



EBOLA PATIENT PREPARATION FOR TRANSPORT, PATIENT MOVEMENT & DECONTAMINATION PROCEDURES

Unscheduled Person Under Investigation (PUI) Transport

If a 9-1-1 medical call is received by the local Public Safety Answering Point (PSAP) in El Dorado County, it will be transferred to the Camino Interagency Emergency Command Center (ECC) for Emergency Medical Dispatch triaging and dispatching of the emergency response.

- During this process, patients will be screened for Ebola Virus Disease (EVD) for the presence of EVD symptoms and confirmation if they have been to or in contact with someone who is a known EVD patient or has traveled to an area where an EVD outbreak is occurring.
- If the ECC determines that a patient is a PUI for EVD, they will notify the responders of “*flu like symptoms: positive screening*” prior to arrival at scene.

Patient Assessment

The CDC makes the following recommendations for EMS and Medical First Responders ¹.

1. “Address scene safety:
 - If PSAP call takers advise that the patient is suspected of having Ebola, EMS personnel should put on the PPE appropriate for suspected cases of Ebola **before** entering the scene.
 - Keep the patient separated from other persons as much as possible.
 - Use caution when approaching a patient with Ebola. Illness can cause delirium, with erratic behavior that can place EMS personnel at risk of infection, e.g., flailing or staggering.
2. During patient assessment and management, EMS personnel should consider the symptoms and risk factors of Ebola:
 - A relevant exposure history should be taken including:
 - Residence in or travel to a country where an Ebola outbreak is occurring, or
 - Contact with blood or body fluids of a patient known to have or suspected to have Ebola within the previous 21 days.
 - Because the signs and symptoms of Ebola may be nonspecific and are present in other infectious and noninfectious conditions which are more frequently encountered in the United States, relevant exposure history should be first elicited to determine whether Ebola should be considered further.
 - Patients who meet this criteria should be further questioned regarding the presence of signs or symptoms of Ebola Virus Disease, including:



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- Fever (subjective or $\geq 100.4^{\circ}\text{F}$ or 38.0°C), and
- Headache, weakness, muscle pain, vomiting, diarrhea, abdominal pain, or bleeding.
- Based on the presence of risk factors and symptoms, put on or continue to wear appropriate PPE and follow the scene safety guidelines for suspected case of Ebola.
- If during initial patient contact and assessment and before an EMS provider has donned the appropriate PPE, it becomes apparent that the patient is a suspected case of Ebola, the EMS provider must immediately remove themselves from the area and assess whether an exposure occurred. The provider should implement their agency's exposure plan, if indicated by assessment.
 - To minimize potential exposure, it may be prudent to perform the initial screening from at least 3 feet away from the patient.
 - In addition, EMS crews may – keeping scene safety in mind – consider separating so that all crew members do not immediately enter the patient area.
- If there are no risk factors, proceed with normal EMS care.”

Transfer of Patient Care to a Healthcare Facility

- The receiving hospital should be notified as soon as it is determined that a PUI will be transported. This communication should be clearly conveyed using phrases such as “person under investigation for Ebola virus disease”.

Scheduled Ebola Patient Transport

CALL PRE-SCREENING/PLANNING

El Dorado County JPA ambulances may be asked to transfer a suspected or confirmed Ebola patient between healthcare facilities. To assure patient, public and employee safety, such a transport must be carefully planned. The steps below describe the process a requested ambulance should follow:

- Ask for or coordinate a **phone discussion between the treating physician and ambulance crew.** The purpose of this call is to clarify the patient's diagnosis and discuss the patient's acuity and treatment plan. It will also be important to establish that the patient's condition is stable enough for transport. This may also be an opportunity to discuss PPE for the patient as well as to se to what extent the ambulance needs to be protected.
- Identify hospital personnel who will be planning the transfer, accepting the patient, and coordinating disinfection and cleanup following the transfer. Have contact numbers on file for each.



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- As with any inter-facility transport, confirm the treatment that the patient will need to receive during transit (medications, ventilator, etc.) and assure that it is within the scope of practice for your crew. If necessary request that the hospital provide an appropriately trained clinician to provide "out of scope" care during transport.
- Assure that the receiving facility is aware of the patient's status and has the appropriate team to receive the patient. Confirm the timing of the transport.
- Identify a supervisor that will oversee vehicle preparation, monitor transfer and provide information and support to crews following the transport.
- Secure appropriate equipment and supplies for the transport

PERSONAL PROTECTION

Various means of protection will include protecting the Caregiver from all routes of entry through the use of PPE, barriers in the patient compartment of the ambulance, proper decontamination of the ambulance/equipment and proper disposal of the waste generated. The following guidelines will be observed during these processes.

