

# **POLICY FOR THE MANAGEMENT OF PATIENTS WITH VIRAL HAEMORRHAGIC FEVER**

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## Contents

*(For quick access to a specific heading - press CTRL and click your mouse to follow the link for the below options)*

|     |   |    |
|-----|---|----|
| 1.  | INTRODUCTION.....   | 3  |
| 2.  | PURPOSE.....  | 4  |
| 3.  | SCOPE.....  | 4  |
| 4.  | DEFINITIONS <i>(if relevant)</i> .....  | 4  |
| 5.  | RESPONSIBILITIES.....   | 5  |
| 6.  | POLICY STATEMENT.....   | 5  |
| 7.  | PROCEDURE .....   | 5  |
| 8.  | MONITORING AND REVIEW .....   | 8  |
| 9.  | REFERENCES <i>(if relevant)</i> .....   | 9  |
| 10. | ASSOCIATED POLICIES & PROCEDURES <i>(To include but not limited to)</i> ..... | 10 |
| 11. | AUTHOR .....  | 10 |
| 12. | EQUALITY & DIVERSITY IMPACT ASSESSMENT .....                                  | 10 |
| 13. | DOCUMENT CONTROL SHEET .....  | 10 |

## 1. INTRODUCTION

VHFs are severe and life-threatening viral diseases that have been reported in parts of Africa, South America, the Middle East and Eastern Europe.

VHFs are of particular public health importance because:

- They can spread readily within a hospital setting;
- They have a high case-fatality rate;
- They are difficult to recognise and detect rapidly;
- There is no effective treatment.

The Advisory Committee on Dangerous Pathogens (ACDP) undertook an assessment of the risks of transmission of VHF infection. Evidence from outbreaks strongly indicates that the main routes of transmission of VHF infection are **direct contact** (through broken skin or mucous membrane) with blood or body fluids, **and indirect contact** with environments contaminated with splashes or droplets of blood or body fluids. Experts agree that there is no circumstantial or epidemiological evidence of an aerosol transmission risk from VHF patients. Following the revised risk assessment, this policy recommends control options for the isolation of VHF patients in the UK. These options now include flexibility in the isolation of a patient with a VHF infection within a specialist High Level Isolation Unit (HLIU).

**IN THE UNLIKELY EVENT THAT A PATIENT IS SUSPECTED OF HAVING VHF (THIS INCLUDES EBOLA) URGENT AND IMMEDIATE ADVICE MUST BE SOUGHT FROM THE UNITED KINGDOM HEALTH SECURITY AGENCY (UKHSA) ON 03003038537**

<https://www.gov.uk/government/publications/viral-haemorrhagic-fever-algorithm-and-guidance-on-management-of-patients>

**The algorithm on this page must be adhered to**

Environmental conditions in the UK do not support the natural reservoirs or vectors of any of the haemorrhagic fever viruses, and all recorded cases of VHF in the UK have been acquired abroad, with the exception of one laboratory worker who sustained a needle-stick injury.

The Advisory Committee on Dangerous Pathogens' (ACDP) Hazard Group 4 viral haemorrhagic fevers viruses and their diseases.

|  |  |
|--|--|
| 1. ARENAVIRIDAE BUNYAVIRIDAE<br><u>Old World arenaviruses</u><br>Lassa<br>Lujó fever<br><u>New World arenaviruses</u><br>Chapare<br>Guanarito<br>Junín<br>Machupo<br>Sabiá<br><br>2. FLAVIVIRIDAE<br>Kyasanur forest disease<br>Alkhurma haemorrhagic fever<br>Omsk haemorrhagic fever | 3. FILOVIRIDAE<br>Ebola<br>Marburg<br><br>4. BUNYAVIRIDAE<br><u>Nairoviruses</u><br>Crimean Congo haemorrhagic fever<br>(CCHF) |
|--|--|

(Table available from: [Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence \(publishing.service.gov.uk\)](#) p34)

## 2. PURPOSE

The purpose of this policy and procedure is to provide concise guidance for all staff and to minimize the potential risks associated with the management of a patient suffering from one of the viral haemorrhagic fevers.

