IMMEDIATELY NOTIFIABLE TO DOH: 1-877-539-4344

Ebola and Viral Hemorrhagic Fevers

Signs and symptoms	Fever AND additional symptoms: severe headache, muscle pain, vomiting, diarrhea, abdominal pain, unexplained hemorrhage, other applicable symptom (rash, chest pain)	
Incubation	Ebola 2-21 days (typically 3-10) with very low infectious dose; other agents vary	
Case classification	**Clinical criteria**: fever > 38.6 C (101.5 F) for Ebola (or > 40 C [104 F] for other agents) AND other symptom(s): severe headache, muscle pain, vomiting, diarrhea, abdominal pain, unexplained hemorrhage; for some agents low platelets, rash, pharyngitis, chest pain, proteinuria. **Exposure criteria**: direct contact with body fluids (includes semen extended time) or body; residence in high risk area; handled risk laboratory specimens; handled wild animal in risk area	
	Confirmed: Clinical and exposure criteria AND any diagnostic test from a reference laboratory (PCR, ELISA, viral culture, IgM, IgG, immunohistochemistry)	**Suspect (person under investigation):** Consistent clinical and exposure criteria
Differential diagnosis	Any infectious encephalitis, transverse myelitis, psychosis, brain tumor, atropine poisoning; rule out malaria, influenza, enteric infection, arboviral infection, sepsis, leukemia, toxins/medication	
Treatment	Supportive (IV fluids, balance electrolytes, maintain oxygen status and blood pressure, dialysis etc. as needed); experimental vaccines, medications and protocols may be available from FDA	
Duration	3-15 days, longer with intensive supportive care; survivors can have long term sequelae	
Exposure	**High risk**: direct contact with patient or body in any setting without PPE; percutaneous or mucous membrane exposure; laboratory processing without PPE; household/sexual contact **In outbreak area, no known risk**: in specific outbreak areas **In outbreak country only, no known risk:** in outbreak country but not in specific outbreak area Asymptomatic 21-day monitoring: daily check-in if high risk, two check-ins if in outbreak area	

Laboratory testing
 	
EMERGENCY
	LHJ and CDE arrange testing if suspected case is being hospitalized – **emergency.** Test if exposure (outbreak region or contact of case) and consistent symptom(s)
	• Institute infection control measures immediately including during specimen collection
	• **Best specimens:** Two samples each 4mL whole blood in lavender-top EDTA *plastic* tubes; preferably taken 3 days or later into illness; do not transfer from original collection tubes.
	  ○ Ship one specimen to DOH: Store at 2-8° C, ship cold; if arrival at PHL will take more than 72 hours, specimen should be frozen at -70° C and shipped on dry ice.
	  ○ Ship one specimen frozen on dry ice to CDC for confirmatory testing (with prior approval from CDC).
	• Pack and ship as Suspected Category A according to USDOT and ICAO/IATA regulations
	Specimen shipping (Section 4):
	• Keep all specimens **cold, ship cold (or on dry ice if frozen)** with Serology/Virology form https://www.medialab.com/dv/dl.aspx?d=1615463&dh=e4b87&u=69790&uh=0e2a1
	• Specimen Collection and Submission Instructions https://www.medialab.com/dv/dl.aspx?d=1794920&dh=63774&u=69790&uh=0e2a1	

Public Health Actions **EMERGENCY**	LHJ immediately contacts CDE 877-539-4344 for diagnosis and treatment • If symptoms transport to designated emergency department or hospital and arrange testing • Coordinate contact tracing (shared case exposure or exposed to case) with DOH and CDC • Monitor person under investigation x21 d; restrict travel/public contact (quarantine) if high risk exposure *Infection Control:* Immediate standard, contact, and droplet precautions; single room with toilet; monitor and log entries PPE use; minimize testing and aerosol-generating procedures.	

Ebola Virus Disease and Viral Hemorrhagic Fever

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

1. To assist in the diagnosis and treatment of cases.
2. If applicable, to identify potentially exposed close contacts, healthcare workers, and laboratory personnel and to provide counseling.
3. To identify sources of transmission and to prevent further transmission.
4. To raise the index of suspicion of a possible bioterrorism event if no natural exposure source is identified

B. Legal Reporting Requirements

1. Health care providers and facilities: *immediately* notifiable to local **health jurisdiction**
2. Laboratories: *immediately* notifiable to **local health jurisdiction**; specimen submission requested – positive specimens (2 business days) (Sections 3 and 4).
3. Local health jurisdictions: **immediately notifiable to Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE)**.

