to use the lavatory and have meals; removal of respiratory protection is unavoidable. An area at the front of the plane (or “upwind” from the patient, depending on cabin airflow), as far as possible from the patient, should be designated for this purpose.

B. Airframe Selection and Cabin Airflow

Cabin airflow characteristics may reduce exposure of occupants to airborne infectious particles. Whenever possible, aircraft used for PM of COVID-19 patients should have separate air-handling systems for the cockpit and cabin, with cockpit air at positive pressure relative to the cabin. Regardless of airframe type, any provider (or crew) within 6 feet of the patient or “downwind” should have proper PPE (N-95, etc.).

- **Fixed-wing pressurized aircraft**
 - AMT service providers should consult the manufacturer(s) of their aircraft to identify cabin airflow characteristics, including: High-Efficiency Particulate Air (HEPA) filtration and directional airflow capabilities, air outlet location, presence or absence of air mixing between cockpit and patient-care cabin during flight, and time and aircraft configuration required to perform a post-mission airing-out of the aircraft.
 - Aircraft with forward-to-aft cabin air flow and a separate cockpit cabin are strongly preferred for transport of COVID-19 patients. Aft-to-forward cabin air flow will increase the risk of airborne exposure of cabin and flight deck personnel. Aircraft that re-circulate cabin and flight-deck air without HEPA filtration are not desirable for COVID-19 patient transport.

- Aircraft ventilation should remain on at all times during transport of COVID-19 patients, including during ground delays.
- Aircraft that provide space for crew members to perform necessary personal activities (e.g., eating, drinking, using the bathroom) in an area that does not share air with the patient-care cabin should be selected for flights likely to exceed 4 hours.
- **Rotary-wing and non-pressurized aircraft**
 - In aircraft with uncontrolled interior airflow, such as rotary-wing and small, non-pressurized fixed-wing aircraft, all personnel should wear disposable N-95 or higher level respirators during transport of COVID-19 patients.
 - For cockpit crews, aircraft aviator tight-fitting face pieces capable of delivering oxygen that has not mixed with cabin air may be used in lieu of a disposable N-95 respirator. Cockpit crews must be fit-tested with the N-95 masks prior to the mission.

C. Patient Placement

The airflow of each aircraft should form the basis for litter and seat assignments. In general:

- COVID-19 patients should be positioned as far downwind with regard to cabin air flow as possible.
- A bathroom for use by the patient(s) with COVID-19 should be close by. Consider utilizing a urinal for male patients, if able, to reduce patient movement throughout cabin.
- In AMT aircraft with vertical litter tiers and top-to-bottom airflow, COVID-19 litter patients should be placed in the lowest position in the tier.
- Litter transport should be carried out by direct care providers who wear appropriate PPE as described in Section D.
- Ambulatory COVID-19 patients should be seated next to the cabin sidewall.
- Patients should wear a surgical mask to reduce droplet production.
- Simultaneous transport of non-COVID-19 patients with COVID-19 positive patients should not occur. If transport of a non-COVID-19 patient simultaneously with COVID-19 patient(s) cannot be avoided, the non-COVID-19 patient should wear an N-95 or higher-level respirator during transport and should be positioned upwind and as far as possible from the COVID-19 patient.

- If several COVID-19 patients are transported, they should be moved as a group (cohorted) in an aircraft that provides appropriate airflow characteristics as described above.

