



CDC Assists in Public Health Response to Marburg Hemorrhagic Fever Outbreak in Angola

The U.S. Centers for Disease Control and Prevention (CDC), in collaboration with the World Health Organization (WHO), the Ministry of Health of Angola and other partners, is working to help control the Marburg hemorrhagic fever outbreak in Uige Province in northern Angola. On March 25, 2005, CDC began posting outbreak notices and updates on its Web site (www.cdc.gov/marburg) to inform travelers, airline personnel, and U.S. citizens living abroad about the outbreak. CDC continues to provide on-site diagnostic services, hospital support and training, field investigation assistance, scientific information, and updates to travelers, businesses, and humanitarian workers in and around the affected area.

On March 21, the Special Pathogens Branch at CDC confirmed the presence of Marburg virus in 9 of 12 laboratory specimens from patients who died during the outbreak. CDC personnel have joined with WHO as part of the international response to assist with epidemiologic investigation, infection control, and laboratory diagnosis. CDC personnel in Atlanta continue to provide laboratory and scientific support to Angola's Ministry of Health and to countries bordering Angola.

CDC personnel in Uige Province, Angola, are working to provide infection-control support in the Uige Provincial hospital and training to health-care workers on appropriate practices to keep them safe and to prevent spread of infection to other patients; establish a screening ward to evaluate suspect Marburg patients as they arrive at the hospital; assist in identifying cases and contacts, ensuring that contacts are followed and promptly hospitalized if they have signs of illness and in maintaining an epidemiologic database to track case-patients and contacts; assist in efforts to educate persons in the community about the disease and how to protect themselves and their families.

CDC's Special Pathogens Branch has established a field laboratory in Luanda, Angola to provide prompt laboratory confirmation of suspect Marburg cases in Angola and neighboring countries. This temporary laboratory, which has been set up in the Angolan Institute for Public Health, has the capacity to detect Marburg viral antigen and viral nucleic acid and specific antibodies against Marburg virus in blood specimens.

Facts about Marburg Hemorrhagic Fever

Marburg virus (a member of the family *Filoviridae*, which also includes Ebola virus) causes a severe and often fatal illness in humans and non-human primates. Illness caused by Marburg virus, Marburg hemorrhagic fever, abruptly begins after a 5- to 10-day incubation period. Some of the symptoms may include fever, vomiting, cough, diarrhea, and in some cases bleeding. There is no vaccine to prevent the disease and no specific treatment.

Humans become infected with Marburg virus by direct contact with blood or body fluids or with objects contaminated with body fluids from an infected individual. People are not infectious during the incubation period before they become ill.

Reports of Marburg hemorrhagic fever are rare, with recent occurrences limited to countries in sub-Saharan Africa. The current outbreak in Angola is the first report of Marburg virus disease since 1998-2000, when the then largest known outbreak, (154 cases, resulting in 128 deaths) occurred in the Democratic Republic of Congo.

Viruses causing hemorrhagic fever exist in many places around the world, and modern travel patterns raise the possibility of importing an infectious disease to the United States or to other countries where the disease has not been previously reported.¹ However, if Marburg virus infection were to reach the United States, health officials here have the ability to effectively isolate infected individuals and stop the spread of disease.

Travelers' Health Guidance

As of May 23, there are no U.S. travel restrictions to the affected area. As a precaution, due to limited local health care resources, persons with underlying medical conditions who might need emergency medical care may wish to defer non-essential travel to Uige Province at this time. As always, returning travelers who become ill with a fever should consult a health-care provider **immediately** and tell him or her about their recent travel and potential contacts. The cause of fever in persons who have traveled or live in areas where hemorrhagic fever is present is more likely to be a common infectious disease such as malaria, but such persons should be evaluated by a health-care provider to be sure. *In such cases, the provider should be informed of the patient's symptoms before he or she goes to the office or emergency room so that arrangements can be made to prevent transmission to others in the health-care setting.* For information for health care professionals about managing patients with suspected viral hemorrhagic fever, see www.cdc.gov/ncidod/hip/blood/vhf_interimguidance.htm. Travelers returning to the United States from Angola who are not ill need not follow any special precautions. For updated travel information, please see CDC's Travelers' Health Web site: www.cdc.gov/travel.

Work with International Health Organizations

As the current situation unfolds, CDC will continue to work with its global partners to provide assistance and expertise. The level of engagement with partners will change as the response continues and new issues emerge. For additional information, please see the Marburg page on CDC's Web site (www.cdc.gov/marburg) and the viral hemorrhagic fevers page on the WHO Web site (www.who.int/topics/haemorrhagic_fever_viral/en).

¹ Source: Special Pathogens Branch (www.cdc.gov/ncidod/dvrd/spb/mnpages/whoweare.htm); CDC Travelers' Health page (www.cdc.gov/travel/other/marburg_vhf_angola_2005.htm)