

Ebola Virus Disease: Outbreak Health Precautions

This WorkCare Fact Sheet describes Ebola Virus Disease and health precautions for employees working in regions affected by an outbreak.

[Ebola Virus Disease \(EVD\)](#) is a potentially fatal infectious disease caused by exposure to a virus that can be spread through contact with:

- Blood, body fluids or tissue from an infected person
- Contaminated medical equipment
- Infected animals, including bats, gorillas and monkeys

EVD is not spread through the air, water or food products (except some types of wild meat). It was first identified in 1976 near the Ebola River in what is now the Democratic Republic of the Congo (DRC). Four virus strains are known to cause EVD in humans; a fifth strain infects only non-human primates.

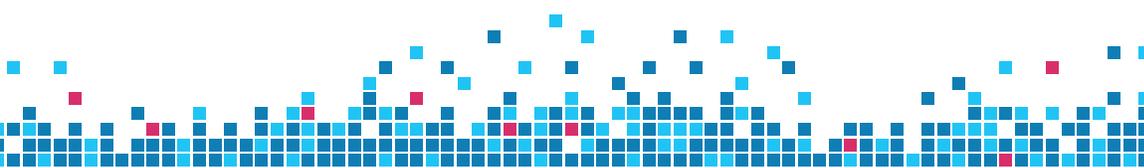
Ebola Outbreaks

The DRC Ministry of Health declared an outbreak of EVD in the Bikoro area on May 8, 2018. It is the ninth outbreak to occur in or near that region of Africa in the past 40 years. By May 21, 2018, 58 EVD cases were reported, including 27 deaths (a fatality rate of 47 percent), according to the [World Health Organization](#) (WHO), which issues frequent updates.

The outbreak prompted a swift response from health officials, who gained knowledge from managing the world's largest Ebola epidemic. From March 2014 to June 2016, the African nations of Guinea, Sierra Leone and Liberia reported 28,616 suspected, probable and confirmed cases and 11,310 related deaths. In addition, a limited number EVD cases occurred in other parts of Africa, Europe and the United States, mainly involving health care workers, the [U.S. Centers for Disease Control and Prevention](#) (CDC) reports.

Vaccine in Development

Since the 2014-16 epidemic, there have been some advances in prevention, including the use of an experimental vaccine known as rVSV-ZEBOV developed at the [National Microbiology Laboratory](#) in Canada. The DRC, with support from WHO and its partners, is using the vaccine to protect at-risk populations in affected zones.



While an EVD vaccine has not been approved by regulatory authorities, access to rVSV-ZEBOV is allowed under an expanded access/compassionate use protocol recommended by WHO's Strategic Advisory Group of Experts on Immunization. Health officials apply a "ring strategy," which relies on tracing and vaccinating all the contacts and contacts of contacts of a recently confirmed case as soon as possible.

In the U.S., the [National Institute of Allergy and Infectious Diseases' Vaccine Research Center](#) is involved in the development of alternative Ebola vaccine candidates and in testing the rVSV-ZEBOV vaccine for efficacy

Precautions for Visitors

The risk to most visitors to the DRC is low. Travelers and workers who have not taken precautions could become infected if they come into contact with an infected person's blood or body fluids. Health care workers caring for patients with Ebola and family and friends caring for an infected person are at highest risk.

