Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Tom Lynch, EMS Administrator
Reza Vaezazizi, MD, Medical Director

DATE: October 15, 2014

TO: Mono County EMS Providers - ALS, LALS, BLS, EMS Aircraft

FROM: Reza Vaezazizi, MD
Medical Director

SUBJECT: **EBOLA PREPAREDNESS**

ICEMA is aware of the abundant amount of information being disseminated about the EBOLA Virus Disease (EVD). After further review with Richard O. Johnson, MD, Public Health Officer, Mono County Health Department, ICEMA is asking EMS providers to reference the attached guidelines and encourages EMS providers to review their own infection control policies and procedures to identify any gaps in training and equipment. The first three (3) documents below are attached for your reference and links for all four (4) documents are listed at the end of this memo.

- Guidance for California EMS/Public Safety Personnel: Management of patients with possible Ebola Infection (Rev 9/4/2014) [1]
- Sequence for Putting on Personal Protective Equipment (PPE) [2]
- Detailed Emergency Medical Services (EMS) Checklist for Ebola Preparedness [3]
- Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1- Public Safety Answering Pints (PSAPs) for Management of Patients with Known or Suspected Ebola Virus Disease in the United States [4]

EMS providers are strongly encouraged to pay very close attention to the following items covered in details in the attached documents.

- Ensure there is adequate inventory of proper Personal Protective Equipment (PPE) that meets CDC recommended standards.
- Ensure appropriate training of EMS personnel in proper donning and removal of PPE equipment and proper disposal as outline in the attached CDC guidelines

1425 South "D" Street ▪ San Bernardino, CA 92415-0060
(909) 388-5823 office ▪ (909) 388-5825 fax ▪ www.icema.net

If you have any questions, please do not hesitate to contact Sherri Shimshy, RN, EMS Specialist, at (909) 388-5816 or via e-mail at Sherri.Shimshy@cao.sbcounty.gov.

RV/jlm

Attachments

c: File Copy

1 http://www.emsa.ca.gov/Media/Default/PDF/Ebola%20EMS%20Guidance.pdf
2 http://www.cdc.gov/hai/pdfs/ppe/14_250672-D_PPE_508.pdf
3 http://www.emsa.ca.gov/Media/Default/PDF/EbolaChecklist.pdf
4 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

Guidance for California EMS/Public Safety Personnel:
Management of patients with possible Ebola infection (Rev 9/4/2014)

This information is intended for: Managers of 9-1-1 Public Safety Answering Points (PSAPs), EMS Agencies, EMS systems, law enforcement agencies and fire service agencies as well as individual emergency medical services providers (including emergency medical technicians (EMTs), paramedics, and medical first responders, such as law enforcement and fire service personnel).

Purpose: Guidance and model protocol for handling inquiries and responding to patients with suspected Ebola symptoms, and for safety of first responders and EMS providers.

Intended use and California modifications: The CDC issued guidance for EMS that provides information to understand infectious transmission of Ebola and appropriate safety measures for public safety and EMS personnel. (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) This document incorporates specific modifications to the CDC guidance recommended by California public health communicable disease and EMS experts to improve application in the prehospital environment.

Application to EMS protocol: The elements of this guidance may be applied to modifications in local dispatch and EMS provider protocols.

Key Points:

- Ebola is an often-fatal disease and care is needed when coming in direct contact with a recent traveler from a country with an Ebola outbreak that has symptoms that may be caused by Ebola.
- The prevention of Ebola includes actions to avoid exposure of public safety or EMS personnel to blood or body fluids (like urine, saliva, feces, vomit, sweat) of infected patients through contact with the skin, mucous membranes of the eyes, nose, or mouth, or injuries with contaminated needles or other sharp objects. The likelihood of contracting Ebola is extremely low unless a person has direct unprotected contact with the blood or body fluids of a person who is sick with Ebola.
- PSAP and EMS personnel should assess the risk of exposure of patients who complain of fever plus other symptoms such as vomiting or diarrhea by asking about residence in or travel to a country where an Ebola outbreak is occurring (currently limited to a few areas of West Africa).
- PSAPS should tell EMS personnel this information before they get to the location so they can put on the correct personal protective equipment (PPE) (described below).
- If a symptomatic patient has a risk of exposure, EMS staff should use appropriate infectious precautions and notify the receiving healthcare facility in advance.
- If responding at an airport or other port of entry to the United States, the PSAP should notify the CDC Quarantine Station for the port of entry.

