

University Hospital Interim Guidance

Ebola Virus Disease (EVD)

BACKGROUND

Ebola Viral Disease (EVD) is one of numerous Viral Hemorrhagic Fevers. It is a severe, often fatal disease caused by infection with a virus of the family Filoviridae, genus Ebolavirus.

1. Transmission

- a. Direct contact (through broken skin or mucous membranes) with bodily fluids such as, but not limited to, blood, urine, feces, sweat, semen, and breast milk of an infected person.
- b. Exposure to objects that have been contaminated with infected secretions (such as needles)
- c. Direct handling of bats, rodents or primates from disease endemic areas
- d. EVD is not spread by an airborne route
- e. Incubation period: 8–10 days (ranges from 2–21 days)

CASE Definition

1. Suspected Case

- a. Clinical criteria: including:
 - i. Fever of greater than 38.6 degrees C or 101.5 degrees F
AND
 - ii. Additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage
AND
 - iii. Epidemiologic risk factors within the past 3 weeks before the onset of symptoms
- b. Contact with blood or other body fluids of a patient known to have or suspected to have EVD;
- c. Residence in (or travel to) an area where EVD transmission is active; or direct handling of bats, rodents, or primates from disease-endemic areas.

2. Confirmed Case

- a. A suspected case with laboratory-confirmed diagnostic evidence of EVD.
- 3. High Risk Exposure
 - a. Percutaneous, e.g. needlestick, or mucous membrane exposure or direct skin contact with body fluids of a person with a confirmed or suspected case of EVD without appropriate personal protective equipment (PPE)
 - b. Laboratory processing of body fluids of suspected or confirmed EVD cases without appropriate PPE or standard biosafety precautions, or
 - c. Participation in funeral rites or other direct exposure to human remains in the geographic area where the outbreak is occurring without appropriate PPE
 - d. If testing is believed to be required by Upstate contact the local or state health department immediately to receive direction from them regarding EVD testing
- 4. Low Risk Exposure
 - a. Household member or other casual contact with an EVD patient
 - b. Providing patient care or casual contact without high risk exposure with EVD patients in healthcare facilities (See exposure management section)

CLINICAL PRECAUTIONS & IMMEDIATE ACTION ITEMS
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- 1. Patient Placement Essential Items:
 - a. Place in Negative Pressure Room - Airborne Infection Isolation Room (AIIR) - with attached anteroom if possible
 - b. Patient must stay in isolation until EVD is ruled out.
 - c. Keep patient room door closed
 - d. Post staff in safe area to guard against accidental entry into patient room.
 - e. All patient interaction must be kept at an absolute minimum
- 2. Activate Incident Command
 - a. Communicate situation with departmental supervisor (See DIS C-00)
- 3. Main Hospital Building:
 - a. Downtown ED
 - i. Place patient in room A2 (If occupied, place patient in triage 3 and make A2 available immediately for this patient).
 - ii. Retrieve EBOLA PPE kit from side room in Trauma 1

- iii. Use Room A1 for donning and doffing PPE
 - iv. All donning and doffing will utilize the “buddy system” to ensure safe and effective practices as well as monitor those in PPE for fatigue. Instructions included with PPE must be followed.
 - v. Staff Members should not be in PPE for more than 30 minutes.
 - vi. All testing must be kept to a minimum and coordinated (imaging included). All treatments, testing and interventions must be coordinated with Infectious Disease Physician and/or Incident Command once available.
 - vii. All equipment and waste/trash must stay in room
 - viii. No visitors to patient room
- b. Community Campus ED
- i. Place patient in Negative Pressure Room 10.
 - ii. Retrieve EBOLA PPE kit from ED Disaster Decon Closet
 - iii. Use Room 11 for donning and doffing PPE
 - iv. All donning and doffing will utilize the “buddy system” to ensure safe and effective practices as well as monitor those in PPE for fatigue. Instructions included with PPE must be followed.
 - v. Staff Members should not be in PPE for more than 30 minutes.
 - vi. All testing must be kept to a minimum and coordinated (imaging included). All treatments, testing and interventions must be coordinated with Infectious Disease Physician and/or Incident Command once available.
 - vii. All equipment and waste/trash must stay in room
 - viii. No visitors to patient room
- c. Limit traffic around areas designated in the ED:
- i. Place retractable tape barriers
 - ii. Request University Police to control foot traffic
 - iii. In Downtown ED - Security will secure area surrounding A1/A2/radio room to maintain log of those entering A2 and maintain integrity of restricted area.

