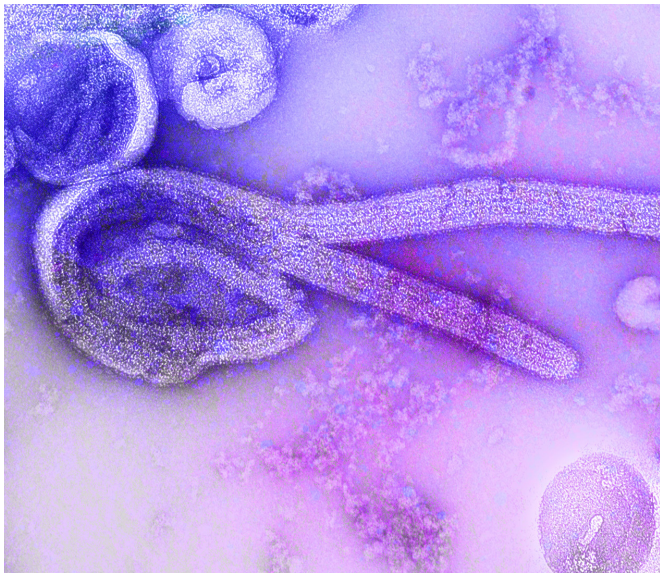
NYSNA OCCUPATIONAL HEALTH & SAFETY

Safe Nurses, Safe Patients, Safe Workplace.

NYSNA HEALTH & SAFETY GUIDE

BUNDIBUGYO STRAIN EBOLA VIRUS

A practical overview of outbreak updates, essential preparedness planning, and key questions to ensure your hospital is ready.



Digitally-colorized electron microscopic image of an isolate of Ebola virus. Source: Centers for Disease Control and Prevention (CDC)

THIS GUIDE INCLUDES:

- Outbreak information
- What should be included in a readiness plan
- Checklist to ask hospital management

Public Health Emergency of International Concern

The current outbreak of Bundibugyo Ebola Virus Disease (EVD) in the Democratic Republic of Congo (DRC) and Uganda has resulted in over 1,000 confirmed infections. However, this number may ultimately rise to the tens of thousands. Hundreds of deaths have been confirmed, including a number of healthcare workers. A shortage of contact tracers has made it difficult to fully capture all cases. Because Bundibugyo is a relatively rare strain of Ebola, and tests were not immediately available in the affected regions, the disease spread quickly before it was identified. The area in the DRC where the outbreak is believed to have originated is a region with high migration and low access to healthcare. Cuts in international aid may have exacerbated the crisis by delaying timely response and access to medical supplies and tests. For this reason, and because EVD can have a relatively long incubation period (up to 21 days), the World Health Organization (WHO) has declared this outbreak to be a Public Health Emergency of International Concern.

The risk of Bundibugyo EVD reaching American hospitals is low at this time. However, there may be patients with travel histories and symptoms that will identify them as possibly having EVD. Early symptoms of EVD can include fever, chills, headache, sore throat, general myalgia, weakness, and fatigue. This symptomology can mimic many

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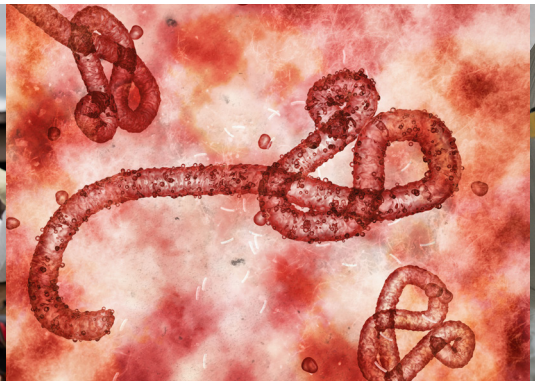
For assistance with infection control and staff protection for EVD and other infectious pathogens, please contact the NYSNA Occupational Health and Safety Representatives at healthandsafety@nysna.org.

New York State Nurses Association
National Nurses United


illnesses, including malaria which is endemic to the regions where Bundibugyo EVD has been identified. For the safety of patients and staff, suspect patients must be treated as confirmed cases until EVD is ruled out.

The National Special Pathogens System (NSPS)

NSPS has divided U.S. hospitals into a tiered system of care. Level 1 facilities are equipped and prepared to treat patients with confirmed EVD from a large geographic region and serve as a technical resource for the area. There are 13 Level 1 facilities in the U.S. The closest Level 1 facilities for the New York area are at NYC Health + Hospitals/Bellevue in New York City and Massachusetts General Hospital in Boston. Level 2 facilities can also treat EVD patients for the duration of their illness, and there are several in New York State. Level 3 hospitals can identify and isolate EVD patients, conduct limited lab testing, stabilize patients, and care for patients for 12-36 hours while awaiting transport to a Level 1 or 2 facility. Level 4 hospitals can identify, isolate, begin patient stabilization, and arrange for rapid transport to a Level 1 or 2 facility. All levels are required to have protocols in place to keep staff from becoming infected. **It is important to contact your facility management to identify into which NSPS level the hospital has been classified. Infection control protocols and preparedness will vary depending on the NSPS level designation.**

What's the Plan?

Even though the risk in the United States is low, hospitals must have a plan in place to quickly identify, isolate and test suspect EVD patients.