Updates on Ebola will be posted as needed on the CDC Ebola webpage. This information complements existing guidance for healthcare personnel, Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals

Background

The current Ebola outbreak in West Africa has increased the possibility of patients with Ebola traveling from the affected countries to the United States.[1] The likelihood of contracting Ebola is extremely low unless a person has direct unprotected contact with the body fluids (like urine, saliva, feces, vomit, sweat, and semen) of an infected person or direct handling of bats, rodents, or nonhuman primates from areas with Ebola outbreaks.[2] Initial signs and symptoms of Ebola include sudden fever, chills, and muscle aches, with diarrhea, nausea, vomiting, and abdominal pain occurring after about 5 days. Other symptoms such as chest pain, shortness of breath, headache, or confusion, may also develop. Symptoms may become increasingly severe and may include jaundice, severe weight loss, mental confusion, bleeding inside and outside the body, shock, and multi-organ failure.[3]

Ebola is an often-fatal disease and care is needed when coming in direct contact with a recent traveler from a country with an Ebola outbreak that has possible symptoms of Ebola. The initial signs and symptoms of Ebola are similar to many other more common diseases. Ebola should be considered in anyone with fever who has traveled to, or lived in, an area where Ebola is present. [2] The incubation period for Ebola, from exposure to when signs or symptoms appear, ranges from 2 to 21 days (most commonly 8-10 days). Patients without symptoms who have been exposed to Ebola are not contagious. The prevention of Ebola includes actions to avoid exposure to blood or body fluids of infected patients through contact with skin, mucous membranes of the eyes, nose, or mouth, or injuries with contaminated needles or other sharp objects.

The CDC's most current case definition for EVD may be accessed at:
http://www.cdc.gov/vhf/ebola/hcp/case-definition.html.

Emergency medical services (EMS) personnel, along with other emergency services staff, have a vital role in responding to requests for help, triaging patients, and providing emergency treatment to patients. Unlike patient care in the controlled environment of a hospital or other fixed medical facility, EMS patient care before getting to a hospital is provided in an uncontrolled environment. The EMS setting is often confined to a very small space and frequently requires rapid medical decision-making and interventions with limited information. EMS personnel may be unable to determine the patient history before having to administer emergency care.

Coordination among 9-1-1 Public Safety Answering Points (PSAPs), the EMS system, healthcare facilities, and the public health system is important when responding to patients with suspected Ebola.

Recommendations for 9-1-1 Public Safety Answering Points (PSAPs)

Local EMS authorities may authorize PSAPs and other emergency call centers to use modified caller queries about Ebola. Local EMS medical directors should coordinate with their local public health department to review existing medical dispatch procedures. Given time constraints, and low risk of Ebola in the U.S. (no cases at this time), it may be impractical to further question callers with common nonspecific symptoms.

- PSAP call takers should consider screening callers for risk factors of Ebola by questioning callers who report *fever* (with or without additional symptoms of severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained bleeding) regarding history of travel during the 21 days prior to onset of fever to a region where an Ebola outbreak is occurring. As of

August, 2014, Ebola outbreaks are occurring in the countries of Guinea, Liberia, and Sierra Leone; there are also cases of Ebola in the city of Lagos, Nigeria; for updated information about regions where Ebola outbreaks are occurring, see: http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html.

- If PSAP call takers have information alerting them to a person with possible Ebola, they should make sure any first responders and EMS personnel are made confidentially aware of the potential for Ebola before the responders arrive on scene.
- If responding at an airport or other port of entry to the United States, the PSAP should notify the CDC Quarantine Station for the port of entry. Contact information for CDC Quarantine Stations can be accessed at the following. CDC quarantine stations are located at California airports in San Francisco, Los Angeles, and San Diego.
  link: http://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html

Recommendations for EMS and Medical First Responders, Including Firefighters and Law Enforcement Personnel

For the purposes of this section, "EMS personnel" means pre-hospital EMS, law enforcement and fire service first responders.

Patient assessment

1. EMS personnel should not rely on PSAP to screen patients for Ebola due to dispatch time constraints and incomplete patient history. The patient or family may not complain of fever and usually have not taken a temperature. There may be language and cultural issues that determine the chief complaint. Therefore, during patient assessment and management, EMS personnel should assess for risk factors of Ebola.
   - Symptoms of Ebola are nonspecific. If the patient has *fever* (with or without additional symptoms of severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained bleeding) ask the patient about risk factors:
     - Was there any travel outside the country within the past 3 weeks before the onset of symptoms to an area infected with Ebola? As of August 2014, these include the West African countries of Guinea, Liberia, and Sierra Leone, and the city of Lagos, Nigeria. (a list of impacted countries can be accessed at the following link: http://www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html)
   - Based on the presence of symptoms and geographic exposure, put on or continue to wear appropriate PPE and follow the scene safety guidelines for suspected case of Ebola.
   - If there are no risk factors, proceed with normal EMS care.
   - Further risk assessment can be done at the hospital. High risk of infection also requires a history of:

  - Contact with blood or body fluids of a patient known to have or suspected to have Ebola;
  - Direct handling of bats, rodents, or non-human primates from disease-endemic areas. (Animal exposures are not likely to be present in travelers to the U.S.)

