

Ebola in the Age of COVID: What EMS Providers Need to Know


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Learners will be able to:

- Describe the importance of preparedness for Ebola Virus Disease and other special pathogens
 - Implement the Identify, Isolate, and Inform strategy to keep frontline personnel safe
 - Describe a hierarchy of controls to prevent Ebola Virus Disease transmission
 - Understand the role of vaccine to prevent Ebola Virus Disease
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- The bottom of the slide features a decorative graphic consisting of several overlapping, semi-transparent geometric shapes. On the left, there is a large blue triangle pointing downwards. In the center, there is a purple triangle pointing upwards. On the right, there is a light blue triangle pointing upwards. These shapes overlap to create a modern, abstract design.

Ebola outbreak

3 May 2021 | News release

WHO Director-General congratulates the Democratic Republic of the Congo as 12th Ebola outbreak is declared over; stresses need to maintain vigilance to prevent virus's return

2020	Republic of the Congo	Zaire	130	55	42%
2018-2020	Democratic Republic of the Congo	Zaire	3481	2299	66%
2018	Democratic Republic of the Congo	Zaire	54	33	61%

June 21, 2021 | 1 min read

Ebola outbreak in Guinea declared over after 4 months, 12 deaths

West African Ebola virus epidemic

Dec 26, 2013 – Jun 9, 2016

28,616

A total of 28,616 Ebola cases have been reported in Guinea, Liberia and Sierra Leone, with 11,310 deaths.

CNN

Guinea confirms West Africa's first case of rare, Ebola-like Marburg virus disease

Identify, Isolate and Inform



Identify

Risk assessment:

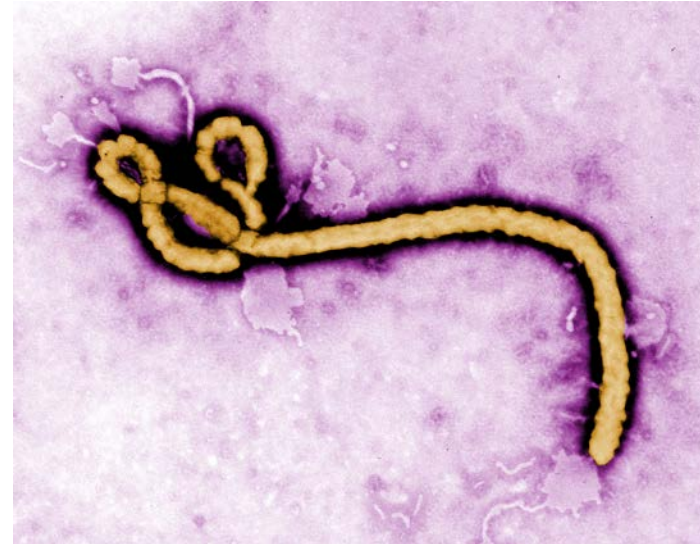
What is the likelihood that this patient has Ebola Virus Disease?

- Signs and symptoms
- Exposure history

EMD screening and field screening

Ebola Virus Disease - Identify

- Signs and symptoms
 - Fever, chills, muscle aches, diarrhea, nausea, vomiting, abdominal pain
 - Also, headache, shortness of breath, chest pain
 - More severe
 - Internal and external bleeding, mental status changes, multi-system organ failure, shock
- Travel to a country with ongoing EVD outbreak in the last 21 days



