World Health Organization

INTERIM GUIDANCE

Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Haemorrhagic Fever in Health-Care Settings, with Focus on Ebola

December 2014

WHO/HIS/SDS/2014.4Rev.1.

Contents

Acknowledgements

WHO staff and consultants associated with this update of the WHO 2008 *"Interim Infection Control Recommendations for Care of Patients with Suspected or Confirmed Filovirus (Ebola, Marburg) Haemorrhagic Fever"* are:

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Key messages for infection prevention and control to be applied in health-care settings

- Strengthen and carefully apply standard precautions when providing care to ALL patients regardless of the signs and symptoms they present with.
- Isolate suspected or confirmed hemorrhagic fever (HF) cases in single isolation rooms or cohort them in specific confined areas while rigorously keeping suspected and confirmed cases separate. Assure restricted access and dedicated equipment to these areas.
- Exclusively assign clinical and non-clinical personnel to HF patient care areas.
- Prior to entering the patient isolation rooms/areas, ensure that all visitors and health workers rigorously use personal protective equipment (PPE) and perform hand hygiene as indicated in this document. PPE should include double gloves, gown or coverall and apron, face mask, eye protection (goggles or face shield) head cover, and boots.
- Ensure safety of injections and phlebotomy procedures and management of sharps.
- Ensure regular and rigorous environmental cleaning, decontamination of surfaces and equipment, management of soiled linen and of waste as indicated in this document.
- Ensure safe processing of laboratory samples from suspected or confirmed patients with HF.
- Ensure that the infection prevention and control measures indicated in this document are followed while handling dead bodies or human remains of suspected or confirmed patients with HF for post-mortem examination and burial preparation.
- Promptly evaluate, care for, and if necessary, isolate health workers or any person exposed to blood or body fluids from suspected or confirmed patients with HF.

Introduction

This document provides a summary of infection prevention and control (IPC) measures for those providing direct and non-direct care to patients with suspected or confirmed cases of Filovirus haemorrhagic fever (HF), including Ebola or Marburg haemorrhagic fevers, in health-care facilities (HCFs). It also includes some instructions and directions for those managing the implementation of IPC activities. These IPC measures should be applied not only by health-care professionals but by anyone in direct contact with patients (e.g., visitors, family members, volunteers), as well as by those not in contact with patients but potentially exposed to the virus through contact with the environment (e.g., cleaners, laundry, housekeepers, security).

This document represents an update of the WHO 2008 *"Interim Infection Control Recommendations for Care of Patients with Suspected or Confirmed Filovirus (Ebola, Marburg) Haemorrhagic Fever".* This update is based upon review of WHO and other international reference documents being used and published during the current Ebola outbreak (see references) and consensus from international experts.

Ebola virus disease is a severe illness caused by Ebola Filovirus (http://www.who.int/csr/disease/ebola/en/). It is highly infectious, rapidly fatal, with a high mortality rate, ***but it can be prevented***. It is spread through ***direct contact*** with body fluids (blood, stool, vomit, saliva, urine, sperm, etc.) of an infected person and by contact with contaminated surfaces or equipment, including linen soiled by body fluids from an infected person. The Ebola virus can be eliminated from the environment with heat, alcohol-based products, and sodium hypochlorite (bleach) or calcium hypochlorite (bleaching powder) at appropriate concentrations. It is also susceptible to a wide range of commonly used disinfectants, including aldehydes, halogens, peroxides, phenolics, and quaternary ammonium compounds.

If carefully implemented, IPC measures will reduce or stop the spread of the virus and protect health workers and others. It is advised that in the affected area(s), a subcommittee for clinical case management be established;[1] as part of this committee, a coordinator(s) should be named to oversee adherence to the IPC measures in each HCF and acts as a focal person to coordinate activities and advise. If available, this person should be the professional in charge of IPC in the HCF.

Case identification and detection, contact tracing and patient clinical assessment and management are not the object of this Guidance document and instructions for these activities can be found elsewhere.[1, 2] However, regarding IPC measures to be implemented during interviews for contact tracing and case finding in the community, the following principles should be kept in mind: 1) shaking hands should be avoided; 2) a distance of more than one metre (about 3 feet) should be maintained between interviewer and interviewee; 3) PPE is not required if this distance is assured and when interviewing asymptomatic individuals (e.g., neither fever, nor diarrhoea, bleeding or vomiting) and provided there will be no contact with the environment, potentially contaminated with a possible/probable case; and 4) it is advisable to provide workers undertaking contact tracing and case finding in the community with alcohol-based handrub solutions and instructions to appropriately perform hand hygiene.

1. General patient care in any health-care facility

Strengthen and carefully apply ***standard precautions***[2-4] (Annex 1) when providing care to ALL patients regardless of the signs and symptoms they present with. This is especially important because the initial manifestations of HF may be non-specific. Hand hygiene is the most important measure. Gloves should be worn for any contact with blood or body fluid. Medical mask and goggles or face shield should be used if there is any potential for splashes of blood or body fluids to the face, and cleaning of contaminated surfaces is paramount.