2. Address scene safety:
   - If PSAP call takers advise EMS that the patient has a risk of Ebola, EMS personnel should put on the PPE appropriate for suspected cases of Ebola (described below) 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.

Patient treatment

Ebola infection may cause dehydration and shock due to fluid loss, bleeding, and organ failure. Hypoxia may result from altered mental status, vomit or blood in the airway, or pulmonary compromise. Pre-hospital treatment is supportive. Any interventions such as airway management or fluid resuscitation must be done cautiously to avoid exposure to blood or body fluids (see below).

Infection Control

EMS personnel can safely manage a patient with suspected or confirmed Ebola by following recommended isolation and infection control procedures, including standard, contact, and droplet precautions. Particular attention should be paid to protecting mucous membranes of the eyes, nose, and mouth from splashes of infectious material, or self-inoculation from soiled gloves.

- Phlebotomy, procedures, and laboratory testing should be limited to the minimum necessary for essential diagnostic evaluation and medical care.
- All needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers. Limit the use of needles and other sharps as much as possible.
- During transport, in the confined space of an ambulance, avoid procedures that can increase the risk of exposure to infectious material (e.g., airway management, cardiopulmonary resuscitation, use of needles), if possible, stop briefly to perform procedures.

Use of Personal protective equipment (PPE)

1. Use of standard, contact, and droplet precautions is sufficient for most situations when treating or transporting a patient, including interfacility transport, with a suspected case of Ebola as defined above. EMS personnel should wear:
   - Gloves
   - Gown (fluid resistant or impermeable)

  - Eye protection (goggles or face shield that fully covers the front and sides of the face)
  - Facemask
- EMS personnel may wear a N95 respirator (or equivalent) if the patient is vomiting or having copious diarrhea or bleeding, particularly if occurring in an enclosed and less controlled environment (e.g. moving vehicle).
- Additional PPE might be required in certain situations (e.g., large amounts of blood and body fluids present in the environment), including but not limited to double gloving, disposable shoe covers, and leg coverings.

2. Pre-hospital resuscitation procedures such as endotracheal intubation, open suctioning of airways, and cardiopulmonary resuscitation frequently result in a large amount of body fluids, such as saliva and vomit. Performing these procedures in a less controlled environment (e.g., moving vehicle) increases risk of exposure for EMS personnel. If conducted, perform these procedures under safer circumstances (e.g., stopped vehicle, hospital destination).
   - During pre-hospital resuscitation procedures (intubation, open suctioning of airways, cardiopulmonary resuscitation):
     - In addition to recommended PPE, respiratory protection that is at least as protective as a NIOSH-certified fit-tested N95 filtering facepiece respirator or higher should be worn (instead of a facemask).
     - Additional PPE must be considered for these situations due to the potential increased risk for contact with blood and body fluids including, but not limited to, double gloving, disposable shoe covers, and leg coverings.
3. 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 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 worn upon entry into the scene and continued to be worn until personnel are no longer in contact with the patient.
- PPE should be carefully removed without contaminating one's eyes, mucous membranes, or clothing with potentially infectious materials.
- PPE should be placed into a medical waste container at the hospital or double bagged and held in a secure location.
- Re-useable PPE should be cleaned and disinfected according to the manufacturer's reprocessing instructions and EMS agency policies.
- Instructions for putting on and removing PPE have been published online athttp://www.cdc.gov/HAI/prevent/ppe.html and http://www.cdc.gov/vhf/ebola/pdf/ppe-poster.pdf[PDF - 2 pages].

- Hand hygiene should be performed immediately after removal of PPE.

EMS Transfer of Patient Care to a Healthcare Facility

EMS provider agencies should consider removing a vehicle from service that has been used to transport a patient considered high risk for Ebola infection until adequate disinfection can be accomplished.

Personnel should notify the receiving healthcare facility when transporting a suspected Ebola patient, so that appropriate infection control precautions may be prepared prior to patient arrival. Any U.S. hospital that is following CDC's infection control recommendations and can isolate a patient in a private room is capable of safely managing a patient with Ebola.

Environmental infection control

Environmental cleaning and disinfection, and safe handling of potentially contaminated materials is essential to reduce the risk of contact with blood, saliva, feces, and other body fluids that can soil the patient care environment. EMS personnel should always practice standard environmental infection control procedures, including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of U.S. Food and Drug Administration (FDA) cleared or authorized medical PPE. For additional information, see CDC's Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus.

