Ebola Virus Disease Outbreak Response Training Package
World Health Organization

adapted for Health facilities training/Liberia

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Training Objective

Be able to provide safer care and to stop further disease transmission in the healthcare and community settings


Infection Prevention and Control
Training Program
Case Management
Behavior & Social Interventions

Appropriate Behavior

- Respect the patient and family
- Be calm and composed
- Protect yourself and others in the environment
- Listening and asking questions
- Have empathy

Clinical Features

- Incubation period 2 to 21 days (3-12).
- Sudden onset of fever, weakness, muscle pain, headache and sore throat, conjunctivitis, hiccups, dysphagia
- followed by vomiting, diarrhea, rash
- internal and external bleeding….often absent or minimal

Late features

- Confusion and irritability
- Seizures
- easy bleeding;
  - Rash e.g. ecchymosis, petechiae, purpura
  - bleeding from the gums,
  - conjunctival hemorrhage
  - oozing from puncture sites
  - epistaxis
  - Hematemesis
  - hemoptysis
  - Melena
  - unexplained vaginal bleeding in women
  - hematuria
- Fever may be absent in late stages
- Shock (compounded by dehydration)

Case definition

Suspected (clinical) case:

Any person ill or deceased with fever and hemorrhage. Documented prior contact with an EHF case is not required.

Probable case (with or without bleeding):

Any person (living or dead) with contact with a clinical case of EHF and a history of acute fever.

OR

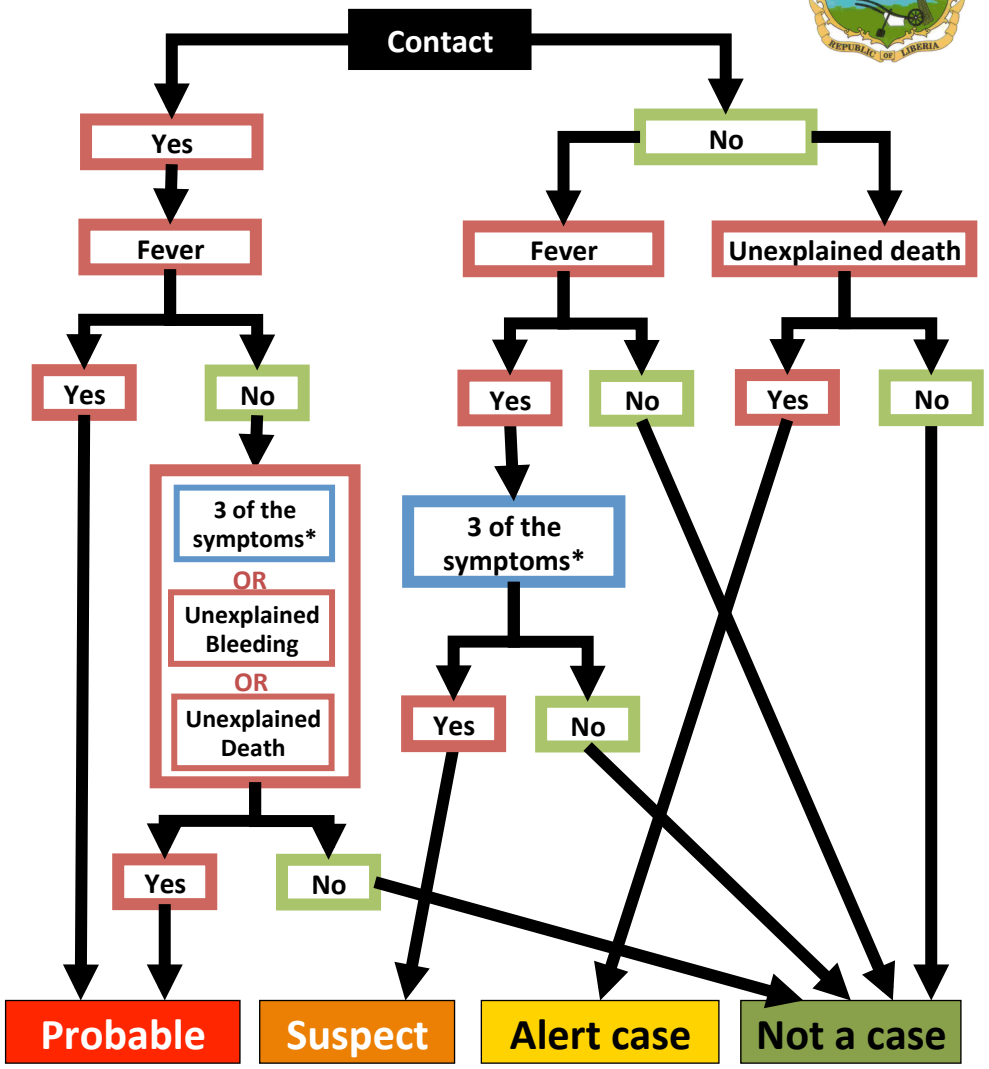
Any person (living or dead) with a history of acute fever and three or more of the following - headache/ vomiting/nausea/ loss of appetite/ diarrhea/ intense fatigue/ abdominal pain/ general muscular or articular pain/ difficulty in swallowing/ difficulty in breathing/ hiccoughs

