

Patient Encounter

Depending on the information provided, EMS responders may wish to repeat the travel history at the door, before contacting the patient.

Response to patients with suspicion of Ebola infection (positive travel history and clinical presentation) may require modification of typical resource allocation to minimize risk to responders. Patient management considerations begin with the strategy of limiting personnel and equipment exposure to the suspected Ebola patient. The number of EMS personnel involved in patient contact should be kept to the minimum necessary for treatment and transport.

If the patient has been identified prior to entering with a positive screening history for risk of Ebola infection, consider the following procedures.

- When there are fire agency first responders, they may remain outside to serve as Incident Command, scene control, communications, providing minimum necessary equipment to avoid unnecessary contamination and monitoring donning of PPE. They would then follow the transport unit to the hospital to provide oversight for doffing and management of contaminated waste.
- If the patient is able to ambulate and walk to the ambulance, only one provider could enter the residence; this is preferred over exposing two EMS personnel.
- If the patient needs a gurney, the two providers go in with the patient, and two remain outside to serve the functions above, if there are sufficient personnel.
- The “two in” personnel don enhanced contact precautions PPE for patient contact, including interviewing the patient and refining history.
- The “two out” personnel remain outside of the door/room and make no physical contact with the patient or the immediate surroundings (6 feet or more and no body fluids).

Only essential equipment should be passed to those with patient contact. Unless absolutely necessary, only Basic Life Support (BLS) care should be provided to avoid procedures in an uncontrolled environment and limit the use of sharps with PPE.

- Limit activities, especially during transport that can increase the risk of exposure to infectious material.
- No procedures should be attempted in a moving ambulance.
- Limit the use of needles and other sharps as much as possible.
- All needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers.
- In the case of a cardiac or respiratory arrest, EMS personnel will need to consider risk/benefit ratio for an EMS Screened Positive Patient. Resuscitation procedures can produce aerolization of contaminated droplet particles. EMS

personnel must be in full PPE if providing ventilatory support. Any questions concerning the initiation of resuscitation efforts should be directed to the base hospital.

EMS personnel shall make base hospital contact or use ALS-no-contact as required by local EMS policy. The intent is to be operationally independent regarding responder safety and incident management. If EMS personnel receive conflicting advice from a base hospital, follow the guidance in this framework.

Personal Protective Equipment

Policy and Procedure Issue:

PPE recommendations and procedures for donning and doffing must be reviewed by and be consistent with CalOSHA and CDPH recommendations. While these are being developed, CDC guidelines for EMS personnel apply as the minimum standard. Providers may exceed that standard.

Recommended PPE:

PPE should be targeted to the level of risk of the patient and the risk of exposure to the EMS or public safety personnel. The Interagency Board for Equipment Standardization and Interoperability (IAB) is recognized by CDC and ASPR as a source for additional information on nationally-recognized standards on appropriate PPE for protecting first responder personnel. They have issued guidelines that outline determination of patient risk and appropriate levels of PPE, in addition to clear descriptions of types of PPE that fit the requirements for protection.

https://iab.gov/Uploads/IAB%20Ebola%20PPE%20Recommendations_10%2024%2014.pdf

If the patient provides a positive travel history or exposure then they should be presumed to be actively infectious with the Ebola virus and the highest level PPE should be utilized.

Highest level protection is designed to eliminate any and all skin and mucous membrane exposure. Any combination of the below to achieve this requirement is recommended:

Level C splash protection

Full body suit

Double Gloves

Boots and boot covers (booties)

Hooded Face shield or similar, covers front and sides of face

N95 filtering face piece fluid resistant respirator (minimum requirement) or PAPR/SCBA respirator.

If the patient provides a negative travel history and no other likely exposure, then standard precautions for the clinical presentation should be employed.

It is possible, though unlikely, that EMS personnel may encounter a potentially but otherwise unknown at risk patient for an unrelated condition (i.e., an auto accident). To guard against unnecessary exposure, personnel should simply inquire as to any recent travel history outside the US in the least 21 days, even if this is seemingly otherwise unrelated to the patient's chief complaint. If the answer to this inquiry is no, then no further questioning is warranted. However, a "Yes" response to the travel question should be followed up with questioning specific to the area of travel. Based on the response to this questioning protection as recommended above may be appropriate.