- d. Transfer of the patient once admitted: at any time
 - i. Will be coordinated by Incident Command
 - ii. Incident Command will relocate existing patients in areas designated for EVD patients as soon as possible.
 - 1. Downtown utilize space in 8M
 - 2. Community Campus utilize 3rd floor ICU room 12 or 13
 - iii. Limit all foot traffic on designated unit to a minimum and coordinate access with UPD / Incident Command based on situational needs.
 - iv. Staff transporting patient must wear required PPE at all times.
 - v. Environmental services must follow transport to clean hallways prior to allowing public to re-enter space.
 - vi. Patient must wear a surgical mask during transport.
 - vii. Drainage bags (e.g. foley) must be emptied prior to movement.
- e. Destination Area or Department
 - i. Incident Command should identify a fixed number of dedicated staff members to care for this patient as well as equipment/supplies that need to be moved in to the space.

4. Outpatient Locations:

- a. If telephone triage has identified patient instruct to report to ED
 - i. See Notifications/Contact Process below for additional steps
- b. For patient already on premises:
 - i. Screen upon presentation and immediately place patient in a private room with a door closed. Place in Negative Pressure Room if available.
 - ii. Provide patient with surgical mask and instruct in proper use.
 - iii. See Notifications/Contact Process below for additional steps
 - iv. Minimize staff interactions.
 - v. Keep list of staff that come in contact with patient.
 - vi. Follow Standard and Contact Precautions. Use available PPE.
 - vii. Transport of patient will be coordinated by Hospital Incident Command.
- c. Community Campus POB North and South: Immediately contact the ED for any patient that presents in the outpatient clinics with EVD symptoms. The ED staff

member will don the appropriate PPE and transfer the patient from the clinic to the ED.

5. PPE

- a. All hospital personnel involved in both patient care and specimen handling will use PPE provided in the EVD kit.
- b. EVD kits containing required PPE will be located in the following locations:
 - i. Downtown Campus: side room in Trauma 1
 - ii. Community Campus: ED Disaster Decon closet across from the nurses' station.
 - iii. EVD kit contents: PFR N95 high filtration mask, goggles, full body fluid resistant suit, 2 pairs of gloves to double glove, shoe coverings if not attached to suit and an apron.
- c. Outpatient locations: use in-stock PPE including goggles
- d. PAPR hood should not be used unless employee cannot wear an N95.
 - i. If PAPR must be worn please use unit stocked PAPRS & not Emergency Preparedness Decontamination PAPR units unless absolutely necessary.
- e. Each Upstate employee must be monitored for proper donning and doffing and for fatigue while wearing PPE. Incident Command should utilize a "buddy system" to help monitor and transition staff members from hot (contamination present) to cold (no contamination) zones.
- f. Staff members should not be in PPE for more than 30 minutes.

6. Log of patient interaction:

- a. Maintain a log of all persons entering / leaving the room or anyone who comes in contact with the patient in any clinical location.
- b. Reduce interactions with other people to minimal staff contact including lab, environmental services, nursing and medical teams.

NOTIFICATIONS / CONTACTS

1. Contact Nursing Supervisor & Infection Control

- a. Notify them of event for the immediate activation of Incident Command. (see DIS C-00)

2. Contact Hospital Epidemiologist: **If one is unavailable call the other physician**
 - a. Downtown Campus: Name/Cell/Pager
 - b. Community Campus: Name/Cell/Pager
3. Infection Control / Nursing Supervisor will notify
 - a. Environmental Health and Safety
 - b. Laboratory Services
 - c. Environmental Services
 - d. Onondaga County Health Department
 - i. Business hours: 315- 435-3252
 - ii. Evening: 315 435-3236
 - e. NYS Bureau of Communicable Disease Control if unable to reach OCHD
 - i. Business hours: 518-473-4439
 - ii. Evenings, weekends, holidays: 1-866-881-2809
 - f. Follow and implement any additional recommendations

