Viral Hemorrhagic Fever (e.g. Ebola Virus Disease) Standard Operating Procedures for Type 1 Sites

To be used along with site specific guidelines found at www.ipac.vch.ca . Please see the website for the most current versions; updates are made without notification.

Contents

1.0 Definition

VHF is a serious, frequently fatal, viral syndrome caused by many different viral pathogens. Some of these infections are communicable and can be easily spread from person to person, particularly in healthcare settings. Initial symptoms are often non-specific and include high fever, myalgia, headache, pharyngitis, diarrhea, vomiting, and chest pain. Later signs are more specific to VHF, such as conjunctivitis, petechiae, morbilliform rash and progression to hemorrhagic shock and end-organ damage. This document is based on the VGH Viral Hemorrhagic Fever Standard Operating Procedure (2015) and the BC Office of the Provincial Health Officer guidelines.

2.0 Provincial Response Measures

Since 2014, strategies have been developed to manage potential cases of VHF arriving in British Columbia and can be found on the *BC Office of the Provincial Health Officer (PHO)* site.

The BC Office of the PHO has defined three levels of facility types and roles to care for possible cases of VHF:

1. A *Type One* facility must be prepared to assess, isolate, stabilize and transfer.
2. A *Type Two* facility must be prepared as above, and additionally, to perform initial testing and provide necessary care and treatment while VHF is ruled out.
3. A *Type Three* is able to accept any suspect or confirmed cases from Type One or Two facilities, and provide ongoing diagnostics and care through to resolution.

Any highly suspect cases should be transferred directly to a Type Three facility, in consultation with an expert risk assessment team (typically includes the Medical Health Officer, Medical Microbiology, and Infectious Diseases). Acute care facility designations can be found on the PHO site, *Roles of Provincial Facilities for Care of Persons Under Investigation or Confirmed Ebola Virus Disease Patients*, as can the *B.C. Ebola Virus Disease Transportation Policy*.

3.0 Overview Triage, Patient Placement and Notification (Also see site specific guidelines – links provided below)

Each Type One facility must be prepared to set up temporary biocontainment as outlined by the PHO document (*Recommendations for Environmental Services, Biohazardous Waste Management, and Food and Linen Management for Ebola Virus Disease*), while transfer to a Type Two or Three facility is arranged. The patient must be accommodated in a private room, preferably with an attached but separate bathroom. In room toilets must not be used. A clean room is a designated clean space where the donning of PPE occurs under the supervision of the trained observer. This is an admission-restricted clean zone, which is set up and prepared by nursing staff. Clean PPE will be stored in this area. The designated exit room or exit space is outside the patient room, and is used for the doffing of PPE. The exit space should be immediately adjacent to the patient room and of adequate size to allow for safe doffing procedures, the presence of the Assistant, the designated biohazardous waste drum, and the necessary supplies (a minimum of unobstructed 7 feet by 7 feet). The environment should allow the observation of the healthcare provider throughout the process: donning the personal protective equipment (PPE), providing patient care, and doffing the PPE.
If a potential VHF case is identified prior to arrival at the Emergency Department, preparations can be made ahead of time to prepare the isolation room and admit the direct the patient to the room with minimal exposure to other patients and staff. If a patient is identified at triage or on a patient unit, site specific algorithms and Standard Operating Procedures (***LGH***, ***UBCH***, ***SGH***, ***SH***, ***PRGH***) must be followed.

4.0 Staffing

Caring for a potential VHF patient will dramatically increase the staffing needs of the department. Care staff must be dedicated to the suspect patient, as well as a Trained Observer and a Doffing Assistant (see "Personal Protective Equipment"). The number of healthcare workers (HCWs) entering the patient room must be kept to an absolute minimum, and will be restricted to physicians, registered nurses, and respiratory therapists who have been trained in the donning and doffing procedures of the high level PPE. A log must be kept of all persons entering the room and their contact information.

Staff caring for patients with suspect or known VHF should self-monitor for symptoms on a daily basis. This must include a daily temperature and immediate reporting of the development of any symptoms suggestive of infection to both Workplace Health (WH) and Medical Health Officer (MHO). See *British Columbia Ebola Virus Disease (EVD) Contact Investigation and Management Guideline* and *FAQ for Health Authority Staff and Healthcare Workers* for more information.

