

## First Marburg Virus Disease Outbreak in the Republic of Rwanda

|                        |   |
|------------------------|---|
| <b>DATE:</b>           | October 4, 2024   |
| <b>TO:</b>             | Health Alert Network  |
| <b>FROM:</b>           | Debra L. Bogen, M.D., FAAP, Secretary of Health                       |
| <b>SUBJECT:</b>        | <b>First Marburg Virus Disease Outbreak in the Republic of Rwanda</b> |
| <b>DISTRIBUTION:</b>   | Statewide   |
| <b>LOCATION:</b>       | Statewide   |
| <b>STREET ADDRESS:</b> | N/A   |
| <b>COUNTY:</b>         | N/A   |
| <b>MUNICIPALITY:</b>   | N/A   |
| <b>ZIP CODE:</b>       | N/A   |

This transmission is a “Health Advisory” which provides important information for a specific incident or situation; may not require immediate action.

**HOSPITALS:** PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

### Summary

- On October 3, 2024 the Centers for Disease Control and Prevention (CDC) issued a [Health Alert Network \(HAN\) Health Update](#) to provide additional information about the first confirmed Marburg Virus Disease (MVD) outbreak in the Republic of Rwanda. No confirmed cases have been reported in the United States (U.S.).
- Providers should systematically assess patients with exposure risk and compatible symptoms for the possibility of viral hemorrhagic fevers including MVD through a [triage and evaluation process](#), including a travel history. Early identification of MVD or other viral hemorrhagic fevers is important for providing appropriate and prompt patient care and preventing the spread of infection.
- Providers should include MVD in the differential diagnosis for an ill person who has been to an area with an active MVD outbreak in the past 21 days, **AND** who has compatible symptoms (e.g., fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or unexplained bleeding), **AND** has reported epidemiologically compatible [risk factors](#), within the 21 days before symptom onset.
- CDC recommends daily monitoring for all U.S. health care workers (HCW) who have been present in any health care facility, including outpatient settings or traditional healers, in Rwanda within the last 21 days. Immediately notify your local health department or the Pennsylvania Department of Health (DOH) of any returning HCW meeting these criteria. Occupational health programs should document daily monitoring.
- CDC also recommends excluding returning HCW from all work duties in a U.S. health care facility until 21 days after their last presence in a health care facility in Rwanda.
- To discuss any patient where MVD is being considered in a differential diagnosis, to request expedited testing, or to report a returning HCW, please call DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department.

## Background

On October 3, 2024, the CDC issued a [Health Alert Network \(HAN\) Health Update](#) to provide additional information about the first confirmed Marburg virus disease (MVD) outbreak in the Republic of Rwanda.

On September 27, 2024, the Ministry of Health of the Republic of Rwanda reported cases of MVD in health facilities in the country. These are the first known cases of MVD in Rwanda. As of October 2, 2024, Rwanda has recorded 36 laboratory confirmed cases, including 11 deaths (31% case fatality rate) from MVD. At least 19 cases are in health care workers, the majority of whom work in intensive care units. There are also several cases unlinked to known transmission chains, suggesting additional cases may have been undetected or unreported. Cases have been reported from seven of the 30 districts in Rwanda, with three districts (Gasabo, Kicukiro, Nyarugenge) in Kigali Province reporting the highest number of cases. Other districts reporting cases include Nagahara, Gatsibo, Kamonyi, and Ribadu. Approximately 300 contacts to cases are being monitored in Rwanda. Investigations are ongoing to determine timeline, transmission chains, and potential source of the outbreak.

[MVD](#) is a rare but highly fatal viral hemorrhagic fever (VHF) caused by infection with one of two zoonotic viruses, Marburg virus or Ravn virus. Both Marburg virus and Ravn virus are within the virus family Filoviridae, which also includes Ebola viruses. A person infected with the Marburg virus is not contagious before symptoms appear. [Symptoms](#) may include fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or unexplained bleeding. [Marburg virus is spread](#) through **direct and indirect contact**. Marburg virus is **not** spread through airborne transmission. Direct contact occurs when broken skin or mucous membranes contact the body fluids of someone who is sick with MVD, or who recently died from their infection. These body fluids include blood, urine, saliva, sweat, feces, vomit, breast milk, amniotic fluid, or semen. People can also contract MVD if they have contact with infected animals, or with needles, or with other objects or surfaces contaminated with the virus.

There is currently no Food and Drug Administration (FDA)-approved vaccine or treatment for MVD. In the absence of early diagnosis and appropriate supportive care, MVD has a high mortality rate of 23%–90%, depending on the virus strain and the level of case management. With early intensive supportive care and fluid replacement, mortality rates might be lower.