C. Local Health Jurisdiction Investigation Responsibilities

1. **Immediately recommend infection control measures if agent is transmissible.**
2. **Immediately report all cases, potential cases and exposed persons to CDE: 1-877-539-4344 or 206-418-5500.** Conduct a rapid assessment to determine whether bioterrorism is a possibility or if there is potential healthcare facility transmission.
3. Facilitate the transport of specimens for reference testing.
4. Determine the source of infection.
5. Identify other persons exposed and recommend monitoring as indicated.
6. Complete the case report form: https://www.doh.wa.gov/Portals/1/Documents/5100/420-128-ReportForm-Ebola.pdf, enter into Washington Disease Reporting System (WDRS).

2. THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent:

Agents of Ebola virus disease or viral hemorrhagic fever include four main viral families (filoviruses, arenaviruses, bunyaviruses, flaviviruses). Viral hemorrhagic fever agents include Ebola virus, Crimean-Congo hemorrhagic fever virus, Guanarito virus, Junin virus, Lujo virus, Machupo virus, Marburg virus and Sabia virus (also see separate Dengue, Hantavirus and Yellow fever guidelines which can cause hemorrhagic illnesses). Most Ebola outbreaks have been due to species *Zaire ebolavirus* and species *Sudan ebolavirus*.

B. Description of Illness

Abrupt onset of nonspecific symptoms of fever, headache, muscle or joint aches, and anorexia. After about 5 days disease progresses to watery diarrhea, abdominal pain, and vomiting; there may be sore throat, desquamating rash, chest pain, miscarriage, seizures, confusion, or hiccups. Damage to liver, adrenal glands or spleen results in coagulopathy, hypotension, and impaired steroid synthesis. Hemorrhage (petechiae, bruising, bleeding from mucous membranes or small injuries) occurs in 5-10% of Ebola cases. Case fatality rate, due to multi-organ failure and shock, is 40-90%, higher in pregnancy. Most deaths occur by 10 days. Convalescence can be extensive. Supportive laboratory findings include thrombocytopenia (platelets < 150,000) and elevated hepatic transaminases (AST > ALT). With disseminated intravascular coagulation, prothrombin (PT) and partial thromboplastin (PTT) times are prolonged. Leukopenia, elevated amylase, and proteinuria may occur. Differential diagnoses include malaria, typhoid, arboviral diseases, influenza, sepsis, Coumadin use, and leukemia.

C. Ebola Virus Disease in Washington

Washington has had no cases. September 2014 a traveler from an Ebola-affected region of West Africa was diagnosed in Texas with Ebola and two healthcare workers were infected during care of that patient. Rare cases of Ebola, Lassa and Marburg fever acquired elsewhere and imported into this country have not had subsequent transmission.

D. Reservoir

Animals such as bats or rodents are suspected or known viral reservoirs. Outbreaks include Marburg in Democratic Republic of Congo (DRC) and Angola; Ebola in the DRC (location of the Ebola River), southern Sudan and West Africa. A large outbreak of species *Zaire ebolavirus* during 2013-15 affected West Africa (Guinea, Liberia, Sierra Leone.) A 3-year species *Zaire ebolavirus* outbreak in Democratic Republic of the Congo starting in 2017; a new outbreak started in early 2021. Guinea identified an outbreak in early 2021. The outbreaks ended by May, 2021. An outbreak of species *Sudan ebolavirus* began in September 2022 in Uganda.

E. Modes of Transmission

Rare direct transmission occurs from reservoir or other animals; bush meat (bats) may be a risk. Transmission of filoviruses (e.g., Ebola) from patients or corpses occurs by contact with body fluids/excreta (blood, urine, diarrhea, vomit, semen, milk) by percutaneous or mucous membrane routes. Airborne or fomite spread has not been seen in outbreaks. Ebola is an enveloped virus and is susceptible to hospital-grade disinfectants but may remain viable for several days in organic matter (e.g., dried blood) on surfaces, bedding, equipment, or bodies https://wwwnc.cdc.gov/eid/article/21/5/15-0041_article. Most Ebola cases in West Africa were household or healthcare contacts. Flaviviruses (e.g., dengue, yellow fever) are mainly vector-borne. Ebola is a potential bioterrorism agent.

F. Incubation period

Incubation for Ebola is 2-21 days, typically 3-10 days.

G. Period of Communicability

All body fluids and excreta are infected from Ebola symptom onset. Infectious dose is

very low. Urine remain infectious for weeks and semen for a year after recovery.

H. Treatment

Supportive care to maintain volume, electrolytes, blood pressure, and oxygenation. Antiviral and experimental medications may be used when available.

