



PHE Microbiology Services VHF Sample Testing Advice

Access to VHF testing services

Doctors requesting advice on testing samples from possible viral haemorrhagic fever (VHF) cases should contact their local Consultant in Infectious Diseases, Microbiology or Virology in the first instance. If the case merits consideration based on this discussion, the Infection Consultant should contact the Imported Fever Service (IFS) on 0844 7788990. **Access to VHF testing is only available through the IFS.**

VHF testing at the Rare and Imported Pathogens Laboratory (RIPL), PHE Porton, comprises a panel of PCR assays (followed by a geographically-based serological panel) for a number of imported infections that could be the cause of a febrile illness in a returning traveller with possible exposure to a VHF. The presentation of most imported diseases is very similar and it can be very difficult clinically to distinguish between them. The infections covered by the RIPL "extended" VHF PCR panel are listed in the "Tests and Timings" section below.

VHF testing for patients in Scotland is performed by the Scottish National VHF Testing Service (SNVTS) based at the Royal Infirmary of Edinburgh: see <http://www.hps.scot.nhs.uk/travel/viralhaemorrhagicfever.aspx>

The RIPL and Edinburgh laboratories WILL NOT accept samples for urgent VHF testing that have not been discussed with both the local Infection consultant and the IFS.

Please note that 'high possibility' on the ACDP VHF risk assessment algorithm does NOT necessarily mean that there is a high likelihood or probability of VHF infection.

The IFS doctor will:

- discuss the case with the referring Infection Consultant, decide whether testing is required, and make a risk assessment of the *likelihood* that the patient has a VHF infection. They will determine the degree of urgency and the samples to take, and will advise on the best way to transport samples to RIPL. They will also ensure that local laboratory staff can liaise directly with technical staff on packaging, specimen tracking *etc*
- discuss with the local Infection Consultant any immediate treatment to be instituted for likely differential diagnoses, isolation procedures and other investigations that should be undertaken locally and the safety of doing them in the particular case referred
- direct the referring clinician to inform the local health protection team (HPT) of the assessed *likelihood* of VHF infection and the plan for testing
- arrange with laboratory staff at RIPL for the samples to be tested, and define the tests to be undertaken. This will usually include testing for key agents that can masquerade as VHF, where appropriate.

Please note the IFS doctor is unable to give results out via the IFS telephone number. All results are reported by RIPL clinicians.

RIPL clinicians will:

- inform the referring clinician of the results as soon as they are available and advise on the further clinical management of the case (including infection control), as appropriate. (Note that, in many cases, patients will need to remain in isolation pending exclusion of Lassa virus infection.)
- in the event of a positive result, inform the referring clinician of the result first, and request that the clinician inform the rest of their clinical team, laboratory, Infection Prevention and Control team and other key contacts within their trust. The referring clinician will be advised to contact their local HPT immediately and ask the duty CCDC to phone the RIPL clinician. The RIPL clinician will also notify:
 - the clinical team at the Royal Free Hospital High Level Isolation Unit (HLIU)
 - relevant senior PHE staff by email

Samples to take

For VHF testing at RIPL, the minimum samples are:

Serum (4.5 mL serum separation gel tube)

EDTA blood (4.5 mL EDTA tube)

Ideally, a urine sample as well. Testing should not be delayed to obtain a urine sample.

IFS/RIPL clinicians may also advise taking additional samples depending on exposure and presentation of the case, either in parallel with the VHF testing or dependent on the results.

For paediatric samples, the minimum sample is 1 mL of blood for VHF testing (either screw top bottles or vacutainers are acceptable). However, a full imported infections screen at RIPL may not be possible with this amount and a larger volume is still preferred if possible.

Transport and packaging

The IFS clinician will advise on whether samples are to be sent as **category A** or as **category B**. This will depend upon the likelihood of a VHF diagnosis from exposure history and the clinical presentation of the patient.

- Samples must be packaged according to the relevant international guidelines for UN2814 (category A) or UN 3373 (category B). RIPL staff will provide advice to technical staff in the referring hospital on request.
- The RIPL request form can be found here:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/346000/P1_Rare_and_Imported_Pathogens.pdf
- Samples are to be sent to RIPL at Porton Down at the address below
- **Carriage costs are the responsibility of the referring hospital**
- There is no charge for the VHF PCR panel testing at RIPL
- In the majority of cases, the advice will be that samples may be sent as category B

Sending laboratories are asked to provide the testing laboratory with:

- the name of the courier
- the tracking number
- the estimated delivery time at Porton
- a completed request form (see above).

The couriers you can use

You may choose to use a courier known to you but the following organisations are known to provide both Category A and Category B transport.

Courier	Contact Telephone No
Topspeed Couriers	01565 631840 or 0800 856 2464 at any time
PDP Couriers	01784 420 466 at any time
DGI	0208 814 0404

Tests and timings

At RIPL, VHF samples are usually tested for the haemorrhagic fevers present in the area where the patient was potentially exposed, and for other relevant causes of fever.

For the present Ebola virus disease outbreak, RIPL testing by PCR includes, but is not necessarily limited to, the following infections on acute samples: Ebola (multiple assays, as appropriate); Marburg; Lassa fever†; Crimean Congo Haemorrhagic Fever; Dengue; Chikungunya; Rift Valley fever; Rickettsia (generic; covers spotted fevers and typhus group); malaria†; ± leptospirosis. (These are in-house real-time PCRs apart from those marked † which are in-house conventional gel PCRs.)

For all urgent samples, where it has been agreed to process the samples immediately on receipt, Ebola results are normally available within four to six hours of arrival in the laboratories and will be telephoned. At RIPL, the *complete* VHF panel results are usually available within 7-8 hours of arrival but any positives in the other real-time assays are usually available sooner and will be telephoned as soon as they are known.

Neither IFS nor RIPL are responsible for taking samples in the referring hospital, arranging for samples to be packed locally or arranging transport, or for any delays incurred in this process.

Results are telephoned by a RIPL clinician as soon as they are available, and the referring clinical team are ALWAYS informed first. Please do not call the RIPL clinical staff for results out of hours, as we cannot give out results for samples that are still in transit or for tests that are incomplete.

Guidance

The Advisory Committee on Dangerous Pathogens guidance document 'Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence' and the Viral Haemorrhagic Fevers Risk Assessment algorithm can be found at: <https://www.gov.uk/government/publications/viral-haemorrhagic-fever-algorithm-and-guidance-on-management-of-patients>

Contacts

Imported Fever Service: 0844 77 88 99 0

This number automatically routes to the clinician's mobile phone. Please allow time for the connection to be made and for the doctor to answer it.

RIPL on call clinician: 07789 031 672

This also re-routes to the on-call person's phone so allow time.

If all else fails, or to contact RIPL laboratory technician: 01980 612 100

PHE Porton switchboard will ensure that someone gets back to you.

Testing laboratory address

Rare and Imported Pathogens Laboratory

PHE Porton
Manor Farm Road
Porton Down
Wiltshire SP4 0JG

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