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Ebola Outbreak Caused by Sudan virus in Uganda

Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory about a recently confirmed outbreak of Ebola disease in Uganda caused by the Sudan virus (species *Orthoebolavirus sudanense*) and to summarize CDC's recommendations for U.S. public health departments and clinicians about case identification, testing, and biosafety considerations in clinical laboratories.

Currently, no suspected, probable, or confirmed Ebola cases related to this outbreak have been reported in the United States, or outside of Uganda. However, as a precaution and because there are other viral hemorrhagic fever (VHF) outbreaks in East Africa, CDC is sharing best practices for public health departments, public health and clinical laboratories, and healthcare workers in the United States to raise awareness about this outbreak.

On February 5, 2025, CDC issued a <u>Travel Health Notice Level 2: Practice Enhanced Precautions</u> for people traveling to Uganda. Currently, CDC has not issued any interim recommendations to health departments for post-arrival risk assessment and management of travelers, including U.S.-based healthcare workers, arriving from Uganda. CDC recommends that travelers monitor themselves for symptoms of Sudan virus disease (SVD) while in the outbreak area and for 21 days after leaving. Travelers should also self-isolate and contact local health authorities or a clinician if they develop symptoms (early "dry" symptoms may include fever, aches, pains, and fatigue and later "wet" symptoms may include diarrhea, vomiting, and unexplained bleeding).

Background

On January 29, 2025, the Ministry of Health of Uganda officially declared an Ebola outbreak caused by the Sudan virus (species *Orthoebolavirus sudanense*), in the nation's capital, Kampala. This is the eighth Ebola outbreak in Uganda since 2000.

The confirmed case of SVD was in a 32-year-old man who worked as a nurse at the Mulago National Referral Hospital. The man initially developed high fever, chest pain, difficulty in breathing and bleeding from multiple body sites and sought treatment at multiple health facilities, including Mulago Referral Hospital in Kampala, Saidina Abubakar Islamic Hospital in Matugga in Wakiso District, and Mbale Regional Referral Hospital in Mbale City. He also sought treatment from a traditional healer. The patient died on January 29. Post-mortem samples were tested and confirmed positive for Sudan virus at three national reference laboratories. CDC is working closely with the Ministry of Health of Uganda to support the response to this outbreak.

Description of the situation

While there are no direct flights from Uganda to the United States, travelers from or passing through affected areas in Uganda can enter the United States on flights connecting from other countries. As a precaution, CDC is communicating with public health departments, public health and clinical laboratories, and healthcare workers in the United States and educating travelers to raise awareness of this outbreak. Healthcare providers should be alert and evaluate any patients suspected of having SVD. It is important for clinicians to obtain a detailed travel history from patients with suspected SVD, especially those that have been in affected areas of Uganda. Early consideration of SVD in the differential diagnosis is important for providing appropriate and prompt patient care, diagnostics, and to prevent the spread of infection.

Ebola Disease

Ebola disease is caused by a group of viruses, known as orthoebolaviruses (formally ebolavirus). Ebola disease most commonly affects humans and nonhuman primates, such as monkeys, chimpanzees, and gorillas. There are four orthoebolaviruses that cause illness in people, presenting as clinically similar disease:

- Ebola virus (species Orthoebolavirus zairense) causes Ebola virus disease.
- Sudan virus (species Orthoebolavirus sudanense) causes Sudan virus disease.
- Taï Forest virus (species Orthoebolavirus taiense) causes Taï Forest virus disease.
- Bundibugyo virus (species Orthoebolavirus bundibugyoense) causes Bundibugyo virus disease.

A person infected with Ebola disease is not contagious until <u>symptoms</u> appear, including fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, and unexplained bleeding. Ebola disease is spread through **direct contact** (through broken skin or mucous membranes) with the body fluids (blood, urine, feces, saliva, droplet, semen, or other secretions) of a person who is sick with or has died from Ebola disease. Ebola disease is also spread by infected animals, or through direct contact with objects like needles that are contaminated with the virus. Ebola disease is **not** spread through airborne transmission.

There is currently no Food and Drug Administration (FDA)-licensed vaccine to protect against Sudan virus infection. The Ebola vaccine licensed in the United States (ERVEBO®) is indicated for preventing Ebola disease due to Ebola virus (species *Orthoebolavirus zairense*) only, and based on studies in animals, is not expected to protect against Sudan virus or other orthoebolaviruses. There

is currently no FDA-approved treatment for SVD, but there are therapies in human clinical trials that are highly effective in animal models.

In the absence of early diagnosis and appropriate supportive care, Ebola disease has a high mortality rate. With intense supportive care and fluid replacement, mortality rates may be lowered. Previous outbreaks of SVD have had a mortality rate of approximately 50%.

CDC has developed guidance for U.S.-based nongovernmental organizations and medical centers with staff working in the affected areas: Recommendations for Organizations Sending U.S.-based Personnel to Areas with VHF Outbreaks.

