IFALPA
The Global Voice of Pilots

Medical Briefing Leaflet

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Ebola Virus information for pilots

Quick Reference Guide

Outbreak

The Ebola virus causes an acute, often fatal hemorrhagic illness. The current outbreak is in West Africa (Liberia, Sierra Leone, Guinea and Senegal) and Nigeria, but single cases have been confirmed in the U.S. and Europe. Since it is possible that the Ebola virus could subsequently be spread to other regions of the world, it is important that you seek the most current information available. However, Ebola is still a very rare disease.

Transmission:

Ebola is not an airborne infection, so the likelihood of contracting Ebola is extremely low unless a person has direct contact with the body fluids of a person or animal that is infected and experiencing symptoms. There is no risk of transmission during the incubation period and only a low risk of transmission in the early phase of symptomatic patients.

Infected body fluids such as blood, saliva, tears, urine, feces and vomit can transmit the virus to another person through the receiving persons own mucous membranes (lining of mouth, sexual organs, eyes, nose), as well as open cuts or scrapes. Objects (e.g., syringes) contaminated with infected body fluid can also transmit the Ebola virus to a healthy person. The risk of flight crew members being exposed to the Ebola virus on the flight deck, cabin, or even in the outbreak area is very small if common sense prevention strategies are used.

Personal Protection Measures:

- Be very careful not to expose your vulnerable areas to the body fluids or contaminated objects from another person who may be infected with the virus.
- Avoid contact with animals in regions with reported Ebola cases.
- Animal products (blood, meat) should be thoroughly cooked before consumption.
- Wash hands regularly.

Symptoms:

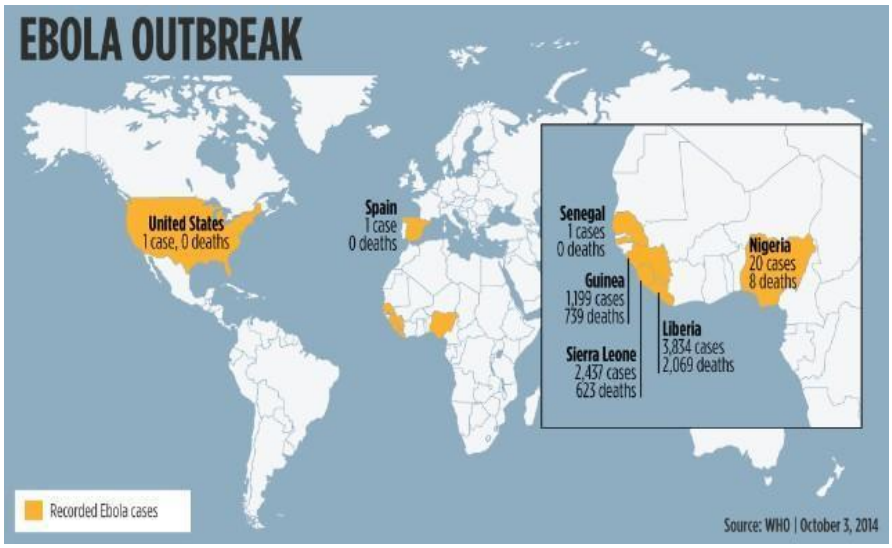
The incubation period for Ebola ranges from 2 to 21 days. Early symptoms include sudden fever (38.3°C/101°F), chills, muscle aches and headache. These symptoms are followed later (3 to 5 days) by vomiting, abdominal pain, diarrhoea, rash, and in some cases, bleeding.

What to do if you think you have been exposed: Monitor your health. Don't transmit any of your body fluids to another person. Seek medical attention as soon as you experience the early symptoms, and advise the medical facility beforehand that you might be infected with the Ebola virus.

Expanded Information

More detailed information for those interested:

The Ebola virus causes an acute, often fatal hemorrhagic illness. The first outbreak was in 1976 in Congo close to Ebola River, where the disease takes its name. The current outbreak in West Africa is the largest and most complex Ebola outbreak since the virus discovery. The epidemic has not remained local, but has spread to neighbouring countries, and a few cases have now been reported in Europe and the U.S. According to WHO statistics, there are 8,914 confirmed cases resulting in 4,447deaths due to the current outbreak as of 09 October 2014. Nearly all of these have occurred in West Africa.
Note: the one case in the United States has now been reported as a death



Transmission

Most likely fruit bats are the natural Ebola virus hosts. The virus is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines.

