

## **Viral Hemorrhagic Fever (Ebola Virus Hemorrhagic Fever, Marburg Virus Hemorrhagic Fever)**

*Disease Fact Sheet Series*

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### **What is viral hemorrhagic fever?**

Viral hemorrhagic fever is the collective name given to the diseases caused by a group of viruses such as Ebola virus and Marburg virus. The Ebola virus was named for the river in Zaire where it was discovered. Marburg virus was named for the city in Germany where the disease was first diagnosed. Viral hemorrhagic fever begins with fever and muscle aches and can result in a relatively mild illness or can lead to death.

### **Where do these viruses come from?**

Although the source of these viruses in nature is unknown, this group of viruses can occasionally be found in rodents, ticks, and mosquitoes within endemic areas. Monkeys and humans are also susceptible and may become a source of virus if they become infected. Tissues of infected primates can also serve as a source of infection to staff in laboratories or in import and quarantine facilities that handle primates.

### **How common are Ebola and Marburg viruses?**

To date, there have been four known outbreaks of Ebola virus involving humans; two in Sudan (1976, 1979) and two in Zaire (1976, 1995). Two small outbreaks of Marburg virus in humans occurred in Germany and Yugoslavia in 1967 but were linked to sources of virus in Africa. In most of the outbreaks of Ebola virus infection, the majority of cases occurred in hospital settings where inadequate medical supplies resulted in poor infection control practices. ***There have been no confirmed human cases of Ebola or Marburg virus hemorrhagic fever in the United States.***

### **What are the symptoms of Ebola virus and Marburg virus infection?**

Initial signs and symptoms of the disease include fever, headache, joint and muscle pain. As the disease progresses, vomiting, diarrhea, abdominal pain, sore throat, rash and chest pain may occur. The disease may also affect internal organs and the ability of blood to clot. When the blood fails to clot, the patient may bleed into internal organs and from body openings. The mortality rates are 50-80% for Ebola virus hemorrhagic fever and 30% for Marburg virus hemorrhagic fever.

### **How soon after exposure do symptoms occur?**

Symptoms of Ebola virus hemorrhagic fever begin 4 to 16 days after infection. Initial symptoms of Marburg virus hemorrhagic fever begin 3 to 9 days after infection. After 3 to 5 days of fever, the hemorrhagic manifestations of the disease begin.

### **How are these diseases contracted?**

Ebola virus and Marburg virus are spread through *close personal contact* with a person who is acutely ill with the disease. In past outbreaks, only health care workers or family members who were caring for ill persons and had direct contact with blood, semen, or other body fluids of ill people were likely to become infected themselves. Where the virus resides in between human outbreaks is unknown.

### **How are Ebola and Marburg viral infections treated?**

There is no known treatment for Ebola virus or Marburg virus hemorrhagic fever. Treatment for these infections is mainly supportive. There is no vaccine to prevent either of these viral infections.

**What can be done to prevent the spread of Ebola and Marburg viruses?**

Proper medical isolation of persons known or suspected of having Ebola or Marburg virus hemorrhagic fever will limit the spread of disease. Health care workers who care for these patients use gloves, gowns, and masks to prevent becoming infected themselves. Special care must be taken in properly disposing of medical wastes and tissues from these persons.

**Are persons in the United States at risk?**

Persons in the United States are at risk only if they have had close personal contact with patients who are infected with Ebola or Marburg virus. Previous outbreaks have been successfully controlled by medical isolation of ill individuals; by use of masks, gowns and gloves; by careful sterilization of needles and syringes; and by proper disposal of waste and corpses.