

What is Filoviridae?

The *Filoviridae* are a family of viruses and can cause severe hemorrhagic fever in humans and non-human primates. So far, only two members of this virus family have been identified: Ebolavirus and Marburgvirus which includes Ebola hemorrhagic fever and Marburg hemorrhagic fever.

Who is at risk for Filoviridae?

For both Ebola hemorrhagic fever and Marburg hemorrhagic fever, those at highest risk included health care workers and family and friends of an infected individual.

Additionally, close contact with African fruit bats, handling bushmeat or non-human primates infected with the viruses are at risk.

What are the symptoms of Filoviridae?

Ebola hemorrhagic fever: Fever, headache, and joint and muscle weakness, diarrhea, vomiting and stomach pain. Others may show signs of rash, red eyes, chest pain, difficulty breathing or swallowing and bleeding inside and outside the body. Some people get sick and recover, while many do not.

Marburg hemorrhagic fever: Onset is sudden and marked by fever, chills, headache, and myalgia. Around day five, a maculopapular rash, usually on the trunk (chest, back, stomach), may occur. Nausea, vomiting, chest pain, and diarrhea may occur. As the disease progresses, symptoms can include jaundice, inflammation of the pancreas, severe weight loss, delirium, shock, liver failure, massive hemorrhaging, and multi-organ dysfunction.

How soon do symptoms appear?

Ebola hemorrhagic fever: The incubation period can range from two to 21 days.

Marburg hemorrhagic fever: The incubation period ranges from five to 10 days.

How is Filoviridae spread?

Ebola hemorrhagic fever: Because the natural reservoir of ebolaviruses has not yet been proven, the manner in which the virus first appears in a human at the start of an outbreak is unknown. However, it can be spread person-to-person when people come into direct contact with blood and body fluids of infected individuals.

Marburg hemorrhagic fever: It is unknown how Marburg virus first transmits from its animal host to humans; however, it can be spread person-to-person when people come into direct contact with blood and body fluids of infected individuals.

When and for how long is a person able to spread the disease?

For both Ebola and Marburg hemorrhagic fevers, a person is able to spread the disease as long as virus is present. The virus typically does not appear in the blood and other secretions before the onset of fever. In some cases, virus could remain present in semen for up to three months.

How is a person diagnosed?

Several tests can be used to detect antibodies of these viruses. These tests are typically done on blood or cerebral spinal fluid samples.

What is the treatment?

There is no specific treatment for these illnesses; supportive therapy including managing secondary bacterial infections may occur.

Does past infection make a person immune?

Ebola hemorrhagic fever: It is unknown. Studies in survivors have shown that IgG antibodies can remain for several years (10+); whether this immunity is enough to prevent re-infection is unknown.⁴

Marburg hemorrhagic fever: Unknown. However, a recently published study indicated that a vaccine was in development.⁵

Should children or others be excluded from child care, school, work or other activities if they have Filoviridae?

This is not applicable, as most children and adults will most likely be hospitalized or too ill to participate. If they recover, they may return to work and school.

What can be done to prevent the spread of Filoviridae?

The best rule of thumb would be to avoid contact with blood and body fluids of infected individuals. Additionally, in the health care setting, using infection control and barrier precautions becomes important.

Additional Information:

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease must be reported to the North Dakota Department of Health.

Resources:

1. Centers for Disease Control and Prevention, 2013: www.cdc.gov/vhf/virus-families/filoviridae.html
2. Heymann, D. L. (2015). *Control of Communicable Diseases Manual, 20th Edition*. Ebola-Marburg Viral Diseases. American Public Health Association. 2015: 173-178.
3. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Children in Out-Of-Home Care]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 132-151.
4. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Hemorrhagic fevers caused by...]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 381-390.
5. Centers for Disease Control and Prevention, Emerging Infectious Diseases. (2009), Vol 15(7): wwwnc.cdc.gov/eid/article/15/7/09-0402_article
6. PLOS ONE. Durability of a Vesicular Stomatitis Virus-Based Marburg Virus Vaccine in Nonhuman Primates, 2014. www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0094355

