



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**

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To: North Carolina Clinicians and Laboratories  
From: Zack Moore, MD, MPH, State Epidemiologist  
Scott Zimmerman, DrPH, MPH, HCLD (ABB), State Laboratory of Public Health  
Subject: Ebola Virus Disease Update (3 pages)  
Date: August 15, 2018

This memo is intended to provide updated information to all North Carolina clinicians and laboratories regarding Ebola virus disease (EVD) and identification and management of suspected cases.

### Background

Since 1976, outbreaks of Ebola virus disease (EVD) have occurred sporadically on the African continent. Most recently, outbreaks have been limited to specific regions within the Democratic Republic of Congo (DRC). The World Health Organization (WHO) has determined that the public health risk from these outbreaks is considered high at the national and regional levels and low globally. WHO has noted several factors that may help control spread of the outbreak, including enhanced surveillance and testing and investigational vaccine use.

We will continue to monitor for ongoing outbreaks and provide updates as new information becomes available. Updated information and guidance are available from the CDC at <http://www.cdc.gov/vhf/ebola> and from North Carolina Public Health at <http://epi.publichealth.nc.gov/cd/diseases/hemorrhagic.html>.

### Recommendations

The risk of acquiring EVD for most travelers to countries or geographic area within a country with ongoing Ebola outbreaks is low. Travelers to these locations should adhere to these recommendations: 1) Avoid contact with other people's blood or body fluids, 2) Do not handle items that may have come in contact with a person's blood or body fluids, 3) Avoid contact with wild animals or raw bush meat, and 4) Avoid funeral or burial rituals that require contact with a dead body.

The CDC advises healthcare providers in the United States to continue to obtain a travel history from all patients seeking care. Providers should promptly isolate patients who have symptoms compatible with EVD and a recent (within 21 days) history of travel to [affected areas](#) pending diagnostic testing. Providers should also consider other infectious disease risks that are much more common in returning travelers, including malaria.

If any of your patients meet these criteria please follow the 'Screen, Isolate, Call' algorithm and call the Communicable Disease branch for assistance at 919-733-3419 (24/7). For additional information, see: <https://www.cdc.gov/vhf/ebola/index.html>.

**NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH**

LOCATION: 225 North McDowell St., Raleigh, NC 27603  
MAILING ADDRESS: 1902 Mail Service Center, Raleigh, NC 27699-1902  
www.ncdhhs.gov • TEL: 919-733-7301 • FAX: 919-733-1020

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## Screening for International Travel

A thorough travel history is essential to identify potential exposures to diseases of concern globally and to direct appropriate laboratory and diagnostic testing. The importance of obtaining a travel history has been reaffirmed by recent and ongoing travel-associated outbreaks of Zika and Chikungunya viruses and other emerging infections.

## Ebola Virus Testing

- Testing Employed at the North Carolina State Laboratory of Public Health (NCSLPH):** Specimens **will not** be accepted without prior consultation. The NCSLPH utilizes two CDC Ebola virus rRT-PCR assays (EBOV VP40 and EBOV NP) that have been granted FDA Emergency Use Authorization for the in vitro qualitative detection of Ebola virus RNA. Acceptable specimens for Ebola testing are listed in the table below. If the Person Under Investigation’s (PUI) symptoms have been present for less than 3 days, a second sample collected 72 hours after onset of symptoms is required to definitively rule out Ebola. The estimated turn-round-time for NCSLPH results is 6 hours for a single specimen and up to 24 hours for multiple specimens. CDC testing can include: rRT-PCR with multiple primer probe sets for Ebola, tests for other hemorrhagic fever viruses, virus isolation, and serology when indicated by the clinical or epidemiological presentation.
- CDC GUIDANCE FOR COLLECTION, TRANSPORT and SUBMISSION of SPECIMENS FOR EBOLA VIRUS TESTING** can be found at: <https://www.cdc.gov/vhf/ebola/laboratory-personnel/specimens.html>
- USE APPROPRIATE PRECAUTIONS WHEN COLLECTING SPECIMENS FOR EBOLA TESTING.** Staff who collect specimens from PUIs should wear appropriate PPE and should refer to <https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html>
  - All specimen submissions must be accompanied by a completed **Bioterrorism and Emerging Pathogens (BTEP) Specimen Submission Form** (<https://slph.ncpublichealth.com/Forms/5010-BT-EmergPathogens-20180508.pdf>), a **CDC 50.34 DASH Form** (<https://slph.ncpublichealth.com/Forms/CDC50-34DASHForm120517.pdf>) and a **CDC Viral Special Pathogens Branch Diagnostic Specimen Submission Form** (<https://www.cdc.gov/ncezid/dhcpp/vspb/pdf/specimen-submission-508.pdf>) when appropriate.
- Packaging of specimens should follow packing instruction 620, IATA guidelines for Category A, which utilizes a triple packaging system (<https://www.cdc.gov/vhf/ebola/laboratory-personnel/shipping-specimens.html>). We anticipate active discussion with all entities requesting diagnostic testing for Ebola and we will provide more specific guidance on a case-by-case basis.

