EMS Transport of a Potential Ebola Patient

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June 25, 2015
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Identify, Isolate, Inform: Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States

**DISPATCH/9-1-1 PSAPs**

1. **Inquire about travel and direct exposure history within the previous 21 days.**
   - Has patient traveled to, or lived in, a country with widespread Ebola virus transmission or an area where cases can be accessed at the following link: [http://www.cdc.gov/free/pdfs/ebola/whatwemustknow2014-wnt-afr-distributions.pdf](http://www.cdc.gov/free/pdfs/ebola/whatwemustknow2014-wnt-afr-distributions.pdf)?
   - Has patient had contact with blood or body fluids (such as vomit, saliva, sweat, mucus, or diarrhea) of a person who is confirmed or suspected to have Ebola?

   **YES TO ANY**

2. **Ask about signs and symptoms.**
   - Does the patient have signs or symptoms of Ebola: Fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, or unexplained hiccups, breathing or bleeding or swelling?

   **YES – Patient may meet criteria for suspected Ebola Infection**

3. **Provide instructions to Patients and EMS Providers.**
   - Instruct other people at the scene to restrict contact with patient unless wearing appropriate protective equipment (PPE). Alert your local responders and EMS providers of potential exposure for a patient with possible exposure signs and symptoms of Ebola before they arrive on scene.
   - Advise EMS providers that at a minimum, they should use the following PPE before direct contact with a patient has any of these symptoms: fever, fatigue, headache, muscle pain, or weakness [http://www.cdc.gov/oha/healthy-workplace/patient-transportation-guidelines-hwp.pdf].
   - Face shield and surgical face mask,
   - Impermeable gown, and
   - Two pairs of gloves.
   - If patient is exhibiting obvious bleeding, vomiting, or diarrhea, or there is a concern for bleeding, vomiting, or diarrhea, white EMS providers before entering the scene to wear PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals [https://www.hhs.gov/coronavirus/cesf核查/cesf.html](https://www.hhs.gov/coronavirus/cesf核查/cesf.html).
   - If responding at an airport or other point of entry to the United States, the PSAP or EMS must verbally notify the CDC Quarantine Station for transport of entry. Contact information for CDC Quarantine Stations can be accessed at [http://www.cdc.gov/quarantine/contact.shtml](http://www.cdc.gov/quarantine/contact.shtml).

4. **Medical director may consider additional questions/actions specific to the local area/region.**

**Additional Resources**

- CDC’s Case Definition for Ebola Virus Disease (EVD): [https://www.cdc.gov/ebola/hcp/case-definition.html](https://www.cdc.gov/ebola/hcp/case-definition.html)

EMS dispatched
EMS—PRIOR TO ARRIVAL AT PATIENT

Considerations for Infection Control and PPE

- If 9-1-1 PSAP call takers advise that the patient is suspected to have Ebola, EMS providers should put on the PPE appropriate for suspected or confirmed cases of Ebola before entering the scene.
- Avoid direct contact with a patient who may have Ebola without wearing appropriate PPE.
- PPE should be put on before entering a scene to attend to a suspected Ebola patient and continued to be worn until providers are no longer in contact with the patient. PPE should be carefully put on and taken off under the supervision of a trained observer as described in the “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)” (http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html).
- If, based on the initial screening, the EMS provider suspects the patient has Ebola then level of PPE should be reassessed before coming within 3 feet of the patient.

To minimize potential exposure,

- Limit the number of EMS providers to essential personnel only who provide care for a patient with suspected Ebola. All EMS providers having direct contact with a suspected Ebola patient must wear PPE.
- One EMS provider should approach the patient and perform the initial screening from at least 3 feet away from the patient.
- Keep the other emergency responders further away, while assuring they are still able to support the provider with primary assessment duties. Consider the strategy of one provider putting on PPE and managing the patient while the other provider does not engage in patient care but serves in the role of trained observer.
- Use caution when approaching a patient with possible Ebola. On rare occasions, illness can cause delirium, with erratic behavior (e.g., biting or staggering) that can place EMS providers at additional risk of exposure.
- There may be situations where a patient must be carried and multiple providers are required to put on PPE. EMS providers wearing PPE who have cared for the patient must remain in the back of the ambulance and should not serve as the driver.
- If needed, consider requesting additional resources, such as a dedicated driver.

