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## Viral haemorrhagic fever

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### Summary

- Viral haemorrhagic fever (VHF) is an extremely infectious and life threatening disease caused by a group of viruses including the Ebola virus.
  - Transmission can occur through bites from infected animals, person-to-person exchange of body fluids and accidental inoculation.
  - There is no cure or vaccination, and the death rate for VHF can be as high as 90 per cent.
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Viral haemorrhagic fever (VHF) is an extremely infectious and life threatening disease caused by four families of viruses. Some of the more well known of these viruses are Ebola, Lassa, Marburg and Crimean-Congo virus. Infections are generally limited to Africa, Central Asia, Eastern Europe, India, the Middle East and Northwest China.

The viruses are transmitted by body fluids such as saliva, urine, semen and blood. Infection of humans can be caused by bites from infected insects and animals. The onset of symptoms is sudden and dramatic, and the death rate for VHF can be as high as 90 per cent.

One major symptom is bleeding (haemorrhage). There is no cure or vaccination. Antiviral medications may help, but treatment is generally limited to alleviating some of the symptoms.

### Symptoms of viral haemorrhagic fever (VHF)

The evolution of viral haemorrhagic fever usually includes:

- fever
- headache
- muscular aches and pains
- general malaise
- abdominal pain
- vomiting and diarrhoea
- haemorrhaging (bleeding)
- shock
- death.

### Primary hosts, transmission modes and incubation of VHF

There are many viruses that cause VHF. Each VHF virus has a slightly different profile. The most common VHF viruses are:

- **Ebola** – the natural reservoir (likely source of the infection) is probably fruit bats in Africa. Transmission can occur by person-to-person exchange of body fluids and accidental inoculation (accidentally implanting the disease into a person via syringe or other puncture wound, contact with mucous membrane of the eye or mouth, or contact with broken skin). Incubation (length of time between infection and the appearance of signs of the disease) is two days to three weeks.
  - **Crimean-Congo** – ticks are both a reservoir and a vector (the means by which the disease is transferred) for the virus. Numerous wild and domestic animals, such as cattle, goats, sheep and hares serve as hosts (the
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target of the disease). It can be transmitted by bites from infected ticks, accidental inoculation and the slaughtering of infected animals. Incubation is two to nine days.

- **Lassa** – wild rodents are the reservoir. Transmission modes include contact with rodent urine, person-to-person exchange of body fluids, accidental inoculation and infections acquired in the laboratory. The incubation period is one to three weeks.
- **Marburg** – the African fruit bat is believed to be the reservoir. Transmission can occur via the exchange of body fluids from person to person, and accidental inoculation. Incubation is three to ten days.

### **Diagnosis of VHF**

Generally, diagnosing viral haemorrhagic fever requires a blood test to check for antibodies. Antibodies are special proteins of the immune system that are tailored to each antigen, or foreign agent, and therefore flag the presence of the virus. More modern tests can directly detect the virus during acute illness.

### **Treatment of VHF**

To date, there is no cure or commercially available vaccination for viral haemorrhagic fever.

**Trials of an experimental Ebola vaccine** are ongoing and have shown promising results. It is predicted that a vaccine for Ebola could be available by as soon as 2018.

Treatment options for VHF may include:

- hospitalisation in an intensive care unit
- strict isolation to prevent spread of infection
- maintenance of fluid levels and electrolytes
- antiviral medication, if appropriate
- supportive care, including treatment for the symptoms.

### **Quarantine regulations for VHF**

In Australia, the VHF viruses are considered 'quarantinable' diseases. Anyone entering Australia who is suspected of having, or is diagnosed with, VHF will be placed under quarantine in a specialised medical facility. The authorities will then trace any known casual or close contacts to ensure that the infection is not spread.

### **Where to get help**

- Your doctor
- Communicable Disease Prevention and Control Unit, Department of Health and Human Services Tel. 1300 65 11 60

**This page has been produced in consultation with and approved by:**

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