## 3. SCOPE

This document applies to all staff either employed or contracted within in-patient areas in East Coast Community Healthcare CIC (ECCH).

In the UK, only persons who have; (i) travelled to an area where VHF occur; and/or (ii) been exposed to a patient or animal infected with VHF (including their blood, body fluids or tissues); or (iii) worked in a laboratory with the infectious agents of VHF; are at risk of infection from VHF.

## 4. DEFINITIONS *(if relevant)*

The following definitions are intended to provide a brief explanation of the various terms used within this policy.

| Term   | Definition   |
|--------|--|
| Policy | A policy is a formal written statement detailing an enforceable set of principles or rules. Policies set the boundaries within which we operate. They also reflect the philosophy of our organisation. |
| VHF    | Viral Haemorrhagic Fever   |

## 5. RESPONSIBILITIES

- **ECCH Employees** – Are responsible for the implementation of this policy and following the requirements of the policy.
- **Chief Executive of ECCH** – Overall responsibility for the enforcement of this policy lies with the Chief Executive of ECCH
- **ECCH Managers** – Are responsible for ensuring staff adhere to this policy
- **IPACC** – Is responsible for approving this policy

## 6. POLICY STATEMENT

This policy will be implemented to ensure adherence to safe practice.

## 7. PROCEDURE

**Risk Assessment** - <https://www.gov.uk/government/publications/viral-haemorrhagic-fever-algorithm-and-guidance-on-management-of-patients>

The patient risk assessment must be led by a senior member of the medical team responsible for the acute care of patients, for example the emergency care physician, emergency department consultant or admitting team consultant. The consultant microbiologist will also need to be involved. Clinicians can contact the Imported Fever Service (IFS) after discussions with their local microbiologist/virologist.

Standard precautions and good infection control are paramount to ensure staff are not put at risk whilst the initial risk assessment is carried out. **It is assumed throughout this policy that staff will be using standard precautions.** If these measures are not already in place, they must be introduced immediately when dealing with a patient in whom VHF is being considered. As per the NHS National infection prevention and control manual for England. [National-infection-prevention-and-control-manual-v2-4-250123.pdf](https://www.nhs.uk/publications/national-infection-prevention-and-control-manual-v2-4-250123.pdf) ([england.nhs.uk](http://england.nhs.uk))

The patient's VHF risk category can change depending on the patient's symptoms and/or the results of diagnostic tests. It is important to note that a patient with a VHF infection can deteriorate rapidly.

Patients with a fever  $>37.5^{\circ}\text{C}$  are highly unlikely to have a VHF infection if:  
They have not visited a VHF endemic area within 21 days of becoming ill;  
They have not become unwell within 21 days of caring for or coming into contact with the bodily fluids of / handling clinical specimens from a live or dead individual or animal known or strongly suspected to have a VHF;  
If their UK malaria screen is negative and they are subsequently afebrile for  $>24$  hours;  
If their UK malaria screen is positive and they respond appropriately to malaria treatment;  
If they have a confirmed alternative diagnosis and are responding appropriately.

The risk of VHF in the patient should be reassessed if a patient with a relevant exposure history fails to improve or develops one of the following:

- Nosebleed;
- Bloody diarrhoea;
- Sudden rise in aspartate transaminase (AST);
- Sudden fall in platelets;
- Clinical shock;
- Rapidly increasing O2 requirements in the absence of other diagnosis.

NOTE: It is recommended that, if a patient is bruised or bleeding, the lead clinician must have an urgent discussion with the local microbiologist who will liaise with the Imported Fever Service concerning further management.