**No confirmed cases of MVD related to this outbreak have been reported in the U.S. or other countries outside of the Republic of Rwanda to date. Currently, the risk of MVD in the U.S. is low; however, clinicians should be aware of the potential for imported cases.**

## Recommendations for Clinicians

- **Systematically assess patients with exposure risk and compatible symptoms for the possibility of viral hemorrhagic fevers including MVD through a [triage and evaluation process](#) including a travel history. Early identification of MVD or other viral hemorrhagic fevers is important for providing appropriate and prompt patient care and preventing the spread of infection.**
- Include MVD in the differential diagnosis for an ill person who has been to an area with an active MVD outbreak in the past 21 days, **AND** who has compatible symptoms (e.g., fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or

unexplained bleeding), **AND** has reported epidemiologically compatible risk factors including any one or more of the below, within 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 health care facility or laboratory.
  - Contact with cave-dwelling bats or non-human primates.
  - Worked or spent time in a mine or cave.
- Consider more common diagnoses such as [malaria](#), COVID-19, influenza, or common causes of gastrointestinal and febrile illnesses in an ill patient with recent international travel, and evaluate and manage appropriately.
- Know that patients with a Marburg virus infection may present with concurrent infections (e.g., co-infection with malaria), and the possibility of a concurrent infection should be considered if a patient has a clinical and epidemiologic history compatible with MVD. **Travel to or from Rwanda in the past 21 days should not be a reason to defer [routine laboratory testing](#) or other measures necessary for standard patient care.**
- **Isolate and manage patients with exposure risks and symptoms compatible with MVD in a health care facility until receiving a negative Marburg virus test result on a sample collected  $\geq 72$  hours after symptom onset.** If a sample collected is  $<72$  hours after symptom onset and is negative, the patient should remain in the health care facility and another test should be performed on a new sample taken  $\geq 72$  hours after initial symptom onset. Routine laboratory testing to monitor the patient's clinical status and diagnostic testing for other potential causes of the patient's illness should be pursued while Marburg virus testing is underway. Marburg virus diagnostic testing should not be delayed while awaiting results of other diagnostic testing.
  - Patients should be held in isolation at their presenting medical facility and cared for by personnel wearing appropriate PPE, pending test results.
  - If a patient tests positive, they may be transferred to a designated special pathogens treatment center.
- If a provider is caring for a patient with MVD compatible symptoms and the patient has had recent travel, within the last 21 days, to an area with an active MVD outbreak, they should immediately call their local health department or the PA DOH at 717-787-3350 to discuss the case and determine testing.
- If a diagnosis of MVD is considered, health departments will work with CDC and the clinical team to coordinate care and testing for the patient and ensure appropriate precautions are taken to help prevent potential spread.
- Counsel patients with planned travel to an MVD outbreak-affected area on ways to [prevent exposure](#) during their travel. Prevention methods include:
  - Avoiding contact with blood and body fluids (or with materials possibly contaminated with blood and body fluids) of people who are sick.
  - Not participating in funeral or burial practices that involve touching the body of someone who died from suspected or confirmed MVD.

- Avoiding contact with cave-dwelling fruit bats and non-human primates.
- Refraining from entering areas known to be inhabited by cave-dwelling fruit bats, such as mines or caves.
- For this outbreak, travelers are additionally advised to avoid visiting health care facilities in the outbreak area for nonurgent medical care or for nonmedical reasons, and to avoid visiting traditional healers.
- Counsel HCW traveling to Rwanda for work in clinical settings of their potential increased risk of exposure to Marburg virus, the importance of following recommended infection prevention and control precautions, and the symptom monitoring and work-restriction they may need to follow after their return to the U.S.

## Recommendations for Infection Prevention and Control Measures in Health Care Facilities

- Employ a [combination of infection prevention and control measures](#) to prevent transmission of MVD in health care facilities. These infection prevention and control measures include, but are not limited to:
  - Isolating patients in a private room with a private bathroom or covered bedside toilet if MVD is suspected. Dedicated medical equipment (preferably disposable, when possible) should be used for the provision of patient care.
  - Following separate PPE guidance for managing [clinically stable](#) and [clinically unstable](#) patients.
  - Ensuring that health care workers caring for patients with VHF have received comprehensive training and demonstrated competency in performing VHF-related infection control practices and procedures.
  - Following the [infection prevention and control measures as recommended for VHFs](#) including using recommended PPE and limiting the number of personnel who enter the room for clinical evaluation and management.
  - Having an onsite manager supervise personnel providing care to these patients at all times. A trained observer must also supervise each step of every PPE donning/doffing procedure to ensure established PPE protocols are completed correctly. Maintain a log of all people entering the patient room.
  - Excluding individuals unable or unwilling to adhere to infection control and PPE use procedures from providing care for patients with VHFs.
- Know that health care personnel can be exposed through contact with a patient's body fluids, contaminated medical supplies and equipment, or contaminated environmental surfaces. Splashes to unprotected mucous membranes (e.g., the eyes, nose, or mouth) are particularly hazardous.
- Minimize procedures that can increase environmental contamination with infectious material, involve handling of potentially contaminated needles or other sharps, or create aerosols.

## Recommendations for Clinical Laboratory Biosafety

- Be aware that early symptoms associated with MVD are similar to other illnesses associated with fever in recent international travelers.
- Follow [Standard Precautions for All Patient Care](#) and [Universal Precautions for Preventing Transmission of Bloodborne Infections](#) to [safely perform common diagnostic testing](#) for patients with suspected MVD.

