Ebola Virus Disease (EVD) - Algorithm for Evaluation of the Returned Traveler

**FEVER** (subjective or ≥101.5°F or 38.6°C) or compatible EVD symptoms* in patient who has traveled to an Ebola-affected area** in the 21 days before illness onset
* headache, weakness, muscle pain, vomiting, diarrhea, abdominal pain or hemorrhage

YES

1. Isolate patient in single room with a private bathroom and with the door to hallway closed
2. Implement standard, contact, and droplet precautions (gown, facemask, eye protection, and gloves)
3. Notify the hospital Infection Control Program and other appropriate staff
4. Evaluate for any risk exposures for EVD
5. IMMEDIATELY report to the health department

Report asymptomatic patients with high- or low-risk exposures (see below) in the past 21 days to the health department

NO

**HIGH-RISK EXPOSURE**
- Percutaneous (e.g., needle stick) or mucous membrane contact with blood or body fluids from an EVD patient
- Direct skin contact with, or exposure to blood or body fluids of, an EVD patient
- Processing blood or body fluids from an EVD patient without appropriate personal protective equipment (PPE) or biosafety precautions
- Direct contact with a dead body (including during funeral rites) in an Ebola affected area** without appropriate PPE

**LOW-RISK EXPOSURE**
- Household members of an EVD patient and others who had brief direct contact (e.g., shaking hands) with an EVD patient without appropriate PPE
- Healthcare personnel in facilities with confirmed or probable EVD patients who have been in the care area for a prolonged period of time while not wearing recommended PPE

**NO KNOWN EXPOSURE**
- Residence in or travel to affected areas** without HIGH- or LOW-risk exposure

Review Case with Health Department Including:
- Severity of illness
- Laboratory findings (e.g., platelet counts)
- Alternative diagnoses

EVD suspected

The health department will arrange specimen transport and testing at a Public Health Laboratory and CDC
The health department, in consultation with CDC, will provide guidance to the hospital on all aspects of patient care and management

EVD not suspected

TESTING IS NOT INDICATED

If patient requires in-hospital management:
- Decisions regarding infection control precautions should be based on the patient’s clinical situation and in consultation with hospital infection control and the health department
- If patient’s symptoms progress or change, re-assess need for testing with the health department
- If patient does not require in-hospital management
- Alert the health department before discharge to arrange appropriate discharge instructions and to determine if the patient should self-monitor for illness
- Self-monitoring includes taking their temperature twice a day for 21 days after their last exposure to an Ebola patient

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

**YES**

**NO**
INTERIM GUIDANCE FOR Specimen Collection, Transport, Testing, and Submission for Patients with Suspected Infection with Ebola Virus Disease

NOTIFICATION & CONSULTATION

Hospitals should follow their state and/or local health department procedures for notification and consultation for Ebola testing requests before contacting CDC.

CDC cannot accept any specimens without prior consultation.

WHEN SPECIMENS SHOULD BE COLLECTED FOR EBOLA TESTING

Ebola virus is detected in blood only after the onset of symptoms, usually fever. It may take up to 3 days after symptoms appear for the virus to reach detectable levels. Virus is generally detectable by real-time RT-PCR from 3-10 days after symptoms appear.

Ideally, specimens should be taken when a symptomatic patient reports to a healthcare facility and is suspected of having an Ebola exposure. However, if the onset of symptoms is <3 days, a later specimen may be needed to completely rule-out Ebola virus, if the first specimen tests negative.

PREFERRED SPECIMENS FOR EBOLA TESTING

A minimum volume of 4 milliliters of whole blood preserved with EDTA is preferred but whole blood preserved with sodium polyanethol sulfonate (SPS), citrate, or with clot activator can be submitted for Ebola testing.

Specimens should be shipped at 2-8°C or frozen on cold-packs to CDC. Do not submit specimens to CDC in glass containers. Do not submit specimens preserved in heparin tubes.

DIAGNOSTIC TESTING FOR EBOLA PERFORMED AT CDC

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) in a CLIA-accredited laboratory. 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 tests available at CDC include but are not limited to RT-PCR, antigen detection, and IgM serology, all of which may be utilized to rule out Lassa fever in patients who test negative for Ebola virus disease.

TRANSPORTING SPECIMENS WITHIN THE HOSPITAL / INSTITUTION

In compliance with 29 CFR 1910.1030, specimens should be placed in a durable, leak-proof secondary container for transport within a facility. To reduce the risk of breakage or leaks, do not use any pneumatic tube system for transporting suspected Ebola virus disease specimens.

PACKAGING & SHIPPING CLINICAL SPECIMENS TO CDC

Specimens collected for Ebola virus disease testing should be packaged and shipped without attempting to open collection tubes or aliquot specimens.

Specimens for shipment should be packaged following the basic triple packaging system which consists of a primary container (a sealable specimen bag) wrapped with absorbent material, secondary container (watertight, leak-proof), and an outer shipping package.

INFORMATION ON SHIPPING & TRACKING IS AVAILABLE AT www.cdc.gov/ebola

Contact your state and/or local health department and CDC (770-488-7100) to determine the proper category for shipment based on clinical history and risk assessment by CDC and to obtain detailed shipping guidance and required CDC submission documents. State guidelines may differ and state or local health departments should be consulted before shipping.
Contact tracing is finding everyone who comes in direct contact with a sick Ebola patient. Contacts are watched for signs of illness for 21 days from the last day they came in contact with the Ebola patient. If the contact develops a fever or other Ebola symptoms, they are immediately isolated, tested, provided care, and the cycle starts again—all of the new patient’s contacts are found and watched for 21 days. Even one missed contact can keep the outbreak going.

Contact tracing finds new cases quickly so they can be isolated to stop further spread.