

**Announcement on:**

**Surveillance of viral hemorrhagic fever and infection control in public and private health care facilities**

**Welcome and Introduction:**

The Preventive Services Center at Dubai Health Authority is grateful for the continuous and joint cooperation of all the health care centers in Dubai for the shared goal of prevention, and control communicable disease. In reference to the above subject

Referring to the above subject, Viral hemorrhagic fever (VHF) is among the important public health emergencies of international concern. The most important viral hemorrhagic fevers in the Eastern Mediterranean Region are Yellow Fever, Rift Valley Fever, Dengue Hemorrhagic Fever, Crimean- Congo Hemorrhagic Fever and Ebola Virus Disease.

The emergence and re-emergence of viral hemorrhagic fevers is growing concern worldwide, as they are associated with occurrence of major epidemic with high case-fatality rates

**الإعلان عن:**

**مراقبة الحمى النزفية الفيروسية والاحتياطات الواجبة لمكافحة العدوى في كافة المنشآت الصحية الحكومية والخاصة في امارة دبي**

**ترحيب ومقدمة:**

يتقدم مركز الخدمات الوقائية بهيئة الصحة بدبي بجزيل الشكر والامتنان للتعاون المستمر والمشارك من جميع مراكز الرعاية الصحية بدبي في سبيل الوقاية والسيطرة والقضاء على الامراض المعدية.

بالإشارة للموضع أعلاه ان الحميات النزفية الفيروسية هي من بين حالات طوارئ الصحة العامة الهامة التي تثير قلقا دوليا. وتعتبر كل من: الحمى الصفراء، وحمى الضنك النزفية، وحمى القرم والكونغو النزفية وحمى ايبولا الاكثر اهمية في اقليم الشرق الأوسط.

ان نشوء الحميات النزفية الفيروسية ومعاودتها للظهور يشكل قلقا متزايدا في جميع انحاء العالم لأنها تتوافق مع حدوث اوبئة رئيسية مع معدل عال للإماتة

لذا يجب على مقدمي خدمات الرعاية الصحية ان يكونوا أكثر يقظة بالتعامل مع الحالات المشتبه بإصابتها بالحمى النزفية الفيروسية وينبغي ان يولوا اهتماما بالناس الأكثر عرضة للإصابة بالفيروسات مثل: الأطباء البيطريين، العاملين في مجال الحيوانات، القصابين والمسافرين الى مناطق موبوءة.

All health care professionals must be more vigilant about managing any suspected viral hemorrhagic fevers, and should pay attention to people at risk of contracting the infection e.g. Veterinarians, animal keepers, butchers and travelers to high-risk areas.

- Viral hemorrhagic fever notifiable according to communicable diseases law (14 for the year 2014). Immediate notification is mandatory to the respective health department.

Immediately notify the respective health department after collect the sample as suspected case. The status to be confirmed on receipt of Lab. Test.

Standard contact and droplet precautions are mandatory for management of patients or dead bodies with known or suspected viral hemorrhagic fever. It is highly important that all health care facilities and healthcare professionals take the appropriate precautions while managing such cases (attached is the CDC recommendations for infection control precautions, Appendix 2).

**Thank you for your cooperation**

**Appendix:**

- 1- Case definition according to World Health Organization
- 2- CDC recommendations for infection control measures

تعتبر الحمى النزفية الفيروسية بجميع انواعها المذكورة اعلاه hemorrhagic viral fever سواء كانت الحالة مشتبه بها او مؤكدة مخبريا من الامراض viral fever الواجب التبليغ عنها فوراً وفق قانون مكافحة الامراض السارية (14 لسنة 2014) وعليه يجب إلزام الاطباء بالتبليغ الفوري للإدارة الصحية المختصة وفق النظام الساري

- الابلاغ الفوري للإدارة الصحية المعنية بعد جمع العينة لحالة صحية مشتبه بها. يتم تأكيد التشخيص بعد استلام الفحوص المخبرية.