OR

Any unexplained death.

The distinction between a suspected case and a probable case in practice relatively unimportant as far as outbreak control is concerned.

EVD OUTBREAK Triage Decision-making Flowchart



- Triage process for epidemiological purposes
- May change the threshold for clinical purposes

***Symptoms include:** headache, vomiting, nausea, loss of appetite, diarrhoea, intense fatigue, abdominal pain, general muscular or articular pain, difficulty in swallowing, difficulty in breathing, hiccoughs

Note: Confirmed cases requires positive laboratory test

Liberia, 2014

ACTIONS BASED ON CATEGORISATION OF THE PATIENT

Probable Case:

Complete:

1. Ebola Case Report Forms
2. List all close contacts
3. Isolate patient and use barrier nursing
4. Notify higher level Authority immediately

Refer to Isolation Unit for further assessment, testing and management

Suspect Case

Complete:

1. Ebola Case Report Forms
2. List all close contacts
3. Isolate patient and use barrier nursing
4. Notify higher level Authority immediately

Keep in 'Holding Area' if no isolation unit is near where patient will be monitored, tested &treated empirically for other conditions, and referred to Isolation Ward if s/he tests positive

Alert Case

Mark as a Contact, List on the Tracing Form

Educate on symptoms and need for early reporting

*Treat the dead body of an unexplained death

Recommended medications for the care of patients with Confirmed, Probable or Suspected Ebola		
Antibiotics	In case the patient has a bacterial infection eg typhoid +/- ebola	Ceftriaxone 2g daily iv Or Ampicillin 2 g q6h + gentamicin 5mg/kg as a stat dose then review need/renal function Or oral ciprofloxacin (not in children)
Anti emetics	Symptom relief for nausea or vomiting and assist with hydration	For adults: chlorpromazine 25-50 mg Q6H IM or orally or metoclopramide 10 mg IV/ orally q8h until vomiting stops. For children give promethazine
Anti diarrheals	Symptom relief and assist with hydration	imodium
analgesics	Relieve pain	Paracetomol, codeine, morphine esp. if palliative phase Avoid aspirin and NSAIDs eg diclofenac, ibuprofen due to their antiplatelet effects
anxiolytics	To ease anxiety or stress	Always try communication before drug approaches. Diazepam – adults: 5-15 mg/day in 3 divided doses If more severe: give haloperidol 5 mg oral or IM
antipruritics	For itch	Calamine lotion or antihistamines
antipyretics	Reduce high fever	Paracetomol Avoid aspirin and NSAIDs eg diclofenac, ibuprofen due to their antiplatelet effects
Antacids	Relieve Dyspepsia	Omeprazole 20mg daily or magnesium trisilicate, 2 tabs q8h until symptoms resolved. In children 5-12 years, give magnesium trisilicate: 5-10 mls, q8h
Anticonvulsants	Treatment of epileptic fit	Test glucose Diazepam iv or rectal

Clinical care summary

Appropriate care of patients with suspected ebola is critical in optimizing their chances of survival and your efforts WILL make a difference.