Any respiratory procedures or management of a suspected EVD patient actively vomiting or having diarrhea while in the ambulance warrant maximal protection. For prolonged transports of confirmed or high risk patients, a PAPR is recommended.

Donning and Doffing of PPE

The following principles apply to EMS personnel as well as to hospital personnel caring for Ebola infected patients.

1. Prior to working with Ebola patients, all healthcare workers involved in the care of Ebola patients must have received repeated training and have demonstrated competency in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE.
2. While working in PPE, healthcare workers caring for Ebola patients should have no skin exposed.
3. Each step of PPE donning/doffing procedure must be supervised by a trained observer to ensure proper completion of established PPE protocols. This may be as simple as having one provider put on PPE and manage the patient while the other provider does not engage in patient care but serves in the role of trained observer and driver.
 - EMS personnel wearing PPE who have cared for the patient must remain in the back of the ambulance and not be the driver.
 - EMS agencies may consider sending additional resources (for example, a dedicated driver for the EMS unit who may not need to wear PPE if the patient compartment is isolated from the cab) to eliminate the need for putting on PPE (field-donning) by additional personnel. This driver should not provide any patient care or handling.

If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with the EMS provider's skin or mucous membranes, then the EMS provider should immediately stop working. They should wash the affected skin surfaces with soap and water and mucous membranes (e.g., conjunctiva) should be irrigated with a large amount of water or eyewash solution. Report exposure to an occupational health provider or supervisor for follow-up.

Recommended PPE should be used by EMS personnel as follows:

- PPE should be put on before entering the scene and continued to be worn until personnel are no longer in contact with the patient. PPE should be carefully put on under observation as specified in the CDC's "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)".
- PPE should be carefully removed while under observation, in an area designated by the receiving hospital, and following proper procedures as specified in the CDC's guidance.

All personnel should be trained in proper donning and doffing of recommended PPE. Particular attention should be devoted to doffing as the PPE should be considered contaminated. Appropriate procedures for disposal of contaminated material should be developed. Refer to CDC protocol and to California Department of Industrial Relations (CalOSHA) video (under development) for details. The following procedure is a standard method.

- Donning
 - Dress in hooded over-garment
 - Put on N-95 or P-100 respirator
 - Pull hood over head, neck and face to cover all skin areas (tape if necessary)
 - Put on full-face shield
 - Double glove with both sets of glove cuffs extending over the over-garment sleeves
 - Tape them if necessary to prevent skin from becoming exposed
 - Have another person check that all skin areas are covered and the double gloves are tightly over the sleeves of the over-garment with several inches of overlap
 - Under observation extend and flex neck, extend arms, flex at the waist, stoop and squat to be certain the PPE is properly fitted and that no skin becomes exposed
- Doffing
 - Critical moment in patient care provider safety and must be followed exactly under direct supervision and reading of the step-by-step procedure
 - Doffing may occur either by the individual in the PPE or by another personnel in PPE cutting the over-garment (see below)
 - As each PPE component is removed place them in a red biohazard bag
 - Wash outer gloves in 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses /alcohol based hand rub
 - Remove outer gloves by inserting fingers under cuff and inverting
 - Use the cutting procedure below if tape was used

- Wash inner gloves in 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses/alcohol based hand rub
- Remove face shield
- Wash inner gloves in 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses /alcohol based hand rub
- Wash inner gloves with 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses /alcohol based hand rub
- Open front zipper of over-garment
 - Defer if cutting procedure below is used
- Wash inner gloves in 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses /alcohol based hand rub
- Remove over-garment
 - If cutting procedure is used:
 - Have person in PPE stand with feet apart and arms extended outward
 - From behind, a second person in PPE uses clean scissors to cut down the back, down each leg and out along each arm
 - Allow over-garment to fall forward and off of individual
- Remove respirator
- Wash inner gloves in 0.5% bleach/EPA registered disinfectant rated for non-enveloped viruses /alcohol based hand rub
- Remove inner gloves
- Wash hands

PPE breach

- If a breach of PPE occurs during patient care the crew member will exit patient care
- Doff PPE and wash with soap and water and/or disinfect the exposed area with 0.5% bleach
- Crew member will be monitored in coordination with Public Health