

## **HANTAVIRUS ILLNESS AND HOW TO AVOID IT COMMON QUESTIONS AND THEIR ANSWERS**

The purpose of this fact sheet is to provide available information and to answer common questions. To date, as of August 2006, there have been 440 human cases of Hantavirus in the United States since testing began in 1993.

**Q:** What is Hantavirus?

**A:** Hantaviruses are a family of four previously identified viruses found in rodents. These viruses have caused serious health problems in other parts of the world (mainly the Far East and Scandinavia).

The virus responsible for recent U.S. deaths is a new strain described in 1993 (Sin Nombre Virus = SNV) that is apparently unique to North America. This new strain attacks the lungs and heart, instead of the kidneys as other strains do, resulting in the disease termed Hantavirus Pulmonary Syndrome (HPS).

**Q:** How is this virus transmitted?

**A:** The virus is principally carried by a common rodent, the deer mouse. This mouse is found throughout North America and in every California county. Infected rodents shed live virus in saliva, feces, and urine. Humans are infected when they encounter and inhale aerosolized microscopic particles that contain dried rodent urine or feces. In other parts of the world, rodent bites have caused human infection with related Hantaviruses. Insects and mites have not been studied extensively to determine their role, if any, in Hantavirus transmission.

**Q:** How dangerous is this virus?

**A:** This strain appears to be extremely dangerous to those who are infected with it. About 40% of those known to be infected by the virus have died. While dangerous to individuals, its means of transmission is so unusual that most people are very unlikely to encounter the virus; it poses little threat to the general California population.

**Q:** Can people infect each other?

**A:** There is no evidence of human-to-human transmission in the United States of Hantaviruses. No one believes the virus will start an epidemic. No health care workers have been infected while caring for infected patients.

**Q:** How long does it take to develop symptoms after exposure?

**A:** Typically one to two weeks, but the range may be as wide as a few days up to six weeks.

**Q:** What are the symptoms?

**A:** Typical cases of HPS initially seem similar to the flu: high fever, muscle aches, cough, and headache. After several days, respiratory problems worsen rapidly. The lungs fill with fluid and in severe cases, victims die of respiratory failure.

**Q:** Is there any treatment?

**A:** At the moment, it appears there is no generally effective treatment for this Hantavirus. Physicians have been administering ribavirin, an antiviral drug, experimentally to suspected victims. Too few people have been treated to draw any conclusions about its effectiveness.

**Q:** Is Hantavirus disease (HPS) present in California?

**A:** Yes. 38% of 45 California cases have died between 1984 and 2006 from Hantavirus infection. Most of these people had confirmed contact with rodents, including deer mice in California.

**Q:** Are California deer mice and other rodents infected with Hantavirus?

**A:** Yes. Twenty counties have records of Sin Nombre Virus (SNV) positive deer mice; 12.2 percent seropositive statewide. Harvest mice and meadow mice have been found positive for related Hantaviruses that have not been associated with human disease.

**Q:** Do rodents in urban areas carry Hantaviruses?

**A:** Yes. Roof rats can carry Seoul virus. It is very rare, however. Only one of 300 roof rats tested in Orange County was positive for the virus. All known cases of human Hantavirus infection have been acquired in rural locations.

**Q:** Are deer mice the only animals that carry the Sin Nombre virus, and how do I tell deer mice from other mice?

**A:** Deer mice are the most abundant, widely distributed, and probably the most common carrier of the virus in California. It is difficult to properly identify mice. All rodents should be avoided.

**Q:** What do I do if I am going into a cabin or rural home with rodent droppings in it?

**A:** Dwellings with evidence of severe infestation (e.g., substantial collections of rodent droppings or dead animals

present) should first be aired-out while unoccupied.

Rodent debris should be thoroughly wetted with a household disinfectant or a 1 to 5 dilution of household bleach in water to reduce formation of dust aerosols. Debris should then be **WIPED UP** and placed in double plastic bags for disposal, together with any cleanup materials such as paper towels, etc. **DO NOT** use vacuum cleaners or sweep with brooms, which will create air-borne dust. Use of gloves, dust masks (N-100), long-sleeved clothing, and protective eyewear may help prevent personal exposure. Debris and dead animals should be soaked in disinfectant (e.g., the diluted bleach solution or phenol-based cleaning solution) and buried or disposed of as directed by local health officials. Rodent-proofing measures should be applied to dwellings to prevent animal entry. Keep children and pets away from the area until it has been disinfected and completely cleaned.

**Q:** What do I do if I find a dead rodent in my house or cabin?

**A:** Disinfect, remove, and discard it as described above.

**Q:** Should I set out traps to catch the mice?

**A:** Mice and rats should not be allowed in buildings. Snap traps (not cage traps) can be used, but direct contact with the animal and its droppings should be avoided. Follow the precautions described above. Traps should be disinfected following use or disposed of with the dead animal. After eliminating rodents from a building, the conditions that attracted them there (e.g., food sources, overstuffed furniture, etc.) should be corrected.

**Q:** Is it safe to go camping?

**A:** Yes, but it is always important to avoid contact with animals, their burrows, nests, and especially their droppings.

**Q:** Is it all right to take my pets along on my camping trip?

**A:** It is always better to leave pets at home or in a kennel for their own safety and yours. If pets must be taken, they should always be confined or on a leash. Because of the danger of pets acquiring or transmitting other wildlife-associated diseases to their owners, pets should always be vaccinated for rabies and regularly treated for fleas (carriers of bubonic plague) and ticks (carriers of Lyme disease and relapsing fever).

**Q:** What special measures should I take if I do go camping?

**A:** Avoid areas with high rodent activity (e.g., burrows) or where rodent feces are evident. Store all food in containers sealed with lids. Do not feed chipmunks or other wild animals. Wear an insect repellent. With prudent precautions and behavior, undue worry can be avoided. Enjoy your trip.

**Q:** Are children, pregnant women, and the elderly at higher risk than the general population?

**A:** The HPS illness is so rare that a greater susceptibility in these groups cannot be determined. Proximity to and contact with rodents and their urine and feces appears to be the most important factor in determining who becomes ill with Hantavirus.

**Q:** Will the "fume bombs" sold over-the-counter kill the virus?

**A:** Probably not. The virus is best inactivated by contact with a liquid disinfectant such as diluted household bleach, as previously described and with exposure to sunlight (ultraviolet rays).

**Q:** Whom should I contact for more information?

**A:** Call your County Health Department listed in the Government Section at the front of your telephone directory. If you feel ill and are concerned, contact your personal physician, who will work with your County Health Department and the State Health Department. Please do not call the State Health Department directly.

(Modified from California Department of Health Services Bulletin)



ORANGE COUNTY VECTOR CONTROL DISTRICT  
13001 Garden Grove Boulevard, Garden Grove, CA 92843  
(714) 971-2421 • (949) 654-2421

Please Visit Our Web Site [www.ocvcd.org](http://www.ocvcd.org)

2006