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To: All Contra Costa County EMS Field Providers

From: Joseph Barger, MD, EMS Medical Director

## EMS GUIDELINES FOR SCREENING AND MANAGEMENT OF SUSPECT EBOLA VIRUS DISEASE PATIENTS

### I. PURPOSE

This document serves as guidance for prehospital EMS personnel in Contra Costa County with respect to screening and management of suspected Ebola Virus Disease (EVD) patients. This document supersedes the Administrative Order initially issued October 23, 2014 and the update from October 31, 2014.

It is our intent to be consistent with recommendations or guidelines of the state and federal Occupational Safety and Health Administrations (OSHA) and those of the Centers for Disease Control and Prevention (CDC). Because further knowledge may lead to issuance of subsequent recommendations and guidelines, this document is subject to change.

### II. BACKGROUND

The 2014 Ebola outbreak in West Africa is the largest in history, and has led to the potential for spread of this disease in other countries. Following the episode of a traveler from Liberia presenting to a hospital in Texas and the subsequent episode of a healthcare worker returning from Guinea to the United States after infection; the Centers for Disease Control and other federal authorities have developed a process by which all patients arriving from the countries of Liberia, Sierra Leone, Guinea, and Mali arrive at one of five airports in the eastern United States, and all patients who subsequently travel to California (or any other state) are identified to local public health departments for surveillance activities. This process has been under way for more than a month, and will tremendously reduce the potential for a patient with suspect EVD from being encountered without prior surveillance. Monitoring of temperature and other symptoms by public health personnel occurs on a daily basis, and early identification of symptoms will markedly reduce the chance that a patient at a highly infectious stage would be encountered outside a hospital setting.

### III. TRANSMISSIBILITY OF EVD

EVD is a contagious disease, but a patient is not infectious prior to development of symptoms. Symptoms can appear from 2-21 days after exposure. The transmissibility increases as the patient becomes more ill. Transmission only occurs with direct contact with blood or body fluids (blood, urine, sweat, saliva, feces, or semen). Transmission is via droplets and without use of aerosol-generating procedures, EVD is not transmitted in an aerosol manner (such as may be seen with influenza or other respiratory diseases).



#### **IV. CONTEXT OF EMS RESPONSE**

Unlike the EMS approach to other disease entities, the prehospital efforts with suspected EVD patients will concentrate on infection control and safe transport rather than on medical intervention by EMS providers. The process should be deliberate and it may take several hours to complete the transport and delivery of the patient to a hospital.

#### **V. EMS RESPONSE VIA THE 911 SYSTEM**

If the public health surveillance process identifies a patient with symptoms, the 911 system will not be activated to address transport of the patient. Following communication between Public Health/Health Officer and the EMS Duty Officer, qualified ambulance personnel with appropriate personal protective equipment (PPE) will respond and transport the patient to a hospital.

The possibility, albeit extremely small, does still exist for a patient with risk of EVD to be encountered through a 911 response. This may occur if a patient under surveillance by public health contacts 911 despite advisory from public health authorities that they be contacted first or if a patient at risk somehow has eluded surveillance (much more unlikely due to the processes now in place).

To address the possibility of 911 system involvement, this document will outline screening and management of patients.

##### **A. DISPATCH SCREENING**

1. All fire/medical dispatch agencies in Contra Costa are using the Emerging Infectious Disease Tool as part of the emergency medical dispatch process as approved by the EMS Medical Director.
2. When caller interrogation leads to the presence of a symptom potentially consistent with EVD, the dispatcher will inquire about recent travel within 21 days, and if present, whether the travel has been from one of these four countries: Guinea, Liberia, Sierra Leone or Mali.
3. If the travel history to these countries is encountered, further questioning will occur regarding presence of symptoms.
4. With the presence of travel history and symptoms, EMS responders will be advised that the patient is an "EMS Screened Positive Patient." Dispatch will also advise responding crews to contact the EMS Duty Officer via Contra Costa County Sheriff Office Dispatch (925-646-2441) after gathering initial patient information upon arrival at scene.
5. For purposes of radio communication, specific mention of EVD should not be done, though secure transmission processes (e.g., through MDT or phone) can be more specific. The patient's callback number should be provided to responding crews, and this information should also be relayed by responders to supervisory personnel (all information sent through a secure communication process).