5.0 Personal Protective Equipment (PPE)

Every person entering the patient room must wear appropriate PPE including:

- Scrubs (disposable if available, non-disposable scrubs will be discarded)
- Fluid impermeable leg and foot coverings inside rubber boots (preferred) **OR** Healthcare appropriate footwear and fluid impermeable leg and foot coverings
- Long-sleeved, cuffed, fluid-impermeable gown that provides sufficient overlap across the back, and long enough to provide overlap with foot and leg coverings
- Fluid impermeable surgical hood
- Face shields – full face shield
- Fit-tested N95 respirator
- Double gloves – long cuff gloves, first pair under and second pair over gown

Every access into the patient room requires three people, the HCW, Trained Observer, and Donning and Doffing Assistant. Each individual has different roles and responsibilities to ensure safe PPE donning and doffing, and must be trained to fulfill these roles. Every effort should be made to assign individuals to each of these roles, however it is recognized that local resources may require one person to perform both the Trained Observer and Assistant roles.

a) The HCW
   - Follows the direction of the Trained Observer to safely don and doff PPE
   - Must have recent respirator fit test
   - Reports and follows up any breach
   - Sign “Contact List” daily

b) The Trained Observer (could be an Infection Preventionist [IP], Educator, or other trained RN/RT)
   - Does not wear PPE
   - Guides HCW (and Assistant) in correct donning and doffing procedures using the *Healthcare Worker - Checklist for Donning/Doffing Personal Protective Equipment (PPE)*. Paper copies also available with biocontainment PPE supplies
   - Maintains a minimum of 2 meters, preferably behind a barrier, when guiding HCW in doffing procedure
   - Monitors HCW while in patient room providing care
   - Documents critical or time sensitive nursing interventions and findings in the patient’s chart as necessary
   - Completes documentation of *Contact Sign In Sheet* and PPE checklists.

- Sends completed forms to **Provincial Workplace Health Call Centre-OHN at 604-953-5138**

c) The Donning and Doffing Assistant (could be IP, Educator, or other trained RN/RT)
   - Supports the HCW by ensuring all supplies are set up and ready
   - Prepares to assist HCW doff PPE wearing appropriate PPE as outlined in *Doffing Assistant – Checklist for Donning/Doffing Personal Protective Equipment (PPE)*.

6.0 Assessment and Care/Diagnostics/Waste Management

- Patient must not leave their room for any reason
- Staff entering the room will be severely restricted - no residents, medical students, or students of any kind are allowed to provide care
- Patient may use a separate but attached toilet with door closed, or commode/bedpan with Hygie products. Avoid use of in-room toilet or bed pan decontaminator.
- All patient waste to be disposed of in blue drums (required) or red 20 liter pails (until blue drums available)
- Disposable meal trays must to used
- Disposable temperature probes should be used
- Minimal equipment to be brought into patient room – any equipment in the care space must remain in the room (or quarantine area) until testing results for the pathogen of concern are known
- Bed linens should be managed in a manner that minimizes risk of aerosolization
- Emergency physician (EP) will initiate a thorough assessment of the patient's risk for the pathogen of concern and /or other communicable infections and consult with the Medical Health Officer and the expert risk assessment team with respect to on-going patient management and diagnostics
- HCWs should always try to group tasks in order to minimize frequency of donning and doffing
- All procedures must be limited to those strictly necessary and in consultation with Medical Microbiologist. Only the most experienced personnel available should perform bronchoscopy and intubation procedures, and the number of HCWs in the room kept to a minimum. Avoid the use of CPAP and BiPAP.
- If risk for VHF is confirmed, prepare for patient transport by contacting the Patient Transfer Network under the direction of the MHO and Infection Preventionist (IP)/Medical Microbiologist.
- Equipment and waste must be quarantined in locked secure area while ruling out high consequence pathogen. Movement of waste to be coordinated with IP and Environmental Services (EVS) in accordance with PHO document, *Recommendations for Environmental Services, Biohazardous Waste Management, and Food and Linen Management for Persons Under Investigation and Confirmed Cases of Ebola Virus Disease* (SOP #11) (page 46).

7.0 Visitors

No visitors will be allowed in the patient room. Every effort should be made to assist a designated family member or support person to communicate with their loved one via electronic devices. Exceptions may be made in consultation with the MHO and IPAC.

8.0 Specimen Collection and Processing

No diagnostics will be performed at Level 1 sites. No blood work or imaging will be done, the focus is on stabilizing the patient and preparing for transfer.

9.0 Environmental Cleaning

Standard hospital disinfectants that have a virucidal claim can be used to clean the environment of suspect or confirmed VHF patients. Disinfectants must not be sprayed during the cleaning process. Rooms will be cleaned and disinfected with accelerated hydrogen peroxide (Accel Intervention) as outlined by the PHO document, *Recommendations for Environmental Services, Biohazardous Waste Management, and Food and Linen Management for Persons Under Investigation and Confirmed Cases of Ebola Virus Disease*. Note: Routine room cleaning will be the responsibility of HCWs caring for the patient, Environmental Services will be responsible for areas occupied prior to admission to the isolation space (i.e. triage), and on discharge/transfer.

