

<b>DATE:</b>	11 October 2024
<b>TO:</b>	All Physicians and Clinicians
<b>FROM:</b>	Alberta Precision Laboratories (APL) – Public Health Laboratory
<b>RE:</b>	<b>Viral Haemorrhagic Fever Testing and Outbreaks</b>

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## PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

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### Key Message

- There is an evolving outbreak of Marburg virus haemorrhagic fever (VHF) in the country of Rwanda, located in East Central Africa.
- If there is moderate to high epidemiologic risk in returning travellers, and clinical concern for Marburg infection, immediately place the patient in a single room on contact and droplet precautions, with appropriate signage.
- Should there be concern for any VHF epidemiologically, it is critical that all clinicians (especially those evaluating patients at first points of entry to the health system such as primary care, urgent care, emergency departments, primary care, etc.) consult immediately with the Medical Officer of Health (MOH) on-call in their zone PRIOR to ordering any laboratory testing.
- If approved by the MOH, patients under investigation for VHF must be transported to a designated VHF assessment facility and undergo testing only at that site. No laboratory testing should be conducted whatsoever outside of these designated facilities.
- AHS policies and procedures regarding VHF can be found at <https://www.albertahealthservices.ca/vhf/Page10289.aspx>.

### Background

- On September 27, 2024, health authorities in the East Central African country of Rwanda declared an outbreak due to Marburg virus haemorrhagic fever:  
WHO: <https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON537>  
CDC: <https://wwwnc.cdc.gov/travel/notices/level2/marburg-rwanda>
- As of October 8, 2024, there have been in total 56 confirmed cases (and 12 deaths) of Marburg virus disease (MVD) in several districts including areas of Kigali, the capital city. Please refer to the CDC link above for specific districts. The initial cases were in individuals diagnosed with malaria who did not improve and found to have Marburg and malaria co-infection.
- Patients may present within 21 days of travel to affected areas with severe acute viral illness consisting of sudden onset fever, malaise, myalgia, headache, conjunctival injection, pharyngitis, vomiting and diarrhoea that can be bloody, often accompanied by a maculopapular, petechial or purpuric rash with 50% of patients experiencing bleeding from gums, nose, injection sites and GI tract.
- Travellers to affected areas are also at risk for other well-known travel- related infections which may have overlapping symptoms such as malaria, typhoid, dengue fever, and respiratory infections. Dual infections with these common travel-associated infections and MVD (in those who have the appropriate epidemiologic risk exposure) have been reported.
- Marburg virus belongs to a group of haemorrhagic fever viruses called filoviridae (which also includes Ebola virus). The virus can transmit easily upon exposure to body fluids of an infected individual. More information on MVD can be found at <https://www.canada.ca/en/public-health/services/infectious-diseases/viral-haemorrhagic-fevers/marburg-virus-disease.html>.



- **Recommended Case Evaluation Definitions** (<https://emergency.cdc.gov/han/2024/han00517.asp>)
- A travel history alone is insufficient to carry out testing. It is important that detailed information regarding specific locations of travel, activities, contacts, buildings/facilities visited, activities carried out, etc. to determine the likelihood of Marburg virus exposure. Testing should be considered in those at high risk.

Consider MVD in:

- An ill person who has been to an area (district) of an active MVD outbreak ...AND...
- Who has compatible symptoms (see above) ...AND...
- Has reported epidemiologic compatible risk factors as below in the 21 days before symptom onset:
  - Had direct contact with a symptomatic person with suspected or confirmed MVD, or with any objects contaminated by their body fluids.
  - Experienced a breach in infection prevention and control precautions that resulted in the potential for contact with body fluids of a patient with suspected or confirmed MVD.
  - Participated in any of the following activities while in an area with an active MVD outbreak:
    - Contact with someone who was sick or died or with any objects contaminated by their body fluids.
    - Attended or participated in funeral rituals, including preparing bodies for funeral or burial.
    - Visited or worked in a healthcare facility or laboratory.
    - Contact with cave-dwelling bats or non-human primates.
    - Worked or spent time in a mine or cave.

### Why This Is Important?

- Patients with potential MVD or other viral haemorrhagic fevers (VHFs) can pose an important nosocomial risk for healthcare workers as well as laboratory workers.
- Inadvertent laboratory testing prior to considering the differential diagnosis can place laboratory and other healthcare workers at risk.

### Action(s) Required

- It is important for clinicians to assess the epidemiologic risk for potential Marburg virus infection in travellers returning from high-risk areas in the last 21 days prior to onset of symptoms.
- It is critical this assessment be done **PRIOR TO ORDERING OR COLLECTING ANY LAB WORK.**
- In the process, obtaining information on exact dates of travels, cities and countries visited, and exposure to known or presumed cases of Marburg virus infection is highly advised.
- **If there is epidemiologic risk of concern for Marburg in a patient:**
  - **Immediately place the patient in a single room on contact and droplet precautions (put appropriate signage up).**
  - **It is CRITICAL that clinicians consult with the Medical Officer of Health (MOH) on-call. Do NOT carry out any laboratory testing on that patient until reviewed with the MOH.**
- All patients whom the MOH approves to be evaluated for VHF, **MUST** be transported to a designated VHF Isolation Unit (2 sites in Calgary and 2 sites in Edmonton). To avoid inadvertent health-care worker exposures, laboratory specimen collection and phlebotomy should ONLY occur at these designated facilities.
- Collection and or testing will only occur with the approval of the MOH **and** Public Health Laboratory Microbiologist/Virologist-on-call following special VHF procedures and fixed-test menus.



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**Inquiries and feedback may be directed to**

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**This bulletin has been reviewed and approved by**

- Dr. Graham Tipples, Medical and Scientific Director, Public Health Laboratory, Alberta Precision Laboratories

**Relevant References**

1. Marburg virus disease: for health professionals and humanitarian aid works. Public Health Agency of Canada. <https://www.canada.ca/en/public-health/services/infectious-diseases/viral-haemorrhagic-fevers/marburg-virus-disease-professionals.html>.
2. Alberta Public Health Disease Management Guidelines: viral haemorrhagic fever. <https://open.alberta.ca/publications/viral-haemorrhagic-fever>.
3. World Health Organisation (WHO). Fact page on Marburg virus: [https://www.who.int/health-topics/marburg-virus-disease#tab=tab\\_1](https://www.who.int/health-topics/marburg-virus-disease#tab=tab_1).
4. Centers for Disease Control (USA). About Marburg. <https://www.cdc.gov/marburg/about/index.html>.
5. European Centers for Disease Prevention and Control. ECDC advice on Marburg virus disease. <https://www.ecdc.europa.eu/en/news-events/ecdc-advice-marburg-virus-disease>.
6. AHS: Ebola/VHF information for health professionals. <https://www.albertahealthservices.ca/vhf/Page10289.aspx>.

*Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.*