- Isolation of the ambulance surfaces in the Patient Compartment while making available necessary patient care equipment.
- Caregivers should wear the appropriate PPE:
 - Tychem suit without integrated hood and booties
 - Single use disposable shoe covers
 - Double nitrile glove (outer with extended cuffs)
 - Single-use (disposable) N95/P100 respirator or APR/PAPR if indicated by patient or transport condition
 - Single-use (disposable) surgical hood extending to shoulders
 - Impermeable apron
 - Single-use (disposable) full face shield
- N95 or P100 respirators will be worn from initial patient contact through completion of decontamination. N95 or P100 respirators are already stocked on the ambulance and routinely utilized by Caregivers (employer specific).
- Frequent hand washing with disinfectant solution.



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- Avoid aerosol-generating procedures, such as airway placement, administration of nebulized medications, tracheal suction, CPAP, etc. If it is necessary to perform these procedures, do so after the unit pulls to a safe location and stops and after donning the above PPE including the N95 or P100 respirator.
- If possible, avoid starting IV access during transport. If necessary, venous access should be obtained after the unit pulls to a safe location and stops. Careful attention should be taken with the disposal of all sharps in the sharps container.

AMBULANCE PATIENT COMPARTMENT PREPARATION

Ambulance preparation will be done with the purpose of segregating the cab from the patient compartment and covering the cabinetry/shelving, ceiling, seating and floor with an impermeable barrier.

Supplies:

- 6 mil clear plastic sheeting
- Large plastic garbage bags
- ChemTape or Duct Tape
- Scissors

Procedures:

All sheeting should overlap prior sheets of plastic by a minimum of 1 inch. All seams should be sealed completely by duct tape.

1. Cover the ceiling of the patient compartment with plastic sheeting and affix with duct tape.
2. Place sheeting on the floor of the rig and affix to bench seat, jump seat and walls to create a bowl effect in an effort to channel any body fluids toward the center of the floor causing fluids to collect in one area.
3. Place plastic sheeting over the walls (sides and bulkhead) by affixing it to the edges of the sheeting for the ceiling and floor with duct tape to enable any flow of fluid to be captured on the sheet on the floor.
4. Wall sheeting should overlap with the upper portion over the lower portion to prevent any body fluid from leaking between sheets by gravity.
5. The gurney antlers and clamp will need to be accessible through the plastic sheeting for safe transport of the gurney and patient. Seal these openings generously with ChemTape or duct tape so that all fluids flow to the sheeting on the floor.



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6. Leave openings around ventilation ports to allow proper airflow and exchange.
7. Continue to overlap sheeting down and over seating to the floor. Cover rear doors with plastic sheeting and duct tape.

GURNEY PREPARATION

Supplies:

- Impermeable mattress cover (Or) Large Garbage Bags and Duct Tape

Cover mattress pad with fitted impermeable mattress cover. If no impermeable mattress cover is available then use large garbage bags and over each end overlapping and sealing with duct tape.

AMBULANCE CAB

Supplies:

- Backup EVD PPE
- N95 or P100 Respirator
- Impermeable Decontamination Disposal Sheet (plastic sheeting sufficient to hold gurney and crew)
- Multiple Red Biohazard Bags (enough for blood and body fluids, linens, PPE and plastic sheeting)
- Extra Gloves and Shoe Covers
- PCRs Etc.

CREW PREPARATION

EVD patient transports will be done by three person crews. The third crewmember, "Driver," will assume no patient contact nor enter the patient compartment, to remain decontaminated during the transport and to avoid contamination of the cab area. The Driver can be utilized as the CDC recommended "Trained Observer" for PPE donning and doffing.

Prior to patient contact, each patient caregiver will don the PPE while the third crewmember assists by checking for integrity issues or exposed body parts. Donning and doffing of PPE should be coordinated by the Trained Observer. The trained observer should use the CDC document *"Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, including Procedures for Putting On (Donning) and Removing (Doffing)"*. This document should be read aloud, step by step, during the doffing of PPE to assure the proper removal of contaminated clothing is occurring safely.



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Consider changing into scrub attire and leaving personal items such as wristwatches, cell phones, keys and wallets in an area where they do not have potential to become contaminated.