- Have a written [Exposure Control Plan](#) in place to eliminate or minimize employees' risk of exposure to blood, body fluids or other potentially infectious materials per Occupational Safety and Health Administration's (OSHA) Bloodborne Pathogens Standard.
- Make [recommended PPE](#) available and train staff to properly put on and take off (don and doff) their PPE.
- If a facility does not have the appropriate risk mitigation capabilities, forward the specimen using [appropriate packing and shipping requirements](#) to another facility that does.

### Recommendations for HCW Returning from Work in Rwanda

- **On October 3, 2024, CDC issued [interim recommendations for monitoring and managing U.S. health care workers](#) who have been present in any health care facility, including outpatient settings or traditional healers, in Rwanda within the last 21 days and are returning to the U.S.**
- Returning workers and sponsoring organizations should review CDC's new interim recommendations.
- These interim recommendations include post-arrival daily symptom monitoring by health departments, sponsoring organizations or occupational health programs **and** exclusion from work duties in a U.S. health care facility until 21 days after their last presence in a health care facility in Rwanda.
- **HCW meeting this description should immediately notify their employer/sponsoring organization and contact their local health department or the DOH at 877-PA-Health (877-724-3258) for guidance.**

### Recommendations for the Public

- Protect yourself and prevent the spread of MVD when living in or traveling to a region where Marburg virus is potentially present or that is currently experiencing an outbreak.
  - Take the following actions to protect yourself:
    - Avoid contact with blood and other body fluids.
    - Avoid materials possibly contaminated with blood or other body fluids of people who are sick.
    - Avoid visiting health care facilities in the outbreak area for nonurgent medical care or for nonmedical reasons.
    - Avoid visiting traditional healers.
    - Do not participate in funeral or burial practices that involve touching the body of someone who died from suspected or confirmed MVD.
    - Keep away from fruit bats and non-human primates and do not enter areas where fruit bats live, such as mines or caves.
  - Monitor your health for 21 days after you return from an area experiencing an MVD outbreak.
  - Isolate (separate) yourself immediately from others and seek medical care immediately if you develop [symptoms of MVD](#). Before you enter a health care facility, alert the health care providers of your recent travel to an MVD-affected area.

### For More Information

#### General Marburg Information

- [About Marburg Disease | Marburg Virus Disease | CDC](#)

- [History of Marburg Disease Outbreaks | Marburg Virus Disease | CDC](#)
- [Marburg in Rwanda | Travel Notice | Traveler's Health | CDC](#)

## Clinician Resources

- [Clinical Guidance for Ebola Disease | CDC](#)
- [Recommendations for organizations sending U.S.-based healthcare or emergency response personnel to areas with viral hemorrhagic fever \(VHF\) outbreaks | CDC](#)
- [Viral Hemorrhagic Fevers | CDC Yellow Book 2024](#)
- [Marburg Virus Disease: Interim Recommendations for Public Health Management of U.S.-based Healthcare Personnel Returning from Rwanda](#)

## U.S. Healthcare Settings

- [Infection Prevention and Control Recommendations for Patients in U.S. Hospitals who are Suspected or Confirmed to have Selected Viral Hemorrhagic Fevers \(VHF\) | Viral Hemorrhagic Fevers \(VHFs\) | CDC](#)
- [Interim Guidance for Preparing Frontline Healthcare Facilities for Patients Suspected to Have Ebola Virus Disease \(EVD\) | CDC](#)
- [Interim Guidance for Preparing Ebola Assessment Hospitals | CDC](#)

## Non-U.S. Healthcare Settings

- [Preparing Your Facility for Identification of Potential MVD Patients | Marburg Virus Disease | CDC](#)
- [Preventing MVD from Entering Your Healthcare Facility | Marburg Virus Disease | CDC](#)
- [Healthcare Worker and Inpatient Monitoring | Marburg Virus Disease | CDC](#)
- [Environmental Cleaning and Waste Management | Marburg Virus Disease | CDC](#)
- [Hand Hygiene | Marburg Virus Disease | CDC](#)
- [Environmental Cleaning and Disinfection | Marburg Virus Disease | CDC](#)
- [PPE Part 1: What, When, and Why to Use PPE | Marburg Virus Disease | CDC](#)
- [PPE Part 2: Putting on and Taking Off PPE | Marburg Virus Disease | CDC](#)
- [Waste Management Part 1: The Waste Management Process | Marburg Virus Disease | CDC](#)
- [Waste Management Part 2: Final Waste Disposal | Marburg Virus Disease | CDC](#)
- [Injection Safety | Marburg Virus Disease | CDC](#)

**If you have any questions, please call DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department.**

**Individuals interested in receiving further PA-HANs are encouraged to register at [HAN Notification Registration \(mir3.com\)](#)**

Categories of Health Alert messages:

**Health Alert:** conveys the highest level of importance; warrants immediate action or attention.

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action.

**Health Update:** provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of October 4, 2024, but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.