Aquagenx
Safe water for anyone, anywhere, anytime

Technical Brief

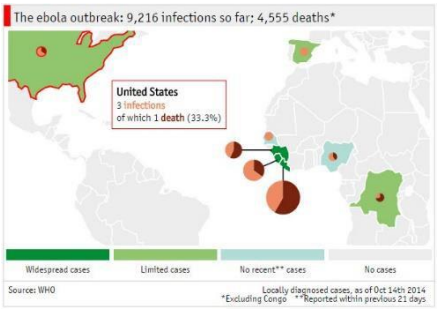
Facts about the Ebola Virus and Drinking Water

Ebola Virus Information

Centers for Disease Control and Prevention (CDC)

World Health Organization (WHO)

Interactive Map of Outbreak



WHO provides a real-time map of locally diagnosed cases reported in the previous 21 days around the world.

Videos

Video: CDC on How to Contain Ebola

Video: WebMD on How Ebola Kills

What Is the Ebola Virus

Ebola is a disease caused by infection with one of the Ebola virus strains. The virus causes hemorrhagic fevers marked by severe bleeding (hemorrhaging), organ failure and death. Transmission of the Ebola virus is through direct contact of broken skin and mucous membranes with blood and bodily fluids of an infected individual, or through exposure to objects like needles or bed linens that have been contaminated with infected bodily fluids. As with outbreaks of any disease, water, sanitation and hygiene practices that are thoroughly and consistently applied help prevent the human-to-human transmission of the Ebola virus.

Ebola Virus and Drinking Water

Very little is known about the survival of the Ebola virus in feces and sewage, and it should not be assumed the virus quickly disappears when it is introduced into the environment. However, it is generally thought Ebola is not transmitted by contaminated water. According to the World Health Organization, there is no evidence to date for transmission of the Ebola virus through drinking water contaminated by feces or urine.[1]

The Ebola virus does not survive a long time in water and deactivates in a short period of time. Each Ebola virus is encased in an envelope taken from the membrane of a host cell. Viruses such as Ebola depend on the host cells of human or animal bodies to survive and they are not resistant outside the body for long periods of time. Water is not a protective environment for the Ebola virus.

Although Ebola is not an enteric (intestinal) virus, it is known to be present in fecal matter and other materials shed by sick people because of the bleeding they experience, causing the virus to be present in fecal waste and other bodily wastes. The virus is thought to be quite labile or fragile compared to the human enteric viruses found in fecally contaminated water. Even if there are host cells infected with the Ebola virus in drinking water (which is unlikely), those cells would lyse and degrade quickly and the released viruses would not survive for long.

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[1] World Health Organization, 2014. *Ebola Virus Disease (EVD) Key questions and answers concerning water, sanitation and hygiene.* *http://apps.who.int/iris/bitstream/10665/137181/1/WHO_EVD_WSH_14_eng.pdf?ua=1*

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Safe Water for Care of Ebola Patients and Care Givers

Drinking water and water used for or in support of care for Ebola patients and care givers always needs to be safe and free of fecal microbes. It is vital to keep excreta separated from drinking water sources. Any Ebola response effort must address the need for microbially safe water in Ebola treatments centers or other facilities for care of Ebola patients, as well as those in the affected communities. Microbially safe water reduces the risk of additional water-related diseases that are a health risk to staff and patients.

Portable water quality tests like the Aquagenx Compartment Bag test (CBT) play an important supporting role in making sure that drinking water and other water used in support of Ebola patients is free of fecal contamination.

Aquagenx Compartment Bag Test (CBT)

The Aquagenx Compartment Bag Test (CBT) is a portable, simple, self-contained water quality test kit that lets anyone, anywhere determine if drinking water contains *E. coli* bacteria and poses a health risk. No electricity or laboratories are needed. The CBT is ideal for on-site testing in low resource and disaster settings.

The CBT quantifies the Most Probable Number (MPN) of *E. coli* bacteria in a 100 milliliter water sample according to World Health Organization and US Environmental Protection Agency guidelines for safe drinking water. A few simple steps generate easy-to-score, color-change test results:

Collect water sample

Mix *E. coli* medium

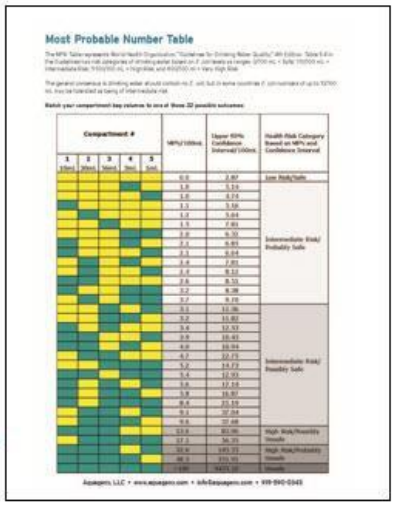
Pour sample into compartment bag

Incubate

Score test results

Yellow/Yellow-Brown = Absence of *E. Coli*
Blue/Blue-Green = Presence of *E. coli*

Match the color sequence of your five compartments to one of 32 possible outcomes for MPN of *E. coli*.



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