Ebola Virus Disease (EVD) – Sudan Strain in Uganda

Current Status of the US & Canada:

The U.S. issued a Health Advisory Network (HAN) Travel Alert Level 2 **https://wwwnc.cdc.gov/travel/notices/alert/ebola-in-uganda** and a HAN Health Advisory **https://emergency.cdc.gov/han/2022/han00477.asp**, for Heath Care Workers to be aware of the Ebola outbreak in Uganda, monitor for symptoms consistent with Ebola, and utilize best practices if there are any signs that someone might be experiencing an illness consistent with it. Canada did the same and has encouraged those that are traveling to Uganda to practice enhanced precautions and monitor for Ebola illness, especially associated with travel from the Uganda area according to **https://travel.gc.ca/travelling/health-safety/travel-health-notices#level2**.

It's important to be aware of the risk that Ebola exposure provides since the US actually had a couple of travelers, from different previous outbreaks, arrive in the US infected with Ebola, using commercial airlines. One of those passengers went on to infect two nurses, at a receiving hospital, when he sought care at the hospital via EMS. The EMS workers did not become infected.

Both the US and Canada are considered low risk for spread of Ebola at this time. In fact, only Uganda and countries sharing its border are considered at high risk for contracting Ebola Sudan Virus. The US doesn't receive direct flights from Uganda, although visitors or Ugandan citizens could be exposed and then travel elsewhere to board a flight or ship. With an incubation up to 21 days for begin to have symptoms, and only then is one considered infectious or capable of spreading the Ebola virus to others, travel could be initiated and even completed, before symptoms even started. For those leaving Uganda to travel, screening for signs and symptoms of Ebola or contact with someone with Ebola, within 21 days of travel, is required before boarding an airplane or ship. As an extra precaution, any passengers flying into the U.S., who have been in Uganda in the 21 days before their arrival in the U.S., will be routed to the one of five designated US airports for enhanced Ebola screening. Beginning at 2359 on October 6, they would be routed to either New York's JFK airport, Liberty International in New Jersey, Dulles International in Washington, D.C., O'Hare International Airport in Chicago, or Hartsfield-Jackson International in Atlanta.

The Outbreak:

On September 20, Uganda announced that it had an outbreak of Ebola Virus with the Sudan strain, first identified in a 25-year-old man in the Mubende District, which has now spread amongst 5 districts. As investigations started, it was determined that there had been a number of suspicious cases and clusters of community deaths, that occurred in Mubende, up to a month prior to the identification and confirmation of the index case. The case and death count, as of October 12, was 74 total cases (54 confirmed) and 39 deaths (19 confirmed). The remaining twenty cases/deaths were those earlier suspicious

cases/clusters who all died without being tested. Unfortunately, this means that there may be other infected people not yet identified. Ten of the cases reported were health care workers; 4 have recovered, 4 died.

The affected areas are close to the country's capital, Kampala, in a busy and mobile area, with easily traveled roads and close access to the Democratic Republic of the Congo (DRC), as well as a gold mine that has a lot of traffic in and out of it, increasing the possibility of someone being infected, leaving the area, and taking Ebola with them. There has already been one death from Ebola Sudan in Kampala.

On the positive side, Uganda has dealt well with Ebola outbreaks in the past and they have quickly put measures in place to prevent outward spread and to provide containment of those infected. The numbers of cases have slowed after initial surges. Doctors without Border (MSF) were invited in to help build another Ebola Treatment Center and provide oversight, monitoring and expert care there.

Ebola Sudan Virus is a much rarer virus compared to the Zaire strain, although there have been 7 previous outbreaks of it since 1977. There are no treatments for it, other than supportive care with fluid & electrolytes, respiratory and other supportive, as needed. The vaccine that was successful against the Zaire strain does not appear, in animal studies, to have any effect against the Sudan strain. There are, however, two vaccines in early human trials, that may help prevent or decrease the impact of the Sudan strain. And, after deliberation between the WHO and Ugandan authorities, it appears that Ugandan authorities will accept the vaccine trials on behalf of their people. Rapid isolation of those that are sick, along with contact tracing and close monitoring for development of the disease in those that were exposed, is in place. Care for those that are suspected or confirmed to have Ebola is done in Ebola Treatment Centers by health care providers, trained in enhanced infection prevention & control practices, as well as care of Ebola patients.