Occupational Exposure

- If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with an EMS provider’s unprotected skin or mucous membranes, then the EMS provider should immediately stop working and
  - Immediately wash the affected skin surfaces with a cleansing or antiseptic solution. Mucous membranes (e.g., conjunctiva) should be irrigated with a large amount of water or normal saline solution, as per usual protocols.
  - All wipes and solution should be placed in a biohazard bag.
  - Place all waste in a biohazard bag.
  - Notify your chain of command and report exposure to an occupational health provider, supervisor or designated infection control officer for follow-up as soon as possible.
  - Follow agency policy for medical evaluation and follow-up care and monitoring.
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EMS ARRIVAL AT SCENE

Has PSAP call taker advised that the patient is suspected to have Ebola and EMS personnel should put on the PPE appropriate for suspected or confirmed case of Ebola before entering the scene?

YES – Patient meets criteria for suspected Ebola Infection

1. Consider appropriate PPE in the EMS setting for a person with suspected Ebola.
   - Is the patient exhibiting obvious bleeding, vomiting, or diarrhea or has a clinical condition that warrants intravenous or aerosol-generating procedures (e.g., intubation, suctioning, active resuscitation)?
   - If yes, then EMS personnel should at a minimum wear the following PPE (link: http://www.cdc.gov/healthinebola/post-management-patients possibile-ebola.html):
     - Face shield and surgical face mask
     - Impermeable gown and
     - Two pairs of gloves
   - If yes, then use PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals (http://www.cdc.gov/healthinebola/post-management-patients-possible-ebola.html).

2. Inquire about travel and direct exposure history within the previous 21 days.
   - Has patient traveled to, or lived in, a country with widespread Ebola virus transmission or uncertain control measures (a list of countries can be accessed at the following link: http://www.cdc.gov/healthinebola/post-management-patients-possible-ebola.html)?
   - Has patient had contact with blood or body fluids (such as urine, saliva, vomit, sweat, or diarrhea) of a person who is confirmed or suspected to have Ebola?

YES TO ANY

3. Assess signs and symptoms.
   - Does the patient have fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, diarrhea, or unexplained hemorrhage (bleeding or bruising)?

NO

4. Isolate patient immediately and revisit Step #1 from EMS Arrival at Scene. Consider:

   If you anticipate performing pre-hospital intubation procedures such as endotracheal intubation, open suctioning of airways, or cardiopulmonary resuscitation, conduct these procedures while wearing the PPE recommended for use by healthcare workers managing Ebola patients in U.S. hospitals (http://www.cdc.gov/healthinebola/post-management-patients-possible-ebola.html).

5. Avoid unnecessary direct contact while managing patient, then prepare to transfer to an appropriate facility.
   - Limit the number of providers to essential personnel only who provide care for a patient with suspected Ebola. All EMS providers having direct contact with a suspected Ebola patient must wear PPE.
   - Remove and keep nonessential equipment away from the patient, so as to minimize contamination, on the scene and in the ambulance.
   - Do not perform phlebotomy or any other invasive procedures unless urgently required for patient care or stabilization. Handle any needles and sharps with extreme care and dispose of puncture-proof, sealed containers that are specific to the care of this patient, in accordance with OSHA’s Bloodborne Pathogens Standard. Do not dispose of used needles and sharps in containers that have sharps from other patients in them.
   - Consider giving the patient oral medications to reduce nausea, per medical director protocols and consistent with scope of practice.
   - If patient is vomiting, give them a large red forehead bag to contain any vomits. For severe diarrhea, consider wrapping the patient in an impermeable sheet to reduce contamination of other surfaces.

Suspected Ebola Patients Should Only be Transported to a Healthcare Facility Prepared to Further Evaluate and Manage the Patient According to the Community’s Predefined Transportation/Destination Plan Developed by Public Health Officials, Hospital, Medical and EMS Personnel.
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TRANSPORT TO A HEALTHCARE FACILITY

6. Prepare for transport according to agency/local protocol.
   - Separate the driver from the patient compartment.
   - The driver should contact the receiving emergency department or hospital and follow previously agreed upon local or regional protocols to transport the patient to the receiving hospital. This will allow the facility to prepare for receipt of the patient.