A suspect or probable case should be admitted and isolated for clinical care and for quarantine purposes

Isolation

- Keep patient in holding area until safe transfer to an isolation center is possible

- A holding area ideally should be a separate room but should be at a minimum of at least 2 meters from others (provide a surgical mask to the patient)
  - Staff to provide care using full PPE and follow strict environmental disinfection guidelines as needed.
  - Educate patient and family on the isolation rules

INFECTION PREVENTION

- Consider every person (client or staff) infectious.

Standard Precautions

- Apply routinely to all patients in the health care setting regardless of their diagnosis or presumed infection status.
- Are designed to reduce the risk of transmission of micro-organisms from both recognised and unrecognised sources of infection in health organisations.

The main elements of Standard Precautions

- ✓ hand hygiene;
- ✓ use of personal protective equipment (PPE) to avoid contact with the patient's body fluids and non-intact skin;
- ✓ respiratory hygiene and cough etiquette;
- ✓ prevention of injury from needles or other sharp objects;
- ✓ waste management; and
- ✓ cleaning and disinfection of the environment and equipment.

Hand Hygiene

Alcohol based hand rubs are the gold standard for hand hygiene in health care (unless hands are visibly soiled).

IP: Handwashing

Handwashing may be the single most important procedure in preventing infection.

Wash hands:

- Before and after examining any client (direct contact).
- After removing gloves because gloves may have holes in them.
- After exposure to blood or any body fluids (secretions and excretions), even if gloves were worn.

Infection Prevention

- Wash hands every time you put on & take off gloves
  - the most practical procedure for preventing cross-contamination (person to person).

- Wear gloves
  - To touch anything wet, broken skin, mucous membranes, blood or other body fluids (secretions or excretions) or soiled instruments/linens

- Use physical barriers (protective goggles, face masks and aprons) if splashes and spills of any body fluids (secretions or excretions) are anticipated.

IP: Protective Barriers

Wear gloves:

- When performing a procedure in the clinic or operating room
- When handling soiled instruments, gloves and other items
- When disposing of contaminated waste items (cotton, gauze or dressings)

Wear protective goggles, face masks and aprons:

