



With the recent knowledge that a case of Ebola Virus Disease (EVD) has been confirmed in the United States, it is vital for health care professionals to stay well informed about this infectious disease so we can best educate our patients and the public and keep ourselves safe. Early recognition is critical for infection control. Health care providers must be alert for and evaluate any patients suspected of having the Ebola Virus Disease.

EBOLA VIRUS DISEASE

written by Judy K. Orth, RN, CHPN, BSN, MA

Ebola is not a new disease. The first reported case was in 1976.

History

The World Health Organization (WHO, 2014) and the Centers for Disease Control and Prevention (CDC, 2014) are supporting global and national efforts in the response to an outbreak of Ebola Virus Disease. Ebola, formerly known as Ebola hemorrhagic fever, is a rare and deadly disease. There are five identified species of the Ebola viruses, and four are known to cause disease in humans. Ebola was first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa.

Recent cases mark the first time the disease has been detected in West Africa, first reported from the forested areas in south-eastern Guinea. The outbreak has rapidly evolved and several districts have now reported cases and deaths caused by Ebola Virus Disease (EVD). A growing number of cases have been reported from neighboring countries.

Transmission and Infection

Ebola is transmitted by direct contact with bodily fluids of an infected person or contact with contaminated needles or equipment.

- ✓ Fruit bats are believed to be the natural hosts of Ebola virus in Africa.
- ✓ The virus is transmitted from wildlife to humans through contact with infected fruit bats or through intermediate hosts (e.g., monkeys, apes, or pigs that have become infected through contact with bat saliva or feces).
- ✓ People then become infected through contact with the disease-ridden animals, either by the process of slaughtering or consumption of blood, milk, or raw/undercooked meat.
- ✓ **The virus is then passed from person to person through direct contact with the blood, secretions or other bodily fluids of the infected person OR from contact with contaminated needles or other equipment in the location.**



Signs, Symptoms and Risk Factors

Ebola Virus Disease has a **fatality rate of up to 90%**, is a severe acute viral illness, and is often characterized by these signs and symptoms:

- *Sudden onset of fever
- *Intense weakness
- *Muscle pain
- *Headache
- *Nausea
- *Sore throat

These symptoms are then followed by:

- *Vomiting
- *Impaired liver and kidney function
- *Diarrhea
- *Internal and external bleeding (in some cases)

Laboratory findings frequently include:

- *Low white cell count
- *Low platelet count
- *Elevated liver enzymes

The incubation period (from infection with the virus to onset of symptoms) is 2 – 21 days.

Risk factors include:

- 1) Contact with blood or other body fluids or the human remains of a patient known to have or suspected to have EVD within the past 21 days before the onset of any symptoms.
- 2) Residence in or travel to an area where EVD transmission is active.
- 3) Direct handling of bats or non-human primates from disease-endemic areas.

Diagnosis and Treatment

In considering the diagnosis of Ebola Virus Disease, some of the more common diseases should not be overlooked (e.g., malaria, cholera, meningitis, hepatitis). A definitive diagnosis of EVD is confirmed through laboratory testing. No vaccine is available and there is no specific treatment for EVD. Severely ill patients require intensive supportive care and are usually dehydrated and at risk for other infections.

Preventative Measures

The best way to reduce human infection and subsequent deaths is to raise awareness of the risk factors and by taking protective measures. Most transmission of EVD to health care workers has been reported when basic infection control measures have not been followed. Health care teams should **follow strict standard, contact, and droplet precautions** and avoid close *unprotected* physical contact with Ebola patients. Avoid any exposure to the patient's blood or body fluids and with contaminated materials.

Symptoms may occur 2-21 days from the time of exposure.

Follow strict infection control measures to avoid potential exposure.

October 2014