##### **B. FIELD SCREENING**

1. When dispatch screening has identified an "EMS Screened Positive Patient," a field responder should verify that information on scene. Contacting the patient or a family member via phone (if possible) prior to physical contact is appropriate to determine scene safety considerations as well as to obtain patient information.

2. Field screening should ideally be performed by a single person who should maintain a distance of at least 3 feet away from the patient. PPE requirements for screening are discussed subsequently in section IX.
3. All patients should receive screening for EVD by asking the patient if he/she has had any of the following symptoms:
  - a. Fever
  - b. Body aches
  - c. Headache
  - d. Weakness
  - e. Vomiting and/or diarrhea
  - f. Unexplained hemorrhage
  - g. Abdominal pain
4. The following screening questions should be asked if one of the symptoms above is listed or the patient has been identified at dispatch:
  - a. Have you traveled to any of the following countries in the last 21 days?
    - i. Guinea
    - ii. Liberia
    - iii. Sierra Leone
    - iv. Mali
  - b. With positive travel history, EMS personnel should ask: Have you been monitored by the local public health department following travel from (the specified country)?
5. If the patient meets both travel and symptom criteria, they should be considered a "suspect EVD patient." If not already contacted, the EMS Duty Officer should be contacted immediately via CCCSO Communications (925-646-2441). The following information should be provided to the EMS Duty Officer:
  - a. Location
  - b. Patient name
  - c. Date of birth
  - d. Patient symptoms
  - e. Travel history
  - f. Public Health monitoring status (being monitored or not)

### **C. EMS ASSESSMENT AND CARE OF SUSPECT EVD PATIENTS**

1. EMS field providers should limit the number of personnel having direct contact with a patient identified as a "suspect EVD patient." As stated previously, the efforts of EMS personnel should generally be concentrated on infection control efforts and safe delivery of the patient to a hospital.
2. EMS field providers who do not have the appropriate personal protective equipment for care of a suspect EVD patient should not have any direct patient contact.
3. Following screening, first responders and other responding personnel without appropriate protective equipment should await arrival of AMR transport personnel who will provide direct patient contact, assessment and transport (at least one responding unit should remain).
4. Field assessment of airway, breathing and circulation should be done by provider(s) with direct patient contact. In a patient without apparent distress, use of a blood pressure cuff or stethoscope is not necessary. A patient who is alert and in no distress may not require physical contact. Patients with EVD do not present with respiratory symptoms, but should the patient have a cough, a surgical mask placed on the patient is

appropriate. While early stage infection may not include vomiting, some judgment is needed to determine if a mask may be appropriate when patient has complaints of nausea or gastrointestinal complaints.

5. Prophylactic use of ondansetron (Zofran) 4 mg po (oral disintegrating tablet) every 10 minutes to a total of 12 mg can be considered.
6. Intravenous access and IV fluid administration should be limited only to those patients in whom massive volume loss has led to decrease in level of consciousness to the extent that they are unable to communicate with EMS responders.
7. Aerosol-generating interventions such as nebulized albuterol treatment, intranasal medication administration, or CPAP should not be done without the use of appropriate PPE for that level of care. Suspected hypoxia or respiratory distress (while unlikely) should be treated with 100% oxygen via non-rebreather mask.
8. Intubation of suspected EVD patients should not be done.
9. While unlikely to occur in the early disease state, cardiac arrest resuscitation should not be undertaken in a patient with suspected EVD disease.
10. Other care for patients, in particular any ALS care that may appear to be indicated, should be discussed with the base hospital physician.
11. Patients who are under surveillance by Public Health but who do not have any symptoms referable to Ebola (and therefore are not a suspect EVD patient) are highly unlikely to pose a transmissibility risk, and standard EMS care should be provided with appropriate PPE.

