

UPDATE - August 7, 2014

Boston Public Health Commission
Massachusetts Department of Public Health

Clinical Advisory

Management of Suspected Ebola Virus Cases or Contacts

The likelihood of the arrival of someone into Massachusetts with hemorrhagic fever due Ebola virus disease (EVD) is very low, and the potential for transmission in the United States is even lower. However, in light of the ongoing, unprecedented outbreak of Ebola virus infection in areas of Guinea, Sierra Leone and Liberia (including in urban areas), cases occurring in healthcare workers working in those countries (including two U.S. citizens), and the introduction of a case into Nigeria as a result of air travel, it would be prudent to assess capacity and preparedness for the management of suspect cases and of individuals potentially exposed to EVD.

EVD was first described in 1976, and since that time outbreaks have occurred mostly in rural areas of Africa. The virus is transmitted through blood and other body fluids from infected patients, including saliva, sweat, breast milk, urine and semen. There is no evidence that infection is transmitted prior to symptom onset. Since March 2014, there have been over 1,000 cases reported in areas of Guinea, Sierra Leone and Liberia, with a greater than 60% case-fatality rate. This is the largest outbreak of EVD hemorrhagic fever ever observed, is the first in West Africa, and is the first with cases occurring in densely populated urban areas. Currently, there is no evidence of Ebola virus circulation in any other part of Africa, or elsewhere, than in the three countries listed, so this guidance only applies to exposure in the affected countries or to potential EVD cases arising in those countries. For up-to-date travel advisories go to the Center for Disease Control and Prevention (CDC) travel advisory web site at: <http://wwwnc.cdc.gov/travel/notices>

The incubation period for EVD can be from 2 to 21 days, but 8-10 days is typical. Sudden onset of fever and malaise is characteristic, with variable development of myalgia, headache, sore throat, cough, nausea, vomiting, and diarrhea. Severe disease is characterized by a bleeding diathesis related to reduced vascular integrity and disseminated intravascular coagulation. This may be associated with petechiae, pupura, ecchymosis, and multiorgan failure. Severe disease may include confusion, seizures and coma. Laboratory abnormalities include leukopenia, thrombocytopenia and abnormal liver function tests. The differential diagnosis includes more common illnesses such as malaria,

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typhoid fever, dengue, meningitis, hepatitis or leptospirosis. Care is non-specific and supportive. Case-fatality rates vary between 50% and 90%.

Any case of suspected EVD (suspect case) or individual identified as having potential exposure to a case of EVD (contact) in West Africa should be immediately reported to the local board of health or health department and the Massachusetts Department of Public Health (MDPH). Suspect cases in the City of Boston should be reported directly to the Boston Public Health Commission (BPHC).

- A suspect **case** is an individual visiting an **area** of a country with **ongoing transmission** of Ebola virus within the previous 21 days, who has had **exposure to ill individuals or their body fluids** through social or professional contact and has **fever** (temperature $\geq 100.4^{\circ}\text{F}$, 38°C) **and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage**
- A potential **contact** is someone who, in the course of work as a health care provider in the U.S. or abroad, has had **possible direct, unprotected contact** with an EVD case or cases; or who, in the course of travel, has had close contact with a possible case of EVD.

Travel *per se* does not put an individual at risk for EVD, nor does casual contact, only unprotected exposure to blood or body fluid of someone with EVD. Situations should be evaluated as to likelihood of Ebola virus infection as a cause of symptoms, as well as details about the exposure to a possible case. These evaluations should be done in consultation with public health officials.

Management of potential cases:

1. Isolate the case and place on the currently recommended precautions (droplet and contact precautions, including the use of a face shield or goggles. **If aerosol-generating procedures are performed**, airborne isolation should be used, **preferably** in a negative pressure room with respiratory protection of staff.). The current infection control recommendations from the CDC, including environmental infection control procedures, are available at: <http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html> and <http://emergency.cdc.gov/han/han00364.asp>. World Health Organization (WHO) infection control guidelines at: http://www.who.int/csr/bioriskreduction/interim_recommendations_filovirus.pdf. **HICPAC** Guideline for Isolation Precautions: <http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>
2. Provide supportive care as required.
3. Contact the local board of health or health department immediately (BPHC in Boston, see instructions at the end of this advisory).
4. Maintain isolation until an alternative diagnosis is made or EVD is ruled out.

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5. When collecting patient specimens for laboratory testing, care should be taken to avoid contamination of the external surfaces of the container. Specimens should be hand delivered in a clearly labeled, durable, leak-proof container directly to the specimen handling area of the laboratory, avoiding the use of automated systems. The laboratory director and supervisor should be alerted immediately to the suspected diagnosis so that they can prepare for specimen receipt and processing using enhanced precautions. Specimens should be processed, including decanting, preparation of slides for microscopic examination and heat inactivation if used, in a class II biological safety cabinet following biosafety level 3 practices. The laboratory should consult the MDPH Hinton State Laboratory Institute for further specimen handling advice.
6. Diagnostic testing is available at the CDC. Serum specimens can be tested for virus nucleic acid and for antibody to Ebola virus. The MDPH Hinton State Laboratory Institute should be consulted on the collection, handling and transport of specimens for this testing. MDPH will expedite shipment of the specimen(s) to CDC and the report of results to the healthcare provider and local health department. **Routine laboratory tests such as complete blood counts (CBCs) or metabolic panels are not provided at the Hinton State Laboratory Institute or at the CDC.**

Management of contacts:

1. Contact the local health department (BPHC in Boston) when you identify a contact (see instructions at the end of this advisory).
2. If the contact is potentially in the incubation period of EVD, they should be instructed to:
 - isolate themselves in their own home or some other living arrangement,
 - do twice daily temperature checks (recording results), and
 - immediately report any symptoms or fever (**temperature $\geq 100.4^{\circ}\text{F}$, 38°C**), should they occur, to the local health department (BPHC in Boston) or to the healthcare provider (who should also report to the **appropriate** health department).

The local health department and MDPH can assist in assuring that these measures are adhered to, and that needs of the individual in quarantine are addressed.

3. If the individual develops symptoms and/or fever, pre-notification of, and arrangement for safe transport to, a healthcare facility should be done as quickly as possible. This includes notification of first responders.
4. The individual with symptoms is now managed as a potential case, as outlined above.

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Care should be taken when collecting clinical specimens on suspect cases of EVD. In the circumstances of a high level of suspicion of a diagnosis of EVD, or a presumptive or confirmed diagnosis, guidelines for handling of specimens in the laboratory, including biosafety, decontamination of equipment, and packaging and shipping should be consulted and followed.

Further information:

CDC: <http://www.cdc.gov/ebola>

Travel advisories: <http://wwwnc.cdc.gov/travel/notices>

Interim Guidance on EVD for healthcare workers:

<http://www.cdc.gov/vhf/abroad/pdf/vhf-interim-guidance.pdf>

WHO: <http://www.who.int/csr/disease/ebola/en/>

MDPH Surveillance, Reporting and Control Manual:

<http://www.mass.gov/eohhs/docs/dph/disease-reporting/guide/vhf.rtf>

BPHC Reporting Form:

http://www.bphc.org/diseasereporting/Documents/Reporting%20Forms/Communicable_Disease_Reporting_Form_3-13.pdf

Fact Sheet: <http://www.cdc.gov/vhf/ebola/resources/pdfs/Ebola-FactSheet.pdf>

To report a suspect case or contact, or if you have questions, call:

Boston Public Health Commission - 617-534-5611

Your local board of health/health department - number under government in the telephone book or on line

Massachusetts Department of Public Health: (617) 983-6800 or toll-free at (888) 658-2850