### Infection control measures

- A patient categorised as a 'high or low possibility of VHF' must be isolated in a single side room immediately to limit contact until the possibility of VHF has been ruled out. The side room should have dedicated en-suite facilities.
- It is assumed that all staff will already be using standard precautions as appropriate. If not, these must be immediately introduced. The level of any additional staff protection is dependent on the patient's symptoms.

| Infection control measures for 'possibility of VHF' |   |
|---|---|
| Patient's symptoms                                  | Staff protection  |
| Bruising<br>OR<br>bleeding                          | <p>Standard <b>plus</b> droplet precautions required:</p> <ul style="list-style-type: none"> <li>• hand hygiene</li> <li>• gloves</li> <li>• plastic apron</li> <li>• fluid repellent surgical facemask</li> <li>• disposable visor</li> </ul> <p><b>In addition, for potential aerosol-or splash-inducing procedures:</b></p> <ul style="list-style-type: none"> <li>• FFP3 respirator or EN certified equivalent</li> </ul> |
| None of the above                                   | <ul style="list-style-type: none"> <li>• Standard Precautions:</li> <li>• hand hygiene</li> <li>• gloves</li> <li>• plastic apron</li> </ul>  |

- Potential aerosol-or splash-inducing procedures include:

- Endotracheal intubation;
- Bronchoscopy;
- Airway suctioning;
- Positive pressure ventilation via face mask;
- High frequency oscillatory ventilation;
- Central line insertion;

- Aerosolised or nebulised medication administration;
- Diagnostic sputum induction.

d) Single use (disposable) equipment and supplies should be used. The use of a needle-free intravenous system to eliminate the risk of needlestick injuries should also be considered.

e) Communication with staff about potential infection risks is paramount. Staff must be informed about and understand the risks associated with a VHF patient, for example:

The severity of VHF if infection is confirmed;

That virus may be present:

- in blood;
- in body fluids, including urine;
- on contaminated instruments and equipment;
- in waste;
- on contaminated clothing;
- on contaminated surfaces.

That exposure to virus may occur:

- **directly**, through exposure (broken skin or mucous membranes) to blood and/or body fluids during invasive, aerosolising or splash procedures;
- **indirectly**, through exposure (broken skin or mucous membranes) to environments, surfaces, equipment or clothing contaminated with splashes or droplets of blood or body fluids.

## Diagnostic investigations

All samples from patients in the 'possibility of VHF' category can be treated as high risk samples. Investigations required will include URGENT Malaria investigations. Other investigations, as locally appropriate, may include urine, stool and blood cultures, and chest x-ray (CXR). However, liaison with the local Microbiologist/Virologist is required, particularly if the patient has bruising or bleeding.

## Management of a patient categorised as 'HIGH POSSIBILITY OF VHF'

The lead clinician who is responsible for the acute care of the patient must be a senior member of the medical team;

The patient must be isolated in a single side room immediately;

Enhanced infection control measures appropriate to the patient's symptoms and clinical care procedures must be put in place;

Carry out an urgent **VHF** and **malaria screen**, and continue local diagnostic investigations as appropriate and with additional laboratory precautions

Commence early public health actions;

If the patient's VHF screen is **positive**, arrange urgent transfer to the local HLIU and launch full public health actions. **Tel: 03003038537**

### Infection control measures

1. The patient must be isolated in a single side room immediately to limit contact. The side room should have dedicated en-suite facilities or at least a dedicated commode.
2. The number of staff in contact with the patient should be restricted.
3. The level of staff protection required is dependent on the patient's symptoms and is set out in the table below:

| <b>Infection control measures for 'high possibility of VHF' see algorithm</b><br><a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478115/VHF_Algo.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478115/VHF_Algo.pdf</a> |  |
|--|--|
| <b>Patient's symptoms</b>  | <b>Staff protection</b>  |
| Bruising<br>OR<br>bleeding<br>OR<br>uncontrolled diarrhoea<br>OR<br>uncontrolled vomiting  | Enhanced precautions required (standard plus droplet plus respiratory protection): <ul style="list-style-type: none"> <li>• hand hygiene</li> <li>• double gloves</li> <li>• fluid repellent disposable gown – an all-in-one disposable should be considered as an alternative;</li> <li>• disposable visor</li> <li>• Head cover</li> <li>• FFP3 respirator or EN certified equivalent</li> </ul> |
| None of the above  | Droplet precautions (standard plus droplet) required: <ul style="list-style-type: none"> <li>• hand hygiene</li> <li>• gloves</li> <li>• plastic apron</li> <li>• fluid repellent surgical facemask</li> <li>• disposable visor.</li> </ul> <p><b>In addition, for potential aerosol-or splash-inducing procedures:</b> FFP3 respirator or EN certified equivalent</p>                             |

### Waste, Laundry, Decontamination and Disinfection

Guidance can be found at [Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence \(publishing.service.gov.uk\)](#) p71-82.

### Other requirements

Inform the Lead for Infection Control/Microbiology Doctor who, in turn, will inform the UKHSA (Tel 0300 3038537). Contact the UKHSA **directly** only in the unlikely event of failing to contact the Lead for Infection Control/Microbiology Doctor first.

### Last Offices

If the patient dies, handling of the body must be minimal. The corpse should be placed in a sealed body bag, not embalmed, and cremated or buried promptly in a sealed casket according to Department of Health Guidelines.

**NB: See ECCH Policy: Care of the Cadaver**

## 8. MONITORING AND REVIEW

This document will be reviewed by the Infection Prevention & Control Team, March 2025 or sooner if changes in legislation occur or new best practice evidence becomes available.



## 9. REFERENCES (if relevant)

- NHS England (2023) National infection prevention and control manual for England. Available from: [National-infection-prevention-and-control-manual-v2-4-250123.pdf \(england.nhs.uk\)](https://www.nhs.uk/publications/national-infection-prevention-and-control-manual-v2-4-250123.pdf) [Accessed 28.02.2023]
- PHE (2015) Advisory Committee on Dangerous Pathogens: Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence. Available from: [Viral haemorrhagic fever: ACDP algorithm and guidance on management of patients - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/Viral_haemorrhagic_fever_ACDP_algorithm_and_guidance_on_management_of_patients_GOV.UK.pdf) [Accessed 20.02.2023]
- UKHSA (2016) Viral haemorrhagic fevers: epidemiology, characteristics, diagnosis and management. Available from: [Viral haemorrhagic fevers: epidemiology, characteristics, diagnosis and management - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/Viral_haemorrhagic_fevers_epidemiology_characteristics_diagnosis_and_management_GOV.UK.pdf) [Accessed 20.02.2023]
- UKHSA (2022) Lassa fever: origins, reservoirs, transmission and guidelines. Available from: [Lassa fever: origins, reservoirs, transmission and guidelines - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/1144444/Lassa_fever_origins_reservoirs_transmission_and_guidelines_GOV.UK.pdf) [Accessed 20.02.2023]
- UKHSA (2023) High consequence infectious diseases (HCID) Available from: [High consequence infectious diseases \(HCID\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/1144444/High_consequence_infectious_diseases_HCID_GOV.UK.pdf) [Accessed 20.02.2023]

### Information

#### **Imported Fever Service:**

Doctors can contact the IFS (after consultation with local microbiologist/virologist) on 0844 778 8990 for direct access to on call experts. Available from: <https://www.gov.uk/imported-fever-service-ifs> [Accessed 20.02.2023]

#### **High Consequence Infectious Disease Units**

There are 2 principal Contact HCID Treatment Centres in England:

- the Royal Free London High Level Isolation Unit (HLIU)
- the Newcastle Royal Victoria Infirmary HLIU.

Further support for managing confirmed contact HCID cases is provided by the Royal Liverpool Hospital and the Royal Hallamshire Hospital, Sheffield.

#### **Airborne HCIDs**

There are 5 interim Airborne HCID Treatment Centres in England. Adult and paediatric services are provided by 7 NHS Trusts:

- Guy's and St Thomas' NHS Foundation Trust (adult and paediatric services)
- Royal Free London NHS Foundation Trust, with a paediatric service provided by Imperial College Healthcare NHS Foundation Trust
- Royal Liverpool and Broadgreen University Hospitals NHS Trust, with a paediatric service provided by Alder Hey Children's NHS Foundation Trust
- Newcastle upon Tyne Hospitals NHS Foundation Trust (adult and paediatric services)

- Sheffield Teaching Hospitals NHS Foundation Trust (adult service only)

### **Case transfer arrangements**

Hospital clinicians seeking to transfer confirmed HCID cases, or discuss the transfer of highly probable HCID cases, should contact the NHS England EPRR Duty Officer. It is expected that each case will have been discussed with the Imported Fever Service before discussing transfer.

## **10. ASSOCIATED POLICIES & PROCEDURES** *(To include but not limited to)*

- Care of the Cadaver

## **11. AUTHOR**

Infection Prevention & Control 2023

## **12. Equality & Diversity Impact Assessment**

In reviewing this policy, the HR Policy Group considered, as a minimum, the following questions:

- Are the aims of this policy clear?
- Are responsibilities clearly identified?
- Has the policy been reviewed to ascertain any potential discrimination?
- Are there any specific groups impacted upon?
- Is this impact positive or negative?
- Could any impact constitute unlawful discrimination?
- Are communication proposals adequate?
- Does training need to be given? If so is this planned?

Adverse impact has been considered for age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, sex, sexual orientation.

## **13. DOCUMENT CONTROL SHEET**

|                                       |   |
|---------------------------------------|---|
| <b>Name of Document:</b>              | Policy for the management of patients with viral haemorrhagic fever |
| <b>Version:</b>                       | 8   |
| <b>File Location / Document Name:</b> | ECCHO   |
| <b>Date Of This Version:</b>          | Version   |
| <b>Produced By (Designation):</b>     | Infection Prevention & Control                                      |

|  |  |
|--|--|
| <b>Reviewed By:</b>  | Infection Prevention & Control   |
| <b>Synopsis And Outcomes of Consultation Undertaken:</b>   | Changes relating to relevant committees/groups involved in ratification processes.                 |
| <b>Synopsis And Outcomes of Equality and Diversity Impact Assessment:</b>  | No specific issues. National EIA gives more details on measures to reduce HCAs.                    |
| <b>Ratified By (Committee):-</b>   | IPACC  |
| <b>Date Ratified:</b>  | March 2023   |
| <b>Distribute To:</b>  | Policies Group   |
| <b>Date Due for Review:</b>  | March 2025   |
| <b>Enquiries To:</b>   | <a href="mailto:infectionprevention@ecchcic.nhs.uk">infectionprevention@ecchcic.nhs.uk</a>         |
| <b>Approved by Appropriate Group/Committee</b><br><b>Approved by Policy Group</b><br><b>Presented to IGC for information</b> | <input type="checkbox"/> Date:<br><input type="checkbox"/> Date:<br><input type="checkbox"/> Date: |

## Version Control

| Version Date  | Version No. | Author/ Reviewer | Comments                        |
|---------------|-------------|------------------|---------------------------------|
| March 2011    | 2           | IPCT             | Style changed                   |
| February 2013 | 3           | IPCT             | Revised HPA guidance July 2012  |
| March 2015    | 4           | IPCT             |                                 |
| February 2017 | 5           | IPCT             | Minor tweaks                    |
| December 2018 | 6           | IPCT             |                                 |
| June 2021     | 7           | IPCT             | Minor tweaks                    |
| March 2023    | 8           | IPCT             | Update of tables and references |