

Traveler Summary

Key Points

- Ebola virus disease (EVD) is a rare, severe infection that occurs throughout sub-Saharan Africa and is mainly transmitted through direct skin or mucous-membrane contact with the blood or bodily fluids of infected patients or corpses.
- Risk is low for typical travelers but increased for persons with direct contact with infected persons or animals.
- Symptoms include fever, headache, muscle aches, sore throat, general discomfort, abdominal pain, diarrhea, vomiting, and blood loss (in some cases).
- Consequences of infection include death in 25% to 90% of cases.
- Prevention includes avoiding risk behaviors
- Ebola vaccines are currently under development, but not commercially available for travelers.

Introduction

EVD is a rare, severe, viral infection that occurs throughout sub-Saharan Africa and is transmitted through direct contact with the blood or bodily fluids of infected persons or corpses. Infection with Ebola virus often results in nonspecific symptoms that may, initially, be similar to other more common diseases (e.g., malaria), but may result in high death rates depending on the type of virus and level of supportive care available.

Risk Areas

EVD is rare, despite sporadic outbreaks in several African countries. Since the late 1970s, outbreaks have been reported in rural areas of Angola, Democratic Republic of the Congo (DRC), South Sudan, and Uganda. From March 2014 until mid-2016, more than 28,000 cases occurred in Guinea, Liberia, and Sierra Leone, including locally acquired cases in Spain and the U.S., which were the first infections acquired outside of Africa. More recently, an outbreak has been ongoing in DRC since July 2018, with over 3,000 cases reported, of which more than 2,000 deaths have occurred.

Transmission

EVD is mainly transmitted person to person via direct skin or mucous-membrane contact with the blood or bodily fluids (especially blood, feces, and vomitus) of acutely ill EVD patients or infected deceased persons (through burial practices), or through the placenta. Infectious virus is also present in urine, vaginal fluid, semen, saliva, and breast milk, and may be detected in tears and sweat as well. Transmission to health care workers (HCWs) may also occur through contact with contaminated syringes, needles, and medical equipment. In recovered EVD patients, the virus can be detected for up to several months depending on the bodily fluids (e.g., more than 18 months in semen); Ebola virus breakdown products have been detected in vaginal and rectal swabs. In West Africa, evidence of sexual transmission more than 12 months after recovery has been reported. Masturbation (through contamination of surfaces) is a possible risk.

Persons infected with EVD are not infectious to others until symptoms begin and as such cannot transmit the virus. After death, live virus remains for as long as 7 days on body surfaces, mucosa, and blood, and for 3 days in tissues. The virus survives for longer durations on inert surfaces.

Transmission also occurs through contact with or consumption of bush meat, contact with infected nonhuman primates, and bats; airborne transmission does not seem to occur.

Risk Factors

Risk is low for travelers and persons visiting friends and relatives, unless the traveler has direct physical contact with infected bodily fluids from sick persons or corpses, or sick animals during an epidemic. Risk is low for persons with direct contact with bodily fluids of recovered patients. Risk is high for HCWs and volunteers, especially those involved in caring for EVD patients. Implementation of recommended precautions reduces risk, although infections have occurred despite stringent precautions (including the use of modern personal protective gear).

Symptoms

Not all persons infected with Ebola virus have symptoms; however, in most cases, symptoms most commonly develop about 2 to 21 days (average of 10 days) after exposure and begin abruptly with high fever, headache, muscle aches, sore throat, and general discomfort. Abdominal pain, cramps, diarrhea, and vomiting develop about 3 to 10 days after infection; in some cases, external and internal bleeding may begin on the fifth day, leading rapidly to shock and death. Survivors show gradual resolution of symptoms within 7 to 12 days and may have some protective immunity against the virus.

Consequences of Infection

Survivors of EVD may subsequently develop symptoms such as generalized weakness, headache, hair loss, hearing loss, muscle ache, eye pain, and sleeplessness, a few weeks or even many months after recovery.

Death occurs in about 25% to 90% of cases depending on the virus subtype and level of supportive care available.

Need for Medical Assistance

Persons who have been exposed to or develop symptoms of EVD (e.g., abrupt onset of fever or extreme discomfort) within 2 to 21 days of return from affected area should receive prompt medical care in a specialized infectious disease unit because accurate diagnosis requires specialized laboratory facilities and supportive care is complex.

Persons with unrelated medical problems who are traveling to or residing in areas undergoing a known EVD outbreak may not be accepted by hospitals in Europe or in countries elsewhere to which they would normally be evacuated.

Prevention

Nonvaccine

Avoid the risk behaviors described above. Although some experimental vaccines have been shown to be highly effective and are currently in use in affected areas undergoing outbreak situations, no clinically proven vaccine is available for typical travelers. No antivirals for self-treatment are available.

Additionally, if traveling to affected countries:

- Avoid direct contact with infected bodily fluids from persons with a current or recent EVD diagnosis, corpses, nonhuman primates, bats (including caves and other places where bats congregate), and health care environments that may have become contaminated.
- Avoid consumption of bush meat.
- Use condoms during sexual activity with survivors.
- Use alcohol-based hand sanitizers for hand hygiene in health care settings (when hands are not visibly soiled with dirt, blood, or other bodily fluids). Ebola virus is susceptible to most common disinfectants and alcohol-based products (e.g., hand sanitizers) and can be inactivated by heating for 30 to 60 minutes at 60°C (140°F) or by boiling for 5 minutes. If alcohol-based hand sanitizers or soap and water are unavailable, use of a 0.05% chlorine solution applied for a minimum of 40 to 60 seconds until hands are dry is appropriate and likely to be efficacious.

HCWs are at high risk when actively involved in an outbreak. Strict adherence to stringent procedures as defined by U.S. CDC is necessary. Specialized personal protection equipment is unlikely to be found in standard hospitals throughout Africa.

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