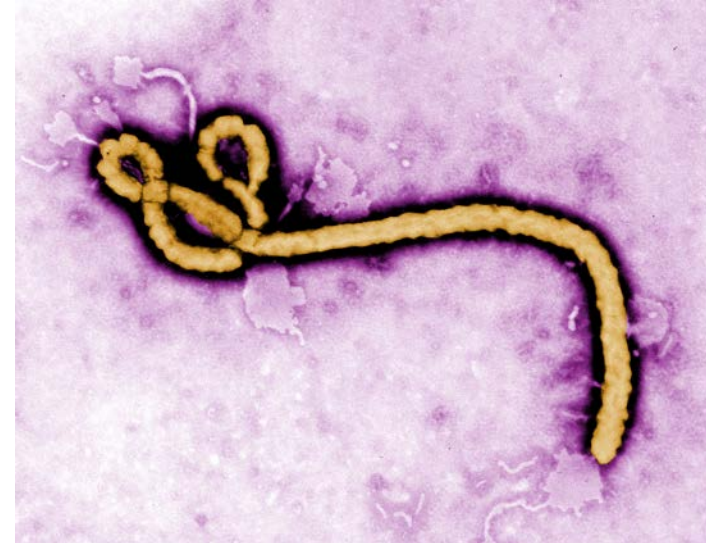
CDC/Fredrick Murphy

Isolate

Prevent unprotected exposure to potentially infectious body fluids

Ebola Virus Disease - Isolate

- Transmission
 - Exposure of mucous membranes or broken skin to infectious blood or bodily fluids
- Incubation
 - 2-21 days
 - More typically 8-10 days
- Infection control posture
 - **Standard + Contact + Droplet + Airborne if performing an aerosol producing procedure**




CDC/Fredrick Murphy

Asymptomatic patients are not contagious

Inform



Ebola Virus Disease - Inform

- Other responding personnel
 - **Local and state public health authorities who may initiate special pathogen transport protocols**
 - Supervisory personnel –dedicated transport teams and/or designated facilities
 - Receiving facility, so that space is made available to properly isolate the patient on arrival (airborne isolation room if available) and that receiving healthcare personnel are in appropriate PPE
- 

Hierarchy of Controls

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Environmental

- Separate driver compartment from patient compartment
- Adjust air handling to introduce fresh air in both compartments
- Turn exhaust fan on high in patient compartment
- Consider draping interior of ambulance to protect environmental surfaces for confirmed or “wet” cases



Work practices

- Patient prep
 - Apply surgical mask to patient
 - Consider applying impervious suit or impervious sheet
 - Consider undergarment to collect diarrhea
 - Leak proof container for emesis
 - Treat nausea to prevent emesis

Work practices

- Personnel
 - Avoid unprotected exposure
 - Consider application of 6-foot rule
 - Limit exposure to minimum number of personnel
 - Driver should not make patient contact



Work practices

- Clinical care
 - Limit use of sharps
 - Limit aerosol producing procedures



Photos/CDC

PPE - Ebola Virus Disease PUI

Stable PUI

- Fluid resistant gown or coverall
- Full face shield
- Facemask
- Double gloves with extended cuffs



Photo/Wade Miles

Unstable PUI or confirmed case

- Impermeable gown or coverall
- Full face shield and N-95 respirator or PAPR
- Double gloves with extended cuffs
- Boot covers
- Apron



Photo/Alex Isakov

***USE PROVEN CHECKLISTS
and TRAINED OBSERVER***

Ambulance Cleaning/Disinfection Waste Management

- Cleaning and disinfection with an EPA registered hospital grade disinfectant
- **Category A waste is highly regulated**
 - Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180)
 - Best practice may be to leave waste with receiving facility



Photo/Alex Isakov

Post-mission Medical Surveillance

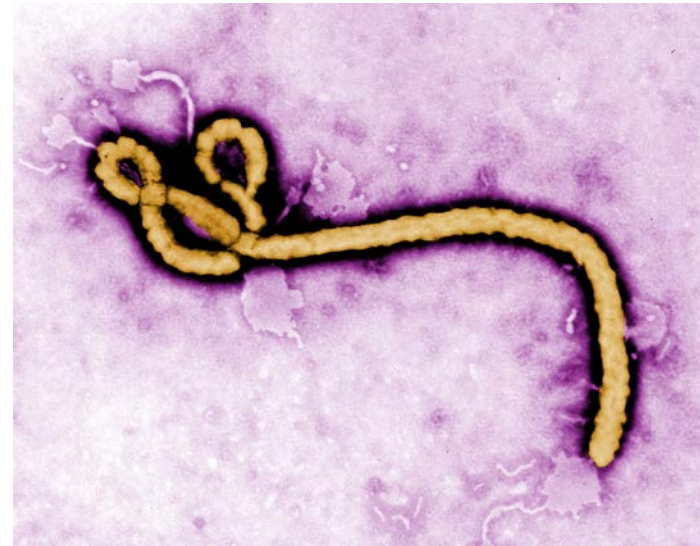
- Observe crews for signs and symptoms of disease until confirmatory testing of the patient is available or one incubation cycle
- Coordinate with public health