EMS personnel performing environmental cleaning and disinfection should:

- Wear recommended PPE (described above) and consider use of additional barriers (e.g., shoe and leg coverings) if needed.
- Wear face protection (facemask with goggles or face shield) when performing tasks such as liquid waste disposal that can generate splashes.
- Use an EPA-registered hospital disinfectant with a label claim for one of the non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces. Alternatively, use a freshly prepared (i.e., within 12 hours) 1:50 dilution of household bleach (final working concentration of 100 parts per million or 0.1% hypochlorite solution) that is prepared fresh daily. Disinfectant should be available in spray bottles or as commercially prepared wipes for use during transport.
- Spray and wipe clean any surface that becomes potentially contaminated during transport. These surfaces should be immediately sprayed and wiped clean (if using a commercially prepared disinfectant wipe) and the process repeated to limit environmental contamination.

Cleaning EMS Transport Vehicles after Transporting a Patient with Suspected or Confirmed Ebola

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a patient with suspected or confirmed Ebola:

- EMS personnel performing cleaning and disinfection should wear recommended PPE (described above) and consider use of additional barriers (e.g., rubber boots or shoe and leg coverings) if needed. Face protection (facemask with goggles or face shield) should be worn since tasks such as liquid waste disposal can generate splashes.

- Patient-care surfaces (including stretchers, railings, medical equipment control panels, and adjacent flooring, walls and work surfaces) are likely to become contaminated and should be cleaned and disinfected after transport.
- A blood spill or spill of other body fluid or substance (e.g., feces or vomit) should be managed through removal of bulk spill matter, cleaning the site, and then disinfecting the site. For large spills, a chemical disinfectant with sufficient potency is needed to overcome the tendency of proteins in blood and other body substances to neutralize the disinfectant's active ingredient.
- An EPA-registered hospital disinfectant with label claims for viruses that share some technical similarities to Ebola (such as, norovirus, rotavirus, adenovirus, poliovirus) and instructions for cleaning and decontaminating surfaces or objects soiled with blood or body fluids should be used according to those instructions. Alternatively, a 1:10 dilution of household bleach (final working concentration of 500 parts per million or 0. 5% hypochlorite solution) that is prepared fresh daily (i.e., within 12 hours) can be used to treat the spill before covering with absorbent material and wiping up. After the bulk waste is wiped up, the surface should be disinfected as described in the bullet above.
- Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection according to agency policies. Reusable equipment should be cleaned and disinfected according to manufacturer's instructions by trained personnel wearing correct PPE. Avoid contamination of reusable porous surfaces that cannot be made single use.
- Use only a mattress and pillow with plastic or other covering that fluids cannot get through. To reduce exposure among staff to potentially contaminated textiles (cloth products) while laundering, discard all linens, non-fluid-impermeable pillows or mattresses as a regulated medical waste.

Occupational follow-up and/or reporting measures by EMS personnel after caring for a suspected or confirmed Ebola patient

EMS personnel should be aware of the follow-up and/or reporting measures they should take after caring for a suspected or confirmed Ebola patient.

- EMS agencies should develop policies for monitoring and management of EMS personnel potentially exposed to Ebola.
- EMS agencies should develop sick leave policies for EMS personnel that are non-punitive, flexible and consistent with public health guidance
- Ensure that 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 with exposure to blood, bodily fluids, secretions, or excretions from a patient with suspected or confirmed Ebola should immediately:

  - Stop working and wash the affected skin surfaces with soap and water. Mucous membranes (e.g., conjunctiva) should be irrigated with a large amount of water or eyewash solution;
  - Contact occupational health/supervisor for assessment and access to post-exposure management services; and
  - Receive medical evaluation and follow-up care, including fever monitoring twice daily for 21 days, after the last known exposure. They may continue to work while receiving twice daily fever checks, based upon EMS agency policy and discussion with local, state, and federal public health authorities.

- EMS personnel who develop sudden onset of fever, intense weakness or muscle pains, vomiting, diarrhea, or any signs of hemorrhage after an unprotected exposure (i.e., not wearing recommended PPE at the time of patient contact or through direct contact to blood or body fluids) to a patient with suspected or confirmed Ebola should:
  - Not report to work or immediately stop working and isolate themselves;
  - Notify their supervisor, who should notify local and state health departments;
  - Contact occupational health/supervisor for assessment and access to post-exposure management services; and
  - Comply with work exclusions until they are deemed no longer infectious to others.