## **VI. PATIENT TRANSPORTATION AND DESTINATION**

- A. At this time, American Medical Response will be the designated transport agency for patients with suspected EVD disease.
- B. Depending on availability and clinical condition of the patient, a specialized ambulance may be utilized for transport of patients to the hospital. The specialized ambulance is configured with protective sheeting to simplify later decontamination, but does not confer any additional protection to providers or the patient. The timeliness of arrival of a specialized resource may be very extended (hours) compared to a typical 911 response.
- C. Personnel accompanying the patient to the hospital will be outfitted with PPE appropriate for the clinical situation. Personnel without appropriate PPE should not accompany the patient to the hospital.
- D. Procedures that would potentially create risk for exposure to body fluids should not be attempted in a moving ambulance. If an intervention is needed (e.g. intravenous line start), the ambulance should be stopped to facilitate safe completion of that task.
- E. Transport decisions with regard to deployed unit configuration and patient will be made on a case by case basis in a collaborative effort with the EMS Duty Officer, Public Health, receiving facility(s) and the transportation supervisor on-scene.
- F. The receiving facility will be chosen and notified by Public Health, and transport should not occur until the receiving facility is prepared to accept the patient. When field crew is given clearance to transport by Public Health, the crew will notify the receiving facility with regard to patient's clinical condition and ETA.

## **VII. REFUSAL OF CARE**

EMS field personnel shall immediately contact the EMS Duty Officer when a suspect EVD patient is encountered by EMS and refuses transport.

## VIII. PATIENT HANDOFF PROCEDURES AT RECEIVING FACILITIES

- A. Upon arrival at the receiving facility, the transporting ambulance will be directed to park in a designated location by hospital staff.
- B. The EMS crew will remain with the patient and hospital ED staff will approach the ambulance to direct the patient transfer to a hospital conveyance. Unless otherwise instructed by hospital staff, this will occur outside the Emergency Department.
- C. The hospital will provide a safety officer to maintain a safe operating environment for EMS staff.

## IX. PPE AND ISOLATION PRECAUTIONS

- A. All EMS provider agencies should provide careful training to personnel with regard to donning and doffing of PPE.
- B. If appropriate level of PPE is not available for a given task, providers should not complete that task and should await arrival of other responders with appropriate PPE.
- C. EMS field providers should follow their agency protocols regarding use of standard personal protective equipment when conducting a scene assessment and screening (including EVD screening) of any patient with a potential infectious disease. Prior to making patient contact, at a minimum EMS field providers shall don an N-95 mask and gloves for all infectious disease patients regardless of suspect EVD patients.
- D. During screening for suspect EVD patients, field providers shall conduct a scene assessment, and obtain patient travel history and symptomatology; screening should be done at a distance of at least 3 feet. Enhanced level of PPE should be considered if direct contact with patient or contact with bodily fluids may occur during the screening process.
- E. EMS field providers shall at a minimum don the following PPE (covering all skin surfaces) when having **direct** contact with suspect EVD patient:
  - a. Boot covers to mid-calf
  - b. Surgical cap/head cover to protect all of the head, ears, and neck.
  - c. Fluid impermeable gown that wraps to cover the entire front, back, and overlaps the length of the boot covers.
  - d. N-95 mask
  - e. Face Shield (overlaps with surgical cap)
  - f. 2 Pairs of gloves
    - 1) Inner glove with glove cuff under gown sleeve.
    - 2) Outer, long cuff nitrile glove pulled over gown sleeve
- F. EMS field providers shall consider use of the following level of PPE or higher, when the scene assessment and symptomatology suggests contact with suspect EVD patient's body fluids is inevitable:
  - a. Full-body fluid impermeable garment with built in boots and hood or a fluid resistant or impermeable apron in addition to all PPE used per section E above.
  - b. N-95 Mask
  - c. Face Shield
  - d. 2 Pairs of gloves
    - 1) Inner glove with glove cuff under gown sleeve.
    - 2) Outer, long cuff nitrile glove pulled over gown sleeve
  - e. Boot covers to mid-calf
  - f. A coverall style garment without hood and built in boots can be used if other PPE sufficiently covers all areas of skin. Taping of potential gaps should be considered (i.e. boots or gloves) if skin exposure is possible.

