



## The Basics on Ebola and Textiles: Information for You and Your Healthcare Clients

*The information below is compiled from information provided by the Centers for Disease Control (CDC). ARTA encourages members to check the CDC website for the latest information on Ebola and handling linen contaminated or potentially contaminated by a person infected with the virus.*

<http://www.cdc.gov/vhf/ebola/hcpl/infection-prevention-and-control-recommendations.html>

### What is Ebola?

Ebola is a rare and deadly disease caused by infection with one of the Ebola virus strains. Symptoms include, fever, headache, muscle pain, weakness, diarrhea, vomiting, stomach pain and unexplained bleeding or bruising.

### How is Ebola transmitted/spread?

Ebola is spread through direct contact with broken skin or mucous membranes, such as, the eyes, nose, or mouth with . . .

- blood of a person who is sick with Ebola,
- body fluids of a person who is sick with Ebola (urine, saliva, sweat, feces, vomit, breast milk, and semen) of a person who is sick with Ebola,
- objects that have been contaminated with the virus (i.e. needles and syringes),
- infected animals.

### How Ebola is NOT transmitted/spread

Ebola is not spread via the air, water, food (except from handling infected bushmeat from the region), mosquitos and other insects or contact with people who have survived Ebola (except the virus will remain in semen for up to three months after the infection)

[Case Definition for Ebola Virus Disease \(EVD\)](#)

### CDC SUMMARY ON INFECTION CONTROL, TEXTILES & EBOLA

While the Ebola virus is actually EASIER to kill than a norovirus (thus textiles processed by an HLAC-accredited or Hygienically Clean-certified laundry would be rendered clean), because it is a deadly virus -- the CDC is taking these extraordinary steps to minimize the number of persons who may be potentially exposed to Ebola.

Overall, the CDC is extremely confident our healthcare system can handle any threat from Ebola. It is an "envelope" virus and is easily killed by standard cleaners. However, **to be safe**, they recommend the following: **[Guidelines #1 and #4 address textiles]**

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**1) Be sure environmental services staff wear recommended personal protective equipment (PPE) including, at a minimum, disposable gloves, gown (fluid resistant/ impermeable), eye protection (goggles or face shield), and facemask to protect against direct skin and mucous membrane exposure of cleaning chemicals, contamination, and splashes or spatters during environmental cleaning and disinfection activities.** Additional barriers (e.g., leg covers, shoe covers) should be used as needed. If reusable heavy-duty gloves are used for cleaning and disinfecting, they should be disinfected and kept in the room or anteroom. Be sure staff are instructed in the proper use of personal protective equipment including safe removal to prevent contaminating themselves or others in the process, and that contaminated equipment is disposed of as regulated medical waste.

**NOTE:** *Reusable isolation gowns should ONLY be disposed of as regulated medical waste or Red Bag waste if the patient is being tested for Ebola or has been CONFIRMED as having the Ebola virus.*

**2) Use a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with a label claim for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces in rooms of patients with suspected or confirmed Ebola virus infection.** Although there are no products with specific label claims against the Ebola virus, enveloped viruses such as Ebola are susceptible to a broad range of hospital disinfectants used to disinfect hard, non-porous surfaces. In contrast, non-enveloped viruses are more resistant to disinfectants. As a precaution, selection of a disinfectant product with a higher potency than what is normally required for an enveloped virus is being recommended at this time. EPA-registered hospital disinfectants with label claims against non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus) are broadly antiviral and capable of inactivating both enveloped and non-enveloped viruses.

**3) 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.

**4) 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 as a regulated medical waste.**

**Translation for #4:**

All linen used by a patient CONFIRMED with the Ebola virus should be disposed of as regulated medical waste and incinerated or sterilized before landfill (however, autoclaves used to sterilize OR items should NOT be used).

**Linen used by a patient BEING TESTED for Ebola should be bagged as regulated medical waste and stored in the patient's room during the test period.** The test for Ebola takes 24 to 70 hours to provide a result. If the test is positive, the linen should be disposed of as regulated medical waste or Red Bag waste. If negative, the linen is placed in regular soiled linen bags, returned to the laundry and processed as normal.