3. CASE DEFINITIONS

See: https://www.cdc.gov/vhf/ebola/clinicians/evaluating-patients/case-definition.html and https://wwwn.cdc.gov/nndss/conditions/ebola-virus/case-definition/2011/

A. Clinical description

Fever over 38º C (100.4º F) AND additional finding(s): severe headache, muscle pain, erythematous maculopapular rash truncal with fine desquamation 3–4 days after rash onset, vomiting, diarrhea, abdominal pain, thrombocytopenia, bleeding not related to injury; for Arenaviruses only also pharyngitis, proteinuria, or retrosternal chest pain.

B. Laboratory criteria for diagnosis of Ebola or viral hemorrhagic fever (VHF)

Any of the following:

- Detection of VHF* viral antigens in blood by enzyme-linked immunosorbent assay (ELISA).
- VHF viral isolation in cell culture for blood or tissues.
- Detection of VHF-specific genetic sequence by reverse transcription polymerase chain reaction (RT-PCR) from blood or tissues.
- Detection of VHF viral antigens in tissues by immunohistochemistry.

* Refers to viral hemorrhagic fever caused by filoviruses (Ebola ajd Marburg virus), Old World arenaviruses (Lassa and Lujo viruses), New World arenaviruses (Guanarito, Machupo, Junin, Sabia, and Chapare viruses), or viruses in the Bunyaviridae family (Rift valley fever and, Crimean-Congo hemorrhagic fever viruses).

C. Epidemiologic risk factors for Ebola or VHF

One or more exposures **within three weeks before onset of symptoms**:

- Contact with blood or other body fluids of a patient with VHF
- Residence in—or travel to—a VHF endemic area or area with active transmission
- Work in a laboratory that handles VHF specimens
- Work in a laboratory that handles bats, rodents, or primates from a VHF endemic area or area with active transmission
- Sexual exposure to semen from a confirmed acute or clinically recovered case of VHF

Note that a new case of VHF should be enumerated only if not previously counted as a case of VHF caused by the same virus as determined by laboratory evidence.

D. Case classification (Ebola 2022 criteria)

Suspect: Meets clinical criteria AND epidemiologic linkage criteria

Confirmed: Meets laboratory criteria

4. DIAGNOSIS AND LABORATORY SERVICES

A. Laboratory Diagnosis

Diagnosis depends on clinical suspicion based on symptoms and risk of exposure. Hemorrhage may not occur and nonspecific initial presentation may resemble other tropical illnesses, so testing for malaria or other conditions should be considered. Commercial testing is available for arboviruses such as dengue and chikungunya virus.

Appropriate diagnostic tests in early Ebola disease are polymerase chain reaction (PCR), antigen-capture enzyme-linked immunosorbent assay (ELISA), IgM ELISA, and viral isolation. Later in the disease IgM and IgG antibodies can be tested. Autopsy tissue can be tested by immunohistochemistry, PCR, or virus isolation.

A negative RT-PCR test result for Ebola virus from a blood specimen collected less than 72 hours after onset of symptoms **does not necessarily rule out Ebola virus infection**. If the patient is still symptomatic after 72 hours, repeat the test. If the patient has recovered, a repeat test is not required. A negative RT-PCR result from a blood specimen collected **more than 72 hours after symptom onset rules out Ebola virus infection**.

Ebola laboratory testing must be performed by a reference laboratory such as the Washington State Public Health Laboratories (PHL) or Centers for Disease Control and Prevention (CDC). PHL will test for Ebola **only** with CDC pre-approval.

B. Tests Available at the Washington State Public Health Laboratories (PHL)

PHL rRT-PCR testing detects Ebola Zaire virus (2014 outbreak strain), Ebola Sudan virus, or Marburg virus. Presumptive positive PCR results require confirmatory testing at CDC. **Prior to submitting specimens, local health jurisdictions should obtain approval** from Office of Communicable Disease Epidemiology (206-418-5500). Test a patient with consistent symptoms **and** suspected exposure.

Note that PHL require all clinical specimens have two patient identifiers (e.g., name **and** date of birth) on both the specimen label and submission form. Also include specimen source and collection date. Due to laboratory accreditation standards, specimens will be rejected for testing if not properly identified. See: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthLaboratories/MicrobiologyLabTestMenu

C. Specimen Collection

Using personal protection and only safety needles, follow CDC guidance to collect and transport specimens for Ebola virus testing: https://www.cdc.gov/vhf/ebola/laboratory-personnel/index.html. For testing guidance and safe handling of specimens, see: https://www.cdc.gov/vhf/ebola/laboratory-personnel/safe-specimen-management.html.

If symptom onset is within 3 days, repeat testing may be needed.