Supplies:

- Approved Tychem Suit without integrated hood (can be tucked in or removed if hood is present)
- Single-use (disposable) shoe covers
- Double nitrile gloves (outer with extended cuffs)
- Single-use (disposable) N95/P100 respirator or APR/PAPR if indicated by patient or transport condition
- Single-use (disposable) surgical hood extending to shoulders
- Single-use (disposable) full face shield

FACILITY TRANSPORT and ARRIVAL

Driver will notify the receiving facility of arrival and don PPE.

Throughout movement of patient into facility, the patient care crew will take steps to prevent secondary contamination of any surfaces, such as avoiding the touching doors handles with contaminated gloves. The monitor of the PPE Donning and Doffing who did not have contact with the patient should drive the ambulance to avoid potential contamination of the driver's cab.

Procedure:

1. After notifying receiving facility staff of arrival, coordinate with Hospital staff for the transfer of the patient from the ambulance into the facility.
2. The following items may be considered with regard to the movement of the patient from the ambulance into the facility:
 - The Driver should take all precautions to remain a safe distance from the patient to avoid contamination. The Driver may assist by opening doors and clearing the path for patient movement.
 - The Driver will take decontamination and disposal sheet placing it on the ground at rear of unit with a change of shoe coverings and gloves available for the patient crew. A biohazard bag should also be available.
 - Any body fluid contamination on gurney wheels will be disinfected with appropriate disinfectant such as CaviCide (3 minute contact-time per manufacturer).



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- Patient crew will unload patient and then remove current shoe covering and outer gloves and put on clean ones so as not to track potential contamination into the receiving facility. Dispose of used PPE in Red Biohazard Bag.
- The patient will be transferred into the hospital by the patient crew at the direction of the hospital staff.
- The Patient crew will remove and dispose of PPE in the hospital isolation area at their direction following infection control procedures or on the decontamination sheet at the rear of the unit.
- The gurney and all equipment will be considered infectious and handled with the appropriate PPE until properly decontaminated.
- The decontamination sheet, PPE, materials and equipment will be collected and double bagged with Red Biohazard Bags at the ambulance observing body fluid precautions and then placed in the rear of the ambulance for proper decontamination and disposal later.

AMBULANCE DECONTAMINATION

If the facility requests decontamination, the Ambulance should be decontaminated onsite at their direction. Otherwise, the Ambulance will be driven to a designated location for decontamination taking into consideration segregating it from nonessential personnel. Also, consider indoor facility to prevent contaminated materials from incidentally being blown away or protecting it from weather. Collection and disposal of Class A Infectious waste should be coordinated with the receiving facility.

Supplies:

- Impermeable Decontamination Sheet (plastic sheeting)
- Approved Tuberculocidal Disinfectant such as CaviCide with a contact time of 3 minutes or 1:10 Solution of freshly prepared (<12 hrs.) Bleach to Water with a contact time of 10 Minutes
- Disposable cleaning towels
- Red Biohazard Bags
- Red Biohazard Containers labelled "Class A Infectious Waste" (facility should provide)
- EVD PPE

Decontamination Procedures:

1. Don necessary EVD PPE.
2. Lay impermeable decontamination sheet on the ground at the back of the ambulance and side doors and have biohazard containers available.



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3. Clean up any body fluids and double bag (Red Biohazard Bags) cleaning materials placing those materials in EVD containers.
4. EVD containers should be red-biohazard containers labelled "Class A Infectious Waste" and maintained separate from all other red bag waste.
5. Double bag (Red Biohazard Bags) all disposable materials/equipment and place into EVD containers.
6. Place equipment including gurney antlers on decontamination sheet for proper disinfecting.
7. Remove any contaminated materials from equipment and disinfect equipment using recommended disinfectant and place on clean sheet for drying.
8. Double bag (Red Biohazard Bags) all contaminated rags/wipes into properly labeled Red Biohazard Bags.
9. Remove impermeable barriers from unit and double bag (Red Biohazard Bags) placing those properly labeled EVD containers.
10. Fold decontamination sheets and double bag (Red Biohazard Bags) placing those in proper EVD containers.
11. Place new contamination sheets out.
12. Wipe down all surfaces inside ambulance and outside door handles with recommended disinfectant and double bag (Red Biohazard Bags) materials placing them in properly labeled EVD containers.
13. Remove PPE and place PPE in double bag (Red Biohazard Bags) and place in EVD containers.
14. Using gloves, fold decontamination sheets, place in double bag (Red Biohazard Bags) with PPE and put into EVD containers.
15. Wash outside of ambulance in normal fashion and location using PPE.

References:

1. Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients with Known or Suspected Ebola Virus Disease in the United States. (2014, October 28). <http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html>
2. Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for



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Putting On (Donning) and Removing (Doffing). (2014, October 21).

<http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>