D. Infection Control

- **Designation of an “isolation area”**
 - Where space permits, a perimeter should be established for designating “clean” and “dirty” areas. A bathroom for use by the patient should be within the isolation area.
 - Materials required for patient care, including PPE, should be organized outside the isolation area. Receptacles for soiled linen, waste, and reusable equipment should be placed inside the isolation area.
 - Patient movement should be restricted to the designated isolation area.
 - All personnel traveling in the passenger cabin with patients must wear full PPE.
- **Engineering controls**
 - If space permits, install physical barriers such as plastic shielding or curtains to partition isolated area, to guide patients through aircraft to isolation area, to partition non-COVID-19 passengers or patients from COVID-19 patients, or to partition passengers from aerosol-generating procedures.
- **Source control**
 - If the patient is able, they will be instructed to wear a surgical mask. Patient should have the mask on prior to ground transport to the aircraft, in the aircraft for duration of flight and on ground transport to the receiving facility.
 - Cough-generating procedures (e.g., nebulizer treatments) should be avoided during transport. Albuterol Metered Dose Inhalers with spacers should be used in lieu of nebulizers, when able.
 - Because even supplemental oxygen is aerosolizing, patients who are provided with supplemental oxygen should wear a surgical mask over the nasal cannula.
 - Oxygen delivery with simple and non-rebreather face masks may be used for patient oxygen support during flight and does not require the patient to additionally wear a surgical mask.
 - Manually assisted ventilation should be performed using a resuscitation bag-valve mask. If available, units equipped for high-efficiency particulate air (HEPA) or equivalent filtration of expired air should be used. HEPA filters should be placed as close to the patient as possible (i.e., direct to the ETT or Mask). If in-line suction is used, the HEPA filter should be proximal to the suction.
- **Personal protective equipment and procedures**
 - The following PPE should be worn by direct care providers:

- Non-sterile patient-care gloves
- Disposable isolation gowns
- Goggles or face shield (Corrective eyeglasses or contact lenses alone are not appropriate protection.)
- Fit-tested, disposable respirators (Disposable N-95 respirators are approved for in-flight use.)
- Hand hygiene product (e.g., alcohol-based hand rub)
- Disposable non-sterile gloves, gown, and eye and respiratory protection (N-95 respirators) must be worn for all patient contact and when within 6 feet of COVID-19 patients.
- Eye protection, gown, and gloves should be removed and discarded in designated receptacles after patient care is completed (e.g., between patients) or when soiled or damaged. The respirator should remain on at all times unless gross contamination or soiling has occurred or it is too wet to maintain its integrity. When safe to do so, respirator should be removed without touching the front of the mask and discarded in designated receptacles.
- Hands must be washed with soap and water for at least 30 seconds or by using a waterless, alcohol-based hand rub that is allowed to air dry immediately after removal of PPE.

E. Patients Requiring Mechanical Ventilation

- Mechanical ventilators for COVID-19 patients should provide HEPA or equivalent filtration of airflow exhaust.
- AMT services should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- Every effort should be made to avoid breaking the ventilator circuit during transport.

F. Management of Clinical Specimens

- Standard Precautions should be used when collecting and transporting COVID-19 clinical specimens.
- Specimens should be stored only in designated coolers or refrigerators.
- Clinical specimens should be labeled with appropriate patient information and placed in a clean bag that seals shut for storage and transport.

G. Waste Disposal

- Dry solid waste (e.g., used gloves, dressings), should be collected in biohazard bags for disposal as regulated medical waste in accordance with local requirements at the destination medical facility.
- Waste that is saturated with blood or body fluids should be collected in leak-proof biohazard bags or containers for disposal as regulated medical waste in accordance with local requirements at the destination medical facility.
- Sharp items such as used needles or scalpel blades should be collected in puncture-resistant sharps containers for disposal as regulated medical waste in accordance with local requirements at the destination medical facility.
- Suctioned fluids and secretions should be stored in sealed containers for disposal as regulated medical waste in accordance with local requirements at the destination medical facility. Handling that might create splashes or aerosols during flight should be avoided.
- Suction device exhaust should not be vented into the cabin without HEPA or equivalent filtration. Portable suction devices should be fitted with in-line HEPA or equivalent filters. Externally vented suction should not be used during ground or air operations.
- Excretions (feces, urine) may be carefully poured down the aircraft toilet.