The following specimen types are acceptable for Ebola virus testing at PHL:

- Two duplicate samples each a minimum volume of 4mL whole blood in lavender-top EDTA *plastic* collection tubes.
    - One specimen shipped to PHL: Store and ship at 2-8° C; if arrival at PHL will be delayed over 72 hours, freeze specimen at -70° C and ship on dry ice.

  - One specimen shipped directly to CDC (with prior approval) OR shipped to PHL for pass-through shipping to CDC: Freeze specimen at -70° C and ship on dry ice.
- Specimens taken 3 days or later into illness are preferred.
  - For suspected species *Zaire ebolavirus:* Separated serum can be sent but whole blood is preferred.
  - For suspected species *Sudan ebolavirus*: Only send whole blood in EDTA specimen tube.
- Do not use glass containers or heparin tubes.

The following specimen types are acceptable for Ebola virus testing at CDC (confirmatory testing):

- 4mL whole blood in lavender-top EDTA *plastic* collection tubes (as above).
- Additional specimen types - serum, blood, or tissue (e.g., autopsy or frozen specimens from affected organs) **may** be submitted, but prior consultation with CDC is required.

Key points for specimen collection:

- Collect specimens using appropriate infection control procedures to protect staff.
- Label vial/container (must use plastic) with patient's name and a second identifier (e.g., date of birth), specimen source/type, and date obtained.

PHL can receive Ebola specimens 24/7 – arrange **before** shipping (206-418-5500):

Washington State Public Health Laboratories
Attn: BT Lab
1610 NE 150th Street
Shoreline, WA 98155

It is the shipper's responsibility to correctly package and label specimens. Anybody shipping packages containing medical specimens must have documented shipping training (USDOT and USPS Regulations for Packaging and Labeling Infectious Substances). For assistance call Hannah Groeneveld (206-418-5670).

- Ensure patient's name and second identifier are on the specimen tube and **match** information on the BT specimen submission form.
- Complete a BT form at: https://www.doh.wa.gov/Portals/1/Documents/5230/302-018-BioterrorismSpecimen.pdf. **Specimens will not be processed until ALL following information is known:**
  - Patient name, second identifier, and county of residence
  - Specimen type, date of collection, and test requested
  - Submitter name, address, and telephone/FAX numbers
- Put completed forms in the **outer** pouch of biohazard bag (one specimen and one submission form per bag). Do not put any papers in the inner specimen pouch.
- Follow packing and shipping directions from CDC: https://www.cdc.gov/vhf/ebola/laboratory-personnel/index.html

Currently, there are two options for shipping suspect Ebola specimens to the PHL:

- Transport for noncommercial purposes is permissible by federal, state or local government employees including but not limited to staff from: local health jurisdictions (LHJ), State Department of Health, Washington State Patrol (WSP), or local police or sheriff offices. All **category A** shipping regulations still apply to government couriers.
- Private couriers (including MedEx). All **category A** shipping regulations still apply to couriers. The Declaration for Dangerous Goods "Proper Shipping Name" is: suspected Category A infectious substance". The Authorization code is A140.

D. PHL testing procedures

Test results turnaround time: Results for Ebola testing will be phoned within 6-8 hours of testing initiation at PHL. PHL finalizes all negative Ebola results. **Positive Ebola virus RT-PCR results are presumptive until confirmed by CDC.** These results will be reported in coordination with CDC up to five business days from specimen receipt.

5. ROUTINE CASE INVESTIGATION

Viral hemorrhagic fever (VHF) agents are potential agents of bioterrorism. Immediately report any suspect VHF cases to Office of Communicable Disease Epidemiology (206-418-5500 or 877-539-4344). Also notify CDE of potentially exposed persons, such as travelers from an affected region or contacts of a case.

For the most recent Ebola information from Centers for Disease Control and Prevention check: https://www.cdc.gov/vhf/ebola/index.html Planning tips for public health are at: https://www.cdc.gov/vhf/ebola/outbreaks/preparedness/planning-tips-top10.html

Immediately interview the suspect or confirmed case, and others such as family, friends, coworkers, or employer who may be able to provide pertinent information.

A. General Approach to Patient Assessment

Early recognition is key. Always use standard precautions. If there are concerns the patient could meet the criteria for Ebola, immediately separate the patient from others.

The links below provide the current CDC guidance and will be updated as needed. For post-arrival management of travelers see: https://www.cdc.gov/quarantine/interim-guidance-risk-assessment-ebola.html#post-arrival-management Assess risk and provide health education to all returning travelers from regions with active Ebola virus disease (EVD) outbreaks. When assessing risk:

Either at entry screening or at interview by public health, travelers should be given instructions for 21-day self-monitoring (for fever, headache, body aches, sore muscles, vomiting, diarrhea, stomachache, fatigue, unexplained bleeding or bruising).

