EBOLA Virus Fact Sheet

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Newsletter Date 10/02/14 , Issue 62

World Health Organization

What is Ebola virus disease?

Ebola virus disease (formerly known as Ebola haemorrhagic fever) is a severe, often fatal illness, with a death rate of up to 90%. The illness affects humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

Ebola first appeared in 1976 in two simultaneous outbreaks, one in a village near the Ebola River in the Democratic Republic of Congo, and the other in a remote area of Sudan. The origin of the virus is unknown but fruit bats (Pteropodidae) are considered the likely host of the Ebola virus, based on available evidence.

How do people become infected with the virus?

In the current outbreak in West Africa, the majority of cases in humans have occurred as a result of human-to-human transmission. Infection occurs from direct contact through broken skin or mucous membranes with the blood, or other bodily fluids or secretions (stool, urine, saliva, semen) of infected people.

Infection can also occur if broken skin or mucous membranes of a healthy person come into contact with environments that have become contaminated with an Ebola patient's infectious fluids such as soiled clothing, bed linen, or used needles.

Is the virus killed by commercial hand sanitizers?

The US CDC advises that waterless alcohol-based hand rub can be used if soap is not available.

The World Health Organization also advises travelers to use hand sanitizer but to wash if hands are visibly dirty.

Santi-Gel Instant Hand Sanitizer is ideal to use when soap and water are not available. Formulated with 62% Ethyl Alcohol, this crystal clear gel kills 99.9% of common germs within 15 seconds.

Plus, this thick formula won't run off hands and meets CDC recommendations for the highest hand antisepsis. Enhanced with moisturizers, it doesn't over-dry skin.

Fast-acting alcohol instant hand sanitizer gel No water or rinsing needed.

Meets CDC recommendations for highest hand antisepsis.

More than 100 health-care workers have been exposed to the virus while caring for Ebola patients. This happens because they may not have been wearing personal protection equipment or were not properly applying infection prevention and control measures when caring for the patients. Health-care providers at all levels of the health system – hospitals, clinics, and health posts – should be briefed on the nature of the disease and how it is transmitted, and strictly follow recommended infection control precautions.

People are infectious as long as their blood and secretions contain the virus. For this reason, infected patients receive close monitoring from medical professionals and receive laboratory tests to ensure the virus is no longer circulating in their systems before they return home. When the medical professionals determine it is okay for the patient to return home, they are no longer infectious and cannot infect anyone else in their communities. Men who have recovered from the illness can still spread the virus to their partner through their semen for up to 7 weeks after recovery. For this reason, it is important for men to avoid sexual intercourse for at least 7 weeks after recovery or to wear condoms if having sexual intercourse during 7 weeks after recovery.

Who is most at risk?

During an outbreak, those at higher risk of infection are:

- Health workers & family members or others in close contact with infected people.

