

EBOLA IN THE NEWS

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The situation regarding a potential Ebola outbreak migrating to North America has many people on edge. The reports of a second healthcare worker in Texas testing positive for Ebola and the fact that she took an airplane trip the day before her symptoms commenced has heightened the anxiety level.

Although the U.S. Centers for Disease Control (CDC) continues to insist that the chance for a widespread breakout is low, people are naturally curious and trying to get some contingency plans in place. Unfortunately, that process has been hampered by constantly changing recommendations from a wide variety of government resources. To put it mildly, the information about Ebola coming from Canadian health officials and the primary U.S. regulatory agencies (OSHA, EPA, CDC) has been “fluid”.

With more than 25 years of experience at Wonder Makers Environmental dealing with indoor environmental hazards, it is a bit easier for us to put the barrage of media reports into proper perspective. As such, we have prepared this quick summary for our contractor and commercial clients to help everyone understand the basics of the virus, as well as protection and cleaning methods, so that you can begin thinking about a proper response protocol if suspect cases reach your area. However, it is crucial to remember that a summary, in order to bring clarity and perspective, leaves out many details. If you need to develop a specific response plan or want advice about assisting your own clients, please contact us for a more thorough review of your situation.

Also, it is important to note that the following information is gleaned from a variety of credible sources, along with our own professional experience and recommendations. It is best to start with solid information. Ebola is the short name for a number of strains of a virus that causes Ebola hemorrhagic fever. It is a rare but significant pathogen that can lead to a 50-90% fatality rate in infected individuals. The Ebola virus can be transmitted in a variety of ways. The most significant route of contamination is through direct contact with bodily fluids from an infected person. However, the virus may also be transmitted by secondary contact with contaminated surfaces through hand to mouth activities.

As such, Ebola qualifies as a bloodborne pathogen. That means that anyone responding to a potential Ebola situation should meet all of the OSHA regulations included in that particular standard. It is important to note that the bloodborne pathogens regulations have been updated

recently to require input from workers in developing a written exposure control plan. That means that the workers tasked with dealing with a potential Ebola situation, not just management, have to be involved in the development of programs aimed at addressing possible exposure situations.

In order to minimize the prospective spread of any biological contaminant, including Ebola, proper cleaning is necessary. In this regard, restoration contractors who conduct black water and mold remediation are uniquely suited to assist with the clean-up of other environmental contaminants. One of the main reasons for reaching out to specialized contractors to assist with such cleaning is that they are trained in the careful use of personal protective equipment (PPE). In addition, many restoration contractors already provide the other necessary training—such as Bloodborne Pathogens, Hazard Communication, and Respirator Use—required by OSHA for such situations.

However, in the case of potential Ebola contamination, PPE needs to be upgraded from standard mold or water work. Since porous suits and half-face respirators or filtering facepieces put workers at risk, PPE for potential Ebola situations will look similar to that worn for trauma scene clean-up. This will include full-face respirators at a minimum with HEPA filters, as they keep workers from touching their face. Powered air purifying respirators (PAPR) with HEPA filters provide an even greater level of protection and should be utilized by contractors when clean-up situations are known to involve contaminants from Ebola-infected individuals rather than situations where general precautions are being taken.

Waterproof suits with hoods sealed around the respirator, strong "rubber" gloves, and rubber boots that can be thoroughly decontaminated are key for Ebola work as the decontamination process for workers involves a complete disinfection of the PPE before it is doffed, as described by the CDC. This means that the workers are sprayed/cleaned with a chemical sanitizer before they remove their PPE. The team at Wonder Makers advocates the use of a foamer for applying the antimicrobial solution as it increases the dwell time of the chemical. Workers will likely have to stand in their PPE for three to ten minutes before removal, depending on the manufacturer's label directions.

Heat stress will be a big concern for such work. Contractors and custodial managers may have to plan for 30-minute work shifts for employees in even moderately warm environments since, with a 10+ minute decontamination process, 45 minutes in and 15-30 minutes out will generally keep a crew within the OSHA heat stress guidelines. Otherwise, specific temperature monitoring is required with specialty instruments (*i.e.*, wet bulb globe thermometer or equivalent electronic instrument).

Obviously, this means that any organization taking on the challenge of dealing with Ebola will have to have adequate quantities of PPE, as frequent change out is necessary.

Engineering controls will be important to control the possibility of cross contamination. Currently, CDC and government agencies around the world are downplaying the possibility of airborne transmission of the virus. However, the use of isolation barriers and negative pressure in the work area would be prudent. A freestanding decontamination chamber big enough to accommodate the PPE disinfection process described above will be necessary. Step-off pads should be mandatory to minimize tracking from the decon unit. Caution suggests stripping the tear off sheet after every walk off by someone from the work zone.

As of today, no chemical is approved by the EPA as specifically proven against Ebola. The EPA, OSHA, and CDC have a means for contractors to evaluate chemicals to see if they are appropriate, but be wary of manufacturers that state "effective for Ebola". OSHA states the following in their Ebola surface cleaning fact sheet:

Use an EPA registered disinfectant suitable for non-enveloped viruses (e.g. adenovirus, norovirus, poliovirus) to treat contamination/spills and to disinfect surfaces after bulk spill material has been removed.

What this means in layman's terms is that most of the standard disinfecting chemicals typically used in the restoration industry will be appropriate for Ebola situations. However, it is critical that any chemical used to assist with cleaning and decontamination in such circumstances be carefully evaluated using OSHA, EPA, and CDC guidance.

Since any waste material potentially contaminated with the Ebola virus is considered infectious waste, it falls under the U.S. Department of Transportation's (DOT's) Hazardous Materials regulations. Therefore, any shipment of used PPE, cleaning materials, and bulk waste must follow the guidelines of the individual permits provided by the DOT. Under current interpretation of the rules all waste must be discarded as "Category A" or "Class 6" infectious waste and contained according the hazardous materials regulations. In addition, many states have medical waste and transportation laws that may be more stringent than the federal regulations.

While it is true that much is still in flux in regards to a proper approach to situations that may involve Ebola, judicious plans and precautions can be put in place. While it may turn out later that some of these recommendations can be relaxed as more information comes to light, it is better to err on the side of caution until more is known. In that regard, we are reminded of the tragic lessons learned during the SARS epidemic of 2002-04. Several deaths of healthcare workers were attributed to management decisions to stick with surgical masks for worker protection even after safety and health professionals were urging an upgrade.

Finally, there is no doubt that Ebola can be scary. The psychological aspects of the work are just as critical as the physical efforts. Both organizational managers and restoration contractors must use great skill when dealing with people in times of stress. A calm, professional approach is crucial to making sure that the situation is neither overblown nor blown off. Working together, rather than panicking, will ensure that the threat of an Ebola epidemic remains just a threat, not a reality.