-اتخاذ الاحتياطات القياسية واحتياطات مكافحة الامراض المنقولة عن طريق الرذاذ والامراض المنقولة عن طريق التلامس اثناء التعامل مع اي مريض او جثة متوفى مصاب بأعراض الحمى النزفية. يرجى اتباع توصيات مركز مراقبة الامراض CDC لاحتياطات مكافحة العدوى في التعامل مع مثل هذه الحالات (الملحق 2)

شاكرين لكم حسن تعاونكم معنا.

**المرفقات:**

- 1- تعريف الحالة حسب ما ورد من منظمة الصحة العالمية
- 2- توصيات مركز مراقبة الامراض CDC لاحتياطات مكافحة العدوى

## Annex (1)

### **Viral Hemorrhagic Fever (VHF)**

Viral haemorrhagic fever is a general term for a severe illness, sometimes associated with bleeding, that may be caused by a number of viruses. The term is usually applied to disease caused by Arenaviridae (Lassa fever, Junin and Machupo), Bunyaviridae (Crimean-Congo haemorrhagic fever, Rift Valley Fever, Hantaan haemorrhagic fevers), Filoviridae (Ebola and Marburg) and Flaviviridae (yellow fever, dengue, Omsk haemorrhagic fever, Kyasanur forest disease).

### **Clinical Criteria**

An illness with acute onset with ALL of the following clinical findings:

1. A fever  $>40^{\circ}\text{C}$
2. One or more of the following clinical findings:
  - Severe headache
  - Muscle pain
  - Erythematous maculopapular rash on the trunk with some desquamation 3-4 days after rash onset.

- Vomiting o Diarrhea.
- Pharyngitis (arenavirus only).
- Abdominal pain.
- Bleeding not related to injury.
- Retrosternal chest pain (arenavirus only).
- Proteinuria (arenavirus only).
- Thrombocytopenia.

### **Laboratory Criteria for Diagnosis**

One or more of the following laboratory findings:

- Detection of viral hemorrhagic fever (VHF) viral antigens in blood by enzyme-linked Immunosorbent Assay (ELISA) antigen detection
- VHF viral isolation in cell culture for blood or tissues
- Detection of VHF-specific genetic sequence by Reverse Transcription-Polymerase Chain Reaction (RT-PCR) from blood or tissues
- Detection of VHF viral antigens in tissues by immunohistochemistry

### **Epidemiologic Linkage**

One or more of the following exposures within the 3 weeks before onset of symptoms:

- Contact with blood or other body fluids of a patient with VHF
- Residence in--or travel to-a VHF endemic area
- Work in a laboratory that handles VHF specimens
- Work in a laboratory that handles bats, rodents, or primates from endemic areas
- Exposure to semen from a confirmed acute or convalescent case of VHF within the 10 weeks of that person's onset of symptoms.

## Case Classification

### Suspected:

Case meets the clinical and epidemiologic linkage criteria.

### Confirmed:

Case meets the clinical and laboratory criteria.

**Comments:** VHF refers to viral hemorrhagic fever caused by either Ebola, Lassa, Lujo, or Marburg virus, a New World arenavirus, or Crimean-Congo hemorrhagic fever.