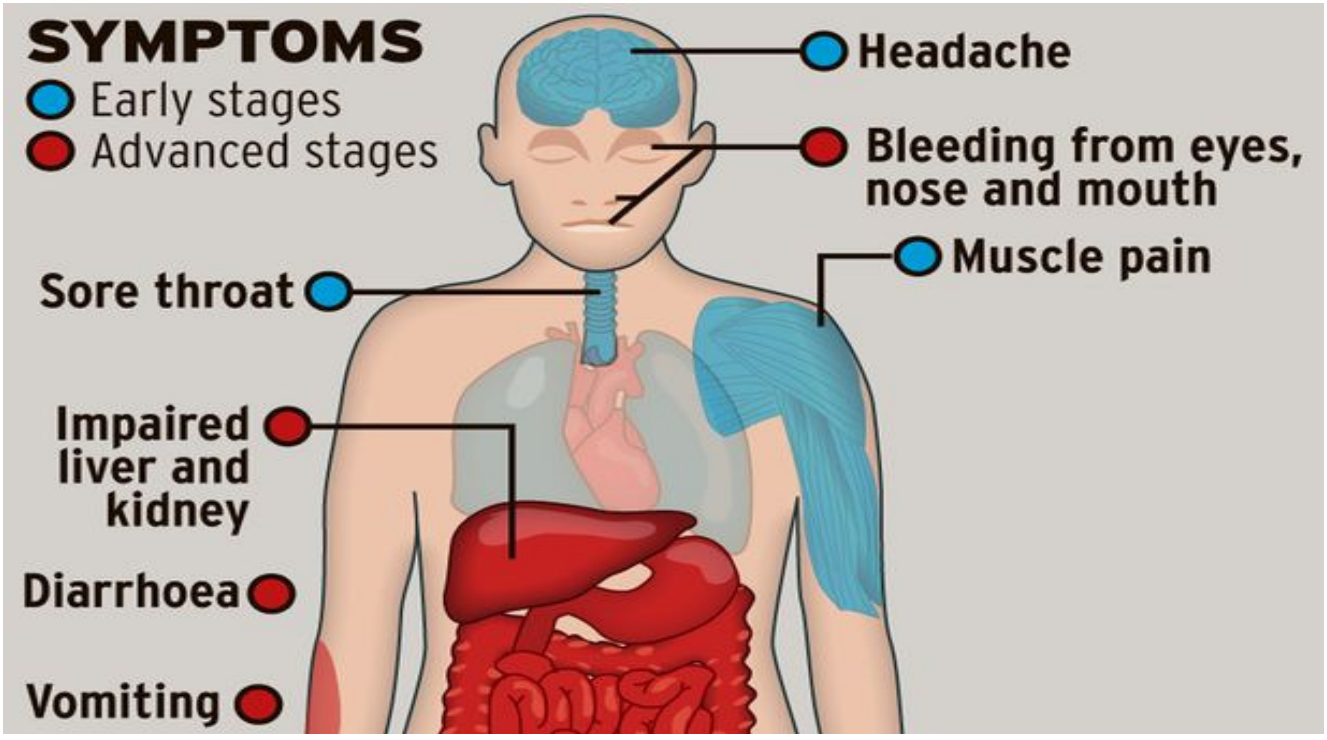
More research is needed to understand if some groups, such as immuno-compromised people or those with other underlying health conditions, are more susceptible than others to contracting the virus. Exposure to the virus can be controlled through the use of protective measures in clinics and hospitals, at community gatherings, or at home.

What are typical signs and symptoms of infection?

Sudden onset of fever, intense weakness, muscle pain, headache and sore throat are typical signs and symptoms. This is followed by vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding. Laboratory findings include low white blood cell and platelet counts, and elevated liver enzymes.

The incubation period, or the time interval from infection to onset of symptoms, is from 2 to 21 days. The patients become contagious once they begin to show symptoms. They are not contagious during the incubation period.

Ebola virus disease infections can only be confirmed through laboratory testing.



When should someone seek medical care?

If a person has been in an area known to have Ebola virus disease or in contact with a person known or suspected to have Ebola and they begin to have symptoms, they should seek medical care immediately.

Any cases of persons who are suspected to have the disease should be reported to the nearest health unit without delay. Prompt medical care is essential to improving the rate of survival from the disease. It is also important to control spread of the disease and infection control procedures need to be started immediately.

Is protective equipment required when caring for these patients?

- In addition to standard health-care precautions, health-care workers should strictly apply recommended infection control measures to avoid exposure to infected blood, fluids, or contaminated environments or objects – such as a patient's soiled linen or used needles.

All visitors and health-care workers should rigorously use what is known as personal protective equipment (PPE). PPE should include at least: gloves, an impermeable gown, boots/closed shoes with overshoes, a mask, and eye protection for splashes (goggles or face shields).

Is hand hygiene important?

Hand hygiene is essential and should be performed:

- before donning gloves and wearing PPE on entry to the isolation room/area;
- before any clean or aseptic procedures is being performed on a patient;
- after any exposure risk or actual exposure with a patient's blood or body fluids;
- after touching (even potentially) contaminated surfaces, items, or equipment in the patient's surroundings; and
- after removal of PPE, upon leaving the isolation area.
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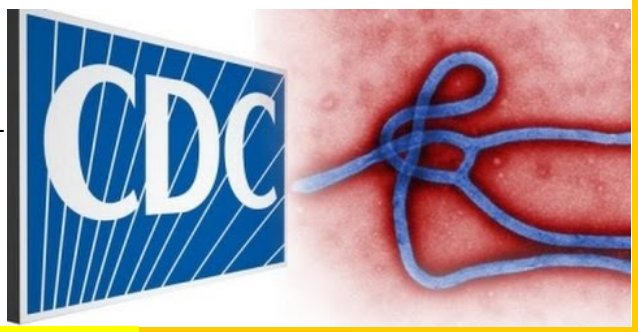
It is important to note that neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the PPE.