Screening should determine if the person had any **high risk exposure** (such as percutaneous, mucous membrane or skin contact with blood or body fluids of a known or suspected EVD case; provided healthcare to a known or suspected EVD case; had direct contact with a dead body in an outbreak area or with a known or suspected EVD case; or lived in the household with a known or suspected EVD case). Persons with high risk exposures quarantine for 21 days from last exposure,

have a daily check-in with the LHJ, and restricted from any commercial transport.

Determine if the person was present in an outbreak area other than transiting or in the outbreak country, and advise current monitoring recommendations.

There are optional forms at the end of the document to interview and track monitoring.

If a person under self-monitoring develops symptoms, they should be isolated, not permitted to travel by commercial transport, and assessed. See the CDC guidance for assessing a symptomatic returning traveler: https://www.cdc.gov/vhf/abroad/assessing-vhf-returning-traveler.html.

1. Consider risk factors with a complete exposure history. If there are no risk factors, continue with usual triage and assess for other causes of fever in a returning traveler. The assessment facility should consider and test for likely alternate diagnoses (e.g., malaria, bacterial or viral diarrhea, influenza).
2. Act: Assess reported symptoms to determine if the patient should be classified as a person under investigation (PUI) due to consistent signs/symptoms **and** risk factors:

   Elevated body temperature or subjective fever or symptoms, including severe headache, fatigue, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage; **AND**

   An epidemiologic risk the 21 days before the onset of symptoms.

   Isolate a PUI and limit those who enter the room. Notify the infection prevention staff and DOH. Treat the patient appropriately (e.g., place IV, draw blood for diagnosis of EVD and other conditions). Identifying a person as a PUI may result in unnecessary implementation of infection control precautions suitable for EVD or delayed recognition of other potentially life-threatening conditions.
3. Laboratory testing for EVD can be done at Washington State Public Health Laboratories (after consultation): http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthLaboratories/MicrobiologyLabTestMenu For EVD obtain ≥ 4 ml in each of 2 purple top plastic tubes **not** spun, kept cold and shipped within 72 hours or otherwise frozen. Ship with BT form (https://www.doh.wa.gov/Portals/1/Documents/5230/302-018-BioterrorismSpecimen.pdf) as Category A.
4. Confirmatory testing for EVD is performed at CDC; Consult with CDC/DOH prior to shipping any specimen.
5. Monitor contacts. Maintain a log of those in the healthcare setting who enter the patient's room. Limit visitors. Identify other contacts such as household members.

For additional assessment resources see:

- Assessing Ebola in a traveler: https://www.cdc.gov/vhf/abroad/assessing-vhf-returning-traveler.html
- Differential diagnoses for a returning traveler with fever: https://www.cdc.gov/vhf/abroad/diagnosis-considered-returning-traveler.html
- Evaluating a traveler with fever and no risk factors:

https://www.cdc.gov/vhf/abroad/assessing-fever-returning-traveler-no-risk-viral-hemorrhagic-fever.html

- General provider guidance: https://www.cdc.gov/vhf/ebola/clinicians/index.html

For more on evaluating travelers see:

- Screening for Ebola: https://www.cdc.gov/vhf/ebola/clinicians/evaluating-patients/faqs-screening-ebola-providers-hc-facilities-health-departments.html

If the patient requires in-hospital management, base decisions regarding infection control precautions on the patient's clinical situation with consultation from the hospital infection prevention office and the local health jurisdiction's policy. When Ebola virus disease is a concern, implement isolation and staff use of personal protective equipment:

- Infection prevention in hospitalized patients: https://www.cdc.gov/vhf/ebola/clinicians/evd/infection-control.html
- Personal protective equipment: https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html
- Infection control: https://www.cdc.gov/vhf/ebola/clinicians/evd/infection-control.html
- Guidance for laboratories testing routine clinical specimens: https://www.cdc.gov/vhf/ebola/laboratory-personnel/safe-specimen-management.html
- Cleaning and disinfecting healthcare environments: https://www.cdc.gov/vhf/ebola/clinicians/cleaning/index.html
- Safe handling of waste: https://www.cdc.gov/vhf/ebola/clinicians/cleaning/handling-waste.html and https://www.cdc.gov/vhf/ebola/clinicians/cleaning/waste-management.html
- Viral survivability in medical waste: https://www.cdc.gov/vhf/ebola/clinicians/cleaning/ebola-virus-survivability.html
- Evaluating pets: https://www.cdc.gov/vhf/ebola/pdf/pets-of-ebola-contacts.pdf

The healthcare facility and public health agencies (DOH and LHJ) will jointly decide need for Ebola virus testing and possible transport of a suspect case.