Ebola spreads through human-to-human transmission via close and direct physical contact (through broken skin or mucous membranes) ***with infected bodily fluids***. The most infectious fluids are blood, feces and vomit secretions; however, all body fluids have the capacity to transmit the virus. In addition, the Ebola virus has also been detected in breast milk, urine and semen. In a convalescent male, the virus can persist in semen for at least 70 days. Infection is also possible via surfaces and materials (e.g. bedding, clothing) contaminated with bodily fluids, but the risk of transmission from these surfaces is low and can be reduced even further by appropriate cleaning and disinfection procedures.

It is important to note that ***Ebola is not an airborne infection*** (e.g. flu). This mode of transmission has not been observed during extensive studies of the Ebola virus over several decades, nor is the epidemiological data emerging from this outbreak consistent with the pattern of spread seen with airborne viruses. This fact reduces the risk of infection notably.

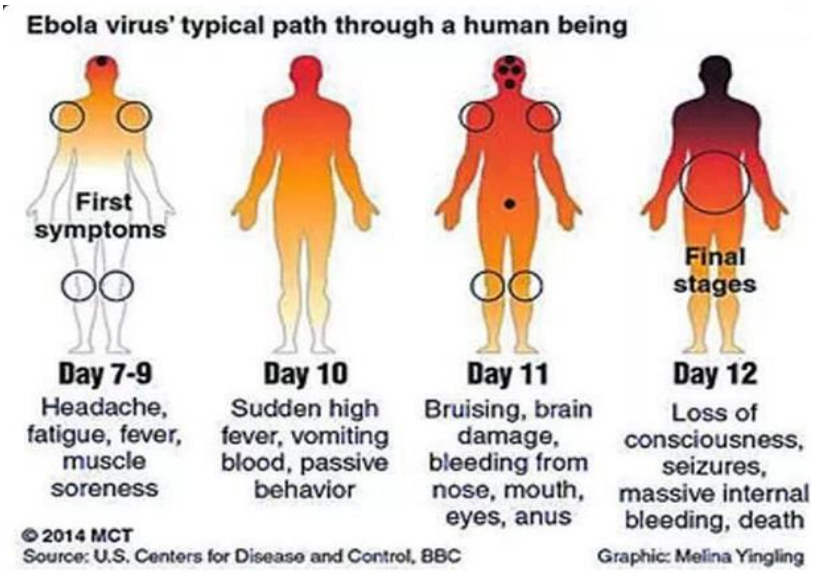


Figure 1: Ebola virus' typical path through a human being.

Symptoms of Ebola virus disease

The incubation period, that is, the time interval from infection with the virus to onset of symptoms is 2 to 21 days. Humans are not infectious to another person until they develop symptoms. First symptoms are the sudden onset of fever, fatigue, muscle pain, headache and sore throat. This is followed by vomiting, diarrhea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding (e.g. oozing from the gums, blood in the stools). The course of symptoms is illustrated in figure 1.

Usually the course of infection is quite rapid, and when the passengers infected with Ebola develop the symptoms (and are then infectious), the disease proceeds quickly and passengers are often "too ill" to fly, which then reduces the risk of infection of the aircrew.

Diagnosis

There are several ways to diagnose the Ebola virus in a laboratory, but more detailed information goes beyond the scope of this Bulletin.

Treatment and Vaccines

Currently there is no proven specific treatment for Ebola, however, a range of potential treatments including blood products, immune therapies and drug therapies are currently being evaluated. Supportive care-rehydration with oral or intravenous fluids- and treatment of specific symptoms, improves chances for survival. No licensed vaccines are available yet, but two potential vaccines are undergoing human safety testing.