Either an alcohol-based hand rub or soap and running water can be used for hand hygiene, applying the correct technique recommended by WHO. It is important to always perform hand hygiene with soap and running water when hands are visibly soiled. Alcohol-based hand rubs should be made available at every point of care (at the entrance and within the isolation rooms and areas); running water, soap, and single use towels should also be always available.

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus

CDC released guidance titled, Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals. Ebola viruses are transmitted through direct contact with blood or body fluids/substances (e.g., urine, feces, vomit) of an infected person with symptoms or through exposure to objects (such as needles) that have been contaminated with infected blood or body fluids. The role of the environment in transmission has not been established. Limited laboratory studies under favorable conditions indicate that Ebola virus can remain viable on solid surfaces, with concentrations falling slowly over several days.[1, 2] In the only study to assess contamination of the patient care environment during an outbreak, virus was not detected in any of 33 samples collected from sites that were not visibly bloody. However, virus was detected on a blood-stained glove and bloody intravenous insertion site.[3] There is no epidemiologic evidence of Ebola virus transmission via either the environment or fomites that could become contaminated during patient care (e.g., bed rails, door knobs, laundry). However, given the apparent low infectious dose, potential of high virus titers in the blood of ill patients, and disease severity, higher levels of precaution are warranted to reduce the potential risk posed by contaminated surfaces in the patient care environment.



Interim Guidance for Environmental Infection Control in **Hospitals for Ebola Virus**

As part of the care of patients who are persons under investigation, or with probable or confirmed Ebola virus infections, hospitals are recommended to:

- Be sure environmental services staff wear recommended personal protective equipment 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.

- **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.**

- 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.

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.

Frequently Asked Questions

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). http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1

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.

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 as regulated medical waste. To minimize contamination of the exterior of the waste bag, place this bag in a rigid waste receptacle designed for this use. Incineration as a waste treatment process is effective in eliminating viral infectivity and provides waste minimization. However, check with your state's regulated medical waste program for more guidance and coordinate your waste management activities for the patient's isolation area with your medical waste contractor.

How long does 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, Ebola virus 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.[3] 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.

There is no FDA-approved vaccine available for Ebola.

If you travel to or are in an area affected by an Ebola outbreak, make sure to do the following:

- Practice careful hygiene. Avoid contact with blood and body fluids.
- Do not handle items that may have come in contact with an infected person's blood or body fluids.
- Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.
- Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.
- Avoid hospitals where Ebola patients are being treated. The U.S. embassy or consulate is often able to provide advice on facilities.

After you return, monitor your health for 21 days and seek medical care immediately if you develop symptoms of Ebola.

EPA Registered Disinfectants With Non-Enveloped Virus Claims

Make My Day TB Disinfectant Cleaner

This product is designed specifically as a general cleaner and disinfectant for use in hospitals, nursing homes, patient rooms, operating rooms, ICU areas, public restrooms, food processing plants and food service establishments (restaurants) (commercial kitchens) where housekeeping is of prime importance in controlling the hazard of cross contamination. It is formulated to disinfect hard, nonporous, inanimate environmental surfaces: floors, walls, metal surfaces, stainless steel surfaces, glazed porcelain, glazed ceramic tile, plastic surfaces, chrome, brass, copper, laminated surfaces, baked enamel surfaces, bathrooms, shower stalls, bathtubs, and cabinets.

For plastic and painted surfaces, spot test on an inconspicuous area before use. May be used in the kitchen on counters, sinks, appliances, and stovetops. A rinse with potable water is required for surfaces in direct contact with food. In addition, this product deodorizes those areas that generally are hard to keep fresh smelling, such as garbage storage areas, empty garbage bins and cans, basements, restrooms and other areas which are prone to odors caused by microorganisms.

Multi Quat Mega 1 Disinfectant Cleaner

Cross-contamination is of major housekeeping concern. This product has been formulated to aid in the reduction of cross-contamination not only in hospitals, but in schools, institutions and industry. This product delivers non-acid disinfectant and cleaning performance in an economical concentrate. Effective, yet economical, is a heavy duty disinfectant cleaner that cleans, disinfects and deodorizes in one labor saving step. This product will disinfect, clean and deodorize surfaces in rest rooms and toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas and other places where bacterial growth can cause malodors. This product is formulated for use in daily maintenance programs with a balance of detergents, biocides and malodor counteractants that deliver effective cleaning, disinfecting and malodor control. Use this product for non-scratch cleaning of showers and tubs, shower doors and curtains, fixtures and toilet bowls. Will not leave grit or soap scum.