Common VHF's Mode of Transmission and the Population at Risk:		
Disease	Transmission	Population
Crimean Congo Fever	<p>Humans can be infected through:</p> <ul style="list-style-type: none"> <li>• Hard tick bites that lives on numerous wild and domestic animals, such as cattle, goats, sheep and hares.</li> <li>• Contact with infected animal blood or tissues during and immediately after slaughter.</li> </ul> <p>Person to person transmission by:</p> <ul style="list-style-type: none"> <li>• Close contact with the blood, secretions, organs or other bodily fluids of infected persons.</li> <li>• Improper sterilization of medical equipment, and contamination of medical supplies.</li> </ul>	<ul style="list-style-type: none"> <li>• Herders, and animal keepers</li> <li>• Farmers,</li> <li>• Slaughterhouse workers,</li> <li>• Butchers, and</li> <li>• Veterinarians</li> <li>• Families and friends in close contact with Crimean Congo patients,</li> <li>• Healthcare providers caring for Crimean Congo patients and laboratory staff with inadequate infection control measures.</li> <li>• People who deal with dead bodies</li> <li>• Travelers to high-risk areas.</li> </ul>
Dengue fever	<p>Humans can be infected through:</p> <p>The bites of infected female of <i>Aedes. aegypti</i> or <i>Aedes albopictus</i> mosquitoes.</p>	Travelers to high-risk areas.
Ebola Fever	<p>Direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with:</p> <ul style="list-style-type: none"> <li>• Blood or body fluids (including but not limited to urine, saliva, sweat, feces, vomit, breast milk, and semen) of a person who is sick with or has died from Ebola,</li> <li>• Objects (like needles and syringes) that have been contaminated with body fluids from a person who is sick with Ebola or the body of a person who has died from Ebola,</li> <li>• Infected fruit bats or primates (apes and monkeys), and</li> <li>• Possibly from contact with semen from a man who has recovered from Ebola (for example, by having oral, vaginal, or anal sex)</li> </ul>	<ul style="list-style-type: none"> <li>• Families and friends in close contact with Ebola patients</li> <li>• Healthcare providers caring for Ebola patients and laboratory staff with inadequate infection control measures.</li> <li>• People who are exposed to infected wildlife for example, in Africa, Ebola may spread because of handling bush meat (wild animals hunted for food).</li> <li>• People who deal with dead bodies</li> </ul> <p>® Travelers to high-risk areas.</p>

Marburg Fever	<p>Person-to-person through:</p> <ul style="list-style-type: none"> <li>• Direct contact to droplets of body fluids from infected persons,</li> <li>• Or contact with equipment and other objects contaminated with infectious blood or tissues.</li> <li>• Burial ceremonies where mourners have direct contact with the body of the deceased.</li> <li>• Handling infected non-human primates or have come in direct contact with their fluids or cell cultures have become infected.</li> <li>• Infected semen can occur up to seven weeks after clinical recovery.</li> <li>• Prolonged exposure to mines or caves inhabited by Rousettus bats colonies</li> </ul>	<ul style="list-style-type: none"> <li>• Families and friends in close contact with Marburg patients</li> <li>• Healthcare providers caring for Marburg patients and laboratory staff with inadequate infection control measures.</li> <li>• Miners</li> <li>• People who deal with dead bodies</li> <li>• Travelers to high-risk areas.</li> </ul>
Rift valley Fever	<p>No person-to-person transmission is documented. Humans can be infected through:</p> <ul style="list-style-type: none"> <li>• Bites of infected mosquitoes</li> <li>• Direct exposure to infected animals during slaughter or through veterinary and obstetric procedures.</li> <li>• Aerosol transmission has occurred in the laboratory environment.</li> <li>• Ingesting the unpasteurized or uncooked milk of infected animals</li> </ul>	<ul style="list-style-type: none"> <li>• Herders, and animal keepers</li> <li>• Farmers</li> <li>• Slaughterhouse workers</li> <li>• Butchers</li> <li>• Veterinarians.</li> <li>• Travelers to high-risk areas.</li> </ul>
Yellow fever	<p>Humans can be infected through the bite of infected Aedes or Haemagogus species mosquitoes</p>	<p>Travelers to high-risk areas</p>
Lassa Fever	<p>Humans can be infected through:</p> <ul style="list-style-type: none"> <li>• The ingestion or inhalation of mastery's rodent's excretions.</li> <li>• Direct contact with these materials, through touching soiled objects, eating contaminated food, or exposure to open cuts or sores, can lead to infection.</li> </ul> <p>Person-to-person transmission may occur:</p> <ul style="list-style-type: none"> <li>• After exposure to virus in the blood, tissue, secretions or excretions of a Lassa virus infected individual</li> <li>• Objects (like needles and syringes) that have been contaminated with body fluids from a person who is sick with Lassa fever or the body of a person who has died from Lassa fever.</li> </ul>	<ul style="list-style-type: none"> <li>• Families and friends in close contact with Lassa patients</li> <li>• Healthcare provider</li> <li>• Inadequate infection control measures</li> <li>• People who deal with died bodies.</li> </ul>