- If splashes and spills of any body fluids are likely

PREVENT EBOLA

- WASH HANDS or USE HAND STANITATER

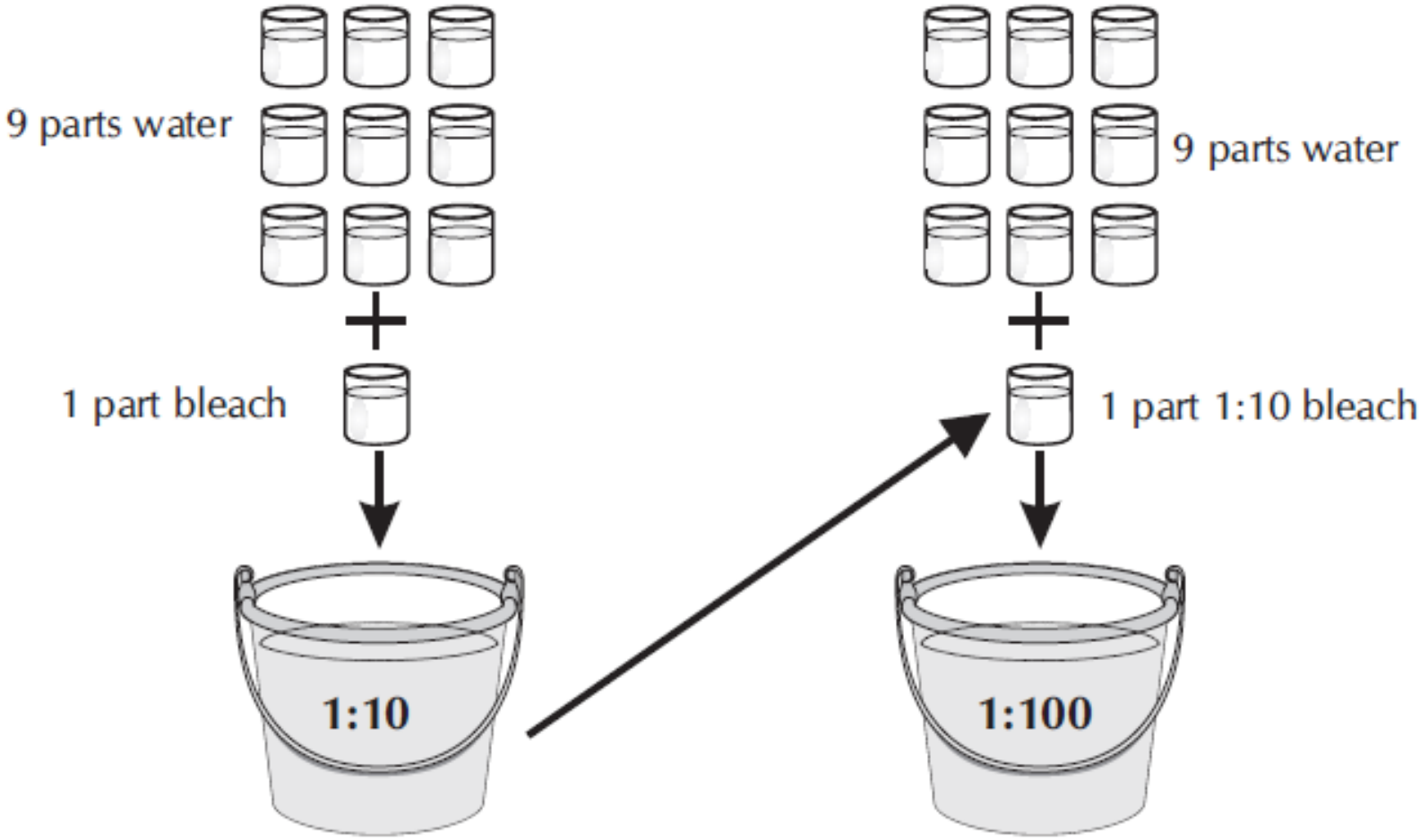
Formula

- Add 2 ml glycerine to 100 ml 60-90% alcohol solution.
- Use 3 to 5 ml for each application and continue rubbing the solution over the hands for about 2-5 minutes, using a total of 6 to 10 ml per scrub.

Disinfection with chlorine

Solution	Uses
0.5%	Disinfection of body fluids; Disinfection of corpses; Disinfection of toilets & bathrooms; Disinfection of gloved hands; Disinfection of floors; Disinfection of beds & mattress covers; Footbaths;
0.05%	Disinfection of bare hands and skin; Disinfection of medical equipment; Disinfection of laundry; Washing up of plates and eating utensils;

Making the correct solution
CHLOROX



FAQs

1. How long does the Ebola virus survive outside the body?

Animal carcasses left in the forest are not infectious after 3-4 days

Eric M. Leroy, Pierre Rouquet, Pierre Formenty, Sandrine Souquière, AnnelisaKilbourne, Jean-Marc Froment, Magdalena Bermejo, Sheilag Smit, William Karesh, Robert Swanepoel, Sherif R. Zaki and Pierre E. Multiple Ebola Virus Transmission Events and Rapid Decline of Central African Wildlife. Science, New Series, Vol. 303, No. 5656 (Jan. 16, 2004), pp. 387-390

- In dead bodies for 90 days
- In semen of survivor for 30 days

To Prevent Ebola

- The suspected reservoirs for Ebola are fruit bats.
- Transmission to humans is thought to originate from infected bats or primates that have become infected by bats.
- Undercooked infected bat and primate (bush) meat transmits the virus to humans.
- Human to human transmission is only achieved by physical contact with a person who is acutely and gravely ill from the Ebola virus or their body fluids.

To Prevent Ebola

- Transmission among humans is almost exclusively among caregiver family members or health care workers tending to the very ill.
- The virus is easily killed by contact with soap, bleach, sunlight, or drying. A washing machine will kill the virus in clothing saturated with infected body fluids.
- A person can incubate the virus without symptoms for 2-21 days, the average being five to eight days before becoming ill. THEY ARE NOT CONTAGIOUS until they are acutely ill.
- Only when ill, does the viral load express itself first in the blood and then in other bodily fluids (to include vomit, feces, urine, breast milk, semen and sweat).
- If you are walking around you are not infectious to others..
- As always practice good hand washing techniques. You will not contract Ebola if you do not touch a dying person.