SPECIMEN COLLECTION

1. General Points and Safety
 - a. Limit testing to those tests performed using the iSTAT device
 1. iSTAT machine should be placed in the Anteroom
 - b. If laboratory-based testing is required, every effort will be made to coordinate submission of specimens during the Day Shift.
 - c. All personnel involved in specimen handling will use required PPE provided in the EVD kit.
2. Limit testing to only essential labs.
 - a. If possible, fix a time table for collection of specimens
 - b. Limit the use of needles and other sharps as much as possible
 - c. Phlebotomy and laboratory testing should be limited to the minimum necessary for essential diagnostic evaluation and medical care
 - d. For patients with suspected EVD, collect the following samples via a single venipuncture using a butterfly/vacutainer set. Order “blood smear malaria” and request Ebola PCR and serology using a down-time requisition.

1. 2 EDTA (lavender top) tubes (malaria smears and Ebola PCR)
 2. 1 clot (red top) tube (Ebola serology)
 3. 2 routine blood cultures, age and weight appropriate (See CM B-08 & CM B-08A Blood Specimen Collection Policy & Procedure)
- e. Needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers
3. Downtown Campus
- a. Specimen transport
 1. Patient care units will contact the Microbiology laboratory prior to collecting samples
 2. Microbiology personnel will bring the required transport supplies directly to the patient's room:
 - a. Samples will be placed in two layers of biohazard bags and then sealed in a plastic container.
 - b. The plastic container will contain absorbent material and will be pre-labeled with Biohazard and Special Handling stickers.
 - c. Labels and other paperwork should NOT be placed inside the plastic container.
 - d. The exterior of the plastic container will be wiped down with fresh 10% bleach and then placed in a plastic cooler (outside of the patient room).
 - e. Microbiology personnel will then transport the specimens directly to the laboratory.
 3. NOTE: the pneumatic tube system must NOT be used.
4. Community Campus
- a. NO LABORATORY SPECIMENS WILL BE TRANSPORTED TO THE LAB AT THE COMMUNITY CAMPUS.
 - b. Incident Command will coordinate and acquire the needed equipment and personnel for Point of Care testing.

- c. All testing will be done in patient isolation room using Point of Care equipment and testing methods.
- d. Incident Command will coordinate the packaging and transport of any specimens that need to be transported outside of the patient's room.

EDUCATION

1. Instructional posters to be located in Emergency Departments and outpatient areas
2. PPE Education
 1. Train the staff regarding proper use of personal protective equipment (PPE). This just in time training (JITT) should be coordinated by Incident Command.
 2. Pictures of appropriate donning and doffing will be placed with the pre-staged PPE

ENVIRONMENTAL INFECTION CONTROL

1. Use 10% Sodium Hypochlorite (bleach) for cleaning
2. Use an adjoining room to store equipment and waste until final disposition
3. All equipment used for the treatment of a suspect case must be kept separate
4. Use only a mattress and pillow with plastic or other covering that fluids cannot get through
5. Remove: furniture and decorative curtains from patient rooms before use
6. Discard all linens, pillows, mattresses, and textile privacy curtains as regulated medical waste
7. Dispose all waste in designated collection bin inside the room.
8. Waste materials should be placed in leak-proof containment and discarded as regulated medical waste. To minimize contamination of the exterior of the waste bag, place bag in a rigid waste receptacle designed for this use. Detail of trash bag handling – add 200-300 ml water, double bag, germicidal wipe off (do NOT spray) of both ^{1st} & ^{2nd} bag, turkey neck closure.
9. Incident Command will direct waste handling procedures in accordance with CDC, NYSDOT, NYSDEC guidelines in consultation with current waste disposal vendor.
10. Human waste (feces, urine) can be emptied into a sanitary sewer (toilet) in patient bathroom that is part of the patient room.

11. Solidifier is available for management of human waste that cannot be emptied into the sanitary sewer (toilet).
12. All soiled linen should be discarded – none should be laundered.
13. Equipment (Xray/Ultrasound/EKG) should be wiped with the above product, if not compatible item remains in room or is discarded.
14. If a ventilator is used, that will not be used for any other patient until CDC/or DOH develops a clear guidance to clean that equipment.
15. All cleaning will be cleared with Incident Command working with Infection Control
16. Additional training of personnel to handle and transport waste will be coordinated with Incident Command.

VISITORS

1. Visitors who have been in contact with EVD patients before and during hospitalization are possible source of EVD for others.
2. Visitors cannot enter into a patient's room. Evaluate exceptions on a case-by-case basis with Incident Command.
3. Consult Onondaga County/ NYS for management of visitors on premises
4. Engage Onondaga County/ NYS to begin patient history investigation to identify other people the patient may have had extended contact with.

AEROSOL GENERATING PROCEDURES (AGPS)

1. Avoid AGPs for EVD patients.
2. AGPS include Bi-level Positive Airway Pressure (BiPAP), bronchoscopy, sputum induction, intubation and extubation, and open suctioning of airways.
3. If performing AGPs, use a combination of measures to reduce exposures:
4. HCP should wear PPE as described above
5. Limit the number of HCP present during the procedure to only those essential for patient-care and support.
6. Entry and exit should be minimized during and shortly after the procedure.
7. Visitors should not be present during aerosol-generating procedures under any circumstances.

8. Conduct environmental surface cleaning following procedures

EXPOSURE MANAGEMENT

Known or suspected percutaneous or mucus membrane exposures to blood, body fluids, secretions, or excretions from a patient with suspected EVD

- a. IMMEDIATELY
 1. Wash contacted skin surfaces with soap and water
 2. Irrigate mucus membranes(e.g., conjunctiva) with copious amounts of water of eye wash solution
- b. Complete an Injury Report Form
- c. Reporting Exposure proceed without delay
 1. Downtown Campus: Call Employee Student Health (ESH) at 464-4260 on weekdays between 7:30 AM - 5 PM.
 2. Community Campus: Call Employee Health (EH) at 492-5624 on weekdays between 7:30 AM – 4 PM.
 3. Both campuses: After hours, weekends and holidays, notify supervisor and request to leave work. Report to ED per policy for evaluation for Blood and Body Fluid Exposures. For questions regarding EVD: ED physician will contact Hospital Epidemiologist. Notify EH of exposure by leaving message at above numbers.
 4. EH informs Infection Control upon notification of exposure
- d. Monitoring asymptomatic HCP for illness
 1. Documentation of current health status (complete medical questionnaire)
 2. Monitor and record body temperature twice daily for 21 days after exposure
 3. Daily communication with EH to report:
 - a) Temperature elevation greater than 38.6 degrees Celsius or 101.5 degrees Fahrenheit
 - b) Symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage
 4. Asymptomatic HCP may continue to work with twice daily fever checks and symptom monitoring depending on NYSDOH and CDC recommendations as interpreted by the Hospital Epidemiologist.
- e. Symptomatic HCP
 - 1) Do not report to work or leave work immediately after notifying the supervisor
 - 2) Seek prompt medical evaluation and testing
 - 3) Comply with work exclusion until deemed no longer infectious to others
 - 4) Return to work after clearance by EH

MORGUE

1. Morgue activities will be coordinated through Incident Command.
2. Do not move body prior to consultation with Incident Command.

REFERENCES

Virus Ecology Graphic

<http://www.cdc.gov/vhf/ebola/resources/virus-ecology.html>

Distribution Map

<http://www.cdc.gov/vhf/ebola/resources/distribution-map.html>

CDC Ebola Fact Sheet

<http://www.cdc.gov/vhf/ebola/resources/pdfs/Ebola-FactSheet.pdf>

CDC Interim Laboratory Guidance

www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html

Infographic that we may use

www.cdc.gov/vhf/ebola/pdf/infographic.pdf

CDC Q & A

<http://www.cdc.gov/vhf/ebola/outbreaks/guinea/qa-experimental-treatments.html>

CDC page on current outbreak:

www.cdc.gov/vhf/ebola/outbreaks/guinea/index.html

PPE Selection and Use

<http://www.cdc.gov/HAI/prevent/ppe.html>