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What the US is Doing "in an Abundance of Caution":

The US Government, through its agencies & departments, will continue to monitor the current Ebola outbreak, work with other international, federal, state & local partners, and adapt public health policy & guidance accordingly.

The US will also continue to work with the outbreak Region to provide safe travel practices, support border screening, and other measures at key ports & airports in the affected area.

In the US, A Regional Treatment Network for Ebola & Other Special Pathogens has been set up to, at least temporarily assess, mitigate, and begin management for patients who may have Ebola or other public health high risk disease. This system consists of NETEC Special Pathogens Partners, Regional Treatment Centers, and HHS Regions with inks to contact and other Information that can be found here: https://netec.org/about-netec/partners-regional-contacts/

What EMS, EMS/Fire, & Other First Responders Can Do:

1. Identify at least one person in your Agency to monitor the Ebola situation and watch for any changes to the current recommendations. Changes in recommendations pertinent to the US and Canada will be posted on this site. It is often easiest, at least for the first draft of an Ebola or other Infectious Disease Policy or Protocol, to gather a representative committee including Medical Direction, Operations, Quality Improvement, an EMS Supervisor, and an experienced EMT and Paramedic. This will ensure robust conversation and a final document with more thought & process, than one or two people, trying their hand at it. There absolutely must be Medical Direction participation and approval for this document. There are some decisions that only the Medical Director or Medical Direction Team can make (i.e., what procedures can be withheld for a "wet" Ebola patient).

2. This is a good time to review, and update as needed, Ebola policies & procedures in place at your Agency and integrate any new information & recommendations into them. The Medical Director and/or a well-educated & experienced Infection Control Practitioner (i.e., Designated Infection Control Officer and/or your Occupational Health Service), should review the policy for medical correctness and practicality. Consult with Local Public Health Authorities for assistance when needed. These Policies & Protocols should include components of the:

CDC -- Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Under Investigation (PUIs) for Ebola Virus Disease (EVD) in the United States (10/7/22):
https://www.cdc.gov/vhf/ebola/clinicians/emergency-services/ems-systems.html

National Emerging Special Pathogens Training & Education Center (NETEC) – EMS Strategies for Ebola (10/19/22)
https://netec.org/2022/10/19/ems-strategies-for-ebola/

Infection Prevention & Control Canada (IPAC) – Ebola Virus Disease Home Page with Info & Links to More Specific Guidance, Other Agencies, Videos & Other Resources:
https://ipac-canada.org/ebola-virus-resources

3. If you haven't already done so, please develop relationships with your Local Public Health Physician, Administrator, and those that have responsibility for night and weekend calls (typically RNs or APs). If your local health department participates as a biological and/or chemical lab, meet the director and staff there, as well. These relationships may become useful with Ebola, but 1st Responders & Local Public Health Authorities, as well as your Hospitals' Infection Prevention & Control and/or Occupational or Employee Health Practitioners should exchange ideas and information so everyone care share information and ideas.

4. Assess your current stockpile of "special hazards" PPE, tape used to secure PPE, disposable, single-use Equipment, EPA approved Ebola disinfectants, other items needed for deconning personnel & any non-disposable equipment, as well as the vehicle, and any other items that may be needed if Ebola expands outside of Africa. See the three links, found at the end of the document, for what equipment should be part of the inventory.

The acceptance of sub-standard equipment during the COVID Pandemic, because there wasn't enough of the "real stuff" available, will not suffice with Ebola. There have to be authentic medical (not industrial grade) N95 masks, and not counterfeit ones (the counterfeits can really fool you), KN95s (China), KF94s (Korea) or any other substitute. The filters for PAPRs have to be the correct ones for high-risk pathogens and NIOSH approved. The gowns/jumpsuits and aprons need to be resilient enough to not rip during EMS operations. Department heads may have to reach out to government officials to point out this essential need, and remind them that special pathogen stockpiles may have been depleted to meet COVID needs. Certified & approved replacements may still be hard to procure.

