

**Ebola-Related Issues and Questions**  
**Maryland Hospital Association**  
**October 2014**

1. **Ebola waste handling and disposal.** Ebola waste has been designated “Category A” but there is no approved packaging for Category A waste that allows for its transportation to an incinerator or autoclave. Our understanding is that federal Department of Transportation rules regarding the transport of this waste conflict with Centers for Disease Control rules about Ebola waste management. Are incineration and autoclaving the only options? Are microwave disinfection units appropriate for Ebola waste? How should hospitals without incinerators or autoclaves manage this waste?
  - Here are links to the Dept of Transportation press release and other linked information related to the "Special Permit" they provided to Stericycle in reference to the Category A medical waste generated by the Ebola patient at Texas Health Presbyterian Hospital in Dallas. This is a VERY specific permit only for Stericycle and only in Texas as related to the Texas Health situation. It appears that this special permit is the interim solution developed by DOT for dealing with Ebola patient medical waste. AHA is hopeful that the federal government will provide a nationwide solution, including joint guidance from the relevant federal departments, to in order to allow hospitals to properly care for both suspect and confirmed Ebola patients.
  - The DOT website is: <http://www.dot.gov/briefing-room/us-department-transportation-approves-special-permit-safe-transport-ebola-infected>
  - There are Q&As at: <http://phmsa.dot.gov/hazmat/question-and-answer>
  - Guidance at:  
<http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4d1800e36b978410VgnVCM100000d2c97898RCRD&vgnnextchannel=d248724dd7d6c010VgnVCM10000080e8a8c0RCRD&vgnnextfmt=print>
  - Additional guidance at:  
[http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Transporting\\_Infectious\\_Substances\\_brochure.pdf](http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Transporting_Infectious_Substances_brochure.pdf)
  - Finally, AHA expects additional joint summary guidance from CDC/DOT about this issue.
  
2. **Laundry.** Linen services are reluctant to take sheets that might have been used for an infected patient. Are hospitals advised to use disposable linens?
  - The Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus (Updated Oct. 3, 2014) states,
  - “Avoid contamination of reusable porous surfaces that cannot be made single use. Use only a mattress and pillow with plastic or other covering that fluids cannot get through. Do not place patients with suspected or confirmed

Ebola virus infection in carpeted rooms and remove all upholstered furniture and decorative curtains from patient rooms before use.” And also

- “To reduce exposure among staff to potentially contaminated textiles (cloth products) while laundering, **discard all linens**, non-fluid-impermeable pillows or mattresses, and textile privacy curtains into the waste stream and disposed of appropriately.”

3. **Personal protective equipment.** With regard to personal protective equipment, some of the current CDC information is not specific. One place on CDC’s website suggests use of N95 or higher filtering facepiece respirators. Should N95 masks be used? In addition, there is ambiguity in the labeling of certain personal protective equipment at “fluid resistant” vs. “impermeable.” The CDC recommendations suggest the use of “fluid resistant” OR “impermeable” personal protective equipment. Is the labeling appropriately differentiated for use in this circumstance and which should be used?

- The following link is one of several that address PPE for health care workers. N95 respirators or higher level respiratory PPE is needed primarily for aerosol generating procedures. Otherwise standard PPE is appropriate, as described. Important considerations include donning and doffing PPE appropriately and following all other infection control recommendations.  
<http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html>
- AHA has asked CDC about the labeling of fluid resistant vs impermeable and will share the response.
- CDC has indicated their recommendations for PPE are “permissive;” that is, they are minimum requirements and that facilities can establish higher levels of PPE if they believe that it is appropriate. However, CDC staff has noted that if a higher level of PPE is used, there should be assurance that adequate supplies of that level of PPE are available, that staff are adequately fit-tested/trained in their use, and that the policy is consistently applied to sustain trust among the workers.

4. **Infection control.** The CDC’s infection control recommendation for patients with Ebola virus is that hospitals “isolate the patient in a private room and implement standard, contact and droplet precautions.” Some hospitals have decided to use a “contact and airborne” precautions. What advice do you have for hospitals in this regard?