[1] http://www.cdc.gov/vhf/ebola/hcp/patient-management-us-hospitals.html

[2] http://www.cdc.gov/vhf/ebola/hcp/case-definition.html

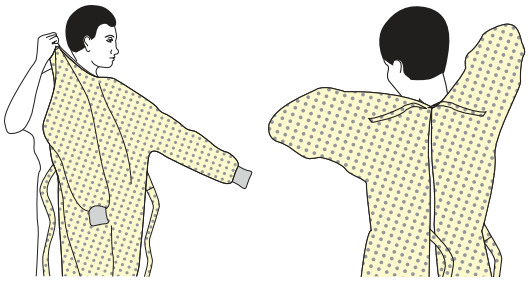
[3] http://www.cdc.gov/vhf/ebola/hcp/clinician-information-us-healthcare-settings.html

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

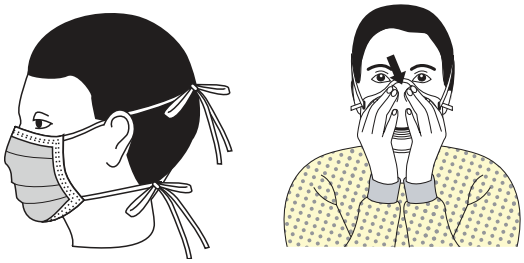
1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



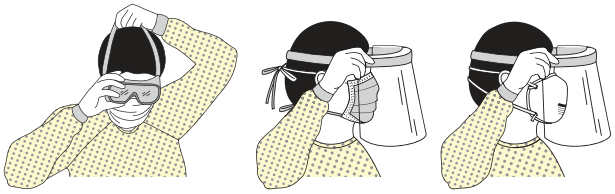
2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



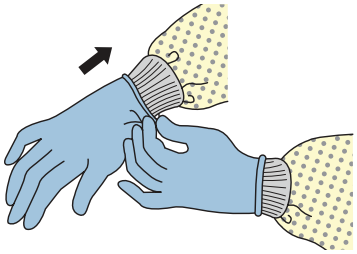
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

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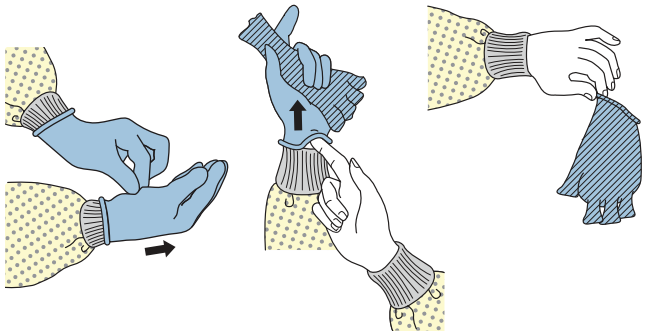
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in an infectious* waste container

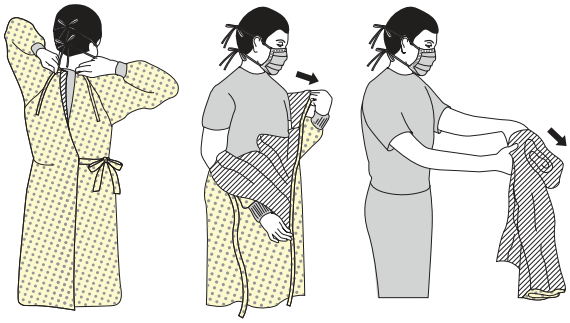


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container

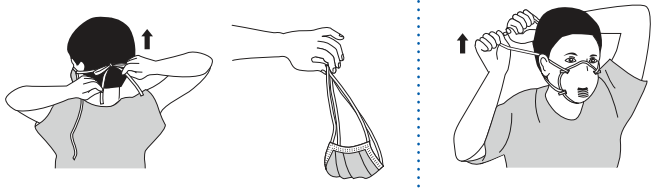
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in an infectious* waste container

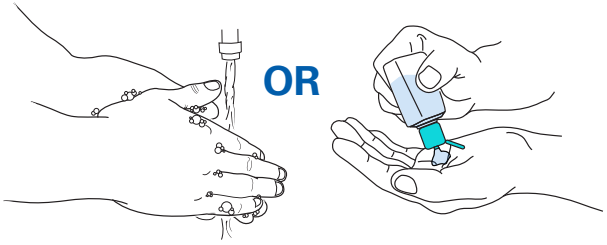


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in an infectious* waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



* An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.

PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

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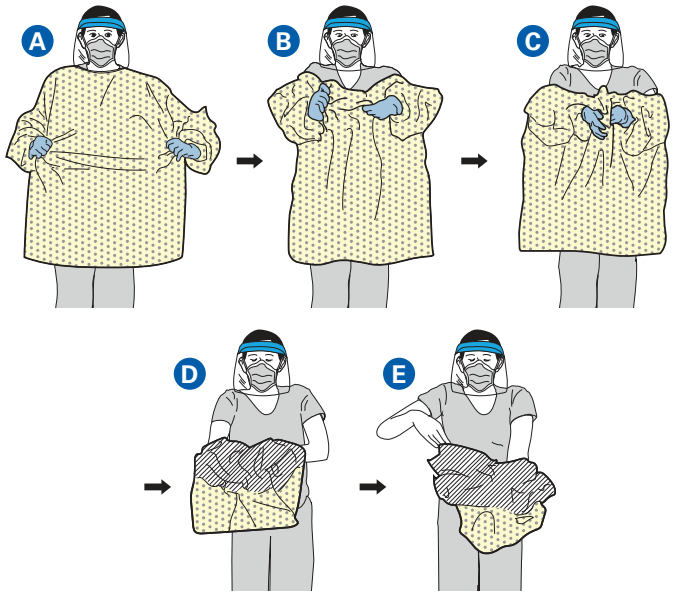
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into an infectious* waste container

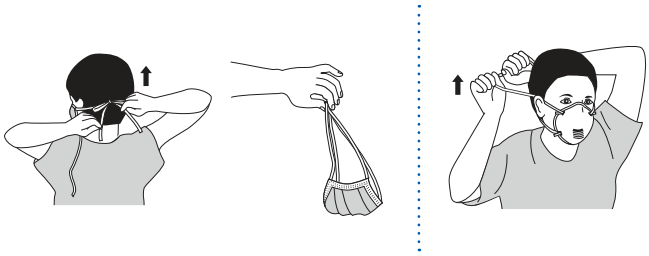


2. GOGGLES OR FACE SHIELD

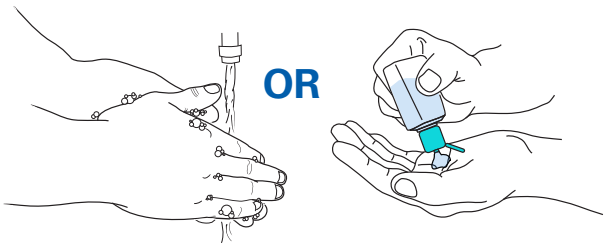
- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in an infectious* waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



* An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.

PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

CS250672-D

Detailed Emergency Medical Services (EMS) Checklist for Ebola Preparedness

The U.S. Department of Health and Human Services (DHHS) Centers for Disease Control and Prevention (CDC) and Office of the Assistant Secretary for Preparedness and Response (ASPR), in addition to other federal, state, and local partners, aim to increase understanding of Ebola and encourage U.S.-based EMS agencies and systems to prepare for managing patients with Ebola and other infectious diseases. Every EMS agency and system, including those that provide non-emergency and/or inter-facility transport, should ensure that their personnel can detect a person under investigation (PUI) for Ebola, protect themselves so they can safely care for the patient, and respond in a coordinated fashion**.** Many of the signs and symptoms of Ebola are non-specific and similar to those of other common infectious diseases such as malaria, which is commonly seen in West Africa. Transmission of Ebola can be prevented by using appropriate infection control measures.

This checklist is intended to enhance collective preparedness and response by highlighting key areas for EMS personnel to review in preparation for encountering and providing medical care to a person with Ebola. The checklist provides practical and specific suggestions to ensure the agency is able to help its personnel ***detect*** possible Ebola cases, ***protect*** **those** personnel, and ***respond*** appropriately.

Now is the time to prepare, as it is possible that individuals infected with Ebola virus in West Africa may travel to the U.S., develop signs or symptoms of Ebola , and seek medical care from EMS personnel.

EMS agencies, in conjunction with their medical directors, should review infection control policies and procedures and incorporate plans for administrative, environmental, and communication measures.

The checklist format is not intended to set forth mandatory requirements or establish national standards. It is a list of activities that can help each agency prepare. Each agency is different and should adapt this document to meet its specific needs. In this checklist, EMS personnel refers to all persons, paid and volunteer who provide pre-hospital emergency medical services and have the potential for direct contact exposure (through broken skin or mucous membranes) with an Ebola patient's blood or body fluids, contaminated medical supplies and equipment, or contaminated environmental surfaces.

This detailed checklist for EMS is part of a suite of HHS checklists. This guidance is only for EMS agencies and systems; the CDC's *Interim guidance for EMS* includes information for individual providers and for 9-1-1 Public Safety Answering Points.

CDC is available 24/7 for consultation by calling the CDC Emergency Operations Center (EOC) at 770-488-7100 or via email at eocreport@cdc.gov.

