

# DISPATCH



## Viral Hemorrhagic Fevers

(Lassa, Marburg, Ebola, Crimean-Congo, and other emerging viruses)

### What Are They?

Viral hemorrhagic fevers are a group of illnesses caused by several viruses. These viruses affect multiple organs in the body by damaging the vascular (blood vessel) system. The bleeding or hemorrhaging caused by the virus is not usually life threatening but damage to organ systems in the body can range from mild to deadly. The viruses responsible for this type of illness include Lassa, Marburg, Ebola, and Crimean-Congo hemorrhagic fever.

### How can you get it?

These emerging viral hemorrhagic fevers are presumed to be animal borne (zoonotic) and can be transmitted to humans through contact. Infected humans can spread the virus to each other through contact with contaminated objects or blood. The risk of acquiring these diseases is typically restricted to the geographic regions where the virus is found. Given global travel, rare cases have been reported outside of the host region. These rare cases are probably the greatest form of the occupational threat to fire fighters.

- |                 |                                  |                               |
|-----------------|----------------------------------|-------------------------------|
| • Lassa         | Associated with specific rodents | Found in West Africa          |
| • Marburg       | Transmitted by African fruit bat | Found in Africa               |
| • Ebola         | Transmitted by unknown animal    | Found in Africa               |
| • Crimean-Congo | Tick-borne virus                 | Found in Africa, Asia, Europe |

### What are the symptoms?

The time to develop symptoms varies by virus but is between 2 to 21 days after exposure to the Ebola virus.

The signs and symptoms of viral hemorrhagic fever vary depending on the virus but include:

- Flu-like symptoms
  - Fever
  - Fatigue

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- Muscle aches
- Exhaustion
- Nausea and/or vomiting
- Abdominal pain
- Shock
- Seizures
- Delirium
- Bleeding
- Organ failure
- The most common complication of Lassa fever is deafness.

## How do you prevent it?

No vaccine currently exists to prevent Lassa, Marburg, Ebola, or Crimean-Congo hemorrhagic fevers. Focus prevention on avoiding contact with the host species and stopping further transmission from person to person.

- Avoid close physical contact with infected individuals and their body fluids.
- Using Contact and Airborne Precautions until transmission pattern of the particular infection is determined; then Contact and Droplet Precautions
  - Hand hygiene
  - Barrier protection against blood and body fluids (single gloves and fluid-resistant or impermeable gown, face/eye protection with masks, goggles or face shields)
  - Appropriate waste handling.
  - Use N95 or higher respirators. IAFF recommends P100 respirators for all patients with respiratory symptoms such as cough.

## What should you do if you are exposed to the disease or get the disease?

You should see a doctor immediately if you have been exposed to the disease. There is no specific treatment for these viral infections but hospitals can provide supportive care. Intravenous fluid and some anti-viral medications such as ribavirin may be beneficial.

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## For More Information and Frequently Asked Questions (FAQs), Check Out:

- Occupational Safety & Health Administration (OSHA): <http://www.osha.gov/SLTC/vhf/index.html>
- Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm>
- Center for Infectious Disease Research & Policy (CIDRAP): <http://www.cidrap.umn.edu/cidrap/content/bt/vhf/index.html>
- Public Health Agency of Canada (PHAC), Ebola Haemorrhagic Fever: <http://www.phac-aspc.gc.ca/tmp-pmv/info/ebola-eng.php>
  - PHAC, Lassa Virus: <http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/lassa-eng.php>
  - PHAC, Marburg Virus: <http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/marburg-eng.php>
  - PHAC, Crimean-Congo Haemorrhagic Fever Virus: <http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/crim-congo-eng.php>