

Health Update:

Update 3: Hospital Preparedness for Patients with Possible or Confirmed Ebola Virus Disease (EVD)

December 24, 2014

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.health.mo.gov>

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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December 24, 2014

**FROM: GAIL VASTERLING
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SUBJECT: Update 3: Hospital Preparedness for Patients with Possible or Confirmed Ebola Virus Disease (EVD)

The purpose of this Health Update is to describe the current process for assessing at-risk symptomatic persons for Ebola virus disease (EVD) in Missouri, to describe the appropriate packaging of a specimen for Ebola testing, and to provide clarification on the use of point of care (POC) equipment for the management of a known or suspected Ebola patient.

All healthcare providers should be aware of the current Ebola screening criteria, which are provided below in the Appendix.

Process for Evaluating Symptomatic Persons at Risk for EVD in Missouri

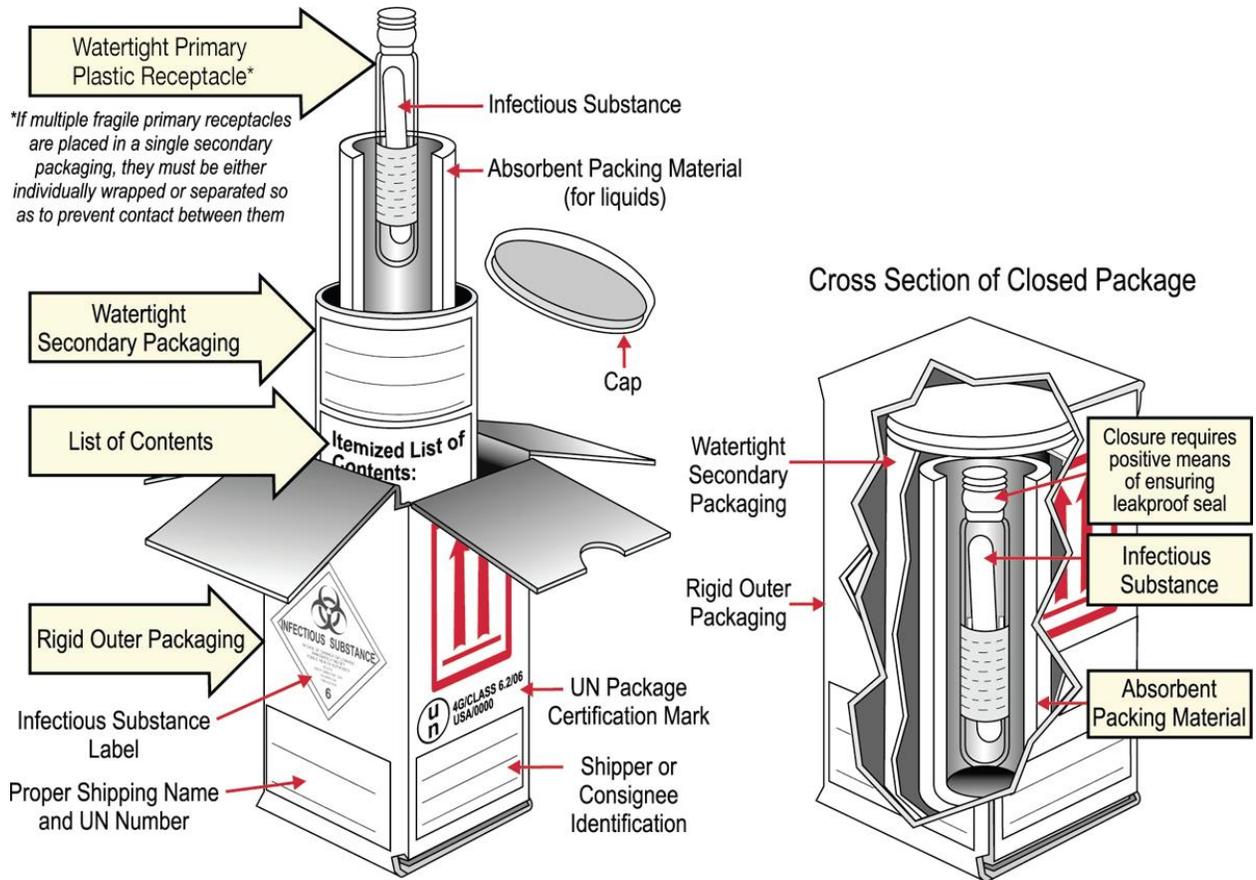
The current process utilized by the Missouri Department of Health and Senior Services (DHSS) for evaluating symptomatic persons at risk for EVD is the following.

Travelers who have recently returned to Missouri from one of the four Ebola-impacted countries in West Africa are being monitored for 21 days by public health officials. Currently, each traveler who is being monitored for Ebola in the state has been asked to pre-identify a specific health care facility where he/she will go for assessment should Ebola-compatible symptoms develop. State and local public health authorities will work to coordinate transport of the person to the pre-identified facility, should this become necessary.

In the event a monitored individual would require testing for Ebola, the Missouri State Public Health Laboratory (MSPHL) has developed a video that demonstrates the proper packaging of a specimen to be sent for Ebola testing. The video can be viewed at the following link: <http://youtu.be/bhO1ahg55A8>. This demonstration video should not be considered a substitute for the required certification to ship a Category A, infectious substance, and is meant to be used solely as a helpful depiction to aid in packaging the specimen. MSPHL reminds hospitals that packaging of potential Ebola virus specimens must also be done in accordance with CDC guidelines.