H. Cleaning and Disinfection

- After transporting a COVID-19 patient, exits and doors should be closed and aircraft air conditioning turned on at maximum capacity for several minutes in accordance with the airing time specified by aircraft manufacturers to provide at least one complete air exchange. Non-pressurized aircraft should be aired out, with exits and doors open long enough to ensure a complete air exchange. Blowers and high-powered fans that might re-aerosolize infectious material should not be used for airing out aircraft.
- Cleaning should be postponed until airing out is complete.
- Compressed air that might re-aerosolize infectious material should not be used for cleaning the aircraft.
- Non-patient-care areas of the aircraft should be cleaned and maintained according to manufacturers' recommendations.

- Cleaning personnel should wear non-sterile gloves and disposable isolation gown or coveralls over their usual cleaning uniform. Eye protection to prevent contact with germicides should be worn according to existing organization procedures for environmental cleaning and disinfection while cleaning patient-care areas.
- Patient-care areas (including stretchers, railings, medical equipment control panels, and adjacent flooring, walls and work surfaces likely to be directly contaminated during care) should be cleaned and disinfected in accordance with manufacturer's recommendations.
- Spills of body fluids during transport should be cleaned by placing absorbent material over the spill and collecting the used cleaning material in a biohazard bag. The area of the spill should be cleaned using an EPA-registered hospital disinfectant. Ground service personnel should be notified of the spill location and initial clean-up performed.
- Contaminated web seats or seat cushions should be placed in a biohazard bag and labeled with the location and type of contamination for later disposal or cleaning.
- Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection at the AMT service medical equipment section.
- Reusable equipment should be cleaned and disinfected according to manufacturer's instructions.
- Following completion of cleaning tasks, including cleaning and disinfection of reusable equipment, cleaning personnel should carefully remove and dispose of personal protective gear and wash hands thoroughly with soap and water or an alcohol-based hand rub.

I. Logistical Planning and Post-Mission Follow-Up

- Sufficient infection control supplies should be on board to support the expected duration of the mission plus additional time in the event that the aircraft experiences maintenance delays or weather diversions.
- Flight planning should identify emergency or unexpected diversion airfields and coordinate with authorities in advance.
- Upon termination of the mission, the AMT team should provide the following information to their medical director: mission number/date; address of the team/aircraft basing; duration of patient transport; names, contact information, and crew positions

(including estimated duration of direct patient care provided) of mission personnel; and description of any recognized breach(es) in infection control precautions.

- AMT services should designate persons responsible for performing post-mission monitoring of mission personnel and reporting results to the AMT service medical director.
- Mission personnel involved in direct patient care of the COVID-19 patient(s) 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) until 14 days after last potential exposure to COVID-19. Mission personnel with no direct contact with the COVID-19 patient(s) and no entry into active patient management areas have no identifiable risk of COVID-19 exposure, and do not require self-monitoring for fever or respiratory symptoms

J. Ground/In-Flight Emergency Procedures

AMT service providers should have a written plan addressing patient handling during in-flight and/or ground emergency situations. Activities such as donning life vests and litter-patient emergency egress may create special exposure risks. Use of respirators must be weighed against time constraints and onboard emergency conditions (e.g., smoke in the cabin, sudden cabin decompression). Gowns and latex gloves represent a fire/flash hazard and should not be worn during ground or in-flight emergency situations.

ATTACHMENT 2

Department of Defense (DoD) Guidance on Ground Medical Transport for COVID-19 Positive Patients and/or COVID-19 Exposed Persons¹

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 among 911 Public Safety Answering Points (PSAPs, commonly known as 911 call centers) the EMS system, healthcare facilities, and the public health system are important. 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.

A. Patient assessment

- If PSAP call takers advise that the patient is suspected of having COVID-19, EMS clinicians should put on appropriate personal protective equipment (PPE) before entering the scene. PSAP personnel should be aware of signs/symptoms of COVID-19 and ask patients specific screening questions; EMS clinicians should consider the signs, symptoms, and risk factors of COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>). **One provider should enter the location of suspected COVID-19 patient to perform an initial assessment and complete the questionnaire. If more personnel are required, the provider will call (radio) for the number of personnel needed.**
- 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. **EMS clinicians should consider donning PPE prior to entering the home/building; further** 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 surgical mask 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.