Appropriate Specimens for Ebola rRT-PCR Testing at NCSLPH			
Specimen Type	Minimum Quantity	Testing	Transport
Whole blood with EDTA anticoagulant (purple top tube) in non-glass collection tube	<ul style="list-style-type: none"> <li>➤ Adults 4ml</li> <li>➤ Pediatric 1ml</li> </ul>	rRT-PCR	Refrigerated (4°C), placed on cold packs. Package specimens using Category A guidelines.
Serum	➤ 3ml		
Plasma	➤ 3ml		
Urine*	➤ 3ml		

\*Urine will only be tested when it is submitted alongside a blood specimen from the patient.

Appropriate Specimens for Testing Conducted at the CDC			
Uncoagulated whole blood (purple, yellow, or blue top) in non-glass collection tube	≥ 4ml	Culture, PCR	Refrigerated (4°C), placed on cold packs if shipment is to be received within 72 hrs. For delays exceeding 72 hrs freeze serum at -70°C & ship on dry ice.
Serum (red top, collected in non-glass tube)	≥ 4ml	Culture, PCR, Serology	
Formalin-fixed or paraffin-embedded tissues	As Appropriate	Immuno-histo-chemistry	Ship at room temperature. Note: An autopsy or surgical report must accompany the specimen.
Fresh frozen tissue	1 cm <sup>3</sup> (except for biopsies)	Culture, PCR	Ship specimen frozen on dry ice in a plastic container.

- **CONTACT THE BTEP UNIT, 24/7 (919-807-8600), PRIOR TO ANY SHIPMENT OR IF YOU HAVE QUESTIONS.**

Address all specimen shipments as follows:

Attention: Bioterrorism & Emerging Pathogens Unit  
 North Carolina State Laboratory of Public Health  
 4312 District Drive  
 Raleigh, NC 27607-5490

#### Routine Laboratory Testing on Suspect EVD Cases

- Clinicians should ensure that laboratory staff are aware if a diagnosis of EVD is being considered so that appropriate precautions can be taken in the laboratory when handling routine or diagnostic specimens.
- The NCSLPH encourages institutions to conduct an internal risk assessment to review all handling and testing procedures that are associated with specimens from a suspect Ebola case. The NCSLPH highly recommends the use of professional judgment to determine the need for enhanced safety precautions.
- The NCSLPH strongly recommends that laboratories consider the following guidelines for handling of routine laboratory specimens from persons under investigation for Ebola: CDC laboratory guidelines: <https://www.cdc.gov/vhf/ebola/laboratory-personnel/safe-specimen-management.html>.

#### Reporting

- Physicians are required to contact their local health department or the state Communicable Disease Branch (919-733-3419) as soon as Ebola infection is reasonably suspected.

cc: Dr. Jean Marie Maillard, Director, Medical Consultation Unit  
 Evelyn Foust, Chief, Communicable Diseases Branch