



EMS Section of The International Association of Fire Chiefs

4025 Fair Ridge Drive • Fairfax, VA 22033-2868 • Tel: 703/273-0911 • www.iafc.org



Ebola and EV-D68: What EMS Needs to Know

By: Kathy West, RN, BSN, MSED

Recent events have brought the Ebola Virus Disease (EVD) and the Enterovirus V-D68 (EV-D68) to the forefront of discussions about patient safety, EMS-provider safety and infectious-disease controls. All IAFC members should familiarize themselves and their agency's EMS providers with the recommendations below to continue limiting the spread of these diseases and providing the highest quality care for their patients.

Suspected Ebola Patient – Ebola Virus Disease

Initially, the U.S. Centers for Disease Control and Prevention (CDC) recommended air transport of any patient with suspected or diagnosed Ebola to one of four specially equipped hospitals. However, current guidance from the CDC indicates that any hospital can safely care for a patient with Ebola.

As illustrated by the recent events in Texas, EMS providers may unknowingly transport an Ebola-infected passenger as a routine care patient. While symptoms may appear from 2 to 21 days after exposure, the average is 8 to 10 days.

Signs and Symptoms of Ebola, in addition to travel history:

- Fever (greater than 38.6°C or 101.5°F)
- Severe headache
- Muscle pain
- Weakness
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Unexplained hemorrhage (bleeding or bruising)

Obtaining a travel history is an important part of patient assessment and must become standard practice. If a patient has a history of travel to West Africa and symptoms, take precautions with appropriate PPE.

Three Types of Precautions for Ebola: Standard, Droplet and Contact

Standard precautions are basic infection control practices that apply to all patients. These replaced “Universal Precautions and Body Substance Isolation” in 2005. Standard precautions assume that all blood, body fluids, secretions (except sweat), non-intact skin and mucous membranes may transmit infection.

Standard Precautions – Use gloves and wash hands when in contact with patient blood, non-intact skin, mucous membranes and contaminated surfaces. Alcohol-based foams and gels may be used if hands are not visibly covered with blood or body fluids.

Droplet Precautions – Wear a facemask within three feet of a patient or before entering a vehicle or home of a suspected Ebola patient. Protective eyewear should be worn to protect from splash or splatter. If substantial spraying of respiratory fluids is anticipated, gloves and a gown (in addition to goggles or face shield) should be worn.

The patient should be asked to wear a facemask and to avoid coming into close contact with other patients.

Both the CDC and World Health Organization recommend that aerosol-generating procedures, such as nebulizers or suctioning, be *avoided* in suspected Ebola cases unless performed in a negative-pressure room in a medical facility.

Contact Precautions – Wear gloves and a cover gown when in direct contact with patient or contaminated equipment or surfaces. Perform good hand washing, and dispose of medical waste in accordance with your state regulations (not everything is medical waste)!

Cleaning/Disinfection

Cleaning can be accomplished using any EPA-registered disinfectant; no special solutions are required. Clothing and linens require routine laundering; no special washer or added solutions are necessary. Cleaning should be focused on “high contact items and surfaces,” or in other words, what the patient was in contact with and what was used to care for the patient.

Suspected EV-D68 Patient – Enterovirus-D68 Respiratory Disease

Enterovirus V-D68 has been found in respiratory secretions including saliva, nasal mucus and sputum. The virus likely spreads from person to person when an infected person coughs, sneezes or contaminates surfaces. With the mode of transmission in mind, the types of precautions need to be taken is clear: standard precautions and droplet precautions.

Standard Precautions – Practice good hand washing and use gloves when in contact with respiratory secretions and contaminated surfaces.

Droplet Precautions – Since the patient may be coughing or having difficulty breathing and need oxygen, EMS providers should wear surgical masks within three feet of the patient. Droplet-transmitted diseases don't travel more than three feet or remain suspended in the air. If suctioning or intubating, also wear eye protection. Respirators (such as N-95 or N-100) are *not* needed or recommended.

Cleaning/Disinfection

Surface disinfection in healthcare and ambulance settings should be performed using a hospital-grade disinfectant with an EPA label claim for any of several non-enveloped viruses (e.g. norovirus, poliovirus, rhinovirus).

Note: EMS providers include EMTs, paramedics, first responders, law enforcement and fire service personnel.

Katherine West, RN, BSN, MEd is an infection control consultant and a member of the [IAFC EMS Section's](#) Emerging Infectious Diseases Committee and has been involved with infection control since 1975. Katherine currently serves on the faculty of the George Washington University and as an adjunct faculty member at the National Fire Academy. Katherine has provided consulting services to the CDC and National Institute for Occupational Safety and Health. You can reach Katherine at www.ic-ec.com or 703-365-8388.

Additional Ebola Links and Information:

- [IAFC Ebola Resources Page](#)
- [Detailed Emergency Medical Services \(EMS\) Checklist for Ebola Preparedness](#) (PDF)
- [Interim Guidance for Emergency Medical Services \(EMS\) Systems and 9-1-1 Public Safety Answering Points \(PSAPs\) for Management of Patients with Known or Suspect Ebola Virus Disease in the United States](#)
- [Interim Infection Prevention and Control Guidance for Care of Patients Suspected or Confirmed Filovirus Hemorrhagic Fever in Healthcare Settings.](#)
- [CDC and Texas Health Department Confirm First Ebola Case Diagnosed in the U.S.](#)
- [Safe Management of Patients with Ebola Virus Disease \(EVD\) in U. S. Hospitals](#)
- Siegel, Jane D., MD, et al. *The Healthcare Infection Control Practices Advisory Committee – 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.* Centers for Disease Control & Prevention, Atlanta, Ga.

Additional EV-D68 Links and Information:

- [CDC Website with EV-D68 Resources for Healthcare Providers](#)
- [Healthy Children - American Academy of Pediatrics](#)
- Midgley, C.M., et al. [Severe respiratory illness associated with enterovirus D68 — Missouri and Illinois, 2014.](#) *MMWR.* 2014;63(36)798-9.
- Transmission-based precautions, *Droplet Precautions*, Centers for Disease Control and Prevention, Atlanta, Ga.