

# Just-In-Time Learning Series: MANAGEMENT OF THE PATIENT EXPOSED TO EBOLA AND OTHER FILOVIRUSES



**Larissa Pisney, MD**

Dr. Pisney is the Medical Director for Infection Prevention and Control at University of Colorado Hospital and UHealth Metro Denver. Dr. Pisney is also an Associate Professor in the Division of Infectious Diseases at the University of Colorado School of Medicine.

## FILOVIRUSES

Members of the Filoviridae family cause hemorrhagic fever in humans and primates.

The six genera of filoviruses include:

1. **Ebolavirus**
2. Dianlovirus
3. Cuevavirus
4. Marburgvirus
5. Striavirus
6. Thamnovirus.

**The four orthoebolaviruses that cause illness in humans are:**

- Ebola virus
- Sudan virus
- Taï Forest virus
- Bundibugyo virus

## CONTROL OF EBOLA OUTBREAKS

- Case management
- Infection prevention and control practices
  - Avoid contact with blood and body fluids of people who are sick or items that have come in contact with their blood or body fluids
- Surveillance and contact tracing
- Good laboratory services
- Safe and dignified burials
  - Avoid funerals or burial practices that involve touching the body of someone who is suspected or confirmed to have had Ebola disease.
- Social mobilization
- Vaccination

## EBOLA DISEASE

Ebola disease is a rare but severe, often fatal illness in humans

TRANSMISSION	Ebolaviruses are transmitted to people from wild animals and spreads in the human population through human-to-human transmission
INCUBATION PERIOD	2-21 days
SYMPTOMS	<ul style="list-style-type: none"> <li>• Eight to ten days after exposure patients develop “dry symptoms” with fever, headache, joint and muscle aches, sore throat, and weakness</li> <li>• Four to five days later “wet symptoms” including diarrhea, vomiting, and stomach pain</li> </ul>
DIAGNOSIS	Diagnosis made via RT-PCR of blood, ELISA, or IgM
TREATMENT	<p>Two monoclonal antibodies were approved for the treatment of Zaire ebolavirus by the FDA in 2020</p> <ul style="list-style-type: none"> <li>• Inmazeb™: In the PALM trial: Of the 154 patients who received Inmazeb, 33.8% died after 28 days, compared to 51% of the 153 patients who received a control. In the expanded access program, an additional 228 patients received Inmazeb.</li> <li>• Ebanga™: In the PALM trial: Of the 174 patients who received Ebanga, 35.1% died after 28 days, compared to 49.4% of the 168 patients who received a control.</li> </ul>
VACCINE	<ul style="list-style-type: none"> <li>• The FDA approved the Ebola vaccine rVSV-ZEBOV (called Ervebo®) in December 2019</li> <li>• Single dose vaccine has been found to be safe and protective against Zaire ebolavirus only, which has caused the largest and most deadly Ebola outbreaks to date</li> <li>• On February 26, 2020, the Advisory Committee on Immunization Practices (ACIP) recommended pre-exposure prophylaxis vaccination with rVSV-ZEBOV for adults ≥ 18 years of age in the U.S. population who are at potential occupational risk of exposure to Zaire ebolavirus.</li> <li>• Used during an outbreak to protect persons at the highest risk of contracting Ebola disease under a “ring vaccination” strategy</li> </ul>
CASE FATALITY	Early supportive care with rehydration and asymptomatic treatment improves survival. With supportive care, the average case fatality rate is around 50% but can be up to 90%

The associated training video to this document was published on 07/24/2024. The training can be viewed on Youtube at Mountain Plains RDHRS. The MPRDHRS JIT Learning Series is funded by Award Number 6 HITEP200043-01-03 from the Administration for Strategic Preparedness and Response (ASPR).  
References: <https://www.cdc.gov/viral-hemorrhagic-fevers/hcp/guidance/ppe-clinically-unstable.html>, <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm63e1114a5.html>, <https://www.cdc.gov/vhf/ebola/prevention/index.html>, <https://www.cdc.gov/vhf/ebola/prevention/index.html>, <https://www.who.int/news-room/questions-and-answers/item/ebola-vaccines>, <https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease>, <https://www.fda.gov/news-events/press-announcements/fda-approves-first-treatment-ebola-virus>, <https://www.fda.gov/news-events/press-announcements/fda-approves-first-treatment-ebola-virus>, <https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease>, [https://www.cdc.gov/ebola/about/?CDC\\_AAref\\_Val=https://www.cdc.gov/vhf/ebola/about.html](https://www.cdc.gov/ebola/about/?CDC_AAref_Val=https://www.cdc.gov/vhf/ebola/about.html)