Once the specimen is packaged as demonstrated in the image on the next page, the collection kit should be placed inside a Styrofoam liner with freeze pillows and placed inside another protective outer box. The dimensions of the outermost box should not exceed 12x11x10 inches. Boxes exceeding these dimensions cannot be manipulated inside a biological safety cabinet with the sash at the proper level.

If your facility does not have shipping containers that meet these requirements, contact the DHSS' Emergency Response Center (ERC) at (800) 392-0272.



In any facility where assessment of a patient for EVD is occurring, it is extremely important to ensure there is no delay in the overall care of the individual by being prepared to accept, test, manage, and treat alternative etiologies of febrile illness (e.g., malaria, influenza) as clinically indicated.

Point of Care (POC) Testing

Point of Care (POC) testing is not required for the appropriate and safe treatment of a suspected or confirmed EVD patient. U.S. clinical laboratories can safely handle specimens from these potential Ebola patients by following all required precautions and practices in the laboratory, specifically those designed for pathogens spread in the blood. Additional information regarding specimen collection and testing is available at: <http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html> and <http://www.cdc.gov/vhf/ebola/hcp/safe-specimen-management.html>.

Considerations and Preparation for POC Testing

While POC testing is not required, if a facility should choose to consider this type of testing, several considerations and planning steps should be implemented in advance. Additional training specific to offering POC testing to a known or suspected EVD patient should be provided, and staff should, in advance of caring for such a patient, practice POC routine testing (such as traditional chemistry, hematology, and other laboratory testing used in the management of seriously ill patients) while wearing Ebola PPE. Changing to unfamiliar PPE, and/or using POC equipment while wearing this PPE, without sufficient training and practice may lead to gaps in safe practices. In addition, if equipment to perform the tests will need to be transferred to the POC location, the equipment should be pre-identified and plans made for how the equipment will be transported to the location. Also, potential Food and Drug

Administration (FDA) and/or Clinical Laboratory Improvement Amendments (CLIA) requirements should be evaluated by hospital personnel to ensure POC use for a critical care patient in this manner is consistent with all pertinent regulations and guidance.

Below is a list of possible POC routine tests for which there should be preparation in advance of caring for a known or suspected EVD patient. This should not be considered an exclusive listing and may be subject to change as a result of additional guidance.

- **iSTAT**
 - Hemoglobin, hematocrit
 - Blood Gases (pH, pCO₂, PO₂, TCO₂, HCO₃, Base excess, sO₂)
 - International normalized ration (INR) coagulation (ACT Kaolin, ACT Celite, PT/INR)
 - Chemistry profiles (Na, K, Cl, tCO₂, anion Gap, iCa, Glu, BUN, Crea, Lactate)
 - **Binax**
 - Malaria
 - Alternative for Binax is thin smears, fixed in methanol, in clinical laboratory
 - **Piccolo Xpress**
 - Complete metabolic profile (ALB, ALP, ALT, AST, BUN, Ca, Cl⁻, CRE, GLU, K⁺, Na⁺, TBIL, TCO₂, TP)
 - Liver function enzymes (ALB, ALP, ALT, AMY, AST, GGT, TBIL, TP)
 - Device can be dedicated to EVD patient
 - **Hematology analyzer**
 - CBC including platelet count and differential
 - **Coagulation analyzer**
 - Prothrombin time
 - INR
 - **Urinalysis dipsticks**
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Links to comprehensive information and clinical guidance on EVD are available at:
<http://health.mo.gov/emergencies/ert/med/hemorrhagic.php>.

Questions can be directed to DHSS' Bureau of Communicable Disease Control and Prevention at 573/751-6113 or 800/392-0272 (24/7).

Appendix

Current Guidance for Evaluating Persons for Ebola Virus Disease (EVD)

Presently there are four West African countries of concern for Ebola transmission: Liberia, Sierra Leone, Guinea, and Mali. All travelers entering the United States from these countries are subject to a 21-day active post-arrival monitoring and movement protocol, with twice-daily temperature and symptom checks in coordination with state or local public health authorities.

Clinical and epidemiologic criteria for Ebola Virus Disease (EVD) are the following:

1. Clinical criteria include fever **and** additional signs/symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage;

AND

2. Epidemiologic risk factors within the **21-day period** before the onset of signs/symptoms include:
 - a. residence in—or travel to—an area where EVD transmission is active (see above for the countries of concern as of November 10, 2014; because these may change over time, always go to <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html> for the most recent information);
 - b. contact with blood or other body fluids or human remains of a patient known to have or suspected to have EVD; **or**
 - c. direct handling of bats, non-human primates, and other animals from disease-endemic areas or direct handling of unpreserved tissues from any of these animals.

If both criteria are met:

1. **IMMEDIATELY** move the patient to a private room with a bathroom, and institute STANDARD, CONTACT, and DROPLET precautions while further assessment occurs.

AND

2. **IMMEDIATELY** report the patient to:

- a. Hospital leadership

AND

- b. The Missouri Department of Health and Senior Services (DHSS) at 573/751-6113 or 800/392-0272 (24/7), and the local public health agency.

DHSS must be contacted before samples are obtained/submitted for Ebola testing.

For additional information and guidance, go to:

<http://health.mo.gov/emergencies/ert/med/hemorrhagic.php#evaluation>