C=Completed; IP=In Progress; NS=Not Started

PREPARE TO DETECT	C	IP	NS
Train all EMS personnel on how to identify signs and symptoms of Ebola infections and to avoid risk of exposure.			
Review CDC Ebola case definition for guidance on who meets the criteria for a PUI for Ebola.			
Ensure EMS personnel are aware of current guidance: *Interim Guidance Emergency Medical Services Systems.*			
Review patient assessment and management procedures and ensure they include screening criteria (e.g. relevant questions: travel within 21 days from affected West African country, exposure to case) for use by EMS personnel to ask individuals during the triage process for patients presenting with compatible symptoms.			
Post screening criteria in conspicuous locations in EMS units, at EMS stations, and in other locations frequented by EMS personnel (see suggested screening criteria in Attachment A).			
Designate points of contact within their EMS organization/system responsible for communicating with state and local public health officials. **Remember:** Ebola must be reported to local, state, and federal public health authorities.			
Ensure that all personnel are familiar with the protocols and procedures for notifying the designated points of contact regarding a PUI for Ebola.			
Conduct spot checks and reviews for staff to ensure they are incorporating Ebola screening into their patient assessment and management procedures and are able to initiate notification, isolation, and PPE procedures.			

PREPARE TO PROTECT	C	IP	NS
Consider travelers with fever, fatigue, vomiting and/or diarrhea and returning from affected West African countries as potential cases, and obtain additional history.			

Conduct a detailed inventory of available supplies of PPE suitable for standard, contact, and droplet precautions. Ensure an adequate supply, for EMS personnel, of:
• Fluid resistant or impermeable gowns,
• Gloves,
• Shoe covers, boots, and booties, and
• Appropriate combination of the following:
  o Eye protection (face shield or goggles),
  o Facemasks (goggles or face shield must be worn with facemasks),
  o N95 respirators (for use during aerosol-generating procedures)
• Other infection control supplies (e.g. hand hygiene supplies).			

Ensure that PPE meets nationally-recognized standards as defined by the Occupational Safety & Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), Food and Drug Administration (FDA), or Interagency Board for Equipment Standardization and Interoperability.			
Review plans, protocols, and PPE purchasing with community/coalition partners that promote interoperability and inter-agency/facility coordination.			
Ensure Ebola PPE supplies are maintained in all patient care areas (transport unit and in bags/kits).			
Verify all EMS personnel: • Meet all training requirements in PPE and infection control,			

• Are able to use PPE correctly, • Have proper medical clearance, • Have been properly fit-tested on their respirator for use in aerosol-generating procedures or more broadly as desired, and • Are trained on management and exposure precautions for PUI for Ebola.			
Encourage EMS personnel to use a "buddy system" when putting on and removing PPE.			
Review CDC guidelines for isolation precautions and share with EMS personnel.			
Frequently spot-check (for example through quality assurance/quality improvement) to be sure standard, contact and droplet infection control and isolation guidelines are being followed, including safely putting on and removing PPE.			
Ensure procedures are in place to require that all EMS personnel accompanying a patient in a transport unit are wearing (at minimum): gloves, gown (fluid resistant or impermeable), eye protection (goggles or face shield), and a facemask.			
Ensure procedures are in place to limit EMS personnel exposure to PUI for Ebola during treatment and transport.			
Review and update, as necessary, EMS infection control protocols/procedures.			
Review your policies and procedures for screening, isolation, medical consultation, and monitoring and management of EMS personnel who may have Ebola exposure and/or illness.			
Review and update, as necessary, all EMS agency protocols and procedures for isolation of PUI for Ebola .			
Review the agency's infection control procedures to ensure adequate implementation for preventing the spread of Ebola.			
Review protocols for sharps injuries and educate EMS personnel about safe sharps practices to prevent sharps injuries.			
Emphasize the importance of proper hand hygiene to EMS personnel.			
Develop contingency plans for staffing, ancillary services, vendors, and other business continuity plans.			
Review plans for special handling of linens, supplies, and equipment from PUI for Ebola.			
Review environmental cleaning procedures and provide education/refresher training to appropriate personnel.			
Provide education and refresher training to EMS personnel on healthcare personnel sick leave policies.			
Review policies and procedures for screening and work restrictions for exposed or ill EMS personnel, and develop sick leave policies for EMS personnel that are non-punitive, flexible, and consistent with public health guidance.			
Ensure that EMS personnel have ready access, including via telephone, to medical consultation.			

PREPARE TO RESPOND	**C**	**IP**	**NS**
Review, implement, and frequently exercise the following elements with EMS personnel: • Appropriate infectious disease procedures and protocols, including putting on and taking off PPE.			