¹ The Under Secretary of Defense for Acquisition and Sustainment concurs with this attachment.

- A surgical mask should be worn by the patient for source control. If a nasal cannula is in place, a surgical mask should be worn over the nasal cannula. Alternatively, an oxygen mask may 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 healthcare providers in the patient compartment to essential personnel to minimize potential exposures.

B. Recommended 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:
 - Fit-tested N-95 or higher-level respirator. A surgical mask may be used if a respirator is not available.
 - N95 respirators or respirators that offer a higher level of protection should be used instead of a surgical mask 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 and isolation gown. Change gloves and isolation gown if they become torn or soiled/ contaminated. Gloves should also be changed between patients.
 - If there are shortages of disposable isolation 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).
 - Hand hygiene product (e.g., alcohol-based hand rub) that is allowed to air dry after application.
- When the supply chain is restored, N-95 respirator fit-tested EMS clinicians should return to use of N-95 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 contaminating the compartment.
 - 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. The steering wheel should be wiped with a disinfectant. A respirator or surgical mask 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 designated receptacles in accordance with standard procedures for the disposal of contaminated/potentially contaminated PPE.

C. Precautions for Aerosol-Generating Procedures

- If possible, consult with medical control before performing aerosol-generating procedures for specific guidance.
- A fit-tested N-95 or higher-level respirator, instead of a surgical mask, should be worn in addition to the other PPE described above, before EMS clinicians present for or perform aerosol-generating procedures.
 - EMS clinicians should exercise caution if an aerosol-generating procedure (e.g., bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, supraglottic airway, nebulizer treatment, continuous positive airway pressure, bi-phasic positive airway pressure, or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR)) is necessary.
 - BVMs, and other ventilator equipment, should be equipped with high-efficiency particulate air (HEPA) filtration to filter expired air. HEPA filters should be placed as close to the patient as possible (i.e., direct to the ETT or Mask). If in-line suction is used, the HEPA filter should be proximal to the suction.
 - EMS organizations should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
 - Installations with mechanical CPR devices should utilize FDA-approved mechanical CPR devices during the COVID-19 pandemic. All installation EMS Medical Directors should require EMS Personnel to be trained in indications for use, contraindications, and proper application.
- If possible, the rear doors of the transport vehicle should be opened and the heating, ventilation, and air conditioning system should be activated during aerosol-generating procedures. This should be done away from pedestrian traffic.

D. EMS Transport of a Person Under Investigation (PUI) or Patient with Confirmed COVID-19 to a Healthcare Facility (including inter-facility 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 N-95 respirator or surgical mask.
- 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.
(<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 standard infectious disease procedures/precautions for a transfer of the patient or PUI to the receiving healthcare facility (e.g., wheel the patient directly into an examination room).

E. Documentation of patient care

- Documentation of patient care should be done after EMS clinicians have completed transport, removed and disposed of their PPE, and performed hand hygiene.
 - Any written documentation should match the verbal communication given to the emergency department (ED) providers at the time the patient was transferred to the ED.
- 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 and for potential contact tracing. Any release of information should be in accordance with all laws and regulations.

F. Cleaning EMS Transport Vehicles after Transporting a PUI or COVID-19 Positive Patient

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 required 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 surgical mask 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 aerosol-generating procedures are performed.
- Products with EPA-approved emerging viral pathogens claims are recommended for use against COVID-19. Refer to 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 COVID-19.
- 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 transport 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 using the equipment 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.

G. Follow-up and/or Reporting Measures by EMS Clinicians After Caring for a PUI or COVID-19 Positive Patient

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

- State or local public health authorities should be notified about the patient so appropriate follow-up monitoring can occur.
- 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.
 - 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.