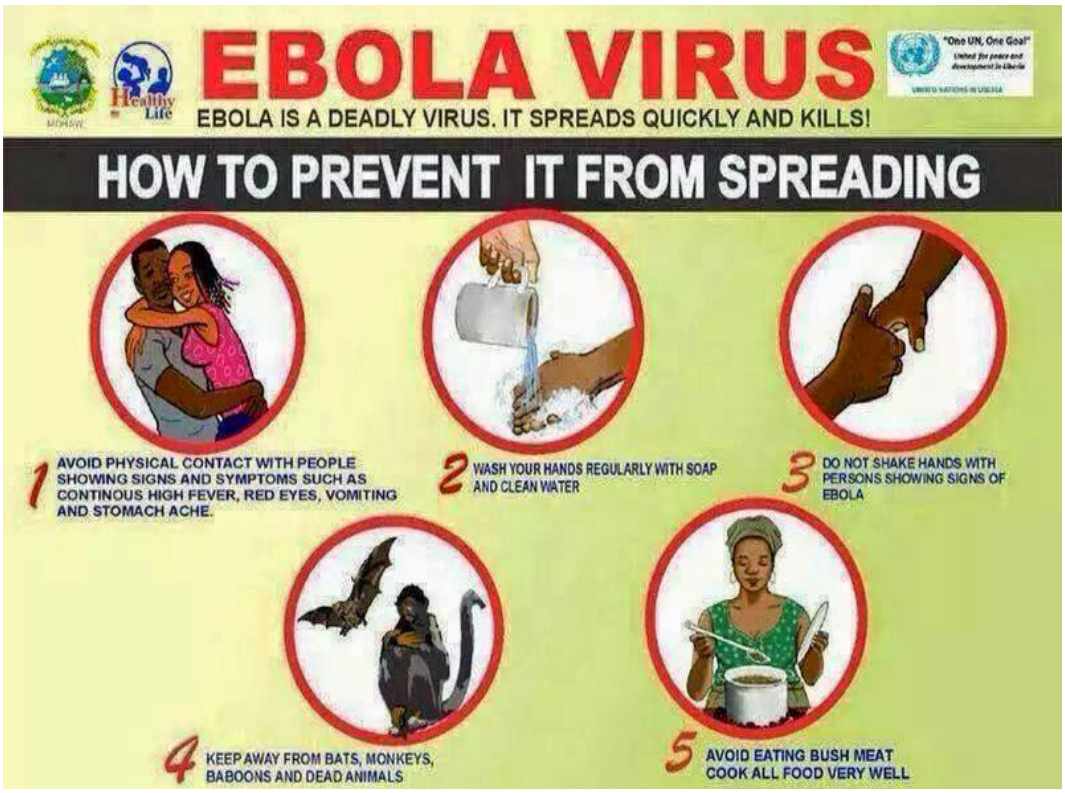
Prevention and control

Prevention and control measures are focused on the people in the outbreak area and health care providers. The key elements are:

- **Reducing the risk of wildlife-to-human transmission** from contact with infected fruit bats or monkeys/apes and the consumption of their raw meat. Animals should be handled with gloves and other appropriate protective clothing. Animal products (blood and meat) should be thoroughly cooked before consumption.
- **Reducing the risk of human-to-human transmission** from direct or close contact with people with Ebola symptoms, particularly with their bodily fluids. Gloves and appropriate personal protective equipment should be worn when taking care of ill patients at home. Regular hand washing is required after visiting patients in hospital, as well as after taking care of patients at home.
- **Outbreak containment measures** including prompt and safe burial of the dead, identifying people who may have been in contact with someone infected with Ebola, monitoring the health of contacts for 21 days, the importance of separating the healthy from the sick to prevent further spread, the importance of good hygiene and maintaining a clean environment.

Personal Prevention

The best prevention strategy is to avoid contact and reception of another person's or animal body fluids, particularly if the person has in some way been associated with an outbreak area. Additionally, general infectious disease avoidance measures should be adhered to, the most important being to wash your hands. The risk of flight crew members being exposed to the Ebola virus even in the outbreak area is very small if common sense prevention strategies are used. The risk of infection in the flight deck is negligible.



Useful links: Pilots should consider all current information including that provided by their airline.

U.S. Center for Disease Control: http://www.cdc.gov/quarantine/air/managing-sick-travelers/ebola-guidance-airlines.html

The World Health Organization: http://who.int/ith/updates/20140421/en/ (available in several languages)

CAPSCA/ICAO: http://www.capsca.org/CAPSCARefs.html (available in several languages)

IATA: http://www.iata.org/pressroom/pr/Pages/2014-08-18-02.aspx