MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention (Maine CDC)
(Formerly Bureau of Health)
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*****ADVISORY – Important Information*****

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TO: **All Academic; All CDC; All City and County Health Departments; All Healthcare; All Lab Facilities; Maine Medical Association; Northern New England Poison Center; All Public Health; All Regional Resource Centers**

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SUBJECT: **Increased Potential for Dengue Infection in Travelers Returning from International and Selected Domestic Areas**

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Increased Potential for Dengue Infection in Travelers Returning from International and Selected Domestic Areas

This HAN is based on a Federal CDC HAN distributed via Health Alert Network on July 22, 2010, 18:35 EST (6:35 PM EST) [CDCHAN-000315-2010-07-22-ADV-N]. It has been adapted to include Maine specific information.

Summary: Dengue virus transmission has been increasing to epidemic levels in many parts of the tropics and subtropics. Travelers to these areas are at risk of acquiring dengue virus and developing dengue fever (DF) or the severe form of the disease, dengue hemorrhagic fever (DHF). The Centers for Disease Control and Prevention (CDC) strongly advises that health care providers in the United States should: 1) consider DF and DHF when evaluating patients returning from dengue-affected areas--both domestic and abroad--who present with an acute febrile illness within two weeks of their return, 2) submit serum specimens for appropriate laboratory testing, and 3) report all presumptive and confirmed cases of DF and DHF to their local or state health department.

Background

Dengue transmission has been increasing to epidemic levels in many parts of the tropics and subtropics where it had previously been absent or mild. Dengue-affected areas are widely distributed throughout Africa, Asia, Pacific, the Americas and the Caribbean. This calendar year, more than 50 countries have reported evidence of dengue transmission; including 17 countries in Asia, 17 in the Americas, 10 in Africa, seven in the Caribbean, and one in the Pacific. With an extensive dengue outbreak occurring in Puerto Rico and evidence of continued transmission in Key West, Florida, travel to certain domestic locations may also pose a risk for the traveler. The mosquitoes known to transmit dengue virus, *Aedes aegypti* and *Aedes albopictus*, are present throughout much of the southeastern United States and infected returning travelers may pose a risk for initiating local transmission.

In Maine, three cases of probable Dengue Fever have been report to date in 2010. These cases had history of travel to Indonesia, US Virgin Islands, and India. During 2009, there were three cases of probable Dengue Fever with travel history to El Salvador, Mexico, and multiple countries in Southeast Asia. 2009 and 2010 cases were not confirmed as Dengue Fever because only acute specimens were collected. Paired acute and convalescent specimens are required to confirm cases.

Symptoms

Dengue virus infections can manifest as a subclinical infection or DF, and may develop into potentially fatal DHF. DF is a self-limited febrile illness that is characterized by high fever plus two or more of the following: headache, retro-orbital pain, joint pain, muscle or bone pain, rash, mild hemorrhagic manifestations (e.g., bleeding of nose or gums, petechiae, or easy bruising), and leukopenia. Because the incubation period for dengue infection ranges from 3 to 14 days, the patient may not present with illness until after returning from travel. Clinical management of DF consists of symptomatic treatment (avoid aspirin, NSAIDS and corticosteroids, as they can promote hemorrhage) and monitoring for the development of severe disease at or around the time of defervescence. A small proportion of patients develop DHF, which is characterized by presence of resolving fever or a recent history of fever, lasting 2–7 days, any hemorrhagic manifestation, thrombocytopenia (platelet count $\leq$100,000/mm^3), and increased vascular permeability, evidenced by hemoconcentration, hypoalbuminemia or hypoproteinemia, ascites, or pleural effusion. DHF can result in circulatory instability or shock. Adequate management requires timely recognition and hospitalization, close monitoring of hemodynamic status, and judicious administration of intravascular fluids. There is no antiviral drug or vaccine against the dengue virus.

Updated guidelines for the management of dengue can be found at
http://whqlibdoc.who.int/publications/2009/9789241547871_eng.pdf

Recommendations

· Health care providers seeing patients with dengue-like illness who have recently traveled to Puerto Rico, Key West, Florida or international dengue-affected areas (See world distribution of dengue maps at http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/dengue-fever-dengue-hemorrhagic-fever.aspx) should report cases to the local or state health department and send specimens for laboratory testing. DF and DHF are now nationally notifiable conditions in the United States. Please remember that apart from individuals traveling for tourism, individuals responding to international disasters (e.g., Haiti earthquake), participating in medical or religious missionary work, and visiting friends and relatives are often returning from dengue-affected areas and should be evaluated for dengue infection if they present with dengue-like illness during or after their travel.

· Report to Maine CDC suspect cases of DF and DHF by calling 1-800-821-5821. Consideration of hospitalization to initiate supportive care should not be delayed pending test results. Reporting suspected dengue cases will trigger a public health investigation and the implementation of prevention measures.

· Specimens from patients with acute febrile illness, who returned from dengue-affected areas within the past 14 days, should be submitted the Maine Health and Environmental Testing Laboratory (HETL) which will assist with forwarding specimen to the Federal CDC. Federal CDC offers free diagnostic testing and confirmatory dengue testing.

Whenever possible, submit paired acute and convalescent specimens (2 ml of centrifuged serum.) Accuracy is increased when both acute and convalescent specimens are available for testing. But providers should not wait and should submit acute specimens as soon as available; a convalescent specimen can be submitted when available.

Type of specimen	Interval since onset of symptoms	Type of Analysis
• Acute	until day 5	RT-PCR for dengue virus
• Convalescent	6 to 30 days	ELISA for dengue IgM

For More Information

· Additional information about dengue is available at: www.cdc.gov/dengue

· Call Maine CDC's 24-hour Disease Reporting and Consultation Line 1-800-821-5821