The provider should consider alternative diagnoses to provide timely appropriate patient care, particularly for potentially serious conditions. It may be appropriate to empirically treat with hydration, antipyretics, anti-emetics, an antibiotic (covering suspect conditions such as meningococcal disease or typhoid) or anti-malarial medications.

A Person Under Investigation (PUI) may be discharged by a joint decision from the healthcare provider and the local health jurisdiction considering these criteria, as clinically indicated:

- The medical team determine the illness no longer appears consistent with Ebola.
- The PUI is afebrile off antipyretics for 24 hours.
- Consistent symptoms (for example, fever, diarrhea or vomiting) have either resolved or can be accounted for by an alternative diagnosis.

- There are no clinical laboratory results consistent with EVD. Note that a negative RT-PCR collected within 72 hours of onset is not definitive.
- The PUI understand the plan for accessing medical care if symptoms recur.

B. Evaluate for Testing

Compatible symptoms are fever, severe headache, muscle pain, enteral symptoms (vomiting, diarrhea), abdominal pain, and in 5-10% of patients unexplained hemorrhage and shock (petechiae, bruising, oozing from cuts, mucosal bleeding). Enteral symptoms start around day 5.

Laboratory testing for transmissible viral hemorrhagic fever such as Ebola must be performed by a reference laboratory such as the Washington State Public Health Laboratories (PHL) after approval from CDC. Facilitate transport of specimens to PHL for confirmatory testing (see Section 4). Include a full travel history with a request.

Testing for Ebola virus disease:

Ebola testing is **recommended** for persons with symptoms below and exposure, but also consider testing for malaria or other tropical infections as indicated. After approval from the local health jurisdiction and Department of Health consultation with CDC, PHL will test cases with any risk of exposure who develop either fever **or** compatible symptoms:

- Fever
- Compatible symptoms (severe headache, diarrhea, vomiting, muscle pain, abdominal pain, impaired kidney or liver function, internal or external bleeding, or other symptom a healthcare provider considers consistent).

Optional testing for other patients may be considered after consultation.

Other testing

Test as indicated by symptoms and exposure history for dengue or other agent of VHF. See Section 6 for discharging persons under investigation for Ebola virus disease. Consider testing a febrile patient for malaria, a common cause of fever after travel in an affected region. Also consider additional infections such as pneumonia, influenza, meningococcemia, cholera, typhoid fever, and other bacterial and parasitic agents.

C. Patient Management

Two monoclonal antibody agents, Inmazeb® and Ebanga®, are approved for treating species *Zaire ebolavirus*. (Note: these monoclonal antibody therapies are not believed to be effective in treating *Sudan ebolavirus*; clinical trials are underway for additional therapeutic agents for *Sudan ebolavirus*.)

Medical treatment of a case includes providing intravenous fluids (IV), balancing electrolytes, maintaining oxygen status and blood pressure, addressing organ failure (e.g., providing dialysis for kidney failure) and treating any other infections. For transmissible agents, always follow strict infection control measures: https://www.cdc.gov/vhf/ebola/clinicians/evd/infection-control.html

D. Identify Potentially Exposed Persons for Ebola and Transmissible VHF Agents

Contact traceback and management are key for disease control and will be done in

coordination with the Centers for Disease Control and Prevention (CDC). Avoid exposure for public health personnel (i.e., interview by telephone). Immediately identify potentially exposed persons for evaluation of level of risk and appropriate public health actions such as fever watch or home quarantine for 21 days (maximum incubation period). See: https://www.cdc.gov/vhf/ebola/pdf/contact-tracing.pdf

1. Identify persons sharing a case patient's exposure, such as co-travelers or co-workers.
2. Identify contacts of a case patient during the communicable (symptomatic) period, including household members, friends, coworkers, persons sharing a travel vehicle, EMS staff, healthcare workers, and other patients in the same healthcare facility.
3. Evaluate persons with identified exposures. If symptomatic, manage as a Person Under Investigation (Section 5). If asymptomatic, consider vaccine if the exposure was to species *Zaire ebolavirus* and see Section 6B for monitoring.

