

Just the Facts...



Rift Valley Fever

- Rift Valley fever is a fever-causing viral disease that affects livestock and humans in Africa. It is most common during years of heavy rainfall.
- People get Rift Valley fever mainly from the bite of an infected mosquito. The disease can also be spread by contact with the blood or body fluids of an infected animal.
- Rift Valley fever can cause serious eye infection, inflammation of the brain, severe bleeding (hemorrhage), and death.
- To prevent Rift Valley fever, travelers to Africa should take precautions against insect bites: 1) use insect repellent, 2) wear long sleeves and pants, and 3) use bed nets. Travelers should also avoid contact with livestock in areas where outbreaks of Rift Valley fever are occurring.

What is Rift Valley fever?

Rift valley fever is a fever-causing viral disease that affects livestock (including cattle, buffalo, sheep, goats, and camels) and humans in Africa. It is named after Africa's Great Rift Valley that stretches 4,000 miles from Jordan through eastern Africa to Mozambique. Rift Valley fever is spread mainly by infected mosquitoes and appears most often during years of unusually heavy rainfall.

Where is Rift Valley fever found?

Rift Valley fever is most common in the livestock-raising regions of eastern and southern Africa. The disease is also found in most countries of sub-Saharan Africa and in Madagascar. In September 2000, a Rift Valley fever outbreak was reported in Saudi Arabia and Yemen. These were the first cases identified outside Africa.

What is the infectious agent that causes Rift Valley fever?

Rift Valley fever is caused by the Rift Valley fever virus, an arbovirus. Arbovirus is short for **arthropod-borne-virus**. Arboviruses are a large group of viruses that are spread by certain invertebrate animals (arthropods), most commonly blood-sucking insects.

How do people get Rift Valley fever?

People can get Rift Valley fever from the bite of mosquitoes and possibly other blood-sucking insects. The virus usually lies dormant in the eggs of *Aedes* mosquitoes. During heavy rains and floods, the eggs hatch large numbers of infected mosquitoes that feed on livestock and spread the virus. Other

species of mosquitoes, and possibly other biting insects, can also become infected and spread the disease.

Are there any other ways you can get Rift Valley fever?

People can also get Rift Valley fever if they are exposed to the blood or other body fluids of infected animals. This can happen during the slaughtering or handling of infected animals or during the preparation of food. In addition, laboratory workers have become infected through airborne transmission during work with virus cultures or laboratory sample containing the virus.

What are the symptoms of Rift Valley fever?

People with Rift Valley fever virus infections typically have a flu-like illness with fever, weakness, back pain, dizziness, and weight loss. Infected people usually get better in two days to one week after the start of the illness. However, sometimes the infection can cause hemorrhaging (severe bleeding), encephalitis (inflammation of the brain), or severe eye complications.

How is Rift Valley fever diagnosed?

Diagnosis of Rift Valley fever can be made by use of several types of laboratory tests, including detection of antigens or antibody to the virus in the blood (serology) or propagation of the virus in cell culture or newborn mice.

Who is at risk for Rift Valley fever?

- People who sleep outdoors at night in areas where outbreaks occur.
- Animal herdsman, slaughterhouse workers, veterinarians, and other who handle tissues of infected animals in areas where the virus is present.
- International travelers who visit areas where the virus is present, especially during periods when outbreaks or epidemics are occurring.

What is the treatment for Rift Valley fever?

In general, there are no specific treatments for Rift Valley fever. Patients should receive supportive care. The drug ribavirin is being studied for its effectiveness against Rift Valley fever. Additional studies suggest that interferon, immune modulators, and convalescent-phase plasma may also help in the treatment of patients.

What complications can result from Rift Valley fever?

The most common complication is inflammation of the retina (a structure connecting the nerves of the eye to the brain).

About 1% to 10% of affected persons might have some resulting vision problems or partial blindness. Approximately 1% of infected people die of the disease. Those who die are usually malnourished, sick with other diseases, or are located far from good medical care. Death rates are much higher for infected animals.

Is Rift Valley fever an emerging infectious disease?