Photo/CDC

Protection and treatment

- Vaccine
 - Ervebo
 - FDA approved
- Treatment
 - Supportive therapy
 - Fluid and electrolytes
 - BP and oxygenation
 - Management of other infections
 - Monoclonal antibody therapy
 - Inmazed
 - Ebanga



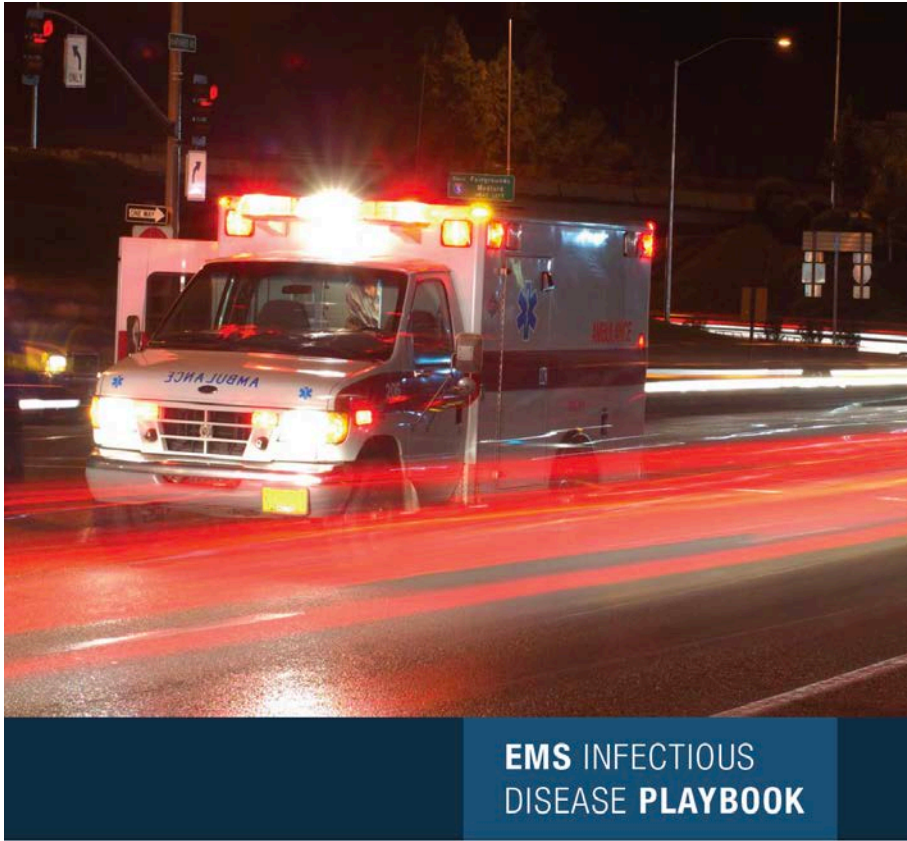
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Resources





<https://healthmap.org/promed/>



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ASPR
ASSISTANT SECRETARY FOR
PREPAREDNESS AND RESPONSE



EMS INFECTIOUS DISEASE PLAYBOOK





Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

NETEC eLearning Center

courses.netec.org



ems.gov

Powered by NHTSA's Office of EMS



T R A C I E

HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY



National Special Pathogen System of Care

Ebola review

Identify, isolate and inform

Primary infection control principle is preventing exposure to blood and infectious bodily fluid

Standard + contact + droplet + airborne precautions

Hierarchy of controls

Supervised PPE donning and doffing

Category A waste management