Recommendations for Clinicians

- Systematically assess patients with compatible symptoms for exposure risk and the
 possibility of VHFs including SVD through a <u>triage and evaluation process</u> including a travel
 history. Early identification of SVD or other VHFs is important for providing appropriate and
 prompt patient care and preventing the spread of infection.
- Include SVD in the differential diagnosis for an ill person who has been to an area with an
 active SVD outbreak in the past 21 days, AND who has compatible symptoms (e.g., fever,
 headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or
 unexplained bleeding), AND who has reported epidemiologically compatible risk factors
 like one or more of the below, within the 21 days before symptom onset:
 - Had direct contact with a symptomatic person with suspected or confirmed SVD (alive or dead), or with any objects contaminated by their body fluids.
 - Experienced a breach in infection prevention and control precautions that resulted in the potential for contact with body fluids of a patient with suspected or confirmed SVD.
 - Participated in any of the following activities while in an area with an active SVD outbreak:
 - Had contact with someone who was sick or died or with any objects contaminated by their body fluids.
 - Attended or participated in funeral rituals, including preparing bodies for funeral or burial.
 - Visited or worked in a healthcare facility or laboratory.
 - Had contact with cave-dwelling bats or non-human primates.
 - Worked or spent time in a mine or cave.
 - Consider and perform testing for more common diagnoses such as <u>malaria</u>, COVID-19, influenza, or common causes of gastrointestinal and febrile illnesses in an acutely ill patient with recent international travel and evaluate and manage the patient appropriately.

- Know that patients with SVD may present with concurrent infections (e.g., co-infection with malaria), and the possibility of a concurrent infection should be considered if a patient has a clinical and epidemiologic history compatible with SVD. Travel to or from Uganda during the past 21 days should not be a reason to defer routine laboratory testing or other measures necessary for standard patient care.
- Isolate and manage patients with exposure risks and symptoms compatible with SVD in a healthcare facility until receiving a negative SVD test result on a sample collected ≥ 72 hours after symptom onset. If a sample collected is <72 hours after symptom onset and is negative, the patient should remain isolated in the healthcare facility and another test should be performed on a new sample taken ≥ 72 hours after initial symptom onset. Routine laboratory testing to monitor the patient's clinical status and diagnostic testing for other potential causes of the patient's illness should be pursued while SVD testing is underway. SVD diagnostic testing should not be delayed while awaiting results of other diagnostic testing.
 - Patients should be held in isolation at their presenting medical facility and cared for by personnel wearing <u>appropriate PPE</u>, pending test results.
 - If a patient tests positive, they would be transferred to a <u>Regional Emerging Special Pathogens Treatment Center</u> or a state-designated special pathogens treatment center, depending on the jurisdiction.
- Contact your state, tribal, local, or territorial health department immediately (via 24-hour Epi-on-Call contact list) if SVD is suspected and follow jurisdictional protocols for patient assessment. If a diagnosis of SVD is considered, health departments will work with CDC and the clinical team to coordinate care and testing for the patient and ensure appropriate precautions are taken to help prevent potential spread.
- Counsel patients with planned travel to an SVD outbreak-affected area on ways to prevent exposure during their travel. Prevention methods include:
 - Avoiding contact with blood and body fluids (or with materials possibly contaminated with blood and body fluids) of people who are sick.
 - Avoiding semen from a man who has recovered from Ebola disease until testing shows that the virus is no longer in the semen.
 - Not touching the body of someone who died from suspected or confirmed SVD, such as during funeral or burial practices.
 - Avoiding contact with bats, bat urine or droppings, forest antelopes, nonhuman primates, and blood, fluids, or raw meat from these or unknown animals.
 - Refraining from entering areas known to be inhabited by bats, such as mines or caves.

- Counsel travelers to avoid visiting healthcare facilities in affected areas for nonurgent medical care or for nonmedical reasons, and to avoid visiting traditional healers.
- Counsel healthcare workers traveling to Uganda for work in clinical settings of their
 potential increased risk of exposure to SVD, the importance of following recommended
 infection prevention and control precautions and monitoring themselves for symptoms of
 SVD after their return to the United States.
- Follow CDC's <u>Infection Prevention and Control Recommendations for Patients in U.S.</u>
 Hospitals who are Suspected or Confirmed to have Selected Viral Hemorrhagic Fevers (VHF).