- AHA asked CDC to address this question, but in conversation, CDC reiterates the fact that standard, droplet and contact precautions are needed because this virus is transmitted through direct contact with blood or body fluids/substances (e.g. urine, feces, vomit) of an infected person with symptoms or thorough exposure to objects (such as needles) that have been contaminated with infected blood or body fluids. Airborne precautions are only necessary if aerosol generating medical procedures

are occurring (addressed in the document above) and that would require a higher level of protection including (but not limited to) N-95 respirators (or higher level PPE) and use of a hospital airborne infection isolation room. For full details of standard, contact, and droplet precautions hospitals should refer to: **2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings** at [http://www.cdc.gov/hicpac/2007IP/2007ip\\_part2.html#e](http://www.cdc.gov/hicpac/2007IP/2007ip_part2.html#e).

- However, CDC recognizes that for personnel reasons, hospitals may wish to use a higher level of protection and as long as it is done appropriately, including following the appropriate level of precautions and donning/doffing PPE appropriately, they believe that is fine.
5. **Case definition for Ebola virus.** There is confusion about the recommended patient evaluation algorithm to be used in identifying patients who might be infected with Ebola (“persons under investigation”). Should individuals be screened for fever AND additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, etc, or screened for fever OR additional symptoms?
- Recommended algorithm says “AND”. Here are two links that are relevant and consistent: <http://www.cdc.gov/vhf/ebola/hcp/case-definition.html> and <http://www.cdc.gov/vhf/ebola/pdf/evd-screening-criteria-hospitals.pdf>. It says screen for: “1.Fever of greater than 38.6 degrees Celsius or 101.5 degrees Fahrenheit, and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage. AND 2.Travel to West Africa (Guinea, Liberia, Nigeria, Senegal, Sierra Leone or other countries where EVD transmission has been reported by WHO) within 21 days(3 weeks) of symptom onset.
6. **Definition of “affected area.”** Which countries are considered “affected areas” for purposes of case definition for Ebola virus? The CDC website lists affected areas in Guinea, Liberia, Nigeria, Sierra Leone and Senegal. Some are reading about cases in the Congo, for example, but Congo is not currently listed as an “affected area.”
- AHA has asked CDC this question.
  - **However, see above.** “Travel to West Africa (Guinea, Liberia, Nigeria, Senegal, Sierra Leone or other countries where EVD transmission has been reported by WHO) within 21 days (3 weeks) of symptom onset.”
  - <http://www.who.int/csr/disease/ebola/en/> is a helpful website in this regard. They do discuss Congo as an outbreak of Ebola unrelated to that in the other countries.
7. **Hospital employee travel to and return from affected areas.** How should hospital employees travelling to and returning from affected areas (whether to volunteer to care for Ebola patients or for other purposes) be handled as it relates to coming back into the workplace? What public health advice is available?

- CDC staff advised checking Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure at <http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html> and scroll down to bottom where it describes steps for “Monitoring and Management of Potentially Exposed Personnel”. Also check the table in Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure at <http://www.cdc.gov/vhf/ebola/hcp/monitoring-and-movement-of-persons-with-exposure.html> that lists actions by level of exposure.
8. **Patient transport.** What issues or precautions should be taken in the planned and unplanned transport of suspected Ebola-infected patients?
- Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure at <http://www.cdc.gov/vhf/ebola/hcp/monitoring-and-movement-of-persons-with-exposure.html>, Guidance on Air Medical Transport for Patients with Ebola Virus Disease at <http://www.cdc.gov/vhf/ebola/hcp/guidance-air-medical-transport-patients.html>, Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients with Known or Suspected Ebola Virus Disease in the United States at <http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-emergency-medical-services-systems-911-public-safety-answering-points-management-patients-known-suspected-united-states.html> and Ebola Virus Disease Screening Criteria for EMS at <http://www.cdc.gov/vhf/ebola/pdf/evd-screening-criteria.pdf>.
9. **CDC Website printing errors.** If printing from the CDC website, it prints in another language, not English.
- There are a number of documents listed on CMS’s website that are provided in various languages.
10. **Communicating with the public.** What advice do public health officials have about talking to our patients and the public about Ebola or the state of hospitals’ readiness?
- CDC’s message has consistently been that any hospital can handle an Ebola patient as long as they follow infection control and prevention procedures meticulously.