

Ebola & Marburg

Issue Brief

More guidelines, online courses, posters and videos can be found in our Ebola & Marburg Toolbox <https://www.medbox.org/4A106005/toolbox/ebola-marburg>

Marburg Virus Disease

According to CDC as of 28 October 2024 65 Marburg virus disease cases, including 15 deaths have been reported in Rwanda. Most of the people infected are health care workers, particularly those who work in intensive care units. Marburg virus disease (MVD) is a very virulent disease that can cause haemorrhagic fever and is clinically related to Ebola virus disease. Marburg and Ebola viruses both belong to the Filoviridae family (filovirus). People get infected when they have close contact with Rousettus bats that can transmit the Marburg virus. The Marburg virus is then transmitted from person to person through direct contact (via injured skin or mucous membranes) with secretions, blood, organs or other body fluids of infected persons or with surfaces and materials that are contaminated with these fluids (bed linen, clothing). This issue brief is intended to provide healthcare professionals with the most relevant treatment guidelines, prevention measures, posters and much more.

Clinical Management

Health emergency preparedness for imported cases of high-consequence infectious diseases

European Centre for Disease Prevention and Control (ecdc) (2022)

Preparedness planning is essential in order to respond effectively to outbreaks, including single case occurrences of high-consequence infectious diseases (HCID), such as the importation of a viral haemorrhagic fever (VHF) case

<https://www.medbox.org/document/health-emergency-preparedness-for-imported-cases-of-high-consequence-infectious-diseases>

<https://www.ecdc.europa.eu/sites/default/files/documents/Health-emergency-preparedness-imported-cases-of-high-consequence-infectious-diseases.pdf>



Implications of the Marburg virus disease outbreak in Rwanda for the EU/EEA

European Centre for Disease Prevention and Control (ecdc) (2024)

This threat assessment addresses the implications of the ongoing Marburg virus disease (MVD) outbreak in Rwanda for the European Union/European Economic Area (EU/EEA). MVD is a severe disease in humans and, although uncommon, it has the potential to cause epidemics with significant case fatality. All recorded MVD outbreaks to date have originated in Africa. MVD is not an airborne disease and is considered not to be contagious before symptoms appear. Direct contact with the blood and other body fluids of infected people and animals or indirect contact with contaminated surfaces and materials like clothing, bedding and medical equipment is required for transmission. The risk of infection is minimised when proper infection prevention and control precautions are strictly followed.



There is no approved treatment or vaccine for MVD; however, several pharmaceuticals and candidate MVD vaccines are under investigation.

<https://www.medbox.org/document/implications-of-the-marburg-virus-disease-outbreak-in-rwanda-for-the-eueea-2024>

<https://www.ecdc.europa.eu/sites/default/files/documents/marburg-virus-disease-outbreak-rwanda-EU-EEA-threat-assessment-2024.pdf>

Ebola or Marburg case investigation and recording sheet

World Health Organization WHO (2020)

<https://www.medbox.org/document/ebola-or-marburg-case-investigation-and-recording-sheet-june-2020>

https://www.who.int/docs/default-source/outbreak-toolkit/cif/evd-en.pdf?sfvrsn=dcc290f6_2&download=true



Clinical management of patients with viral haemorrhagic fever. A pocket guide for the front-line health worker

World Health Organization, Regional Office for Africa; (2016)

The purpose of this pocketbook is to provide clear guidance on current best management practices for VHF across health-care facilities

<https://www.medbox.org/document/clinical-management-of-patients-with-viral-haemorrhagic-fever-a-pocket-guide-for-the-front-line-health-worker>

https://apps.who.int/iris/bitstream/10665/205570/1/9789241549608_eng.pdf?ua=1



Marburg virus disease

World Health Organisation (WHO) (2024)

Fact Sheet

<https://www.medbox.org/document/marburg-virus-disease>

<https://www.who.int/news-room/fact-sheets/detail/marburg-virus-disease>



Marburg and Ebola Virus Infections

MSD Manual (2023)

Marburg and Ebola are filoviruses that cause hemorrhage, multiple organ failure, and high mortality rates. Diagnosis is with enzyme-linked immunosorbent assay, polymerase chain reaction (PCR), or electron microscopy. Treatment is supportive. Strict isolation and quarantine measures are necessary to contain outbreaks.

