



2014 ALERT #27 Update: Ebola Virus Disease Outbreak in West Africa

- No cases of Ebola Virus Disease (EVD) have occurred in New York City.
- Report immediately to the New York City Health Department (1-866-692-3641) any patient with fever and compatible symptoms who traveled to an affected area in Africa within the 21 days before illness onset.
 - Affected areas currently include: Liberia, Sierra Leone, Guinea, Nigeria (Lagos and Port Harcourt), Senegal (Dakar) and the Democratic Republic of the Congo (Tshuapa District)
- Revised algorithm for evaluation and triage of suspect EVD cases attached
- The Health Department is able to test for Ebola virus. Consult with the Health Department before submitting specimens for testing.
- Suspected or confirmed EVD should be managed with strict adherence to standard, contact, and droplet precautions.

Please Share this Alert with All Primary Care, Family Medicine, Emergency Medicine, Internal Medicine, Pediatrics, Infectious Disease, Laboratory Medicine, Pathology, Critical Care and Infection Control Staff in Your Facility

September 3, 2014

Dear Colleagues,

The current outbreak of Ebola virus disease (EVD) in West Africa continues to expand, and new affected areas include Port Harcourt in Nigeria and Dakar, Senegal. The outbreaks in Liberia, Sierra Leone and Guinea are more widespread and intense; while transmission in Nigeria is more limited. The Nigerian outbreak currently involves 18 cases (6 deaths) with all cases to date linked to the initial introduction from an air traveler from Liberia; there has been no evidence of broader community transmission. There has also been one EVD case in Dakar, Senegal in a person who traveled from Guinea. In addition, the Democratic Republic of Congo (DRC) recently announced a new outbreak of EVD in a remote northwestern area (Tshuapa District in the Equateur Province) with 53 cases and 31 deaths; the DRC outbreak is not related to the West African outbreak based on genetic sequencing of the virus. (*See the CDC website at www.cdc.gov/ebola for most current updates.*)

Except for two Americans with EVD who were medically evacuated to Atlanta, no EVD cases have been identified in the United States (US).

Reporting suspect cases of EVD to the New York City (NYC) Health Department

Introduction of EVD into the US is possible, though not likely. All healthcare providers should be prepared to evaluate a febrile traveler from one of the affected areas. The greatest risk of imported EVD is among healthcare personnel who cared for EVD patients or anyone returning from an affected area with recent **unprotected, direct contact** (through broken skin or mucous membranes) with the blood or body fluids from a suspected or confirmed EVD patient, including contact with human remains during funeral rites.

As the EVD outbreak in West Africa will likely continue for months, the Health Department requests that all healthcare providers in NYC hospitals and acute care settings continue to:

1. **Collect a travel history in all patients presenting with fever.** Asking about travel is particularly important in acute care settings to rapidly recognize any potential communicable disease associated with an overseas outbreak. (*See Triage section below*)
2. **Immediately isolate in a single patient room and use standard, contact and droplet precautions for a patient that meets the following criteria:**
 - a) Travel within 21 days before illness onset to an EVD outbreak affected area, as defined by CDC (See www.cdc.gov/ebola) AND
 - b) Fever ($>38.6^{\circ}\text{C}$ or 101.5°F) and compatible symptoms (e.g., severe headache, myalgias, vomiting, diarrhea, abdominal pain or unexplained hemorrhage)
3. **Ask patients meeting the criteria above whether they had any of the following risk exposures when in the EVD outbreak-affected area and within the 21 days preceding illness onset:**
 - a. Had contact with a person with known or suspected EVD?
 - b. Worked or spent time in a health care facility where EVD patients were being treated?
 - c. Worked in a laboratory where specimens from EVD patients were being analyzed or processed?
 - d. Participated in funeral rites or have other exposure to human remains?
4. **Immediately call the Health Department at 1-866-692-3641 to report any patient who meets the reporting criteria** (in #2 above). Be prepared to discuss clinical information, travel history, and risk exposure history (see #3 above) to help the Health Department decide whether to test for Ebola virus (*See revised algorithm in attached Figure*).