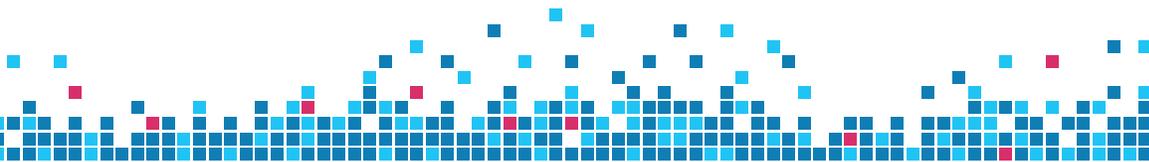
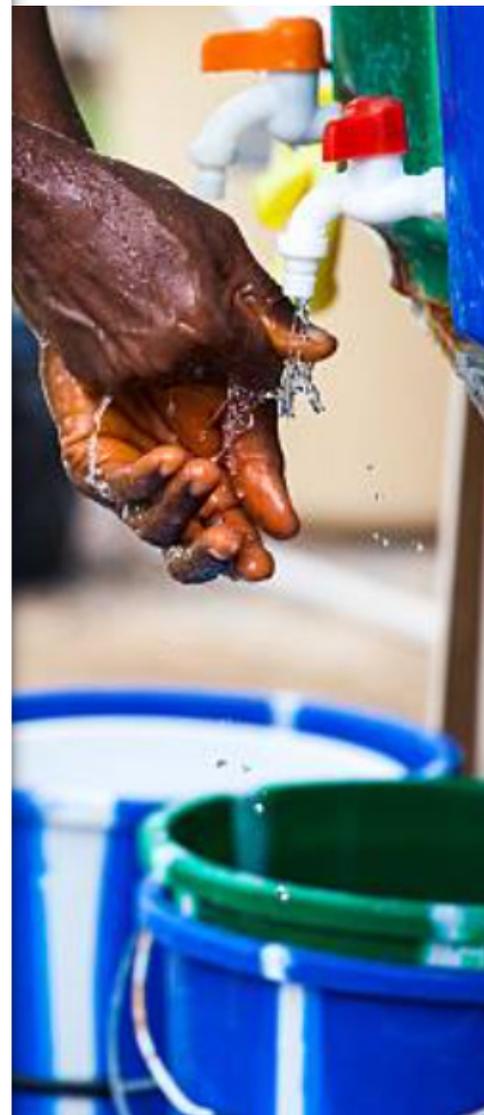
The CDC posts recommendations on its [Travelers' Health website](#). When traveling through or working in sub-Saharan Africa and other regions where there are contagious diseases, it is advisable to practice good [hand hygiene](#) – frequently washing hands with soap and water or cleaning them with an alcohol-based hand sanitizer.

While in an area affected by EVD, health officials say it is important to avoid:

- Contact with blood and body fluids such as urine, feces, saliva, sweat, vomit, breast milk, semen and vaginal fluids.
- Items that may have come in contact with an infected person's blood or body fluids, such as clothes, bedding, needles and medical equipment.
- Funeral or burial rituals that require handling the body of someone who died from EVD.
- Contact with bats and non-human primates or blood, fluids and raw meat prepared from these animals (bushmeat) or meat from an unknown source.

Ebola virus can remain in semen, breast milk, ocular (eye) fluid and spinal column fluid after a person has recovered from the infection. Scientists are studying how long it remains viable. Protected sex after recovery is recommended.

There are specific workplace protective measures recommended for [clinicians and other health care personnel](#) at risk of exposure. In addition to using personal protective equipment, they include proper sterilization of instruments and safe disposal of syringes. A [U.S. Environmental Protection Agency \(EPA\)-registered hospital disinfectant](#) with a label claim for a non-enveloped virus should be used to kill EVD, which can survive on dry surfaces for several hours.



The CDC also recommends quarantine and isolation procedures to help prevent the spread of disease on [commercial airlines](#).

After visiting a region affected by Ebola, health officials advise travelers to monitor their health for 21 days and immediately report any symptoms to a qualified medical professional. If there is a risk of infection, precautions must be taken to prevent spread of the virus prior to an examination.

Symptoms and Treatment

EVD symptoms include:

- Fever
- Severe headache
- Muscle pain
- Weakness
- Fatigue
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Hemorrhage (bleeding or bruising)

Symptoms may appear anywhere from two to 21 days after contact with the virus, with an average of eight to 10 days to develop. Other illnesses have similar symptoms, including influenza and malaria. An EVD diagnosis may not be immediately apparent. It is a rare occurrence outside of endemic regions.