<https://www.medbox.org/document/marburg-and-ebola-virus-infections>

<https://www.msmanuals.com/professional/infectious-diseases/arboviruses-arenaviridae-and-filoviridae/marburg-and-ebola-virus-infections>



Guidelines for prevention of Marburg virus disease

Republic of Rwanda-Ministry of Health (2024)

Prevention Guidelines on Marburg virus disease

<https://www.medbox.org/document/guidelindes-for-prevention-of-marburg-virus-disease>

<https://rbc.gov.rw/marburg/wp-content/uploads/2024/09/Guidelines-for-prevention-of-Marburg-Virus-Disease.pdf>



Personal Protective Equipment PPE

Steps to put on personal protective equipment (PPE) including gown
World Health Organization (2015)

<https://www.medbox.org/document/steps-to-put-on-personal-protective-equipment-ppe-including-gown>
https://apps.who.int/iris/bitstream/10665/150115/1/WHO_HIS_SDS_2015.1_eng.pdf?ua=1



Steps to take off personal protective equipment (PPE) including gown
World Health Organization (2015)

<https://www.medbox.org/document/steps-to-take-off-personal-protective-equipment-ppe-including-gown>
https://apps.who.int/iris/bitstream/10665/150117/1/WHO_HIS_SDS_2015.3_eng.pdf?ua=1



Steps to take off personal protective equipment (PPE) including coverall
World Health Organization (WHO) (2015)

<https://www.medbox.org/document/steps-to-take-off-personal-protective-equipment-ppe-including-coverall>
https://apps.who.int/iris/bitstream/10665/150118/1/WHO_HIS_SDS_2015.4_eng.pdf?ua=1



Making cleaning solution from 2.6% liquid bleach
Centers for Disease Control and Prevention CDC (2020)

<https://www.medbox.org/document/making-cleaning-solution-from-26-liquid-bleach>
<https://www.cdc.gov/vhf/ebola/pdf/2.6-percent-chlorine-bleach-solution.pdf>



Infection Prevention & Control

Ebola and Marburg disease outbreaks: infection prevention and control research priorities in health care settings
World Health Organisation (WHO) (2024)

Ebola virus (EBOV) and Marburg virus (MARV) are associated with severe, potentially fatal, systemic diseases. During the development of the Infection Prevention and Control Guideline for Ebola Disease and Marburg Disease, the Guideline Development Group (GDG) identified multiple research gaps in key areas and practices that lacked strong evidence to help in the formulation of recommendations. Because of the lack of strong evidence, there exists an array of research questions related to infection prevention and control (IPC) in the context of Ebola Disease (EBOD) and Marburg Disease (MARD). Identifying those that are



priorities would help policy-makers target efforts and funding to support the most relevant studies. The objective of this research prioritization exercise was to identify the short- to medium-term (over the next two years) priority research questions for IPC in health care settings based on the gaps identified during the EBOD/MARD IPC guideline development process.

<https://www.medbox.org/document/ebola-and-marburg-disease-outbreaks-infection-prevention-and-control-research-priorities-in-health-care-settings>
<https://iris.who.int/bitstream/handle/10665/378532/9789240098381-eng.pdf?sequence=1>

Infection prevention and control guideline for Ebola and Marburg disease, August 2023

World Health Organization WHO (2023)

Ebola disease and Marburg disease outbreaks continue to occur in Africa, with increased frequency. In addition to resulting in high mortality and morbidity, the outbreaks generate fear and mistrust about the response activities within the communities affected. Infection prevention and control (IPC) is a key pillar in the outbreak response; adherence to IPC practices can prevent and control transmission of infections to health and care workers, patients and their family members. During the 2014-2016 West African Ebola disease outbreak, there was an urgent need for rapid IPC guidance to help support ministries of health, health-care providers and non-governmental organizations (NGOs). In response, WHO produced several documents related to the outbreak based on expert opinion, including IPC-specific documents and documents on clinical management that also referenced key IPC principles and practices. Since that time, many practices in the field have become institutionalized.

