

UPDATE - October 22, 2014

Boston Public Health Commission
Massachusetts Department of Public Health

Clinical Advisory

Management of Suspected Ebola Virus Cases or Contacts

EVD was first described in 1976, and since that time outbreaks have occurred mostly in rural areas of Africa. The virus is transmitted through direct contact with 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 thousands of cases reported in areas of Guinea, Sierra Leone and Liberia. Currently, there is no evidence of Ebola virus circulation in any other part of Africa, or elsewhere other than in the three countries listed. There have been importations into the United States and other countries with limited transmission. There have been no cases in Massachusetts. 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 multiorgan failure and sometimes a bleeding diathesis related to reduced vascular integrity and disseminated intravascular coagulation. This may be associated with petechiae, pupura, or ecchymoses. Severe disease may also 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, typhoid fever, dengue, meningitis, hepatitis or leptospirosis. Care is non-specific and supportive.

Any case of suspected EVD (suspect case) or individual identified as having potential exposure to a case of EVD (contact) in Guinea, Sierra Leone, or Liberia 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).

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- 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 symptomatic EVD puts an individual at risk. 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. **CDC recommends contact and droplet precautions with full body coverage. For details go to: <http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>.**
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.
5. When collecting patient specimens (**two purple top plastic tubes**) 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 **facility** 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. Diagnostic testing for Ebola virus (Zaire strain currently circulating in Liberia, Sierra Leone and Guinea) is available at the **MDPH Hinton State Laboratory. Prior to sending a sample, the facility should consult the MDPH Hinton State Laboratory Institute for specimen collection, handling, packaging and transport advice via the 24/7 lab number (617-590-6390). Two plastic tubes of whole blood (>4mL) preserved with EDTA (purple top) specimens should be collected. MDPH will perform the PCR test on one tube and expedite shipment of the second tube to CDC for confirmation and/or more**

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comprehensive testing. The results will be reported to the healthcare provider and local health department. Routine laboratory tests such as blood cultures, complete blood counts (CBCs) or metabolic panels are not provided at the MDPH 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.

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/>

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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 online

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