

Health Advisory:

Possible Dengue Infections Among Relief Workers Returning From Haiti

May 11, 2010

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.dhss.mo.gov>

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

Health Advisory
May 11, 2010

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SUBJECT: Possible Dengue Infections Among Relief Workers Returning From Haiti

On April 27, the Centers for Disease Control and Prevention (CDC) issued a Health Advisory entitled *Potential for Dengue Infection Among Relief Workers Returning from Haiti* (<http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00312>). The following includes information and recommendations from this CDC document, as well as additional guidance specific to Missouri health-care providers.

Purpose

To encourage health-care providers to consider dengue infection in the differential diagnosis of febrile illness in relief workers returning from Haiti and to submit diagnostic samples to the Missouri State Public Health Laboratory (MSPHL) or CDC for appropriate testing.

Target Audience

Medical providers evaluating any person who has recently been in Haiti, including critical care providers, primary care providers, infectious disease physicians, hospital infection control personnel, public health staff, and commercial diagnostic laboratory workers.

Background

The January 12, 2010, earthquake in Haiti caused extensive damage to homes and utilities and left many residents without proper shelter. Exposure to the elements has likely increased the risk of contact with mosquitoes that may spread diseases such as dengue. Since dengue is endemic in Haiti, the CDC Dengue Branch advises that physicians evaluate travelers returning with a febrile illness (or a recent history of febrile illness) from Haiti.

Potential Public Health Concerns

Because mosquitoes that transmit dengue are common in parts of the US, including Missouri, an infected traveler can touch off a localized dengue outbreak. Three states (Florida, Texas, and Hawaii) have had local outbreaks identified in the last decade.

Symptoms of Dengue Fever

Dengue fever (DF) is characterized by an acute 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., nose or gum bleed, petechiae, or easy bruising), and leukopenia. The incubation period for DF ranges from 3 to 14 days, but is typically about one week; therefore, illness can occur while workers are stationed in Haiti or after they return to the US. Most DF cases are self-limited and can be treated with bed rest, acetaminophen, and oral fluids.

Symptoms of Dengue Hemorrhagic Fever

A small proportion of patients develop dengue hemorrhagic fever (DHF), which is characterized by a fever lasting 2 to 7 days, any hemorrhagic manifestation, thrombocytopenia (platelet count $<100,000/\text{mm}^3$), and abnormal vascular permeability evidenced by hemoconcentration, hypoalbuminemia, or abdominal or pleural effusions. DHF can result in circulatory instability or shock, and the risk for these complications may be increased among persons with prior dengue infection. Adequate management of DHF patients generally requires timely hospitalization and judicious administration of intravascular fluids and close monitoring of vital signs and hemodynamic status. Physicians who suspect that a patient has DHF may wish to consult the CDC Dengue Branch at (787) 706-2399. A four-page clinical management tool can be downloaded from http://www.cdc.gov/dengue/resources/Dengue&DHF%20Information%20for%20Health%20Care%20Practitioners_2009.pdf.

Recommendations

- Physicians seeing a patient who has illness consistent with dengue and who has traveled to Haiti within the past 30 days should submit test specimens to a public health laboratory rather than a commercial laboratory.
 - MSPHL can facilitate specimen shipment to the CDC Dengue Branch through the MSPHL Courier Service for Specimen Transportation.
 - The CDC Dengue Branch provides free diagnostic testing for physicians, and confirmatory dengue testing for commercial laboratories.
- Initiation of supportive care should not be delayed pending results of laboratory testing. However, laboratory results can be used to inform primary prevention efforts within the patient's household and community.
- While some commercial laboratories in the US offer diagnostic services for dengue, commercial labs are not always able to provide results that can distinguish recent from past dengue infection.

Instructions for Obtaining and Submitting Samples

NOTE: Information received on each case (e.g. date of onset of symptoms, date of sample collection) is crucial in selecting and interpreting laboratory analyses. In addition, a complete address and travel history are critical for identifying areas where dengue surveillance, prevention, and control measures should be implemented.

- Whenever possible, physicians should submit paired acute and convalescent samples to facilitate optimal diagnostic testing. The following table summarizes the timing and type of specimen needed for dengue infection analysis:

| Type of Sample | Interval Since Onset of Symptoms | Type of Analysis | Specimen Type |
|----------------|----------------------------------|-------------------------|------------------------------|
| Acute | Until day 5 | RT-PCR for dengue virus | Serum, 2ml, red-topped tube |
| Convalescent | 6 to 30 days | ELISA for dengue IgM | Serum, 2 ml, red-topped tube |

- Each specimen consists of 2 ml (cc) of centrifuged serum; freeze serum immediately after separation and ship on dry ice.

- All specimens must be accompanied by a completed Dengue Case Investigation Form (<http://www.cdc.gov/Dengue/resources/caseformhaiti.pdf>) with “Haiti Travel” printed on the heading of the form.
- Specimens and forms can be transported by either of two methods:

1. Through the MSPHL Courier Service:

- MUST INCLUDE the CDC Dengue Case Investigation Form noted above (<http://www.cdc.gov/Dengue/resources/caseformhaiti.pdf>).
- An additional Specimen Submission Form (CDC 50.34) is required for specimens transported via the MSPHL Courier Service:
http://www.cdc.gov/ncidod/dvbid/misc/CDC50_34.pdf
- Information on using the MSPHL Courier Service:
<http://www.dhss.mo.gov/Lab/CourierInformation.doc>
- Courier Pickup Locations:
<http://www.dhss.mo.gov/Lab/CourierPickupLocations.pdf>
- For more information: (573) 751-3334

OR

2. Direct shipment to the CDC Dengue Branch:

- MUST INCLUDE the CDC Dengue Case Investigation Form noted above (<http://www.cdc.gov/Dengue/resources/caseformhaiti.pdf>).
- Ship to: Centers for Disease Control and Prevention
Dengue Branch
1324 Cañada Street
San Juan, Puerto Rico 00920
Tel: (787) 706-2399; fax (787) 706-2496

Public Health Disease Reporting

- DF and DHF are reportable conditions in Missouri.
- By using the CDC Dengue Case Investigation Form, medical providers comply with Missouri’s disease reporting requirement.
- Local public health agencies can assist in public health investigations and prevention of possible local dengue transmission.

For More Information

- Questions about this Health Advisory should be directed to DHSS’s Office of Veterinary Public Health at (573) 526-4780.
- For questions about the MSPHL Courier Service, call (573) 751-3334.
- Detailed criteria for the processing of dengue samples at the CDC Dengue Branch are available at: http://www.cdc.gov/Dengue/resources/TestpolEng_2.pdf.
- Additional information about dengue is available at: <http://www.cdc.gov/dengue/>.
- CDC’s toll-free information line, 800-CDC-INFO (800-232-4636), TTY: (888) 232-6348, is available 24 hours a day, every day.