<https://www.medbox.org/document/infection-prevention-and-control-guideline-for-ebola-and-marburg-disease-august-2023>
<https://reliefweb.int/attachments/e1f14a08-06ea-49ba-ae5c-90ef3a7b7b15/WHO-WPE-CRS-HCR-2023.1-eng.pdf>

Infection Control Assessment Tool for Primary Health Care Facilities

SIAPS (2013); USAID

Nosocomial or health-facility-acquired infections are a serious issue, representing one of the most significant causes of morbidity and mortality in healthcare systems and consuming many scarce resources, especially in developing countries. Although much has been done, particularly in the hospital setting, to reduce the risk of these infections, the problem persists and demands innovative and cost-efficient solutions. Although the care provided in most primary health care facilities is predominantly ambulatory with few or no inpatient beds, infection prevention is still important to minimize or eliminate the risks of facility-acquired infections and assure quality patient care. Health facilities and hospitals should have written infection control procedures and guidelines in place and should also be monitoring that these procedures are adhered to in both inpatient and ambulatory care settings.

<https://www.medbox.org/document/infection-control-assessment-tool-for-primary-health-care-facilities>
https://siapsprogram.org/wp-content/uploads/2013/01/12-137-ICAT-PCH.FINAL_.pdf

Marburg Virus: reducing the risk of transmission

European Centre for Disease Prevention and Control (ecdc) (2024)

Infographic



<https://www.medbox.org/document/marburg-virus-reducing-the-risk-of-transmission>
https://www.ecdc.europa.eu/sites/default/files/images/Marburg%20Virus_infographic.png



Lessons Learnt from the Marburg Virus Disease (MVD) Outbreak in Tanzania Africa CDC (2023)

On March 16, 2023, the Tanzania Ministry of Health declared an outbreak of an unidentified illness in Bukoba district, Kagera region. A group of seven individuals presented with fever, vomiting, bleeding from various body orifices, and kidney failure, sparking suspicion of a contagious disease. Laboratory results from patients and the deceased confirmed the Marburg virus disease (MVD) outbreak on March 21, 2023.



<https://www.medbox.org/document/lessons-learnt-from-the-marburg-virus-disease-mvd-outbreak-in-tanzania>
<https://africacdc.org/news-item/lessons-learnt-from-the-marburg-virus-disease-mvd-outbreak-in-tanzania/>

Infection Prevention and Control Measures for Marburg Virus Disease NETEC (2023)

Resource Platform

<https://www.medbox.org/document/infection-prevention-and-control-measures-for-marburg-virus-disease>
<https://netec.org/2023/03/03/infection-prevention-and-control-measures-for-marburg-virus-disease/>



Summary of WHO infection prevention and control guideline for Ebola and Marburg disease: a call for evidence based practice World Health Organisation (WHO) (2024)

This article summarises the process involved in developing the updated guideline and includes an infographic to highlight key IPC recommendations from the guideline, following the patient care pathway from the community to a healthcare facility to discharge.

<https://www.medbox.org/document/summary-of-who-infection-prevention-and-control-guideline-for-ebola-and-marburg-disease-a-call-for-evidence-based-practice>
<https://www.bmj.com/content/bmj/384/bmj.p2811.full.pdf>



Training Material & Resources

Infection prevention and control in-service education and training curriculum World Health Organisation (WHO) (2024)

The primary objective of this curriculum is to equip health and care workers with the essential knowledge and competencies necessary for delivering safe and effective care. By doing so it aims to significantly reduce HAIs and combat antimicrobial resistance, thereby safeguarding both patient and HCWs well-being. This curriculum is developed to meet the needs of IPC professionals responsible for developing learning resources and overseeing training within health



care organizations. Moreover, the curriculum is intended to encompass all individuals involved in health care delivery and support. This holistic approach includes a wide range of staff -ranging from clinical workers to administrative and auxiliary services, thus ensuring a broad and inclusive approach to IPC training.

<https://www.medbox.org/document/infection-prevention-and-control-in-service-education-and-training-curriculum>
<https://iris.who.int/bitstream/handle/10665/376810/9789240094123-eng.pdf?sequence=1>

Your 5 Moments for Hand Hygiene (Chair) World Health Organization WHO (2009)

Your 5 Moments for Hand Hygiene

<https://www.medbox.org/document/your-5-moments-for-hand-hygiene-chair>
<https://www.health.pa.gov/topics/Documents/Programs/HAIP-AS/WHO%205%20Moments%20poster.pdf>



Hand Hygiene: Why, How and When? World Health Organization WHO (2009)

Hand Hygiene: Why, How, & When?