Although EVD is believed to be spread through contact with infected bodily fluids, it is possible that it can be spread through airborne transmission as well. Therefore, the following protections should be in place to prevent healthcare-associated transmission:

- **Early identification and isolation**
  Overcrowded, understaffed EDs are prime locations for infectious diseases to spread while patients wait for triage and treatment. With a disease this dangerous, quickly identifying and isolating suspect EVD patients is key. Hospitals must have a protocol in place, and enough staffing to follow the protocol, to conduct a fast, basic triage as soon as patients enter the ED. That triage should include questions related to travel history, symptomology, and possible exposure to someone infected with EVD. (A similar rapid, initial triage should also be in place for more common highly infectious diseases such as measles.) Once identified as a potential EVD case, the patient should be masked and immediately moved to a nearby isolation room – preferably an airborne infection isolation room (AIIR) with negative pressure. At this point further questions and examination should take place and authorities notified. Appropriate PPE must be located near the isolation room/AIIR for the use of any staff coming into close contact with the patient.

- **Engineering controls**
  Hospitals must be ready to either transport suspect cases to a higher-tiered Ebola treatment facility or move the patient out of the ED and into an AIIR located elsewhere in the facility. If there are no AIIRs, or there are not an adequate number of AIIRs, the hospital should be prepared to create

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temporary AIIRs (see resources section below for temporary AIIR construction guidance). In addition there must be areas adjacent to the AIIR for safe donning and doffing of PPE. Systems must also be in place to safely store potentially contaminated waste in safe receptacles stored in pre-identified areas.

Personal protective equipment (PPE)
PPE must include an N95 or higher-level fit-tested respirator (NYSNA recommends a hooded PAPR or CAPR), gloves, gown or coverall, shoe covering, face and eye protection. This PPE must be readily available in adequate supply and a range of sizes. Medical staff must be trained on safe donning and doffing of PPE. It is difficult to doff this level of protection without self-contamination. Therefore, doffing practice, especially with a dye or fluorescent tracer, and with a designated observer, is extremely important. There also must be a designated area for doffing PPE that does not overlap with designated clean areas.

Protocols to limit close contact
Direct contact with suspect EVD patients should be limited whenever possible. That may include planning ways to communicate with the patient from a separate room through the use of a phone or intercom and limiting measures such as phlebotomy and aerosol-generating procedures.

Dedicated medical equipment
Dedicated medical equipment (preferably disposable when possible) should be used when providing care to a suspect EVD patient. Equipment manufacturers should be contacted to determine appropriate cleaning and disinfection protocols for non-dedicated equipment.

Waste disposal plan
Treating a patient with EVD or suspect EVD can create enormous amounts of waste that must be carefully handled. A system for handling, storage and disposal of this waste must be put in place prior to a patient appearing on the hospital's doorstep. A specialized carting company may be required to remove EVD-designated waste.

CHECKLIST FOR EVD READINESS

- ☐ My hospital is an NSPS Level ____ facility.
- ☐ Written EVD infection control plan in place & provided to staff.
- ☐ Protocol and staffing in place for rapid initial triage in ED & other facility entry points.
- ☐ Adequate supply of PPE in facility with additional supplies readily available.
- ☐ Dedicated Airborne Infection Isolation Room (AIIR) with verified negative pressure as monitored by clinical and operations staff.
- ☐ Access to EVD treatment medications and vaccines for those strains for which treatment and vaccines are available.
- ☐ Protocols for staff quarantine if exposed to EVD.
- ☐ EVD waste management plan in place.
- ☐ Staff training on:
  - ○ EVD characteristics and identification
  - ○ Infection control plan
  - ○ Triage & isolation protocols
  - ○ Use of engineering controls
  - ○ Required PPE & safe donning/doffing
  - ○ Protocols in place to limit close contact
  - ○ Use of dedicated medical equipment
  - ○ Cleaning & disinfection procedures
  - ○ Waste handling, storage & disposal procedures

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RESOURCES

National Emerging Special Pathogens Training and Education Center
National Special Pathogen System (NSPS) | NETEC
Partners & Regional Contacts | NETEC

NYS Department of Health
Ebola and Marburg Virus Information for Health Care Providers, Facilities, and Laboratories

U.S. Centers for Disease Control and Prevention
Infection Prevention and Control Recommendations for Patients in U.S. Hospitals who are Suspected or Confirmed to have Selected Viral Hemorrhagic Fevers (VHF) | Viral Hemorrhagic Fevers (VHFs) | CDC

Guidance for Personal Protective Equipment (PPE) | Viral Hemorrhagic Fevers (VHFs) | CDC

Handling VHF-Associated Waste | Viral Hemorrhagic Fevers (VHFs) | CDC

Expedient Patient Isolation Rooms | Healthcare Workers | CDC

U.S. Environmental Protection Agency
Disinfectants for Emerging Viral Pathogens (EVPs): List Q | US EPA

U.S. Department of Health and Human Services
Administration for Strategic Preparedness and Response Technical Resources, Assistance Center and Information Exchange
Ebola/VHF | ASPR TRACIE

World Health Organization
Ebola disease

MN Department of Health
Airborne Infectious Disease Management: Methods for Temporary Negative Pressure Isolation

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