

<p><b>Agent</b></p>	<p>4 groups of viruses can be transmitted by animals and cause hemorrhagic fever in humans :</p> <ol style="list-style-type: none"> <li>1. Arenaviruses: Lassa, Junin, Machupo, Guanarito, Sabia, Chapare, Lujo</li> <li>2. Bunyaviruses: Hantaviruses, Nairovirus (Crimean-Congo hemorrhagic fever), Rift Valley Fever virus             <ul style="list-style-type: none"> <li>• Hantaviruses incl Haantan, Puumala, Dobrava, Seoul, Saaremaa (hantaviruses in the Americas (eg Sin Nombre) do not cause VHF)</li> </ul> </li> <li>3. Filoviruses: Marburg, Ebola</li> <li>4. Flaviviruses: Yellow fever, Kyasanur forest disease virus, Omsk hemorrhagic fever</li> </ol>
<p><b>Susceptible species</b></p>	<p>Affected (symptomatic) animal species</p> <ul style="list-style-type: none"> <li>• <i>Primates</i>: Ebola and Marburg, Yellow fever; <i>Ruminants</i>: Rift Valley Fever</li> </ul> <p>Reservoir (asymptomatic) species</p> <ul style="list-style-type: none"> <li>• <i>Bats</i> (still subject of research): Ebola and Marburg</li> <li>• <i>Rodents</i>: Arenaviruses, Hantaviruses, Kyasanur forest disease virus, Omsk hemorrhagic fever virus</li> </ul>
<p><b>Occurrence in BC and the world</b></p>	<p>None of these viruses are endemic to Canada. The importation of bats, primates and rodents, the return of human travelers from outbreak zones, as well as inadvertent importation of vectors from endemic areas present a very small risk of introduction of these viruses into BC.</p>
<p><b>Transmission</b></p>	<ul style="list-style-type: none"> <li>• Ebola and Marburg: via direct contact with blood and other secretions and possibly droplet spread (Marburg only)</li> <li>• Arenaviruses and Hantaviruses: vertical transmission in rodents (Arenaviruses), aerosols or direct contact with mucosa or open wounds</li> <li>• Vector:             <ul style="list-style-type: none"> <li>• Mosquito: Yellow fever, Rift Valley Fever</li> <li>• Ticks: Crimean-Congo hemorrhagic fever, Kyasanur forest disease, Omsk hemorrhagic fever</li> </ul> </li> </ul>
<p><b>Diagnosis</b></p> <p><i>Clinical</i></p> <p><i>Laboratory</i></p>	<p>Variable incubation periods</p> <ul style="list-style-type: none"> <li>• Ebola and Marburg (in primates): weakness, vomiting, diarrhea followed by acute hemorrhagic disease with high mortality</li> <li>• Yellow fever (in primates): from asymptomatic to acute hemorrhagic fever</li> <li>• Rift Valley Fever (in ruminants): listlessness, fever, loss of appetite, jaundice, diarrhea, hemorrhage, abortion, neonatal death</li> </ul> <p><b>Discuss laboratory testing with level 4 National Microbiology Laboratory virologist)</b></p>
<p><b>Prevention and control</b></p>	<ul style="list-style-type: none"> <li>• Isolate infected animals where possible . Euthanasia should be considered on a case-by-case basis.</li> <li>• Infected human should not have contact with domestic animal pets or livestock</li> </ul>
<p><b>Zoonotic implications</b></p>	<ul style="list-style-type: none"> <li>• Disease in humans ranges from subclinical-mild (most cases of Yellow Fever, Rift Valley Fever) to severe and fatal.</li> </ul>
<p><b>Reporting</b></p>	<ul style="list-style-type: none"> <li>• Zoonotic VHF are reportable diseases to the Chief Veterinary Officer (CVO) in BC             <ul style="list-style-type: none"> <li>○ All <u>suspect and confirmed</u> cases should be reported within 24 hours (604-556-3013)</li> <li>○ Veterinarians may be contacted by public health authorities for follow-up</li> </ul> </li> <li>• Rift Valley Fever is a reportable disease to the CFIA</li> </ul>