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*Dedicated to the  
Indomitable Spirit  
and Sacrifices of  
the SOF Medic*

# INFECTIOUS DISEASES

## An Ongoing Series

### Zika Virus

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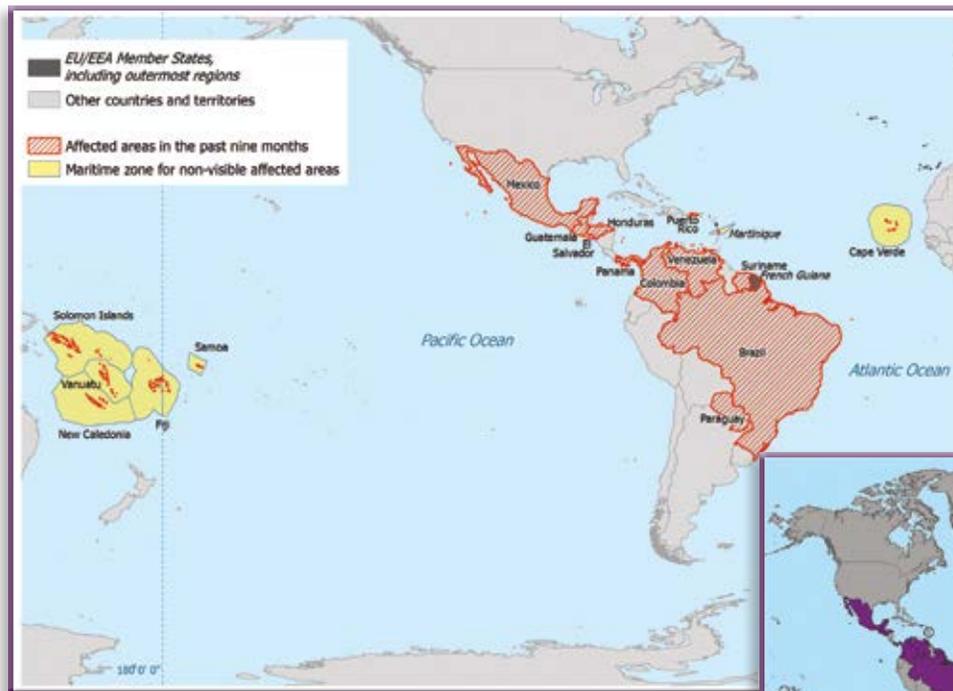
#### INTRODUCTION

Prior to a widespread 2007 outbreak in Yap State of the Federated States of Micronesia, human infections with Zika virus had been seldom reported in the medical literature. Zika virus, an RNA virus in the family Flaviviridae—the same family of viruses as dengue, yellow fever, West Nile, and Japanese encephalitis—was first isolated in a rhesus monkey in the Zika forest of Uganda in 1947. The similarity between the symptoms of those infected with dengue virus and those with Zika virus may have led to cases of Zika virus infections being overlooked.

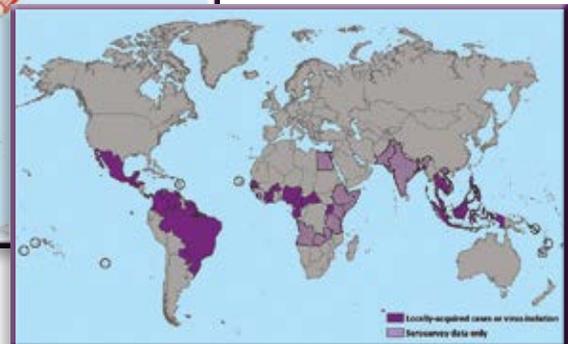
In the spring and summer of 2007, it was estimated that greater than 70% of the residents aged 3 years and older on the island of Yap were infected. Although the

majority of those infected showed no evidence of the disease, fever, maculopapular rash, arthralgia, and conjunctivitis were common symptoms in those affected. A larger outbreak followed in French Polynesia in 2013. In 2015, it was estimated that between 500,000 and 1.5 million Brazilians were infected as the disease made its way to South America, possibly being brought by travelers attending the 2014 World Cup soccer competition. Zika virus is now considered an emerging infectious disease with the possibility of causing infections globally.

The virus itself is spread usually through the bite of an infected mosquito, primarily *Aedes aegypti* or *A. albopictus*, which also carry other flavivirus infections. Transmission via blood transfusion or contact with infectious



Areas with active Zika virus transmission. From the Centers for Disease Control and Prevention (as of 1 March 2016)



Source: <http://www.cdc.gov/zika/geo/index.html>.

waste is a theoretical possibility. Perinatal transmission and sexual transmission of the disease have been reported. It is unknown how long semen can remain infected, but it is likely a longer period than in blood.

### Clinical Presentation

It is estimated that only one in five of those infected show evidence of the disease: fever, maculopapular rash, polyarthralgia, headache, and nonpurulent conjunctivitis. The incubation period following an infected mosquito bite ranges from 3 to 12 days. Symptoms can last from several days to a week before resolution.

Transmissions in urban and jungle environments have been demonstrated. Of concern with the recent outbreaks in French Polynesia and Brazil are the noted increases in the number of cases of Guillain-Barré syndrome in those known to have been infected with the Zika virus. Also, in December 2015, the Pan American Health Organization issued an alert of a possible link to infants born with microcephaly, after finding a 20-fold increase in the number of infants born with smaller-than-expected head sizes in Brazil during the course of the previous year.

### Diagnosis

On 26 February 2016, the US Food and Drug Administration announced an Emergency Use Authorization for the CDC Zika IgM Antibody Capture Enzyme-Linked Immunosorbent Assay (Zika MAC-ELISA). This test can be used for patients 5 days after illness onset and for the next 12 weeks. Information regarding testing for Zika virus infections can be obtained from CDC's Arbovirus Diagnostic and Reference Laboratory at 970-221-6400 or found online at <http://www.cdc.gov/zika/hc-providers/diagnostic.html>.

### Treatment

The treatment for Zika virus infection is supportive. Caregivers should be careful to not come into direct contact with blood of patients with the virus, because it is likely infectious. The use of aspirin and other nonsteroidal anti-inflammatory drugs should be avoided until dengue infection has been ruled out, because this may result in worsened hemorrhagic disease in patients with dengue.

### Vaccination

No vaccine currently exists for this disease.

### Importance in a Deployed Setting

Because of the lack of a vaccine, and an effective antiviral treatment, prevention is key. It is important to wear

permethrin-treated uniforms and use DEET-containing repellents when in endemic areas. Patients who are suspected of having a Zika virus infection in the field, who cannot be evacuated, should be cared for under bed nets for the next 7–10 days to prevent further infections in those around them. Patients also should be counseled that they can infect their sexual partners with the virus, even after they have become asymptomatic.

Guidance regarding the sexual transmission of Zika virus and many other issues related to the disease are undergoing rapid change as new information is added to what is known. Please consult <http://www.cdc.gov/zika/hc-providers/index.html> for the most up-to-date guidelines.

### Disclosure

The author has nothing to disclose.

### Disclaimer

The views expressed in this publication are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the US Government.

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### Recommended Internet Links:

<http://www.cdc.gov/zika/hc-providers/index.html>

[http://ecdc.europa.eu/en/healthtopics/zika\\_virus\\_infection/factsheet-health-professionals/Pages/factsheet\\_health\\_professionals.aspx](http://ecdc.europa.eu/en/healthtopics/zika_virus_infection/factsheet-health-professionals/Pages/factsheet_health_professionals.aspx)

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