PURE 24 Hour Disinfectant Cleaner

ClearlyBetter MEDICAL Presents pure HARD SURFACE

Disinfectant, Fungicide, Virucide* and Food Contact Sanitizer
with SDC (Silver Dihydrogen Citrate)

‡*Rotavirus	30 seconds
‡*Human Coronavirus	30 seconds
‡*Influenza A (H1N1) • ‡*Swine Influenza A (H1N1)	30 seconds
‡*Respiratory Syncytial Virus	30 seconds
‡*Adenovirus Type 2	30 seconds
‡*Flu. Influenza A • ‡*Avian Influenza A	30 seconds
*Hepatitis B Virus (HBV)	60 seconds
*Hepatitis C Virus (HCV)	60 seconds
*Norovirus • *Murine Norovirus	60 seconds
*Herpes Simplex Type 1	60 seconds
*Rhinovirus	60 seconds
*Polio Type 2	60 seconds

VIRUCIDAL ACTION:
Viruses are much smaller than bacterial and fungal cells and do not have metabolic activity. Viruses present fewer targets sites on which a biocide can act. Silver targets the viral envelope or capsid and the viral nucleic acid. Silver not only destroys the viral envelope or capsid, preventing the virus from attaching to a host cell, it also destroys the infectious component of the virus, the nucleic acid.

BACTERICIDAL/FUNGICIDAL ACTION:
The active ingredient in PURE Hard Surface is Silver Dihydrogen Citrate (SDC), a worldwide patented technology. SDC provides silver ions stabilized in citric acid.

The bacterial outer membrane is called the cell wall. Bacterial cell walls are made of peptidoglycan which provides protection and rigidity to the organism. The exact membrane constitution depends on the type of bacteria. SDC utilizes a multiple prong attack against microorganisms. SDC targets an organism's cell wall. Silver ions are highly attracted to sulfur-containing thiol groups found in metabolic and structural proteins bound to the membrane surface. SDC targets these critical proteins and destroys their structure. This disruption of the organism's membrane function and integrity lyses the membrane and the organism dies.

Pandemic Preparedness PPE's

NIOSH-Approved N95 Particulate Filtering Facepiece Respirators

Key Features of our N95 Masks:

- NIOSH Approved as a particulate respirator
- FDA Approved as a surgical mask
- Individually sealed to maintain freshness and integrity
- Flat fold design for easy storage and portability
- Extra Heavy Elastic Bands
- Heat Sealed Instead of Stapled
- Heavy Foam Guard Protection for the Nose
- Adjustable Nose Clip
- Diamond Stamped Keeps Respirator Fully Expanded

NIOSH and FDA Approved

Our N95 Masks are approved by NIOSH as an N95 respirator and also cleared by the Food and Drug Administration (FDA) as a surgical mask. These products are referred to as Surgical N95 Respirators. The N95 respirator is the most common of many types of particulate filtering face piece respirators. This product filters at least 95% of airborne particles, but is not resistant to oil.

Disposable Nitrile Powder Free Gloves

For superior protection against chemicals and sterile handling of food, these latex-free disposable gloves combine strength and convenience. Chemical-resistant for safe handling of dangerous liquids and puncture-resistant for added protection against sharp objects and abrasions. Ideal for lab work, chemical handling and food service applications.

- FDA compliant
- Textured grip
- Beaded cuff; ambidextrous
- Puncture resistant

Safety Goggles

Provides a wide, unobstructed field of vision and can be worn with most half-mask respirators. Transparent PVC body permits a comfortable fit over glasses. Protects against impact, splash.

- Chemical splash
- Indirect vent; cap vents
- Exceeds ANSI z87.1-2003 high impact requirements
- Soft PVC body; adjustable elastic headband
- Fits over most prescription eyewear

Disposable Protective Clothing

Isolation Gowns

- Offers excellent protection from fluid exposure
- Constructed of lightweight material with long sleeves
- Elastic cuffs; neck and waist ties

Disposable Coveralls

- Spun bonded polypropylene material
- Provides excellent protection from dirt and grime
- Constructed of soft, lightweight material
- FDA compliant

Shoe/Boot Covers

- Elastic top
- Vinyl is water resistant
- Non-skid

CDC Facts About Ebola in the U.S. Infographic

You can only get Ebola from:

- Touching the blood or body fluids of a person who is sick with or has died from Ebola.
- Touching contaminated objects, like needles.
- Touching infected animals, their blood or other body fluids, or their meat.

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