6. MANAGING SPECIAL SITUATIONS

A. Assessing travelers arrived from affected regions 3/4/2021

CDC recommends that state or local health departments contact travelers arriving in their jurisdiction and do an initial assessment of exposure risk including whether the person:

- Was present in an Ebola outbreak area
- Had any potential exposure to Ebola virus or persons with Ebola virus disease, e.g., as a caregiver, healthcare provider, laboratory worker, or burial worker
- Used personal protective equipment and other recommended infection control measures during any potential exposure
- Had any other epidemiologic risk factors

Provide health education to all travelers to ensure they know:

- How to monitor themselves for signs and symptoms of EVD
- To self-isolate immediately if symptoms develop
- How to seek care if symptoms develop
- How to notify public health officials if symptoms develop

At present, the areas of focus for the purpose of traveler management is:

- Uganda: https://www.cdc.gov/vhf/ebola/outbreaks/uganda/2022-sep.html

Symptomatic persons with potential exposure or with probable or confirmed EVD should stay in isolation until they are determined to be noninfectious. Persons with high-risk exposures (e.g., needle stick, unprotected exposure symptomatic case) should stay in quarantine until 21 days after their last high-risk exposure.

B. Managing persons potentially exposed to Ebola or transmissible VHF agents.

Local health jurisdictions (LHJs) will manage potentially exposed persons according to available Centers for Disease Control and Prevention (CDC) recommendations. Obtain information about exposure to patients and travel to affected countries, including details of exposures (patients, healthcare settings or reservoir animals) and date of last exposure. Consider vaccine if the exposure was to species *Zaire ebolavirus*.

C. Special healthcare situations when Ebola virus disease is suspected

- Handling human remains: https://www.cdc.gov/vhf/ebola/clinicians/evd/handling-human-remains.html
- Acute hemodialysis: https://www.cdc.gov/vhf/ebola/clinicians/evd/acute-hemodialysis.html
- Pregnant women: https://www.cdc.gov/vhf/ebola/clinicians/evd/pregnant-women.html
- Neonatal care: https://www.cdc.gov/vhf/ebola/clinicians/evd/neonatal-care.html

7. ROUTINE PREVENTION

A. Prevention Recommendations

Experimental vaccines for species *Zaire ebolavirus* are being used only in outbreak settings. There is a report of vaccine failure resulting in 91 additional cases: https://www.nejm.org/doi/full/10.1056/NEJMoa2024670

Meticulous attention to personal protective equipment (PPE) and environmental cleaning during patient care are essential to avoid exposure in healthcare settings. Use particular care to avoid contamination when removing PPE.

- General prevention: https://www.cdc.gov/vhf/ebola/prevention/index.html
- Organizations sending workers to areas with outbreaks: https://wwwnc.cdc.gov/travel/page/recs-organizations-sending-workers-ebola
- Humanitarian workers traveling to an outbreak area: https://www.cdc.gov/vhf/abroad/humanitarian-workers.html
- Travelers to an outbreak area: https://www.cdc.gov/vhf/ebola/prevention/index.html

ACKNOWLEDGEMENTS

This document is a revision of the Washington State Guidelines for Notifiable Condition Reporting and Surveillance published in 2002 which were originally based on the Control of Communicable Diseases Manual (CCDM), 17th Edition; James Chin, Ed. APHA 2000. We would like to acknowledge the Oregon Department of Human Services for developing the format and select content of this document.

UPDATES

Created October 6, 2014.

Updated October 29, 2014 based on new CDC recommendations for case definition, patient screening, and infection control.

Updated November 7, 2014, based on new CDC recommendations for evaluating ambulatory patients.

Updated December 23, 2014, based on updated laboratory shipping requirements and new CDC recommendations for medical waste and sewage.

Updated March 23, 2015 to include more detail about clinical laboratory handling of specimens.

Updated May 2016: front page added

Updated March 2018: revised and shortened in absence of outbreak cases.

Updated August 2019: material specific to 2014 outbreak removed

Updated March 2021: added current outbreak areas (Section 2D), updated guidance for current outbreaks (Sections 5A and Section 6A)

Updated May 2021: link for risk related to pets (Section 5A); vaccine failure reported (Section 7A)

Updated October 2022: included new outbreak in Uganda (Section 2D); updated to 2022 case definition (Section 3), changed specimen type for PHL to EDTA whole blood (Section 4C), added vaccine and treatment information for species *Zaire ebolavirus* (Section 5).

Updated December 2022: updated testing information; updated for 2023 WAC revision combined provider and facility reporting requirement (Section 1B2), updated laboratory submission (Section 1B3).

Optional forms to record interview for risk information and to track monitoring/symptoms.

