Frequently Asked Questions regarding Ebola Virus Specimen Collection and Shipment for International Laboratories

Centers for Disease Control and Prevention
1600 Clifton Road, Atlanta Ga, 30333
Emergency Operations Center (EOC)
2014 Ebola Virus Laboratory Team
+1 (770) 488-7100
Eocevent246@cdc.gov

Notification and Consultation

Hospitals should follow their national and local guidance for notification and consultation for Ebola testing requests first. CDC may then be contacted in consultation with your Ministry of Health IHR point of contact and WHO to request Ebola virus testing.

CDC cannot accept any specimens without prior consultation. For consultation, call the Emergency Operations Center at +1-770-488-7100.

When Specimens Should Be Collected for Ebola Testing

Ideally, specimens should be taken when a symptomatic patient reports to a health care facility and is suspected of having an Ebola virus exposure. However, if the onset of symptoms is less than three days, a subsequent specimen will be required to rule out Ebola.

- Patients can transmit the virus once symptoms appear and through the later stages of disease, as well as postmortem.
- Ebola virus can be detected in blood **only** after the onset of symptoms, most notably fever.
- It may take up to three days after the onset of symptoms for the virus to reach detectable levels.
- Virus is generally detectable by real-time RT-PCR from 3-10 days after the onset of symptoms.

Preferred Specimens for Ebola Testing

Specimens should include a minimum volume of 4 milliliters whole blood preserved with any of the following:

- EDTA, or clot activator, sodium polyethanol sulfonate (SPS), or Citrate.

Submit specimens for Ebola virus disease testing in plastic collection tubes. Do **not** submit specimens to CDC in glass containers. Do **not** submit specimens preserved in heparin tubes.

Specimens should be stored and shipped at 4°C or frozen on ice packs or on dry ice.

Note: Specimens other than blood (i.e. skin snips from post mortem) may be submitted after consulting with the CDC. For a consultation, call the Emergency Operations Center at +1-770-488-7100.

Apply standard labeling for each specimen. Identify the requested test on the requisition and CDC specimen submission forms. These forms are located later in this information packet in the "Shipping Information" section.

Diagnostic Testing for Ebola Performed at CDC

CDC is a WHO recognized Collaborating Center for diagnosis of Viral Hemorrhagic Fevers. Several diagnostic tests are available for detection of Ebola virus disease.

- Acute infections will be confirmed using a real-time RT-PCR assay (CDC test directory code CDC -10309 Ebola Identification).
- Virus isolation may also be attempted.
- Serologic testing for IgM and IgG antibodies will be completed for certain specimens and to monitor the immune response in confirmed Ebola virus disease patients (#CDC-10310 Ebola Serology).

Lassa fever is also endemic in certain areas of West Africa and may show symptoms similar to early Ebola virus disease. Diagnostic testing to identify Lassa fever can also be done at CDC.

- Diagnostic tests including but not limited to RT-PCR, antigen detection, and IgM serology may be used to rule out Lassa fever in Ebola virus disease-negative patients.

Transporting Specimens within the Hospital / Institution

In compliance with 29 CFR 1910.1030, place specimens in a durable, leak-proof secondary container for transport within a facility.

Important: To reduce the risk of breakage or leaks, **do not use any pneumatic tube system** for transporting suspected Ebola virus disease specimens.

Packaging and Shipping Clinical Specimens to CDC

Do not open collection tubes or aliquot specimens collected for Ebola virus disease testing.

Package specimens in their collection tubes for shipment following the basic triple packaging system:

- a primary receptacle (a sealable specimen bag) wrapped with absorbent material,
- placed inside a secondary receptacle (watertight, leak-proof), and then
- placed in turn in an outer shipping package (see IATA drawing below)

The Submission Process

Contact your Ministry of Health IHR point of contact and WHO, in consultation with CDC, to determine the proper category for shipment and packaging requirements. Packaging requirements should be based on clinical history and assessment of patient by the local Ministry of Health, WHO and CDC. A United States Public Health Service Import permit will be supplied by CDC if testing and shipment of specimens to CDC is required.

Note: National guidelines may differ; consult your country's guidelines before shipping.

Information on shipping and tracking is available at www.cdc.gov/ebola.