It is important to reassure clients and employees that our healthcare system and professional launderers can easily defeat the Ebola virus. Please check the CDC website for additional updates.

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### **The Environment and Recommended Protocols for Personnel in Contact With Ebola Patients and/or Contaminated Linen**

According to the CDC, “The role of the environment in transmission has not been established. Limited laboratory studies under favorable conditions indicate that Ebolavirus can remain viable on solid surfaces, with concentrations falling slowly over several days.” As such, following consistent protocols for cleaning and surface disinfection is critical.

While your clients’ facilities may never have an Ebola patient, it is wise to establish internal communication with infection preventionists, nursing and epidemiology to establish protocols and nail down processes with respect to the delivery and storing of clean linen, and the storage and collection of contaminated linen.

### **Resources for Healthcare Clients/Employees Handling Contaminated Linen**

[CDC Issues Updated PPE Guidance](#)

[Considerations for U.S. Healthcare Facilities to Ensure Adequate Supplies of Personal Protective Equipment \(PPE\) for Ebola Preparedness](#)

[Donning and Doffing of PPE for Ebola Isolation Units Video](#)

[Guidance for the Selection and Use of Personal Protective Equipment in Healthcare Settings](#)

[Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On \(Donning\) and Removing \(Doffing\)](#)

[Information for healthcare workers and settings](#)

[List of 48 U.S. Ebola treatment centers](#)

[Preparing Ebola assessment hospitals](#)

[Preparing Ebola treatment centers](#)

[Preparing frontline healthcare facilities](#)

[Sequence for Donning and Removing Personal Protective Equipment](#)

[Tightened Guidance for U.S. Healthcare Workers on Personal Protective Equipment for Ebola](#)

To be sure you are protecting yourself and your staff, read, review and be clear on PPE recommendations as noted in the [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#) from the [CDC](#).

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## FREQUENTLY ASKED QUESTIONS

From the CDC website: <http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html>

**1. How can I determine whether a particular EPA-registered hospital disinfectant is appropriate for use in the room of a patient with suspected or confirmed Ebola virus infection?** Begin by looking at the product label or product insert or, if these are not available, search the [EPA search engine](#) for this information. Users should be aware that an 'enveloped' or 'non-enveloped virus' designation may not be included on the container label. Instead check the disinfectant's label for at least one of the common non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus).

**2. Are there special instructions for cleaning and disinfecting the room of a patient with suspected or confirmed Ebola virus infection?** Daily cleaning and disinfection of hard, non-porous surfaces (e.g., high-touch surfaces such as bed rails and over bed tables, housekeeping surfaces such as floors and counters) should be done. Before disinfecting a surface, cleaning should be performed. In contrast to disinfection where products with specific claims are used, any cleaning product can be used for cleaning tasks. Use cleaning and disinfecting products according to label instructions. Check the disinfectant's label for specific instructions for inactivation of any of the non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus) follow label instructions for use of the product that are specific for inactivation of that virus. Use disposable cleaning cloths, mop cloths, and wipes and dispose of these in leak-proof bags. Use a rigid waste receptacle designed to support the bag to help minimize contamination of the bag's exterior.

**3. How should spills of blood or other body substances be managed?** The basic principles for blood or body substance spill management are outlined in the United States Occupational Safety and Health Administration (OSHA) [Bloodborne Pathogen Standards](#) (29 CFR 1910.1030). CDC guidelines recommend removal of bulk spill matter, cleaning the site, and then disinfecting the site. For large spills, a chemical disinfectant with sufficient potency is needed to overcome the tendency of proteins in blood and other body substances to neutralize the disinfectant's active ingredient. An EPA-registered hospital disinfectant with label claims for non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, poliovirus) and instructions for cleaning and decontaminating surfaces or objects soiled with blood or body fluids should be used according to those instructions.