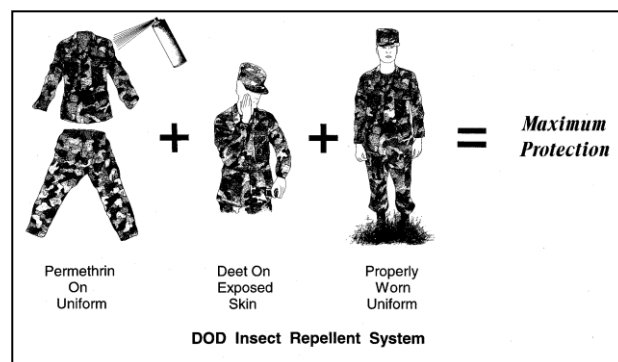
The Rift Valley fever virus was first isolated in 1931 in livestock on a farm in Kenya. The most notable epizootic occurred in Kenya in 1950-1951 and resulted in the death of an estimated 100,000 sheep. In 1978, the virus was detected in Egypt and it caused a large outbreak of illness in both animals and humans. The first epidemic of Rift Valley fever in West Africa was reported in 1987. It was linked to construction of the Senegal River Project, which caused flooding in the lower Senegal River area. In late 1997, after exceptionally heavy rains, an epidemic resulted in the death of at least 300 people and large numbers of animals in remote parts of northeastern Kenya, southern Kenya, and southern Somalia.

How can Rift Valley fever be prevented?

There is no vaccine to prevent Rift Valley fever in humans, although vaccines are available for livestock in endemic areas. Travelers to Africa, or other areas where Rift Valley fever occurs should always wear long sleeves and pants, and 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. Prevent mosquito bites:

- Use bed nets if sleeping in areas that are not well-screened or air-conditioned.
- When outdoors during times that mosquitoes are biting, wear long-sleeved shirts and long pants.
- Use mosquito repellents on skin and clothing.
- Use insect repellents that have been approved by the Environmental Protection Agency (EPA). They are safe and effective.
- For your skin, use a product that contains 20-50% DEET (N, N-diethyl-meta-toluamide). DEET in higher concentrations is no more effective.
- Use DEET sparingly on children, and don't apply to their hands, which they often place in their mouths.
- Apply DEET lightly and evenly to exposed skin; do not use underneath clothing. Avoid contact with eyes, lips, and broken or irritated skin.
- To apply to your face, first dispense a small amount of DEET onto your hands and then carefully spread a thin layer.
- Wash DEET off when exposure to mosquitoes ceases.
- For your clothing, use an insect repellent spray to help prevent bites through the fabric. Use a product that contains permethrin. Permethrin is available commercially as 0.5% spray formulations. In addition, factory permethrin-impregnated clothing is now available.
- Permethrin will withstand numerous launderings.
- Permethrin should only be used on clothing, never on skin.

- When using any insect repellent, always FOLLOW LABEL DIRECTIONS.
- Do not inhale aerosol formulations.
- For optimum protection, soldiers should utilize the **DOD INSECT REPELLENT SYSTEM**. In addition to proper wear of the battle dress uniform (BDUs), which provides a physical barrier to insects, this system includes the concurrent use of both skin and clothing repellents:
 - Standard military skin repellent: 33% DEET lotion, long-acting formulation, one application lasts up to 12 hours, **NSN 6840-01-284-3982**. Apply to all exposed skin.
 - Standard military clothing repellents, either aerosol spray, 0.5% permethrin, one application lasts through 5-6 washes, **NSN 6840-01-278-1336**; or impregnation kit, 40% permethrin, one application lasts the life of the uniform (approximately 50 washes), **NSN 6840-01-345-0237**.
 - Since mosquitoes can bite through fabric, particularly if it is pulled taut against the skin, it is especially important to treat the uniform fabric with permethrin.



- Under field conditions, sleep or rest under a bed net. Treat the net with permethrin.

Where can I get more information on Rift Valley fever and other mosquito-borne diseases?

Contact the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Entomological Sciences Program, Aberdeen Proving Ground, Maryland 21010-5403; DSN 584-3613; CM (410) 436-3613; FAX -2037; or visit our website at: <http://chppm-www.apgea.army.mil/ento>. Additional information can also be obtained from your local, county or state health departments, your health care provider or by visiting the website of the Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov/ncidod/dvbid/index.htm>

Information on Rift Valley fever that is contained in this fact sheet was obtained primarily from the Directors of Health Promotion and Education (DHPE) and the Centers for Disease Control and prevention. The information in this fact sheet is intended as guidance only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider.