

Policy Number

IP07

Title of Policy

Viral Haemorrhagic Fevers Policy

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Attachment 1 – [Risk Assessment ALGORITHM](#)

Attachment 2 – [Management of a patient ‘possibility of VHF’](#)

1.0 Policy Statement (Purpose / Objectives of the policy)

This policy directs what RWT staff should do on the identification, risk assessment, control of infection and options for isolation of viral haemorrhagic fever in the UK. This now includes isolation of VHF infection within a High Level Isolation Unit (HLIU).

In adhering to this Policy, all applicable aspects of the Conflicts of Interest Policy must be considered and addressed. In the case of any inconsistency, the Conflict of Interest Policy is to be considered the primary and overriding Policy.

2.0 Definitions

A Viral Haemorrhagic Fever (VHF) is a severe, life-threatening multi organ disease in which the vascular system is damaged. The disease is accompanied by varying degrees of haemorrhage. VHF's are endemic in parts of Africa, South America, Middle East and Eastern Europe.

- Healthcare Worker - a person who delivers health care and may be exposed to risk during the course of their duties.
- Vector - any living agent that acts as an intermediate carrier or alternative host for a pathogenic organism and transmits it to a susceptible host.
- Standard Precautions - a set of precautions used to minimise risk of transmission of infection from a patient.
- Endemic - occurring in a specific population or physical area.

3.0 Accountabilities

Staff must comply with infection prevention and control standards including the use of personal protective equipment and hand hygiene to protect themselves and others.

Persistent noncompliance with any element will result in a disciplinary process.

4.0 Policy Detail

Environmental conditions in the UK do not support the natural reservoirs of vectors of any of the Haemorrhagic Fever viruses, therefore only people who have travelled to an area where they are endemic or who have been exposed to a person or animal with VHF, or who have worked in a laboratory are at risk of infection.

VHF's are of Public Health importance because:

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

Intended users of this guidance

- Healthcare staff in emergency portals, infectious disease departments, Infection Prevention and Microbiology;
- Ambulance staff who may be required to transport a patient in whom VHF is confirmed or is considered a 'possibility' or 'high possibility';
- Those working in laboratories dealing with specimens from patients in whom VHF is confirmed or considered to be a 'possibility' or 'high possibility';
- Public Health professionals who may be required to carry out public health actions associated with a VHF case;
- Mortuary and funeral personnel who may need to deal with a VHF case.

The main routes of transmission of VHF infection are by direct contact through broken skin or mucous membrane with blood or body fluids or by indirect contact with a contaminated environment from spillages, splashes and droplets of blood or bodily fluids.

There is no evidence of aerosol transmission risk known at this time.

This policy covers the need for risk assessment; control of infection; options for isolation of people with VHF in the UK.

This now includes isolation of people with VHF infection within a High Level Isolation Unit (HLIU).

Type of VHF

This guidance only covers those VHF's that are caused by pathogens classified as Advisory Committee on Dangerous Pathogens (ACDP) Hazard Group 4.

The ACDP Hazard Group 4 viral haemorrhagic fevers viruses	
ARENAVIRIDAE	BUNYAVIRIDAE
<u>Old World arenavirus</u>	<u>Nairoviruses</u>
Lassa	Crimean Congo haemorrhagic Fever
Lujo	
<u>New World arenaviruses</u>	FLAVIVIRIDAE
Chapare	Alkhurma haemorrhagic fever_
Guanarito	Kyasanur forest disease
Junín	Omsk haemorrhagic fever
Machupo	FILOVIRIDAE
Sabiá	Ebola
	Marburg

In order to identify if a patient may be infected with VHF a risk assessment **must** be completed by the Emergency Department admitting physician using the VHF Risk Assessment ALGORITHM ([Attachment 1](#)).

This VHF Risk Assessment can also be found in Section 2: *Patient Risk Assessment in Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence* (DH 2015).

The risk assessment is a legal obligation to determine:

- If a febrile patient with a travel exposure history within 21 days may be infected;
- The level of staff protection and management of the patient. The risk to staff may change over time, depending on the patient's symptoms, diagnostic test results, and information received.

The risk assessment must be read by the Lead Clinician. The Consultant Microbiologist must be informed. This must be standard practice for emergency portals receiving patients who have fever (>38°C) or a history of fever within 24 hours and either a relevant travel history to an area where VHF's are endemic or possible exposure to a VHF within the last 21 days.

The Algorithm deals with:

- Management of the patient;
- Diagnostic testing;
- Level of staff protection.

Standard infection prevention precautions are paramount to ensure staff are not put at risk whilst the initial risk assessment is completed. It is assumed that standard precautions are integral to current practice.

VHF Risk Category – ALGORITHM

- Highly unlikely.
- Possibility.
- High possibility.
- Confirmed.

If a patient is suspected of having VHF, contact the Consultant Microbiologist immediately see guidance in ([Attachment 2](#)).

VHF screen results

1. **If the VHF screen is positive**, a number of urgent actions must be undertaken – see Section 5: *Management of a positive VHF screen in Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence* (DH 2015).
2. **If the VHF screen is negative**, the suspicion of VHF must be maintained until an alternative diagnosis is confirmed or the patient has been afebrile for 24 hours. The patient must remain isolated in a single side room and the infection control

measures, including staff protection, must be maintained until an alternative diagnosis is confirmed.

5.0 Financial Risk Assessment

1	Does the implementation of this policy require any additional Capital resources	No
2	Does the implementation of this policy require additional revenue resources	No
3	Does the implementation of this policy require additional manpower	No
4	Does the implementation of this policy release any manpower costs through a change in practice	No
5	Are there additional staff training costs associated with implementing this policy which cannot be delivered through current training programmes or allocated training times for staff.	No
	Other comments	

6.0 Equality Impact Assessment

There are no adverse effects of this policy to any specific ethnic or diverse group.

7.0 Maintenance

The Infection Prevention Team will be responsible for the maintenance and review of this policy in accordance with national guideline and best practice every 3 years.

8.0 Communication and Training

8.1 Training in this policy will be provided by the Infection Prevention Team via the Trust intranet and existing mandatory update sessions.

8.2 Changes to the policy will be widely promoted through the organisation.

8.3 The revised policy will be available on the Trust Intranet.

9.0 Audit Process

Criterion	Lead	Monitoring method	Frequency	Committee / Group
If a suspected Case were reported	Infection prevention DIPC	Audit	If a suspected case were reported	IPCG

10.0 References

Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH 2015).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/534002/Management_of_VHF_A.pdf

Viral haemorrhagic fevers: epidemiology, characteristics, diagnosis and management. Guidance for viral haemorrhagic fevers (VHFs) including Ebola, Marburg, Lassa and Crimean-Congo haemorrhagic fevers (PHE 2016).

<https://www.gov.uk/government/collections/viral-haemorrhagic-fevers-epidemiology-characteristics-diagnosis-and-management#history>

Viral haemorrhagic fever: sample testing advice (PHE 2016).

Viral haemorrhagic fevers: origins, reservoirs, transmission and guidelines (PHE 2016).

Viral haemorrhagic fever: ACDP algorithm and guidance on management of patients (PHE 2015).

Lassa fever: origins, reservoirs, transmission and guidelines (PHE 2018).

Ebola: overview, history, origins and transmission (PHE 2017).

Ebola and Marburg haemorrhagic fevers: outbreaks and case locations (PHE 2018).

Crimean-Congo haemorrhagic fever: origins, reservoirs, transmission and guidelines (PHE 2016).

Part A - Document Control

<p>Policy number and Policy version:</p> <p>IP07 Version 4.0</p>	<p>Policy Title</p> <p>Viral Haemorrhagic Fevers Policy</p>	<p>Status:</p> <p>Final</p>		<p>Author: Infection Prevention Nurse</p> <p>Director Sponsor: Chief Nurse</p>
<p>Version / Amendment History</p>	<p>Version</p>	<p>Date</p>	<p>Author</p>	<p>Reason</p>
	<p>1</p>	<p>October 2012</p>	<p>Carolyn Wiley IPN</p>	<p>New Guidance</p>
	<p>2</p>	<p>October 2015</p>	<p>Claire Hayward IPN</p>	<p>Update</p>
	<p>3</p>	<p>July 2018</p>	<p>Nurse Manager Infection Prevention</p>	<p>Review Date</p>
<p>4</p>	<p>July 2021</p>	<p>Senior Infection Prevention Nurse</p>	<p>Review Date</p>	
<ul style="list-style-type: none"> • Intended Recipients: Healthcare staff in emergency portals, infectious disease departments, infection prevention and microbiology. • Ambulance staff who may be required to transport a patient in whom VHF is confirmed or is considered a ‘possibility’ or ‘high possibility’; • Those working in laboratories dealing with specimens from patients in whom VHF is confirmed or considered to be a ‘possibility’ or ‘high possibility’; • Public Health professionals, including those in Port Health Authorities, who may be required to carry out public health actions associated with a VHF case; Mortuary and funeral personnel, who may need to deal with a VHF case 				
<p>Consultation Group / Role Titles and Date: Management of Hazard Group 4 - Viral Haemorrhagic fevers and similar human infectious diseases of high consequence (DH/HSE November 2015).</p> <p>Director of Infection Prevention/IPCG</p> <p>IP Team</p> <p>Emergency Services Group</p>				

Name and date of Trust level group where reviewed	IPCG July 2018 Trust Policy Group – October 2021
Name and date of final approval committee	Trust Management Committee - October 2021
Date of Policy issue	November 2021
Review Date and Frequency (standard review frequency is 3 yearly unless otherwise indicated)	3 yearly – October 2024
<p>Training and Dissemination: This policy will be launched onto the IP Policy suite on Trust internet</p> <p>Senior managers will be informed at the Senior Nurse Group, Matron Group and IPCG. Staff will be informed of the IP policy suite at induction.</p> <p>To be read in conjunction with: Standard Precautions IP 12</p> <p>Hand Hygiene IP 01 Glove Policy IP 09</p> <p>Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH/HSE 2015).</p>	
<p>Initial Equality Impact Assessment (all policies): Completed Yes Impact assessment (as required): Completed Yes If you require this document in an alternative format e.g., larger print please contact Policy Administrator8904</p>	
Monitoring arrangements and Committee	IPCG
<p>Document summary / key issues covered:</p> <p>Viral Haemorrhagic Fevers (VHF's) are life threatening viral diseases that are endemic in parts of Africa, South America, Middle East and Eastern Europe.</p> <p>Environmental conditions in the UK do not support the natural reservoirs. VHF's are readily spread and require immediate detection and infection control precautions if suspected.</p> <p>In the UK only persons who have travelled to an area where VHF's occur or who have been exposed to an infected animal or person or who worked in a laboratory are at risk.</p> <p>How to carry out a full assessment for suspected viral Haemorrhagic fever</p> <p>Management of a patient categorized as 'Possibility of VHF'</p> <p>N.B</p> <p>Use this policy in conjunction with DOH 2015 Management of Hazard Group 4 Viral Haemorrhagic Fevers and similar human infection diseases of high consequence guidance.</p> <p>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/534002/Management_of_VHF_A.pdf</p>	
Key words for intranet searching purposes	

<p>High Risk Policy?</p> <p>Definition:</p> <ul style="list-style-type: none">• Contains information in the public domain that may present additional risk to the public e.g. contains detailed images of means of strangulation.• References to individually identifiable cases.• References to commercially sensitive or confidential systems. <p>If a policy is considered to be high risk it will be the responsibility of the author and director sponsor to ensure it is redacted to the requestee.</p>	<p>No</p>
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Part B

Ratification Assurance Statement

Name of document: Viral Haemorrhagic Fevers Policy IP07

Name of author: Danielle Dain

Job Title: Senior Infection Prevention Nurse

I, Danielle Dain the above named author confirm that:

- The Strategy/Policy/Procedure/Guidelines (please delete) presented for ratification meet all legislative, best practice and other guidance issued and known to me at the time of development of the said document.
- I am not aware of any omissions to the said document, and I will bring to the attention of the Executive Director any information which may affect the validity of the document presented as soon as this becomes known.
- The document meets the requirements as outlined in the document entitled Governance of Trust- wide Strategy/Policy/Procedure/Guidelines and Local Procedure and Guidelines(OP01).
- The document meets the requirements of the NHSLA Risk Management Standards to achieve as a minimum level 2 compliance, where applicable.
- I have undertaken appropriate and thorough consultation on this document and I have detailed the names of those individuals who responded as part of the consultation within the document. I have also fed back to responders to the consultation on the changes made to the document following consultation.
- I will send the document and signed ratification checklist to the Policy Administrator for publication at my earliest opportunity following ratification.
- I will keep this document under review and ensure that it is reviewed prior to the review date.

Signature of Author:

Date:

Name of Person Ratifying this document (Director or Nominee):

Job Title:

Signature:

- I, the named Director (or their nominee) am responsible for the overall good governance and management of this document including its timely review and updates and confirming a new author should the current post-holder/author change.

To the person approving this document:

Please ensure this page has been completed correctly, then print, sign and email this page only to:
The Policy Administrator

Implementation Plan template for Strategy / Policy / procedural documents

To be completed showing all implementation requirements and attached to the policy when submitted to the appropriate committee for consideration / approval.

Title of document:	IP07 Viral Haemorrhagic Fevers Policy		
Reviewing Group	Policy Reader Group		Date reviewed: September 2021
Previous document already in use?	Yes	Implementation lead: Print name and contact details	Kim Corbett Nurse Manager Infection Prevention Ext 88755
If yes, state name, in what format and where located?	IP07 VHF Policy Infection prevention Policy suite on Intranet		
Implementation issues to be considered (add additional issues where necessary)			
Implementation Issue	Action Summary		Action lead / s (Timescale for completion)
Strategy; Consider (if appropriate) 1. Development of a pocket guide of strategy aims for staff 2. Include responsibilities of staff in relation to strategy in pocket guide.	N/A		
Training; Consider 1. Mandatory training approval process 2. Completion of mandatory training form	Included within Induction & Mandatory Training		Infection Prevention Senior Matron October 2021
Development of Forms, leaflets etc; Consider 1. Type 2. Quantity required 3. Where they will be kept / accessed 4. Where stored when completed	N/A		
Strategy / Policy / Procedure communication; Consider 1. Key communication messages from the policy / procedure, who to and how?	Trust wide Intranet Senior Managers Briefing IP link practitioner forums		Infection Prevention Senior Matron October 2021
Financial cost implementation Consider 1. Business case development	N/A		
Other specific Policy issues / actions as required e.g. Risks of failure to implement, gaps or barriers to implementation			

Attachment 1 – VHF Assessment Matrix

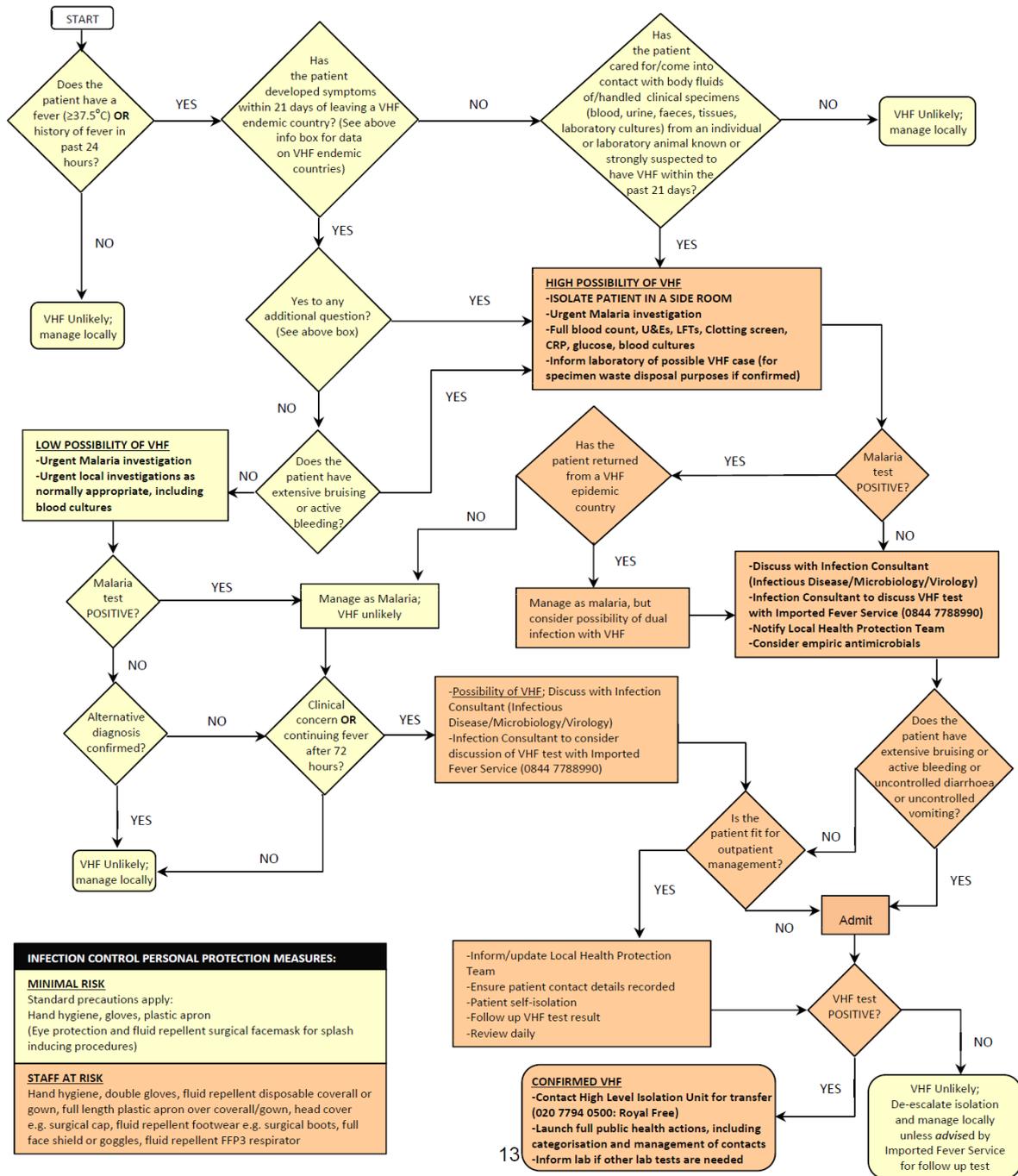
VIRAL HAEMORRHAGIC FEVERS RISK ASSESSMENT (Version 6: 23.07.2015)

VHF ENDEMIC COUNTRIES:

Information on VHF endemic countries can be found at <https://www.gov.uk/viral-haemorrhagic-fevers-origins-reservoirs-transmission-and-guidelines> or see VHF in Africa map at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/365845/VHF_Africa_960_640.png

ADDITIONAL QUESTIONS:

-Has the patient travelled to any area where there is a current VHF outbreak? (<http://www.promedmail.org/>) OR
 -Has the patient lived or worked in basic rural conditions in an area where Lassa Fever is endemic? (<https://www.gov.uk/lassa-fever-origins-reservoirs-transmission-and-guidelines>) OR
 -Has the patient visited caves / mines, or had contact with or eaten primates, antelopes or bats in a Marburg / Ebola endemic area? (<https://www.gov.uk/ebola-and-marburg-haemorrhagic-fevers-outbreaks-and-case-locations>) OR
 -Has the patient travelled in an area where Crimean-Congo Haemorrhagic Fever is endemic (http://www.who.int/csr/disease/cremean_congoHF/Global_CCHFRisk_20080918.png?ua=1) AND sustained a tick bite* or crushed a tick with their bare hands OR had close involvement with animal slaughter? (*If an obvious alternative diagnosis has been made e.g. tick typhus, then manage locally)



INFECTION CONTROL PERSONAL PROTECTION MEASURES:

MINIMAL RISK
 Standard precautions apply:
 Hand hygiene, gloves, plastic apron
 (Eye protection and fluid repellent surgical facemask for splash inducing procedures)

STAFF AT RISK
 Hand hygiene, double gloves, fluid repellent disposable coverall or gown, full length plastic apron over coverall/gown, head cover e.g. surgical cap, fluid repellent footwear e.g. surgical boots, full face shield or goggles, fluid repellent FFP3 respirator

Attachment 2

N.B. Please refer to *Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH 2015)* via

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/534002/Management_of_VHF_A.pdf.

Management of a patient categorised as ‘Possibility of VHF’

NOTE: If a patient is bruised or bleeding, the lead clinician must have an urgent discussion with the nearest High Security Infectious Disease Unit or the local/regional Infectious Disease Unit concerning further management. See Appendix 2 of *Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH 2015)* via link above for contact details.

Patient categorized as ‘possibility of VHF’

- A senior member of the medical team who is responsible for the acute care of the patient must be the lead clinician;
- The patient must be isolated in a single side room immediately;
- Enhanced infection prevention measures appropriate to the patient’s risk category and clinical care procedures must be put in place;
- Instigate urgent malaria screen and continue with local diagnostic investigations as normal;
- If an inpatient who is malaria negative has a continuing fever and relevant travel history without diagnosis the microbiologist must arrange a VHF screen with Imported Fever Service (IFS);
- Contact Local Health Protection Unit;
- If malaria test is positive and the patient has returned from a country affected, then dual infection must be considered and discussed with Microbiologist.