Below are a few articles that may highlight the specific risks and needs in the pre-hospital environment:

NAEMT Article on Lessons Learned from the Travel-Related Dallas Ebola Pt:
https://www.naemt.org/docs/default-source/ems-health-and-safety-documents/lessons-learned-from-ebola-newswinter2015.pdf?sfvrsn=0

EMS1 Article about How Grady Prepared for Ebola Patient Transports:
https://www.ems1.com/ems-management/articles/how-grady-ems-managed-2-ebola-patient-transports-85biqWyATpg0xN5R/

NIH Article on EMS Public Health Implications:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4251209/

5. Review the current plan for the Regional Treatment Network for Ebola & Other Special Pathogens and note that 3 hospitals have been designated as National Ebola Training & Educational Centers (NETEC). They include Emory University Hospital in Atlanta, Ga; University of Nebraska Medical Center/Nebraska Medicine in Omaha, NE; and NYC + Hospitals / Bellevue in New York City, NY. All three have successfully treated patients with Ebola.
The NETEC offers training, resources, readiness assessments, & ongoing expertise, to help members of the 10 Regional Treatment Centers for Ebola and Other Special Pathogens, prepare for pandemics and other emerging threats related to infectious disease outbreaks. The Clinical Center at the National Institute of Health in Bethesda, MD is also capable of treating patients with Ebola and other special pathogen diseases in a specialized biocontainment unit. It is also a good time to consider doing refresher training, while realizing for some, this may be brand new info & training. Consider the following:

a. Before the COVID Pandemic, many hospitals, EMS, Fire & Law Enforcement agencies were not very familiar with the proper use of full PPE, especially using N95 or higher masks, including PAPRs, Face shields, Gowns/Jumpsuits, Aprons, Gloves Head & Foot Covers, etc. That has changed, somewhat, with more than two years practice using these items to reduce exposure to COVID. That's a good thing. However, with Ebola, the stakes are even higher and the need for better & redundant coverage is essential. Studies have shown that utilizing a Trained Observer to evaluate – in real time - the donning and doffing of PPE, with decon, during training **AND** drills greatly helps reduce mistakes and failures to avoid exposure. This is also true during responses to real patients. Consider incorporating Glo Germ **https://www.glogerm.com/** into your practices/drills, to test and show visually (with a black light) how effective handwashing, deconning, or just how "germs" spread with only one or two people "infected".

b. Practicing the buddy system of the donning and doffing of PPE, with decon, (currently, without destroying the PPE so that it can be continuously reused for training). An observer should be constantly monitoring the practice, and make **immediate** corrections, as they would if the situation was real.

c. Reviewing and practicing appropriate protection & decontamination of reusable equipment (such as cables, monitors/defibrillators), how to properly discard disposable equipment, and disinfect the transport vehicle.

d. Consider practicing with a pseudo germ preparation (Glo Germ, Germ Juice, or Glitter Bug) that can be seen only under blacklight, and should improve the employees' approach to PPE and disinfection for all diseases. With Ebola and a few others, it may save their life(s).

e. Employees should also be reminded of post exposure policies & procedures, as should those that are likely to be contacted and/or expected to manage an exposure, should it occur.

EMS-specific guidelines that provide guidance should be utilized by 911 PSAPS, EMS, and Fire/EMS Systems, throughout the United States and its Territories, to assure the safest environment possible for First Responders and all patients.

CDC Healthcare Worker Guidance for PPE with Ebola Risk (10/20/20):

Unstable/"Wet: Patient: **https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html**

Stable/"Dry" Patient: **https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance-clinically-stable-puis.html**

CDC FAQs PPE (10/20/20):
https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/faq.html

A page, listing *Resources & Links* to other Ebola information that may be useful for First Responders & First Responder Agencies, will be included as an associated document to this one on the *Health Intelligence Page* (HIP) under the *Ebola* category. As of now, they are current, but may be superseded or replaced with new information from the CDC, NIOSH, or other governing body, or archived at any time.
The CDC's notice of changes will generally appear at the top of the affected page with posting and last reviewed dates typically found on the last page of documents.

FirstWatch will be monitoring the Ebola situation closely, and will post changes in outbreak reports, alerts and recommendations, as well as providing links and updates if more documents are produced by expert organizations and government bodies.