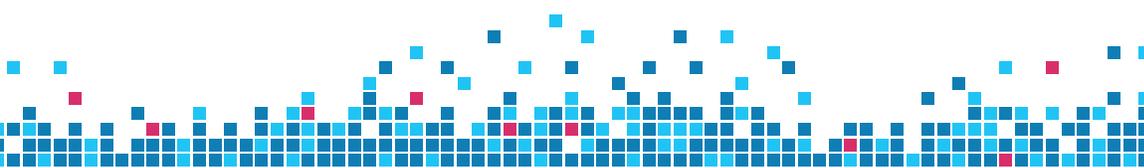
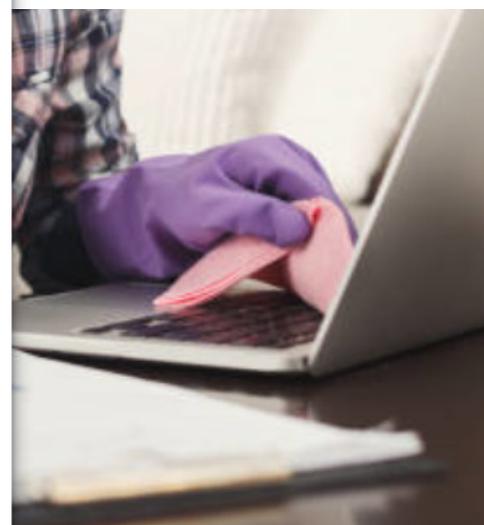
Recovery depends on supportive clinical care and a patient's immune response, health officials say. Interventions that significantly improve chances of survival for people with EVD include:

- Providing intravenous fluids and balancing electrolytes (body salts)
- Maintaining oxygen status and blood pressure
- Treating other infections if they occur

Workplace Guidelines

While non-medical personnel working in an endemic area are likely to be in a "no known Ebola exposure risk" category, their employers are advised to comply with some general infection prevention and control guidelines:

- 1. Hygiene and general cleaning:** Supply and renew workplaces with personal hygiene items including tissues, hand soap, surgical masks, disinfectants, disposable paper towels and sponges, and effective waterless hand sanitizer. Encourage employees to frequently wash their hands for at least 20 seconds each time. Although infectious risk is low, commonly used surfaces should be regularly cleaned to maintain good housekeeping in the work environment.



- 2. Universal precautions:** Employees designated to respond to first-aid and illness events should be trained in universal precautions as defined by the CDC. Fully stocked first aid and universal precaution kits should be available.
- 3. Isolation practices:** Employees should be encouraged to report any signs and symptoms of illness to their immediate supervisor or project manager upon arrival at work or if they become ill during the day. Employees with symptoms should be placed in an area away from others, and as tolerated, given a surgical mask to wear. A disposal plastic bag should be available for used tissues or if the person is nauseous.

Designation of an isolation room and procedures for transport of symptomatic employees to a medical facility for evaluation and treatment are recommended. When traveling to a hospital or clinic, the symptomatic individual's contact with other people should be limited. Any employee assisting someone with symptoms should wear protective equipment, including a surgical mask and gloves.

- 4. Return to work:** Generally, any employee with fever, headache, nausea, vomiting, diarrhea or sore throat should be directed to remain at home until symptoms dissipate and there is no fever for a period of 24 hours without the use of fever-reducing medication.
- 5. Disinfection:** Any type of body fluid should be treated as though it is infectious. Hand hygiene is the most important infection control measure. Isolation areas for symptomatic employees require disinfection after use. Clean-up personnel should:
 - Wear impermeable disposable gloves while cleaning and wash hands after use.
 - Wipe down lavatory surfaces and frequently touched surfaces such as desks, chairs, computer keyboards, light switches and phones with an EPA-registered cleaner/disinfectant. If an approved product is not available, one part bleach for 10 parts water may be used in a well-ventilated area.

Special cleaning of upholstery or carpets is not indicated unless they are soiled with blood or body fluids. Soiled gloves, furniture or carpet should be discarded in accordance with proper bio-hazardous waste disposal methods.

- 6. Notification and training:** Employees should be notified of potential exposure events. A company designee should be responsible for notifying client contacts and public health authorities, as required. Patient confidentiality must be protected to the greatest degree possible. Training on EVD prevention guidelines should be mandatory, with training content and attendance documented and maintained in office or project files.

