



**ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
PUBLIC HEALTH DEPARTMENT**

Division of Communicable Disease Control and Prevention
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PUBLIC HEALTH UPDATE

August 31, 2012

Hantavirus Cardiopulmonary Syndrome in California

SITUATION: The California Department of Public Health (CDPH) has reported six confirmed cases of Hantavirus Cardiopulmonary Syndrome (HCPS) in visitors who stayed in Yosemite National Park from early June to mid-July 2012. CDPH reports that five cases are California residents, including one Alameda County resident, and one case is a Pennsylvania resident. Two of the cases have died. Four of the cases stayed in the “Signature Tent Cabins” in the Boystown area of Curry Village, one stayed in another part of Curry Village, and one is still under investigation. The park has closed all tent cabins in the Boystown area indefinitely, per recommendations from CDPH. The National Park Service is contacting visitors who stayed in the Boystown area of Curry Village from June 10 through August 24 to advise them of possible exposure to hantavirus and to seek immediate medical attention if they develop symptoms of HCPS.

ACTIONS REQUESTED OF CLINICIANS

1. EDUCATE patients that HCPS is a rare disease that is best prevented by avoiding contact with rodents and their excreta, and that testing of well or mildly ill persons is not beneficial.
2. REPORT and CONSIDER TESTING for HCPS in patients with severe febrile cardiopulmonary disease and a history of contact with rodents in rural areas. Call ACPHD at 510-267-3250 Monday through Friday, 8:30am to 5:00pm for consultation and approval before sending specimens to the Public Health Laboratory.
3. CONSULT an infectious disease specialist and/or the CDC webpage for clinical information: <http://www.cdc.gov/hantavirus/technical/hps/clinical-manifestation.html>.
4. DIRECT patients with questions regarding the hantavirus situation in Yosemite National Park to their phone line, (209) 372-0822 or for general questions about HCPS and hantavirus, to the following websites:
CDC (<http://www.cdc.gov/hantavirus/>)
CDPH (<http://www.cdph.ca.gov/HealthInfo/discond/Pages/HantavirusPulmonarySyndrome.aspx>)
Alameda County Department of Environmental Health (<http://www.acvcgsd.org>); email ehvector1@acgov.org

BACKGROUND: HCPS is a rare disease. From 1993, when HCPS was first identified, 63 cases have been diagnosed in Californians and 590 nationally.

HCPS patients present with a 3-5 day prodrome of fever, chills, and myalgia from 1 to 6 weeks after exposure. Headache, nausea, vomiting, abdominal pain, diarrhea, cough and malaise are common. The prodromal phase of HCPS is clinically indistinguishable from other viral illnesses. Cough, tachypnea, and shortness of breath begin 2-7 days after the prodrome, progressing rapidly to hypotension, pulmonary edema, pleural effusions and hypoxia. CXR findings rapidly evolve from pulmonary edema to extensive bibasilar or perihilar airspace disease. Leukocytosis with a left shift and circulating myelocytes is typical. 80% of patients develop significant thrombocytopenia. There is no specific therapy; treatment is supportive. The case fatality rate is 30-40%. The diagnosis is made by serologic assays for antibodies to Sin Nombre Virus (SNV), the specific hantavirus that causes HCPS in the western US. The presence of IgM antibodies or a 4-fold rise in IgG antibodies to SNV in a patient with compatible signs is diagnostic. Serologic assays generally become positive when a patient develops cardiopulmonary disease. Testing asymptomatic or mildly ill patients is not recommended. Serologic testing for hospitalized patients with



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severe cardiopulmonary symptoms is available from California's Public Health Laboratory network, with approval from the Alameda County Public Health Department (ACPHD) Acute Communicable Disease Unit. For patients who do not meet public health criteria for testing, a commercial serologic test may be an option.

In the western US, SNV is carried and shed by the deer mouse, especially in rural areas. Other rodents such as squirrels, chipmunks, rats, and house mice do not pose a risk of HCPS to humans. Infected deer mice shed SNV in their urine, droppings and saliva, which can cause human infection if aerosolized and inhaled, as may occur when cleaning a small, confined space. When in the wilderness or in places harboring mice, people should keep food in tightly sealed containers, seal holes where mice could enter the dwelling, air out an enclosed space before entering or cleaning it, and spray areas contaminated with rodent droppings and urine with a 10% bleach solution or other disinfectant for 15 minutes before cleaning it up. Persons who clean rodent excreta should wear disposable gloves, seal waste tightly in plastic bags, and wash their hands. Wearing a face mask (ideally an N-95 or higher rating) may provide some additional (though not 100%) protection but does not replace the other precautions of wetting contaminated areas, wearing gloves, and washing hands.