**Annex (2)**

**CDC infection control measures**

**Key Components of Standard, Contact, and Droplet Precautions Recommended for Prevention of VHF's Transmission in Hospital**

Component	Recommendation
Patient Placement	<ul style="list-style-type: none"> <li>• Single patient room (containing a private bathroom) with the door closed</li> <li>• Facilities should maintain a log of all persons entering the patient's room</li> <li>• Consider posting personnel at the patient's door to ensure appropriate and consistent use of PPE by all persons entering the patient room</li> </ul>
Personal Protective Equipment (PPE)	<p>All persons entering the patient room should wear at least:</p> <ul style="list-style-type: none"> <li>• Gloves</li> <li>• Gown (fluid resistant or impermeable)</li> <li>• Eye protection (goggles or face shield)</li> <li>• Facemask</li> <li>• Additional PPE might be required in certain situations (e.g., copious amounts of blood, other body fluids, vomit, or feces present in the environment), including but not limited to: Double gloving o Disposable shoe covers and Leg coverings</li> <li>✓ Recommended PPE should be worn by FICP upon entry into patient rooms or care areas.</li> <li>✓ Upon exit from the patient room or care area, PPE should be carefully removed without contaminating one's eyes, mucous membranes, or clothing with potentially infectious materials, and</li> <li>✓ Either Discarded, or for re-useable PPE cleaned and disinfected according to the manufacturer's reprocessing instructions and hospital policies.</li> <li>✓ Instructions for donning and removing PPE have been published</li> <li>✓ Hand hygiene should be performed immediately after removal of PPE.</li> </ul>
Patient Care Equipment	<ul style="list-style-type: none"> <li>• Dedicated medical equipment (preferably disposable , when possible) should be used for the provision of patient care</li> <li>• All non-dedicated, non- disposable medical equipment used for patient care should be cleaned and disinfected.</li> </ul>
Patient Care Considerations	<ul style="list-style-type: none"> <li>• Limit the use of needles and other sharps as much as possible</li> <li>• Phlebotomy, procedures, and laboratory testing should be limited to the minimum necessary for essential diagnostic evaluation and medical care</li> <li>• All needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers</li> </ul>
Aerosol Generating Procedures (AGPs)	<p>Avoid AGPs for patients with EVD.</p> <ul style="list-style-type: none"> <li>• If performing AGPs, use a combination of measures to reduce exposures From aerosol-generating procedures when performed on patient with EVD.</li> <li>• Visitors should not be present during aerosol-generating procedures.</li> <li>• Limiting the number of HCP present during the procedure to only those essential for patientcare and support.</li> <li>• Conduct the procedures in a private room and ideally in an Airborne Infection Isolation Room (AIIR) when feasible. Room doors should be kept closed during the procedure except when entering or leaving the room, and entry and exit should be minimized during and shortly after the procedure.</li> <li>• HCP should wear appropriate PPE(<a href="https://www.cdc.gov/vhf/ebola/healthcare-">https://www.cdc.gov/vhf/ebola/healthcare-</a></li> </ul>