During HF outbreaks, each health-care facility in high-transmission affected areas should have a dedicated and well equipped triage area at the entrance, to identify any potential HF case seeking care in the facility. This area should be staffed with professionals (e.g. doctor or nurse) trained on basic IPC principles and specific precautions for HF and on the use of a standard algorithm to identify HF cases. Staff in the triage area should wear a scrub suit, a gown, examination gloves and a face shield. The area should be large enough to keep the patient at a 1-metre distance at least and should be equipped with an easily accessible hand hygiene facility (either alcohol-based handrub dispensers or a sink or a bucket with faucet containing water, liquid soap and single-use towels), thermometer, bin with lid and infectious waste plastic bags, a sharps' container (if rapid diagnostic test for malaria or any other similar practice is meant to be performed here). The hand hygiene technique posters and the standard triage algorithm to identify HF cases should be clearly displayed in this area. Triage staff should follow a 'no touch' process when interviewing the patient. A distance of at least one metre (3 feet) should be kept from the patient at all times, whenever possible.

2. Direct patient care (for suspected or confirmed patients with haemorrhagic fever)

Patient placement, staff allocation and visitors

- Put suspected or confirmed cases in single ***isolation rooms*** with an adjoining dedicated toilet or latrine, showers, sink equipped with running water, soap and single-use towels, alcohol-based handrub dispensers, stocks of personal protective equipment (PPE), stocks of medicines, good ventilation, screened windows, doors closed and restricted access,[5] if isolation rooms are unavailable, ***cohort*** these patients in specific confined areas while rigorously ***keeping suspected and confirmed cases separate*** and ensure the items listed here for isolation rooms are readily available. Make sure that there is at least 1 metre (3 feet) distance between patient beds.
- Ensure that clinical and non-clinical personnel are assigned exclusively to HF patient care areas and that members of staff do not move freely between the HF isolation areas and other clinical areas during the outbreak.
- Restrict all non-essential staff from HF patient care areas.
- Stopping visitor access to the patient is preferred, but if this is not possible, limit their number to include only those necessary for the patient's well-being and care, such as a child's parent.
- Do not allow other visitors to enter the isolation rooms/areas and ensure that any visitors wishing to observe the patient do so from an adequate distance (approximately 3 metres or 9 feet).
- Before allowing visitors to HF patients to enter the HCF, screen them for signs and symptoms of HF.

Hand hygiene, personal protective equipment and other precautions

- Ensure that all visitors use PPE and perform hand hygiene as indicated below and are provided with related instructions (Annexes 2, 3, 4) [2, 5, 6, 7, 8] prior to entry into the isolation room/area.
- Ensure that all health workers (including aides and cleaners) wear PPE (Annexes 2, 3, 4) before entering the isolation rooms/areas and having contacts with the patients and/or the environment.
- Personal clothing should not be worn for working in the patient areas. Scrub or medical suits should be worn.

- ***Carefully apply the following precautions***[3-9] to avoid any possible unprotected direct contact with blood and body fluids when providing care to any patient with HF, including suspected cases:

  1. Perform ***hand hygiene***:
     - before donning gloves and wearing PPE on entry to the isolation room/area,
     - before any clean/aseptic procedures being performed on a patient,
     - after any exposure risk or actual exposure with the patient's blood and body fluids,
     - after touching (even potentially) contaminated surfaces/items/equipment in the patient's surroundings, and
     - after removal of PPE, upon leaving the care area.

     Hand hygiene should be performed within the isolation rooms/areas every time it is needed according to the above indications during care to a patient, along with change of gloves. When caring for patients in the same room, it is essential to complete the care to each patient before moving to the next one, and to perform glove disinfection and change outer gloves and perform hand hygiene between each patient. WHO suggests the following 2-step procedure to facilitate changing gloves safely while providing clinical care for patients with filovirus disease: 1) disinfect the outer gloves before removing them safely and 2) keep the inner gloves on and disinfect them before putting on a fresh outer pair.[5] Neglecting to perform hand hygiene during and after PPE removal (Annex 2) will reduce or negate any benefits of the protective equipment.

     To perform hand hygiene, either use an ***alcohol-based handrub or soap and running water*** applying the correct technique recommended by WHO (Annex 3).[6] Always perform hand hygiene with soap and running water when hands are visibly soiled. Alcohol-based handrubs should be made available at every point of care (at the entrance and within the isolation rooms/areas) and are the standard of care. However, if alcohol-based handrubs are unavailable, perform hand hygiene with soap and running water every time necessary according to the above indications. In settings where bleach/chlorine solutions are currently used for hand hygiene, WHO recommends implementing a strategy to change to alcohol-based handrub or soap and water. Bleach/chlorine solutions currently in use for hand hygiene and glove disinfection can be used in the interim period in emergency situations until alcohol-based handrubs or soap and water become available.[6] Alcohol-based handrubs can be produced locally at the national or HCF level by following the WHO recommendations and instructions (Annex 5).[10]

  2. Before entering the isolation rooms/areas, put on the following full set of ***PPE*** [5, 11] in dedicated changing zone and according to the sequence indicated in Annex 2:
     - ***Double gloves*** (non-sterile examination gloves) which should be correctly sized; nitrile gloves are preferred (Annex 3). The outer glove should preferably have a long cuff, reaching well above the wrist, ideally to the mid-forearm.[5,8] Consider changing gloves if heavily soiled with blood or any other body fluids while providing care to the same patient (perform careful hand hygiene immediately after removal). Always change gloves and perform hand hygiene immediately after removal, when moving from one patient to another, when caring for patients in the same room.
     - A disposable ***gown*** or ***coverall*** made of fabric that is tested for resistance to penetration by blood or body fluids or to blood-borne pathogens to cover clothing and exposed skin.