EBOLA TRAVELER TRACKING FORM			
Local Health Jurisdiction:			
Traveler IDs	LHJ_ID:	DOH_ID:	CDC_ID:
Name	Last:	First:	Middle initial:
	DOB __ __ / __ __ / __ __ Sex:	Age: ☐Years ☐Months	
Address	Street:	Apt:	
	City: State: Zip:	County:	
Responsible person	☐Self ☐ Other (give name and relationship): _____		
Phone	Home: ( ) -	Cell: ( ) -	
Healthcare provider	Name: Phone: ( ) - Dates of visit: Location: IC notified: ☐Yes ☐No		
Pertinent health history			
Exposure dates	Earliest: __ __ / __ __ / __ __ Last: __ __ / __ __ / __ __ (e.g., date departed country)		
Exposure locations (indicate specific settings with known or likely high risk exposures)	Country: _____ Town: _____ District: _____ Settings: ☐Household ☐Healthcare facility: _____ ☐Church ☐Burial ☐Travel: _____ ☐Work ☐School/child care ☐Lab worker ☐Other: _____		
Specific nature of exposure (check all that apply)	☐Slept or ate in same household ☐Cared for patient ☐ used PPE ☐Touched body fluids ☐ used PPE ☐Attended burial ☐Direct contact with body of case or deceased ☐ used PPE	☐Needle stick injury ☐Breach of barrier precautions ☐Touched or cleaned linens, clothes, or dishes of case ☐ used PPE ☐Passenger notified after flight ☐Other: _____	
Exposure type	☐High risk ☐No identified risk, in identified outbreak area ☐No identified risk, only in country with outbreak in an identified area		
Disposition	☐Home ☐Other: _____		
Method for 21-day monitoring	High risk: ☐Daily visit ☐Self-report daily via: phone/text/email/other:_____ In outbreak area: ☐Self-monitor with LHJ check-in around day 10 and on day 21 In outbreak country: ☐Self-monitor with optional LHJ check-in day 21		
Symptom watch	Start date (day ___): __ __ / __ __ / __ __ End date (day 21): __ __ / __ __ / __ __		

Instructions for self-monitoring:
Arrange for the person to self-monitor for 21 days, and to notify the LHJ immediately for fever or other symptom. Provide a thermometer if needed. If high risk they should have contact with the LHJ daily (phone, text, email, etc.), if only in the outbreak area they should have contact twice in the 21 days. On the back of this sheet is an optional tracking form. Fill in the date for day 21 and then for the preceding dates. Cross off any days that have already passed.
Persons with high risk should be told not use commercial conveyances and to check in if they are planning any other travel. Persons only in the outbreak area should notify the LHJ before using commercial conveyances.

General notes

IMMEDIATELY NOTIFIABLE TO DOH: 1-877-539-4344

Person under symptom watch: _____ Telephone: _____

Address: _____ Supervisor: _____

1) For home visits have available appropriate equipment (mask, gloves and disposal bags in your pocket, other equipment in your car).
2) Telephone and ask if the person is feeling well. If the person cannot be reached, contact your supervisor.
3) If the person is ill when telephoned, ask for a temperature reading. Contact your supervisor. DO NOT enter the residence.
4) If the person is well, go to the residence. Avoid physical contact with the person or while in the residence.
5) Visually confirm a temperature reading. Ask about presence or absence of each symptom. Ask about alternative explanations (e.g., allergic sore throat) and fever medication (e.g., aspirin, Tylenol). If fever is > 101.5 F (38.6 C) or if any symptoms are present, leaved and contact your supervisor.
6) Confirm the date and time of the next visit to the residence.

Day/contacted?	**1 S / M / U**		**2 S / M / U**		**3 S / M / U**		**4 S / M / U**		**5 S / M / U**		**6 S / M / U**		**7 S / M / U**		**8 S / M / U**		**9 S / M / U**		**10 S / M / U**		**11 S / M / U**	
Date																						
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Time																						
Temperature																						
Malaise																						
Muscle pain																						
Headache																						
Sore Throat																						
Vomiting																						
Diarrhea																						
Rash																						
Unexplained bleeding																						
Fever/pain reducers																						

Day/contacted?	**12 S / M / U**		**13 S / M / U**		**14 S / M / U**		**15 S / M / U**		**16 S / M / U**		**17 S / M / U**		**18 S / M / U**		**19 S / M / U**		**20 S / M / U**		**21 S / M / U**	
Date																				
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Time																				
Temperature																				
Malaise																				
Muscle pain																				
Headache																				
Sore Throat																				
Vomiting																				
Diarrhea																				
Rash																				
Unexplained bleeding																				
Fever/pain reducers																				

Contacted: “S” if spoke with person; “M” if left message; “U” unable to reach Symptoms: “N“ if person has not developed fever or a symptom; “Y“ if fever, other symptoms, or died; “U” if unknown