	<p>us/ppe/guidance.html) during aerosol-generating procedures.</p> <ul style="list-style-type: none"> <li>• Conduct environmental surface cleaning following procedures (see section below on environmental infection control).</li> <li>• If re-usable equipment or PPE (e.g. Powered air purifying respirator, elastomeric respirator, etc.) are used, they should be cleaned and disinfected according to manufacturer instructions and hospital policies.</li> <li>• Collection and handling of soiled re-usable respirators must be done by trained</li> <li>• Individuals using PPE as described for routine patient care</li> <li>• Although there are limited data available to definitively define a list of AGPs, procedures that are usually included are bi-level positive airway pressure (BiPAP), bronchoscopy, sputum induction, intubation and extubation, and open suctioning of airways.</li> <li>• Because of the potential risk to individuals reprocessing reusable respirators, disposable filtering face piece respirators are preferred.</li> </ul>
hand Hygiene	<ul style="list-style-type: none"> <li>• HCP should perform hand hygiene frequently, including before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves.</li> <li>• Healthcare facilities should ensure that Hand hygiene in healthcare settings can be performed by washing with soap and water or using alcohol- based hand rubs. If hands are visibly soiled, use soap and water, not alcohol-based hand rubs.</li> </ul>
Environmental infection Control	<ul style="list-style-type: none"> <li>• Diligent environmental cleaning and disinfection and safe handling of potentially contaminated materials is paramount, as blood, sweat, emesis, feces and other body secretions represent potentially infectious materials</li> <li>• HCP performing environmental cleaning and disinfection should wear recommended PPE (described above) and consider use of additional barriers (shoe and leg coverings, etc.) if needed.</li> <li>• Face protection (face shield or facemask with goggles) should be worn when performing tasks such as liquid waste disposal that can generate splashes.</li> <li>• Follow standard procedures, per hospital policy and manufacturers' instructions, for cleaning and/or disinfection of: <ul style="list-style-type: none"> <li>✓ Environmental surfaces and equipment Textiles and laundry.</li> <li>✓ Food utensils and dishware</li> </ul> </li> <li>• Follow label instructions for use</li> <li>• Searchable EPA.</li> <li>• For additional information on Environmental Infection Control, see the Guideline for Environmental Infection Control in Healthcare Facilities.</li> </ul>
Safe Injection practices	<ul style="list-style-type: none"> <li>• Facilities should follow safe injection practices as specified under Standard Precautions.</li> <li>• Any injection equipment or parenteral medication container that enters the patient treatment area should be dedicated to that patient and disposed of at the point of use</li> </ul>
Duration of infection Control Precautions	<ul style="list-style-type: none"> <li>• Duration of precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities.</li> <li>• Factors that should be considered include, but are not limited to: presence of symptoms related to VHF, date symptoms resolved, other conditions that would require specific precautions (e.g., tuberculosis, Clostridium difficile) and available laboratory information.</li> </ul>
Monitoring and Management of Potentially Exposed Personnel	<ul style="list-style-type: none"> <li>• Facilities should develop policies for monitoring and management of potentially exposed HCP</li> <li>• Facilities should develop sick leave policies for HCP that are non-punitive, flexible and consistent with public health guidance <ul style="list-style-type: none"> <li>✓ Ensure that all HCP, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick leave policies.</li> </ul> </li> <li>• People with percutaneous or mucocutaneous exposures to blood, body fluids, secretions, or</li> </ul>