**4. How should disposable materials (e.g., any single-use PPE, cleaning cloths, wipes, single-use microfiber cloths, linens, food service) and linens, privacy curtains, and other textiles be managed after their use in the patient room?** These materials should be placed in leak-proof containment and discarded appropriately. To minimize contamination of the exterior of the waste bag, place this bag in a rigid waste receptacle designed for this use. Incineration or autoclaving as a waste treatment process is effective in eliminating viral infectivity and provides waste minimization. If disposal requires transport offsite then this should be done in accordance with the U.S. Department of Transportation's (DOT) Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180). Guidance from DOT has been released for Ebola.

**5. Is it safe for Ebola patients to use the bathroom?** Yes. Sanitary sewers may be used for the safe disposal of patient waste. Additionally, sewage handling processes (e.g., anaerobic digestion, composting, and disinfection) in the United States are designed to inactivate infectious agents.

**6. How long does the Ebola virus persist in indoor environments?** Only one laboratory study, which was done under environmental conditions that favor virus persistence, has been reported. This study found that under these ideal conditions Ebola virus could remain active for up to six days. In a follow up study, Ebolavirus was found, relative to other enveloped viruses, to be quite sensitive to inactivation by ultraviolet light and drying; yet sub-populations did persist in organic debris.

In the only study to assess contamination of the patient care environment during an outbreak, conducted in an African hospital under "real world conditions", virus was not detected by either nucleic acid amplification or culture in any of 33 samples collected from sites that were not visibly bloody. Virus was detected on a blood-stained glove and bloody intravenous insertion site by nucleic acid amplification, which may detect non-viable virus, but not by culture for live, infectious virus. Based upon these data and what is known regarding the environmental infection control of other enveloped RNA viruses, the expectation is with consistent daily cleaning and disinfection practices in U.S. hospitals that the persistence of Ebola virus in the patient care environment would be short – with 24 hours considered a cautious upper limit.

**7. Are wastes generated during delivery of care to Ebola virus-infected patients subject to select agent regulations?** As long as facilities treating Ebola virus-infected patients follow the CDC's [Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals](http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html)(<http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html>); waste generated during delivery of care to Ebola virus-infected patients would not be subject to Federal select agent regulations (See the exclusion provision 42 CFR § 73.3(d)(1)). However, this would not apply to any facility that intentionally collected or otherwise extracted the Ebola virus from waste generated during the delivery of patient care.

**8. Are wastes generated during delivery of care to Ebola virus-infected patients subject to any special transportation requirements?** Yes, wastes contaminated or suspected to be contaminated with Ebola virus must be packaged and transported in accordance U.S. DOT Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180).

Once a patient with suspected Ebola Virus Disease (e.g., Patients under investigation) is no longer suspected to have Ebola Virus disease (EVD) or has ruled out for EVD, their waste materials no longer need to be managed as if contaminated with Ebola Virus.

## **WASTE HANDLING**

[Interim Guidance for Managers and Workers Handling Untreated Sewage from Individuals with Ebola in the United States 11/20/14](#)

[Information on the Survivability of the Ebola Virus in Medical Waste 11/21/14](#)

[Ebola Medical Waste Management \(key information from the CDC\)](#)

**What is a Category A Infectious Substance?** Ebola is classified as a Category A substance, a biological agents or pathogen that is rarely seen in the United States and:

- can be easily disseminated or transmitted from person to person,
- result in high mortality rates and have the potential for major public health impact,
- might cause public panic and social disruption, and
- require special action for public health preparedness.

For information and clarification on the how Category A infectious substances must be disposed of and transported refer to [Transporting Category A Infectious Substances.](#)



### **Department of Transportation Resource**

The U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) in coordination with the Centers for Disease Control and Prevention (CDC) announced that it has issued an emergency special permit allowing a Lake Forest, Ill.-based company to transport large quantities of Ebola-contaminated waste from Texas Health Presbyterian Hospital Dallas for disposal. [More](#)

[Pipeline and Hazardous Materials Safety Administration \(PHMSA\) special permit Q & A](#)

[DOT Guidance](#)

[DOT Transporting Infectious Substances Brochure](#)

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