MARBURG VIRUS DISEASE:
Information for Healthcare Providers

Q: What is Marburg?

A: Marburg virus disease is a rare but severe viral hemorrhagic fever disease that is similar to Ebola virus disease. Like Ebola, it is a zoonotic disease caused by an RNA virus in the filovirus family, and it infects both humans and non-human primates. The reservoir host for Marburg virus is the African fruit bat, *Rousettus aegyptiacus*, which has a broad geographic spread across Africa.

Q: What are the symptoms of Marburg virus disease?

A: Marburg virus disease presentation (especially at the onset) may be very similar to other infectious diseases that are more common such as malaria, typhoid fever, and others. Therefore, it is very important to obtain a thorough history and evaluation, including a detailed travel and exposure history (see below for risk factors for Marburg exposure), and to also consider more common diseases for which prompt treatment may be lifesaving (e.g., malaria, especially *Plasmodium falciparum*, can progress rapidly so early diagnosis and treatment is critical).

The incubation period for Marburg virus disease is 2-21 days and initial symptoms include fever, chills, myalgias, and headache. About five days after the onset of symptoms, a maculopapular rash, most prominent on the trunk, may occur in some patients. Nausea, vomiting, chest pain, sore throat, abdominal pain, and diarrhea may also occur. As the disease progresses, symptoms become increasingly severe and may include jaundice, inflammation of the pancreas, severe weight loss, delirium, shock, liver failure, massive hemorrhage, and multi-organ dysfunction. The case fatality rate is between 23-90%.

Q: How does Marburg virus disease spread?

A: After an initial zoonotic transmission (presumably from contact with infected bats or their environment), Marburg virus disease spreads via person-to-person contact. Transmission to

others occurs when broken skin or mucous membranes in the eyes, nose, or mouth come in contact with:

- Blood or body fluids (urine, saliva, sweat, feces, vomit, breast milk, amniotic fluid, and semen) of a person who is sick with or died from Marburg virus disease, or
- Objects contaminated with body fluids from a person who is sick with or has died from Marburg virus disease (such as clothes, bedding, needles, and medical equipment), or
- Semen from a person who recovered from Marburg virus disease (through oral, vaginal, or anal sex)

Household members, caregivers and healthcare providers for individuals who are sick with Marburg virus disease are at greatest risk for being infected with the virus due to their close contact and potential exposure to infectious body fluids or objects. Appropriate protocols including personal protective equipment (PPE) should be used to prevent nosocomial spread in healthcare environments. See below for more information about infection control measures.

People may also become sick with Marburg virus disease after working with nonhuman primates who are infected, or from laboratory work that involves handling of live virus.

Q: What should I do if I suspect a patient who I am evaluating may have Marburg?

A: If you identify a patient with symptoms consistent with Marburg virus disease AND they have risk factors for Marburg/viral hemorrhagic fever, you should immediately ISOLATE the patient and INFORM the Infection Prevention and Control team at your facility AND the local health department. A copy of the local health department directory can be found at: https://nj.gov/health/lh/documents/LocalHealthDirectory.pdf.

Risk factors for acquiring Marburg virus disease include:

- Traveling in a region endemic for and/or currently experiencing an outbreak **AND**
    - Having close contact with a sick person or a person who has died in a region experiencing an outbreak, or with a sick person who recently traveled to a region experiencing an outbreak, **OR**
    - Having contact with semen from someone who has recovered from Marburg virus disease, **OR**
    - Attending/participation in funeral or burial rituals in a region where there is an active Marburg outbreak, **OR**
    - Having contact with bats or wild animals, or spending time in a cave or mine, in a region where there is an outbreak of Marburg virus disease or a region where Marburg virus is likely to exist, **OR**
    - Working in a laboratory where Marburg virus is handled.

Q: What are the recommended infection prevention measures for a patient who may have Marburg virus disease?

A: Because Marburg virus disease is similar to Ebola virus, and spreads the same way, the same infection prevention measures should be employed in the healthcare setting for either of these diseases. Detailed information on infection control and PPE can be found at the CDC website.

Q: Is there a treatment for Marburg virus?

A: Treatment for Marburg virus involves supportive care for any of the manifestations of the disease (ie; hypotension, bleeding, organ dysfunction, etc); there is no specific treatment for the Marburg virus at this time.

Q: Is laboratory testing available for Marburg virus?

A: Yes, the New Jersey Department of Health Public Health and Environmental Laboratories has the capacity to test for Marburg virus for individuals meeting testing criteria (clinically compatible presentation and exposure history). Contact the local health department to report suspect Marburg cases; the health department will help coordinate the testing.

Q: Is there a vaccine to prevent Marburg virus disease?

A: No, there is currently no vaccine licensed to prevent Marburg virus disease. Measures for prevention of secondary, or person-to-person, transmission are like those used for other hemorrhagic fevers.

Q: Where can I find additional resources and information about Marburg virus disease?

A: The CDC and the National Emerging Special Pathogens Training and Education Center (NETEC) are both resources for additional information on preparing for and responding to a potential case of Marburg in your healthcare facility.

- CDC: https://www.cdc.gov/vhf/marburg/index.html
- NETEC: https://repository.netecweb.org/exhibits/show/marburg/marburg