• Appropriate triage techniques and additional Ebola screening questions, • Disease identification, testing, specimen collection and transport procedures, • Isolation, quarantine and security procedures, • Communications and reporting procedures, and • Cleaning and disinfection procedures.			
Review plans and protocols, and exercise/test the ability to appropriately share relevant health data between key stakeholders, coalition partners, public health, emergency management, etc.			
Review, develop, and implement plans for: adequate respiratory support, safe administration of medication, and sharps procedures; and reinforce proper biohazard containment and disposal precautions.			
Ensure that EMS agency leaders are familiar with their responsibilities during a public health emergency.			
Consider identifying a Communications/Public Information Officer who: • Develops appropriate literature and signage for posting (topics may include definitions of low-risk, high-risk and explanatory literature for patient, family members and contacts), • Coordinates with public health on targeted risk communication messages for use in the event of a PUI for Ebola. • Requests appropriate Ebola literature for dissemination to EMS personnel, patients, and contacts, • Prepares written and verbal messages, ahead of time, that have been approved, vetted, rehearsed and exercised, and • Works with internal department heads and clinicians to prepare and vet internal communications to keep EMS personnel informed.			
Plan for regular situational briefs for decision-makers, including: • PUI for Ebola who have been identified and reported to public health authorities, • Isolation, quarantine and exposure reports, • Supplies and logistical challenges, • Personnel status, and • Policy decisions on contingency plans and staffing.			
Maintain situational awareness of reported Ebola case locations, travel restrictions, and public health advisories, and update patient assessment and management guidelines accordingly.			
Incorporate Ebola information into educational activities (e.g. initial/ refresher training, drills, and exercises).			
Implement, as needed, a multijurisdictional, multidisciplinary exchange of public health and medical-related information and situational awareness between EMS; the health care system; local, state, federal, tribal, and territorial levels of government; and the private sector.			

Quick Resources List

The CDC has produced several resources and references to help agencies prepare for Ebola, and more resources are in development. Information and guidance posted on these resources may change as experts learn more about Ebola. Frequently monitor the CDC's Ebola Homepage, and review CDC's Ebola response guide checklists for:

- Clinician and healthcare workers,

- Department of Transportation Guidance for Transporting Ebola Contaminated Items, a Category A Infectious Substance
- Patient Management for US Hospitals, and
- Healthcare facilities.

Stay informed! Subscribe to the following sources to receive updates about Ebola:

- CDC Health Alert Network (HAN),
- CDC Clinician Outreach and Communication Activity (COCA),
- CDC National Institute for Occupational Safety and Health, and
- U.S. Department of Labor's Occupational Safety & Health Administration (OSHA) Newsletter.

Below are a few of the resources most relevant to healthcare preparedness:

- *Interim Guidance for Emergency Medical Services Systems and 9-1-1 PSAPs.*
- *Ebola Virus Disease Information for Clinicians in U.S. Healthcare Settings,*
- *Case Definition for Ebola Virus Disease.* This case definition should be used for screening patients and should be implemented in all healthcare facilities.
- *Safe Management of Patients with Ebola Virus Disease in US Hospitals,*
- *Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals.* This document provides a summary of the proper Personal Protective Equipment (PPE).
- *Interim Guidance for Specimen Collection, Transport, Testing, and Submission for Patients with Suspected Infection with Ebola Virus Disease.*
- *Sequence for Removing Personal Protective Equipment (PPE)*
- *National Guidance for Healthcare System Preparedness' Capabilities,* with particular emphases on Capability #6 *(Information Sharing)* and Capability #14 *(Responder Safety and Health)*

Check CDC's Ebola Hemorrhagic Fever website regularly for the most current information. State and local health departments with questions should contact the CDC Emergency Operations Center (770-488-7100 or eocreport@cdc.gov).

Attachment A
Ebola Virus Disease (EVD) Awareness for EMS

EMS patient assessment criteria for isolation/hospital notification are likely to be:

1. Fever, headache, joint and muscle aches, weakness, fatigue, diarrhea, vomiting, stomach pain and lack of appetite, and in some cases bleeding.

AND

2. Travel to West Africa (Guinea, Liberia, Sierra Leone, Senegal, Nigeria or other countries where Ebola transmission has been reported by WHO) within 21 days (3 weeks) of symptom onset.

If both criteria are met, then the patient should be isolated and STANDARD, CONTACT, and DROPLET precautions followed during further assessment, treatment, and transport.

IMMEDIATELY Report Suspected Ebola Case(s) to Receiving Facility.

If patient is not transported (refusal, pronouncement, etc.):

1. Inform Local and State Public Health Authorities: (Name), (Email), (Phone)
2. Inform the U.S. Centers for Disease Control and Prevention (CDC), available 24/7, at 770-488-7100, or via the CDC Emergency Operations Center (EOC) at eocreport@cdc.gov.

Sources: http://www.cdc.gov/vhf/ebola/hcp/case-definition.html, http://www.bt.cdc.gov/han/han00364.asp, http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html.