Infection control measures

3. A patient categorized as ‘possibility of VHF’ must be isolated in a single room immediately to limit contact until the possibility of VHF has been ruled out. The side room must have dedicated en-suite facilities or at least a dedicated commode.
4. 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 as follows.

Infection control measures for 'possibility of VHF'	
Patients symptoms	Staff protection
Bruising Bleeding Temperature >38°C	<ul style="list-style-type: none"> • Hand Hygiene • Double gloves • Fluid repellent disposable gown or coverall • Full length plastic apron over gown/coverall • Head cover e.g. surgical cap • Fluid repellent footwear • Full face shield • Fluid repellent FFP3 mask

5. Appendix 8 of the full Department of Health (DH) guidance document via link gives further detailed information on Personal Protective Equipment (PPE) including respiratory protection.
6. It is recommended that if a patient is bruised or bleeding or has uncontrolled diarrhoea or uncontrolled vomiting, the lead clinician must ensure that VHF testing is carried out and must have an urgent discussion with HLIU concerning patient management and possible transfer to the HLIU. Contact details can be found in Appendix 3 of the full DH document and Appendix 5 for transport information.
7. Single use (disposable) equipment and supplies must be used. The use of a needle-free intravenous system to eliminate the risk of needlestick injuries must also be considered.
8. Guidance on waste, laundry and decontamination and disinfection is provided in detail in Appendix 10 and 11 of the full DH document.
9. Communication with staff about potential infection risks is paramount. Staff must be informed about and understand the risks associated with a VHF patient, in particular the severity of a VHF if infection is confirmed. Staff must also be told that the virus may be present::
 -
 - In blood;
 - In body fluids, including urine;
 - On contaminated instruments and equipment;
 - In waste;
 - On contaminated clothing;
 - On contaminated surfaces.

And that exposure to the virus may occur:

- **Directly**, through exposure (broken skin or mucous membranes) to blood and/or body fluids during invasive, aerosolizing 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 investigation

10. All samples from patients in the 'possibility of VHF' category can be treated as standard samples. URGENT Malaria investigations will be required as well as full blood count, U&Es, LFTs, clotting screen, CRP, glucose and blood cultures. These tests must be performed using CL2 laboratory procedures (details in Appendix 7 of the full DH document). Analysis of specimens must not be delayed whilst awaiting the results of the VHF screens. 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 advised, particularly if the patient has bruising or bleeding.
11. Malaria remains the most likely diagnosis and therefore screening for malaria is most urgent even if the patient has already had a malaria screen performed abroad with a negative result.

Appendix 6 in *Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH 2015)* provides guidance on collecting and handling specimens and the appropriate laboratory procedures for the processing of specimens from a patient categorized as 'possibility of VHF'.

Diagnostic test results and subsequent patient management

Malaria investigation results

12. If the malaria result is positive, treatment for malaria can begin immediately. Up-to-date UK malaria treatment guidelines are available on the PHE website <https://www.gov.uk/government/organisations/public-health-england>
13. The patient may be re-categorized as 'VHF highly unlikely' if they are responding to malaria treatment; however, patients who fail to respond appropriately to antimalarial therapy, particularly if there is the development of further features suggestive of VHF, must be re-evaluated for the possibility of VHF and investigated accordingly.

See Section 2 of *Management of Hazard Group 4 - Viral haemorrhagic fevers and similar human infectious diseases of high consequence (DH 2015)* for information on the management of patient's categorized as 'VHF highly unlikely'.

14. If the malaria result is negative and the patient remains pyrexial (>38°C) and no diagnosis has been made and VHF is still suspected clinically, the case must be discussed with the microbiologist. The microbiologist must then contact the Imported Fever Service to arrange an urgent VHF screen. The Local Health Protection Unit must also be informed at this stage.

See [Appendix 2](#) DH full guidance via link for details of reference laboratory locations and contact numbers. Diagnostic investigations must continue and the patient must be re-assessed at least daily whilst awaiting results.

VHF screen results

- 15. If the VHF screen is positive**, a number of urgent actions must be done to include arranging urgent transfer to HLIU and commence full public health measures outlined in Section 5 of DH full document – *Management of a positive VHF screen*.

If the VHF screen is negative, the possibility of the patient having a VHF infection must be maintained until an alternative diagnosis is confirmed or the patient has been afebrile for 24 hours. The patient must therefore remain isolated in a single side room, and the infection control measures, including staff protection, as outlined in this Section must be maintained until an alternative diagnosis is confirmed.