<https://www.medbox.org/document/hand-hygiene-why-how-and-when>
https://cdn.who.int/media/docs/default-source/documents/health-topics/hand-hygiene-why-how-and-when-brochure.pdf?sfvrsn=9b52e145_2&download=true



WHO Guidelines on Hand Hygiene in Health Care World Health Organization WHO (2009)

First Global Patient Safety Challenge Clean Care is Safer CareThe WHO Guidelines on Hand Hygiene in Health Care provide health-care workers (HCWs), hospital administrators and health authorities with a thorough review of evidence on hand hygiene in health care and specific recommendations to improve practices and reduce transmission of pathogenic microorganisms to patients and HCWs. The present Guidelines are intended to be implemented in any situation in which health care is delivered either to a patient or to a specific group in a population. Therefore, this concept applies to all settings where health care is permanently or occasionally performed, such as home care by birth attendants.

<https://www.medbox.org/document/who-guidelines-on-hand-hygiene-in-health-care>
http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf



How to Hand rub? World Health Organization (2009)

Poster

<https://www.medbox.org/document/how-to-hand-rub>
[https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/infection-prevention-and-control/how-to-handrub-poster.pdf](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/how-to-handrub-poster.pdf)



Handwashing for health care workers World Health Organization WHO (2014)

Poster

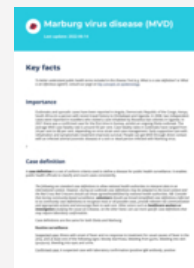
<https://www.medbox.org/document/handwashing-for-health-care-workers>
<https://www.cdc.gov/vhf/ebola/resources/pdfs/hand-washing-us-audience-P.pdf>



Marburg virus disease (MVD)
International Federation of Red Cross (2022)

Key Facts about the disease

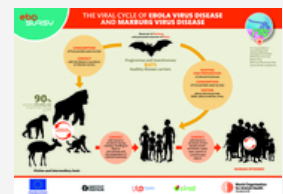
<https://www.medbox.org/document/marburg-virus-disease-mvd>
<https://epidemics.ifrc.org/pdf/217>



The viral cycle of Ebola virus disease and Marburg virus disease
World Organisation for Health (2019)

Poster

<https://www.medbox.org/document/the-viral-cycle-of-ebola-virus-disease-and-marburg-virus-disease>
https://rr-africa.woah.org/app/uploads/2019/09/oi01001_fiche-a4_ebola-marburg_ang.pdf



Factsheet for health professionals about Marburg virus disease
European Centre for Disease Prevention and Control (ecdc) (2024)

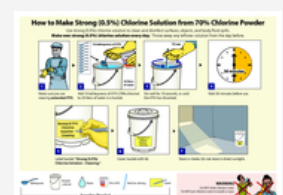
Marburg virus disease (MVD), formerly known as Marburg haemorrhagic fever, is a severe disease in humans caused by Marburg marburgvirus (MARV). Although MVD is uncommon, MARV has the potential to cause epidemics with significant case fatality rates.

<https://www.medbox.org/document/factsheet-for-health-professionals-about-marburg-virus-disease>
<https://www.ecdc.europa.eu/en/infectious-disease-topics/marburg-virus-disease/factsheet-health-professionals-about-marburg-virus>



How to Make Strong (0.5%) Chlorine Solution from 70% Chlorine Powder
Centers for Disease Control and Prevention (2015)

<https://www.medbox.org/document/how-to-make-strong-05-chlorine-solution-from-70-chlorine-powder>
<https://www.cdc.gov/vhf/ebola/pdf/cleaning-hand-washing-with-chlorine-powder.pdf>



Making cleaning solution from 2.6% liquid bleach
Centers for Disease Control and Prevention CDC (2020)

<https://www.medbox.org/document/making-cleaning-solution-from-26-liquid-bleach>
<https://www.cdc.gov/vhf/ebola/pdf/2.6-percent-chlorine-bleach-solution.pdf>



Ebola Practical Training Video: Disinfection Dead Body
Médecins sans Frontières (2014) Video

In response to the urgent need for trained health professionals to assist in the efforts to contain the Ebola outbreak in West Africa, Médecins Sans Frontières has been running training sessions in Brussels for international aid workers before they depart for the field. Below are videos used to accompany the training sessions, helping to demonstrate infection control measures. All videos are without sound to avoid language barriers. All videos are intended to be viewed in training sessions with an experienced Médecins Sans Frontières trainer