Recommendations for Public Health Departments

- Follow your established jurisdictional protocols about patient assessment to determine if testing for SVD is warranted for a patient with concerning clinical and epidemiologic history for SVD if identified in your jurisdiction.
- Coordinate patient management, sample referral, and SVD testing with state, tribal, local and territorial health departments, CDC, and the clinical team.
- Contact CDC's Viral Special Pathogens Branch (VSPB) 24/7 for consultations about SVD or other VHFs. Call CDC's Emergency Operations Center at 770-488-7100 and request VSPB's on-call epidemiologist. For non-emergency inquiries, email spather@cdc.gov.
- For suspect cases, request testing for SVD and other viral hemorrhagic fevers from CDC (Atlanta, Georgia) or the <u>Laboratory Response Network (LRN)</u>.
 - To date, 38 geographically diverse LRN laboratories and 13 Regional Emerging Special Pathogen Treatment Centers can test using the <u>Biofire FilmArray NGDS</u> <u>Warrior Panel or Global Fever Special Pathogens Panel</u>, with several more LRN laboratories expected to receive testing kits soon.
 - The Biofire Warrior Panel and Global Fever Special Pathogens Panel can detect orthomarburgviruses (Marburg and Ravn viruses) and orthoebolaviruses (Ebola, Sudan, Tai Forest, Bundibugyo, and Reston viruses) in addition to other highconsequence pathogens.
 - Per manufacturers' recommendations, results from these test kits are presumptive, and results require confirmatory testing, which can be performed at CDC.
- Be aware of CDC's <u>Travel Health Notice</u> for suspected SVD in Uganda and consider engaging travel health clinics or other clinical and public health partners to increase awareness on SVD.
- Review CDC's guidance for <u>Public Health Management of People with Suspected or</u> <u>Confirmed VHF or High-Risk Exposures.</u>

Recommendations for Clinical Laboratory Biosafety

- Be aware that early symptoms associated with SVD are similar to other illnesses associated with fever in recent international travelers.
- Following CDC's <u>Standard Precautions for All Patient Care</u>, which includes Occupational Safety and Health Administration's (OSHA) <u>Bloodborne Pathogens Standard</u>, and the <u>BMBL appendix 9</u> effectively prevents laboratory acquired illnesses from bloodborne pathogens, such as VHFs and other high-consequence diseases. Handle all blood and body fluids (e.g. urine, pleural fluid) as if they contain an unknown pathogen, taking the necessary precautions to avoid exposure.
- Be prepared to <u>perform laboratory testing</u> that is critical to evaluating an ill traveler.
- Have a written <u>Exposure Control Plan</u> in place to eliminate or minimize employees' risk of exposure to blood, body fluids or other potentially infectious materials per OSHA's Bloodborne Pathogens Standard.
- Make <u>recommended PPE</u> available and train staff to properly put on (don) and take off (doff) their PPE.
- If a facility does not have the appropriate risk mitigation capabilities, forward the sample using appropriate packing and shipping requirements to a facility that does.

Recommendations for the Public

- Protect yourself and prevent the spread of Ebola when living in or traveling to a region where Sudan virus is potentially present or that is currently experiencing an outbreak.
- Take the following actions to protect yourself:
 - Avoid contact with sick people who have symptoms such as fever, muscle pain, and rash.
 - Avoid contact with blood and other body fluids.
 - Avoid materials possibly contaminated with blood or other body fluids of people who are sick.
 - Avoid semen from men who have recovered from Ebola disease, until testing shows that the virus is no longer in the semen.
 - Avoid visiting healthcare facilities in affected areas for nonurgent medical care or for nonmedical reasons.
 - Avoid visiting traditional healers.
 - Do not participate in funeral or burial practices that involve touching the body of someone who died.
 - Keep away from bats, forest antelopes, non-human primates (e.g., monkeys, chimpanzees, gorillas), and avoid contact with blood, fluids, or raw meat from these or unknown animals.

- Do not enter areas where bats live, such as mines or caves.
- Monitor your health while you are in and for 21 days after you return from an area experiencing an SVD outbreak.
- Isolate (separate) yourself immediately from others, do not travel, and contact local health authorities or a healthcare facility for advice if you develop <u>symptoms of SVD</u>. Before you enter a healthcare facility, alert the healthcare providers of your recent presence in an SVD-affected area.

For More Information

General Ebola Information

- Ebola Disease Basics | Ebola | CDC
- Outbreak History | Ebola | CDC
- Travel Health Notice

Clinician Resources

- Clinical Guidance for Ebola Disease | Ebola | CDC
- Clinical Signs of Ebola Disease | Ebola | CDC
- Healthcare Provider Trainings on Ebola Disease | Ebola | CDC
- Recommendations for Organizations Sending U.S.-based Personnel to Areas with VHF
 Outbreaks | Viral Hemorrhagic Fevers (VHFs) | CDC
- Viral Hemorrhagic Fevers | CDC Yellow Book 2024
- Public Health Management of People with Suspected or Confirmed VHF or High-Risk Exposures | Viral Hemorrhagic Fevers (VHFs) | CDC

U.S. Healthcare Settings

System of Care | NETEC

U.S. Public Health Departments

- Public Health Strategies for Ebola Disease | Ebola | CDC
- Public Health Management of People with Suspected or Confirmed VHF or High-Risk
 Exposures | Viral Hemorrhagic Fevers (VHFs) | CDC
- Public Health Guidance for VHF Response Planning | Viral Hemorrhagic Fevers (VHFs) |
 CDC

Non-U.S. Healthcare Settings

• <u>Viral Hemorrhagic Fevers (VHFs) for Health Care Providers | Viral Hemorrhagic Fevers (VHFs) | CDC</u>

- Clinical Screening and Diagnosis for VHFs | Viral Hemorrhagic Fevers (VHFs) | CDC
- Clinical Treatment of Viral Hemorrhagic Fevers (VHFs) | Viral Hemorrhagic Fevers (VHFs) |
 CDC
- 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

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

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