7. Follow infection control principles during transport to the hospital.
   - Avoid contact with exposed person surfaces that are not designated for single use. Use only a mattress and pillow with plastic or other covering that fluids cannot penetrate. Cover the stretcher with an impermeable material.
   - During transport, ensure that an appropriate disinfectant (U.S. Environmental Protection Agency (EPA) approved hospital grade disinfectant with a non-enveloped virus label) is available (for example, in spray bottle or in commercially prepared gels).
   - Provide patient care, as needed, to minimize the contact with patient and following infection control guidelines as noted below. If performing pre-hospital resuscitation procedures such as endotracheal intubation, open suctioning of airways, and cardiopulmonary resuscitation, conduct these procedures under safer circumstances (e.g., stopped vehicle, hospital destination) and wear the PPE recommended by CDC to use during aerosol generating procedures (http://www.cdc.gov/niosh/topics/ebola/articles/07020.html).

AT HOSPITAL

8. After patient transfer, perform supervised/observed donning of PPE.
   In collaboration with the receiving hospital, EMS agencies should consider how best to facilitate
   - A supervised donning process. Donning of PPE must
     - Be performed in a designated location.
     - Adhere to established procedures and in the presence of a trained observer in order to prevent self-contamination or other exposure to Ebola virus.
   - A shower for EMS providers, if available, or an area to change into clean clothing.
   See guidance on PPE donning for more information: http://www.cdc.gov/niosh/topics/ebola/Topics/07020.html.

9. Decontaminate and disinfect (clean) vehicle and equipment while wearing appropriate PPE. Address disposal of waste.
   - Consider preprocedurally, a trained crew wearing appropriate PPE to perform these operations, so that EMS personnel can focus on donning PPE, communicating with hospital, and finishing appropriate decontamination.
   - Put on fresh PPE as recommended by CDC before decontaminating and disinfecting the vehicle when body fluids from a patient with suspected Ebola are present. If no body fluids are present then minimal PPE should be worn, including a Level A gown, impermeable gloves, and one pair of boots.
   - Use an EPA registered hospital disinfectant with labeled ‘cleaning in place’ indication for a non-enveloped virus (e.g., sodium hypochlorite, chlorhexidine gluconate, or quaternary ammonium compound). When using chlorhexidine gluconate, prepare conveyed disinfectant for hospital use (https://www.cdc.gov/niosh/topics/ebola/articles/07020.html).
   - Follow instructions for cleaning and disinfecting surfaces or objects soiled with blood or body fluids.
   - After the bulk waste is stripped up, the surfaces should be disinfected as described below. There should be the same careful attention to the safety of the EMS provider during the cleaning and disinfection of the transport vehicle as there is during the care of the patient.
   - A blood spill or spill of other body fluid or substance should be managed first in accordance with the OSHA bloodborne pathogen standard and then removed as described below. Large spills, a chemical disinfectant with sufficient potency is needed to overcome the tendency of proteins to bind and other body substances to neutralize the disinfectant’s active ingredient (https://www.cdc.gov/niosh/topics/ebola/articles/07020.html).
   - Clean and disinfect patient care surfaces and equipment, and other areas that are likely to become contaminated after each transport. Avoid contamination of reusable patient care equipment that are not designated as single use.
   - Place contaminated reusable patient care equipment (e.g., glucometers, blood pressure cuffs) in biohazard bags and label for cleaning and disinfection. Clean and disinfect reusable equipment according to agency policies and procedures, and instructions from trained personnel wearing current PPE.
   - Discard any bodily contaminates (such as urine or vomit) as directed by hospital staff.
   - EMS agencies should work with designated receiving hospital staff to determine appropriate use of PPE for both suspected and confirmed Ebola patients.
   - Several steps should be taken to decontaminate the vehicle after transport of a confirmed or suspected Ebola patient with high level PPE
   - Leave vehicle to dry as normal.
   - Once cleaning is complete, dispose of PPE using same procedures and trained observer in a designated area as with the patient care crew.
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