- G. EMS personnel are advised to not provide aerosol-generating procedures without appropriate PPE. A PAPR device is preferred if aerosolizing procedures are done. A properly fitted N-95 mask is an available alternative but not preferred. A PAPR is only necessary when there is a potential for aerosolized secretions.
- H. All donning and doffing of PPE listed above in items E and F must be done under directed supervision.
  - a. AMR ambulance personnel who accompany the patient to the hospital will be supervised by addition personnel from AMR with regard to doffing of PPE.
  - b. In the unusual circumstance that a first responder requires assistance with doffing of PPE or management of contaminated PPE, the EMS Duty Officer will arrange support for this process at the scene.

## **X. DECONTAMINATION**

### **A. VEHICLE DECONTAMINATION**

- a. Decontamination processes must be consistent with CDC and other applicable guidelines.
- b. The site of decontamination of the vehicle may be specific to the facility or transport agency and should be arranged through the cooperative effort of those two entities.

### **B. EQUIPMENT DECONTAMINATION**

- a. Non-disposable medical equipment shall be cleaned with no less than 0.5% bleach solution (5% bleach at 1:10 dilution) or healthcare grade bleach wipes.

### **C. MEDICAL WASTE**

- a. Medical waste or biohazard material shall be properly disposed of at the receiving facility.
- b. Personnel shall properly tarp the ground where medical waste or other biohazard material will be collected.
- c. No medical waste or biohazard material shall be left at the prehospital scene.
- d. No medical waste from an EVD patient shall be transported in the ambulance after the patient has been offloaded.

### **D. PROVIDER DECONTAMINATION**

- a. Providers are encouraged to have an additional set of uniforms available to them during their shift.
- b. In the event a provider has had his or her uniform contaminated with a suspect or confirmed EVD patient's body fluids, the provider shall doff their uniform after patient transfer and follow their employer's guidelines for disinfection or disposal.

## **XI. MANAGEMENT AFTER SUSPECTED EXPOSURE AND PUBLIC HEALTH MONITORING**

- A. If an EMS provider has been involved with management of a suspect EVD patient, prior to returning to providing care the EMS field provider shall notify the EMS Duty Officer.
- B. If an EMS provider has suspected skin or mucous membrane contact with blood or body fluids from a suspect EVD patient, he/she should immediately stop working and wash affected skin surfaces with soap and water. Mucous membranes should be copiously irrigated with large amounts of water.
- C. If an EMS provider has had a suspected exposure to blood or body fluids of a suspect EVD patient, the provider should follow their employer's policy for reporting of infectious disease. Additionally, procedures for exposure outlined in EMS Policy 22 should be followed, and an EMS 6 form should be completed and submitted to Public Health.

- D. Post-exposure surveillance will be provided by Public Health. The results of source patient testing will not be immediately available and may require re-testing. An interval of up to 96 hours may be needed to rule in or out EVD in the source patient.
- E. Public Health will assess the nature of the exposure to determine potential risk for providers and will arrange for any potential surveillance needed of the provider. Monitoring, movement limitation and potential work exclusions will vary based on the nature of exposure.
- F. Providers who have cared for a suspect EVD patient who subsequently is proven to have EVD and who did not have suspected blood or body fluid contact will also be monitored. Current guidelines do not require any limitation of movement or work exclusion.