<https://www.medbox.org/document/ebola-practical-training-video-disinfection-dead-body>
<https://vimeo.com/110488040>



Hand Washing In Hospitals
MedicalAidFilms (2021) Video

This film covers handwashing best practice for health workers in hospitals. This Video is available in Hausa and Yoruba. accessed 08.2021

<https://www.medbox.org/document/hand-washing-in-hospitals>
<https://www.medicalaidfilms.org/film/hand-washing-hospitals/>



Introduction to Marburg Virus Disease
World Health Organisation (WHO) (2024)

This course introduces Marburg Virus Disease and outlines the signs, symptoms, diagnosis, transmission routes and epidemiology of the disease. It also discusses prevention and control strategies.

<https://www.medbox.org/document/introduction-to-marburg-virus-disease>
<https://openwho.org/courses/marburg-introduction>



Situation Updates

Marburg Virus Disease Outbreak in Rwanda
Africa CDC (2024)

Situation Report

<https://www.medbox.org/document/marburg-virus-disease-outbreak-in-rwanda>
<https://africacdc.org/news-item/marburg-virus-disease-outbreak-in-rwanda/>



Disease Outbreak News Marburg virus disease - Rwanda

World Health Organisation (WHO) (2024)

On 27 September 2024, the Rwanda Ministry of Health announced the confirmation of Marburg virus disease (MVD). Blood samples taken from people showing symptoms were tested by real-time reverse transcription polymerase chain reaction (RT-PCR) at the National Reference Laboratory of the Rwanda Biomedical Center and were positive for Marburg virus. As of 29 September 2024, a total of 26 confirmed cases, including eight deaths have been reported. The cases are reported from seven of the 30 districts in the country. Among the confirmed cases, over 70% are healthcare workers from two health facilities in Kigali.

<https://www.medbox.org/document/disease-outbreak-news-marburg-virus-disease-rwanda>

<https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON537>



Disease Outbreak News Marburg virus disease - Rwanda

World Health Organisation (WHO) (2024)

On 27 September 2024, the Rwanda Ministry of Health announced the confirmation of Marburg virus disease (MVD). Blood samples taken from people showing symptoms were tested by real-time reverse transcription polymerase chain reaction (RT-PCR) at the National Reference Laboratory of the Rwanda Biomedical Center and were positive for Marburg virus. As of 29 September 2024, a total of 26 confirmed cases, including eight deaths have been reported. The cases are reported from seven of the 30 districts in the country. Among the confirmed cases, over 70% are healthcare workers from two health facilities in Kigali.

<https://www.medbox.org/document/disease-outbreak-news-marburg-virus-disease-rwanda>

<https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON537>



Marburg virus disease outbreak – Rwanda 2024

World Health Organisation (WHO) (2024)

On 27 September 2024, the Ministry of Health of Rwanda confirmed the country's first outbreak of Marburg virus disease (MVD), with health-care workers in Kigali particularly affected. While sporadic outbreaks have occurred in various parts of Africa since the first recognized cases in 1967, this outbreak is the third largest outbreak of MVD ever recorded to date. Marburg virus disease is a severe disease clinically similar to Ebola disease. With no approved treatments or vaccines for MVD, early intervention for those showing symptoms is crucial for improving survival rates.

<https://www.medbox.org/document/marburg-virus-disease-outbreak-rwanda-2024>

<https://www.who.int/emergencies/situations/mvd-rwanda-2024>



Marburg Virus Updates 27.10.2024

Ministry of Health Rwanda; Rwanda Biomedical Centre (2024)

Update on MVD in Rwanda

<https://www.medbox.org/document/marburg-virus-updates-27102024>

<https://rbc.gov.rw/marburg/wp-content/uploads/2024/10/Update-Virusi-ya-Marburg-27.10.2024.jpg>



Rwanda Travel Advisory: Marburg Virus Disease Update

Rwanda Development Board (RDB) (2024)

October 2024

<https://www.medbox.org/document/rwanda-travel-advisory-marburg-virus-disease-update>
<https://rbc.gov.rw/marburg/wp-content/uploads/2024/10/travel-advisory.pdf>