	<p>excretions from a PUI should</p> <ul style="list-style-type: none"> <li>✓ Stop working and immediately wash the affected skin surfaces with soap and water. Mucous membranes (conjunctiva) should be irrigated with copious amounts of water or eyewash solution.</li> <li>✓ Immediately contact occupational health/supervisor for assessment and access to post exposure management services for all appropriate pathogens (Human Immunodeficiency Virus, Hepatitis C, etc.).</li> </ul> <ul style="list-style-type: none"> <li>• HCP who develop sudden onset of fever, fatigue, intense weakness or muscle pains, vomiting, diarrhea, or any signs of hemorrhage should: <ul style="list-style-type: none"> <li>✓ Not report to work or should immediately stop working.</li> <li>✓ Notify their supervisor</li> <li>✓ Seek prompt medical evaluation and testing</li> <li>✓ Notify local and state health departments</li> <li>✓ Comply with work exclusion until they are deemed no longer infectious to others</li> </ul> </li> <li>• For asymptomatic HCP who had an unprotected exposure (i.e. not wearing recommended PPE at the time of patient contact or through direct contact to blood or body fluids) to a patient with VHF <ul style="list-style-type: none"> <li>✓ Should receive medical evaluation and follow-up care including fever monitoring twice daily for 21 days after the last known exposure.</li> <li>✓ Hospitals should consider policies ensuring twice daily contact with exposed personnel to discuss potential symptoms and document fever checks</li> <li>✓ May continue to work while receiving twice-daily fever checks based upon hospital policy and discussion with local, state, and federal public health authorities.</li> </ul> </li> <li>• Avoid entry of visitors into the patient's room. Exception maybe considered on a case by case basis for those who are essential for patient's well-being.</li> <li>• Establish procedures for monitoring managing and training visitors.</li> <li>• Visits should be scheduled and controlled to allow for: <ul style="list-style-type: none"> <li>✓ Screening for VHF (e.g., fever and other symptoms) before entering or upon arrival to the hospital</li> <li>✓ Evaluating risk to the health of the visitor and ability to comply with precautions</li> <li>✓ providing instruction, before entry into the patient care area on hand hygiene, limiting surfaces touched, and use of PPE according to the current facility</li> <li>✓ policy while being in the patient's room</li> <li>✓ Visitor movement within the facility should be restricted to the patient care area and an immediately adjacent waiting area</li> </ul> </li> <li>• Visitors who have been contact with the VHF patient before and during hospitalization are a possible source of EHF other patients, visitors, staff.</li> </ul>
<p>Precautions for handling and disposal of dead bodies</p>	<ul style="list-style-type: none"> <li>• All Staff should be trained in the prevention of infections. A high standard of personal hygiene should be adopted.</li> </ul> <p>When handling of dead bodies:</p> <ol style="list-style-type: none"> <li>a) Avoid direct contact with blood or fluids from the dead body</li> <li>b) Put on personal protective <ul style="list-style-type: none"> <li>✓ The appropriate PPEs are:</li> <li>✓ Cap/hood, face shield/goggles, N95 respirator, water resistant gown, long nitrile gloves/double nitrile gloves, abrasions full-length shoe covers/boots.</li> <li>✓ Remove personal protective equipment after handling of the dead body. Then, wash hands with liquid soap and water immediately.</li> </ul> </li> <li>c) Make sure any wounds, cuts and</li> <li>d) Do Not smoke, drink or eat.</li> <li>e) Do Not touch your eyes mouth or</li> </ol>

- f) Observe strict personal hygiene. Hand hygiene could be achieved by washing hands with liquid soap and water or proper use of alcohol based hand rub.
- g) Avoid sharps injury both in course of examination of dead body and afterwards in dealing with waste disposal and decontamination
- Accidental exposure to blood or body fluids, in case of percutaneous injury or mucocutaneous exposure to blood or body fluids of the dead body, the injured or exposed areas should be washed with copious amount of water. All incidents of percutaneous or mucocutaneous exposure should be reported to the of examination supervisor. The injured afterwards in person should immediately disposal and seek medical advice for proper wound care and post-exposure
  - The dead body should be first placed in a robust and leak-proof transparent plastic bag of not less than 150 pm thick, which should be zippered, closed. Pins are NOT to be used.
  - A second layer of cover is required.
  - The bagged body should be placed in an opaque body bag.
  - Mortuary staff should ensure that good liaison is maintained between themselves and those who collect the dead bodies for disposal. It is essential that the funeral workers and all others involved in handling the dead body are informed of the potential risk of infection and the categorization of the dead body
  - Burial activities:
    - ✓ Viewing in funeral, embalming and hygienic preparation are NOT allowed.
    - ✓ The dead body should NOT be removed

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