

# Rift Valley Fever Information Sheet

## NORAD-USNORTHCOM/SG



### **What is Rift Valley Fever ?**

Rift Valley fever (RVF) is an acute, fever-causing viral disease that affects domestic animals (such as cattle, buffalo, sheep, goats, and camels) and humans. RVF is most commonly associated with mosquito-borne epidemics during years of unusually heavy rainfall. The disease in these species is characterized by high abortion rates, high mortality in neonates, and hepatic necrosis. Humans are highly susceptible to RVF.

### **Why are we concerned with Rift Valley Fever as a bioweapon?**

Currently it is not weaponized but could serve as an incapacitating agent. RVF virus infects many species of animals. Neonatal lambs, kids, calves, and puppies are highly susceptible and have a high mortality (near 100%). Sheep and cattle are the primary species affected and the primary amplifiers of the virus. If RVF was intentionally used on young livestock, it would severely impact the livestock industry and have long reaching implications.

Humans are highly susceptible to RVF virus infection and are readily infected by mosquitoes and aerosols. Humans can also develop enough viruses in the blood to become a source of infection for mosquitoes, who then could pass the virus onto other animals or humans.

### **Does this disease occur naturally?**

Yes. Rift Valley fever has been found to occur in most of Africa. The disease is also found in most countries of sub-Saharan Africa and in Madagascar.

### **Are there different forms of this disease?**

RVF virus can cause several different disease syndromes. People with RVF typically have either no symptoms or a mild illness associated with fever and liver abnormalities.

### **Is the disease seasonal in its occurrence?**

The outbreaks have generally occurred in otherwise dry areas following periods of heavy rainfall. The long interval between outbreaks in animals allows for the development of a susceptible population. Researchers found RVF virus to be present in dormant eggs of the mosquito *Aedes lineatopinnis* located in the soil of grassland depressions (dambos), when these depressions become full of water, the eggs hatch, and infected mosquitoes develop.

### **Where is the disease currently established?**

RVF virus has been commonly found in animals in Africa. In September 2000, a RVF outbreak was reported in Saudi Arabia and subsequently Yemen. These cases represent the first Rift Valley fever cases identified outside Africa

### **How does it spread?**

Historically, explosive outbreaks of the disease have occurred simultaneously over a wide area of Africa at 5 to 15 year intervals. After a heavy rainfall, mosquitoes eggs hatch and these mosquitoes infect an amplifying host (ruminant), which serves as a source of infection for many other genera of mosquitos that rapidly spread the disease.

### **What is the risk of catching Rift Valley Fever?**

Low. Humans can get RVF as a result of bites from mosquitoes and possibly other bloodsucking insects that serve as vectors, RVF is not transmitted from person-to-person. However, protective measures should be taken to prevent infection by aerosols produced during the handling of infected fetuses and tissues and in laboratory procedures. This exposure can result from the slaughtering or handling of infected animals or by touching contaminated meat during the preparation of food. Infection through aerosol transmission of RVF virus has resulted from contact with laboratory specimens containing the virus.

### **What are the symptoms of Rift Valley Fever (animals and humans)?**

Clinical signs depend on the species affected and physiologic conditions such as age and pregnancy. If animals are pregnant, abortion will be the most prominent sign. Mortality can range from 10 to 70 percent in certain animals.

Symptoms in humans in most cases are those of an acute undifferentiated febrile disease (fever 100-104°, generalized weakness, back pain, dizziness); severe cases (about 1 percent) resemble a dengue-like disease accompanied by hemorrhage,

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meningoencephalitis (inflammation of the brain and the membrane surrounding it), retinopathy (disease of the retina), and sometimes death.

### **How soon do infected animals/people get sick?**

Experimentally, the incubation period in newborn lambs, kids, calves, and puppies, is about 12 hours. In adult sheep, cattle, goats, and dogs the incubation period may be as long as 3 days.

In humans, the incubation period is 4 to 6 days. Typically, patients recover within two days to one week after onset of illness.

### **How is Rift Valley Fever diagnosed?**

Specialized laboratory testing is required for diagnosis.

For animals: If RVF is suspected, extra precautions should be taken in the collection and shipment of specimens because of the potential for human infection. Samples for virus isolation should be collected from aborted fetuses or febrile animals, or both.

### **Is a vaccine available to prevent Rift Valley Fever infection?**

No.

### **Can Rift Valley Fever be treated?**

There is no established course of treatment for patients infected with RVF virus.

### **Where will the medications/immunizations to treat infected individuals come from?**

Not applicable.

### **Are there contraindications to vaccine, antibiotic therapy, other treatments (ie. Pregnancy, immunosuppression, etc)?**

Not applicable as there is no vaccine, antibiotic, or specific treatment.

### **How long can Rift Valley Fever exist in the environment?**

Researchers have found RVF virus to be present in dormant eggs of the mosquito *Aedes lineatopinnis*. No clear timeline has been established. West Nile can continue in the environment as long as the vector chain is unbroken.

### **Are there ways to test for Rift Valley Fever in the environment?**

No field expedient methods are available for testing. Samples must be sent to laboratory for testing

### **What should someone do if they suspect they or others have been exposed to Rift Valley Fever?**

Contact your health care provider if you have concerns about your health. If you or your family members develop symptoms such as high fever, confusion, and severe headaches, you should see your doctor immediately.

### **What can I do to reduce the risk of getting Rift Valley Fever or giving it to someone else?**

No licensed vaccine or virus-killing medicine is available for human use. Travelers to Africa should always wear long sleeves and pants, use insect repellents and bed nets to protect against bites from mosquitoes and other blood sucking insects. Persons who work with animals in areas where the virus is present should avoid exposure to the blood or tissues of potentially infected animals. Protect yourself from mosquito bites at all times. Treat skin and clothing with repellent. People have not been known to transmit the infection to others, so infected persons do not need to be isolated. Humans develop a sufficient amount of virus in the blood to be a source of infection for mosquitoes and thus could introduce the disease into uninfected areas.

Reference:

[www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/rvf.htm](http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/rvf.htm)

Foreign Animals Disease book "The Gray Book" via web: [www.vet.uga.edu/vpp/gray\\_book/FAD/RVF.htm](http://www.vet.uga.edu/vpp/gray_book/FAD/RVF.htm)

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