Spill Clean Up protocols can be found in the PHO document, Standard Operating Procedure #10 (page 42).

10.0 Transfers

In consultation with the MHO, the Patient Transfer Network (PTN) will arrange transfer of care and transport to a Type 2 or 3 Facility. A specialized BC Emergency Health Services (BCEHS) crew will perform the transfer and collect the patient from the hallway outside of patient room into their isolation pod stretcher, using the following procedures. If regular stretcher is used, patient to wear a surgical mask and be covered by a clean sheet. Restrict all hallway access during transfer activity.

Ambulatory Patient Transfer Procedure:

a) Position BCEHS stretcher outside patient room (as close to the exit door as possible), ensure all BCEHS staff are donned in PPE.
b) The patient will exit the room and transfer independently onto the stretcher.

Non-Ambulatory Patient Transfer Procedure:

a) Position BCEHS stretcher outside patient room, ensure all BCEHS staff are donned in PPE.
b) Position an incontinence pad outside the door to patient room. Soak with accelerated hydrogen peroxide.
c) The bedside RN will wipe all plastic and metal surfaces of the ED stretcher using accelerated hydrogen peroxide wipes.

d) The RN will open the door of the patient room to the hallway, and roll the front two wheels of the stretcher onto the accelerated hydrogen peroxide saturated mat.
e) The BCEHS staff will wipe the exposed surface of both wheels of the ED stretcher using accelerated hydrogen peroxide wipes.
f) After a one minute contact time with the mat, the bedside RN will push the second set of stretcher wheels out onto the mat, where again, the BCEHS staff will wipe the exposed portion of the wheels using accelerated hydrogen peroxide wipes.
g) After another one minute of contact time with the accelerated hydrogen peroxide saturated mats, the BCEHS staff will roll the ED stretcher adjacent to their stretcher, and transfer the patient.
h) Once transferred, the BCEHS staff will return the ED stretcher to the patient room where the bedside nurse will pull it back into the room, and close the door.

11.0 Stand Down and Decontamination

Office of the Provincial Health Officer guidelines can be found in "*Recommendations for Isolation Precaution Step Down and Discharge of Persons Under Investigation or Confirmed Ebola Virus Disease Patients*". Staff can "stand down" when suspect patient is transferred out of area or if VHF has been ruled out by the expert risk assessment team.

a) If patient has been transferred out:

- □ Dispose of all waste (eg. IV bags and tubing, securely closed sharps container, suction equipment, linens) in blue biohazardous waste drum (filled no more than ¾ full)
- □ Wipe all visibly contaminated surfaces with Accel Intervention wipes
- □ Notify the Housekeeping Supervisor for VHF terminal clean.
- □ Once notified by Housekeeping that the VHF terminal clean complete, do a walk-through of with the housekeeping supervisor and Infection Control, to ensure that EVD clean has been completed appropriately.
- □ Notify management as per site specific SOPs, "Notification" (***LGH***, ***UBCH***, ***SGH***, ***SH***, ***PRGH***)
- □ After VHF clean is complete: remove all signs and clean supplies specific to VHF, ensure carts are restocked

b) If VHF has been ruled out:

- □ Notify management as per site specific SOPs, "Notification" (***LGH***, ***UBCH***, ***SGH***, ***SH***, ***PRGH***)
- □ All equipment and waste can be managed as per usual IPAC guidelines

12.0 Management of Exposures

A potential exposure occurs whenever a breach in PPE or procedure occurs (i.e. torn glove, gap in PPE resulting in exposed skin, percutaneous or mucocutaneous exposure to body fluids, error in doffing PPE). The following procedure must be followed for any suspected breach:

1. Go to designated doffing area immediately. Remain calm and work slowly through each step outlined in this document.
2. Work with Trained Observer to remove PPE as per the step-by-step instructions for doffing.
3. If exposed area is intact skin, wash the affected area well with soap and water.
4. If exposed area is damaged skin, mucous membrane or eye, flush the area with generous amounts of water.
5. If a percutaneous injury occurs, do not promote bleeding by squeezing the wound and do not soak the wound in bleach or disinfectant. Wash the area with soap and water.
6. Immediately report to the MHO and WH.

    - Notify the Medical Health Officer (604-675-3900) after-hours reporting is via pager at (604-527-4893).
    - Notify the Workplace Health Call Centre (1-866-922-9464). Note: If the HCW is medically unable or in quarantine, the immediate supervisor will make the call.

14.0 Handling of Human Remains

VCH Guideline for the Management of Human Remains

B.C. Ebola Virus Disease Guidelines for the Management of Human Remains