Since July 31, 2014, the Health Department has received 50 calls regarding suspect EVD cases. Of these, only 6 (12%) met reporting criteria listed above. Of these 6 cases, none reported either Low or High Risk Exposures to EVD, and one patient was tested for Ebola virus at CDC. Alternative diagnoses were made for 4 cases, including malaria (n=3) and anaplasmosis (n=1); the other 2 cases resolved without a final diagnosis. Of the 44 cases reported to the Health Department who did not meet reporting criteria, 26 traveled to an area not currently affected by EVD and 18 had a clinical presentation not concerning for EVD.

Triage for Suspected EVD Patients in NYC Healthcare Settings

As the EVD outbreak in West Africa will likely continue for months, healthcare facilities should adopt the following practices:

- At the entrance to all acute care areas, including in triage areas, places posters that ask patients to immediately inform staff if they are ill and recently traveled internationally. Posters are available from the Health Department in multiple languages. To obtain posters and other EVD-related resources, call 311 or download them at <http://www.nyc.gov/html/doh/html/hcp/infectious-diseases.shtml>.
- Establish processes to routinely and immediately ask any patient presenting with fever about recent travel.
- Place a surgical mask on anyone who reports travel to a country affected by the EVD outbreak, and immediately escort the patient to a private room for medical evaluation.

Travel history also is needed to recognize patients with other imported diseases associated with ongoing outbreaks overseas, including the Middle East Respiratory Syndrome coronavirus (MERS-CoV).

Infection Control for Suspected EVD Patients

As Ebola virus is primarily transmitted via direct contact with infected blood or body fluids, suspected or confirmed EVD should be managed with strict adherence to standard, contact and droplet precautions. (See the CDC website for detailed guidance at www.cdc.gov/ebola). When severe diarrhea, vomiting or hemorrhage is present, additional precautions are indicated. The NYC and NYS Departments of Health will provide guidance in consultation with CDC.

Clinical Evaluation:

After a suspected EVD patient is reported to the Health Department, a medical epidemiologist will review the case with the patient's clinicians, including risk exposure history, and determine whether Ebola virus testing is indicated.

- Patients reporting a High or Low Risk Exposure who have fever or other concerning symptoms or labs are of the most concern and will be prioritized for Ebola testing.
- Patients with No Known Exposures are much less likely to have EVD, and Ebola testing would only be considered if they have more concerning symptoms or laboratory findings and no alternative diagnosis is found. Evaluate for other causes of illness first:
 - Infectious disease consults should be requested to assist in the differential diagnosis of travel-related febrile illness to sub-Saharan Africa, including malaria, acute gastroenteritis, typhoid fever, influenza, acute hepatitis and rickettsial infection.
 - Initial laboratory evaluation should include a CBC with differential, routine chemistries including liver function tests and coagulation tests.
 - Malaria is one of the most common etiologies for fever among persons returning from West Africa. Diagnostic testing options include:
 - Thin blood smear every 12 hours (no fewer than three smears)
 - Rapid diagnostic tests (e.g., Binax NOW[®]), if available at the healthcare facility
 - PCR testing at the New York State (NYS) DOH Wadsworth Laboratory (See <http://www.wadsworth.org/parasitology/malpcrtest.htm>)

If the patient has No Known Exposures and no concerning clinical manifestations of EVD, in addition to evaluating for other causes of illness first, the Health Department will recommend close monitoring of the patient for several days. Patients with No Known Exposures who remain hospitalized should be kept in isolation using standard, droplet, and contact precautions until the Health Department determines that EVD is unlikely. If the patient does not need to be hospitalized, the Health Department will recommend voluntary isolation at home until the Health Department determines that EVD is unlikely. During this time, the Health Department will monitor the patient's status daily.

If the patient is afebrile or does not have a travel history to a known EVD outbreak area, EVD is extremely unlikely. If there is still concern of EVD (e.g., severe illness compatible with EVD with thrombocytopenia and elevated transaminases), providers should consult the Health Department.

The Health Department has also updated our guidance for primary care and outpatient settings (Available at <http://www.nyc.gov/html/doh/downloads/pdf/cd/ebola-guidance-outpatient.pdf>).

Diagnostic testing for Ebola virus

Ebola virus generally is detectable in infected patients by the third day after illness onset by real-time reverse transcription (rRT) PCR. rRT-PCR testing for Ebola virus is now available at the Health Department's Public Health Laboratory (PHL). Ebola virus testing requires approval by both the Health Department and the CDC. If approved, collect *two tubes* with a minimum of 4 mL each of whole blood in a *plastic* collection tube (lavender top tube preferred), and store at 4°C. PHL will send staff to the hospital laboratory to ensure proper packaging, completion of forms, transport to PHL, and shipping for one of the two specimens to CDC for additional testing.

As always, we appreciate our partnership with clinical colleagues in protecting the health of New Yorkers.

Sincerely,

Marcelle Layton, MD

Assistant Commissioner
Bureau of Communicable Disease

Jennifer Rakeman, PhD,

Assistant Commissioner
Public Health Laboratory



Ebola Virus Disease (EVD) Evaluation Algorithm

(Last updated September 3, 2014)

FEVER ($\geq 101.5^{\circ}\text{F}$) *and* compatible symptoms* for EVD in patient who has traveled to an Ebola affected area** in the 21 days before illness onset.

* Severe headache, myalgias, vomiting, diarrhea, abdominal pain or unexplained hemorrhage

No

No need to call NYC DOMH. Advise patient to continue to check temperature daily until 21 days after return from Africa. Consult with a physician at the first sign of illness

Yes

1. Isolate patient in single room with private bathroom.
2. Implement standard, contact and droplet precautions.
3. Identify any risk exposures for EVD
4. Notify appropriate hospital staff, including Infection Control Program
5. IMMEDIATELY report to New York City Department of Health (NYC DOH) at 1-866-692-3641

HIGH-RISK EXPOSURE

- Percutaneous, mucous membrane or direct skin contact with blood or body fluids from a confirmed or suspected EVD patient without appropriate PPE
- OR**
- Laboratory handling of body fluids from a confirmed or suspected EVD patient without appropriate PPE or biosafety precautions
- OR**
- Participation in funeral rites which include direct exposure to human remains in the geographic area where outbreak is occurring without appropriate PPE

LOW-RISK EXPOSURE

- Healthcare workers in facilities that have treated confirmed or suspected EVD patients
- OR**
- Household members or others with direct contact to confirmed or suspected EVD patient

NO KNOWN EXPOSURE

- Residence or travel to affected areas** without HIGH or LOW-risk exposure

Review Case with NYC DOHMH Using Additional Evaluation Criteria:

- Severity of illness
- Abnormal blood work:
 - Platelet count $< 150,000/\mu\text{L}$
 - Elevated hepatic transaminases
 - Abnormal coagulation studies
- Possible or likely alternative diagnosis

EVD SUSPECTED-TESTING INDICATED

- NYC DOHMH will arrange specimen transport and testing at Public Health Laboratory and CDC
- NYC DOHMH, in consultation with New York State DOH and CDC, will provide guidance to hospital on all aspects of patient care and management,

EVD Unlikely, Testing Not Currently Indicated

If patient requires in hospital management:

- Admit to single patient room with private bathroom
- Implement standard, contact, and droplet infection control precautions
- Evaluate for other likely illnesses, e.g., malaria and typhoid fever
- Observe clinical course for 24-48 hours and if patient has improved or an alternate diagnosis is made then EVD ruled out
- If patient's symptoms progress, re-assess need for testing with NYC DOH

If patient does not require in hospital management

- Alert NYC DOHMH prior to discharge to arrange home isolation and monitoring by NYC DOMH to ensure symptoms improve.

** CDC Website to check current affected areas: www.cdc.gov/ebola