

- Set Environmental Protection Agency-approved rodenticide with bait under plywood or plastic shelter along baseboards. These are sometimes known as "covered bait stations." Remember to follow product use instructions carefully, since rodenticides are poisonous to pets and people, too.
- In Nevada, bubonic plague is often found in rodent populations. Because of this problem you should spray flea killer or spread flea powder in the area before setting traps. This is important. If you control rodents but do not control fleas as well, you may increase the risk of infection with bubonic plague, since fleas will leave rodents once the rodents die and will seek out other food sources, including humans.
- Seal all entry holes 1/4 inch wide or wider with lath screen or lath metal, cement, wire screening or other patching materials, inside and out.

PREVENTION (Outdoors): Clear brush, grass and junk from around house foundations to eliminate a source of nesting materials.

- Use metal flashing around the base of wooden, earthen or adobe homes to provide a strong metal barrier. Install so that the flashing reaches 12 inches above the ground and six inches down into the ground.
- Elevate hay, woodpiles and garbage cans to eliminate possible nesting sites. If possible, locate them 100 feet or more from your house.
- Trap rodents outside, too. Poisons or rodenticides may be used as well, but be sure to keep them out of the reach of children or pets.
- Encourage the presence of natural predators, such as non-poisonous snakes, owls and hawks.
- Remember, getting rid of all rodents isn't feasible, but with ongoing effort you can keep the population very low.

PREVENTION (Clean Up): Put on latex rubber gloves before cleaning up. Don't stir up dust by sweeping up or vacuuming up droppings, urine or nesting materials. Instead, thoroughly wet contaminated areas with detergent or liquid to deactivate the virus. Most general-purpose disinfectants and household detergents are effective. However, a hypochlorite solution prepared by mixing 1.5

cups of household bleach in 1 gallon of water may be used in place of commercial disinfectant. When using the chlorine solution, avoid spilling the mixture on clothing or other items that may be damaged. Once everything is wet, take up contaminated materials with a damp towel, then mop or sponge the area with disinfectant. Spray dead rodents with disinfectant, then double-bag along with all cleaning materials and bury or burn—or throw out in appropriate waste disposal system. If burning or burying isn't feasible, contact your local or state health department about other disposal methods. Finally, disinfect gloves before taking them off with disinfectant or soap and water. After taking off the clean gloves, thoroughly wash hands with soap and warm water. When going into cabins or outbuildings (or work areas) that have been closed for a while, open them up and air out before cleaning.

TREATMENT: At the present time, there is **no** specific treatment or "cure" for hantavirus infection. However, we do know that if the infected individuals are recognized early and are taken to an intensive care unit, some patients may do better. In intensive care, patients are intubated and given oxygen therapy to help them through the period of severe respiratory distress. The earlier the patient is brought in to intensive care, the better. If a patient is experiencing full distress, it is less likely the treatment will be effective. Therefore, if you have been around rodents and have symptoms of fever, deep muscle aches and severe shortness of breath, see your doctor immediately. Be sure to tell your doctor that you have been around rodents—this will alert your physician to look closely for any rodent-carried disease such as HPS.

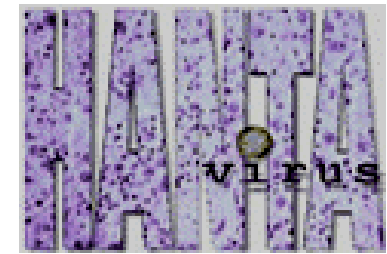
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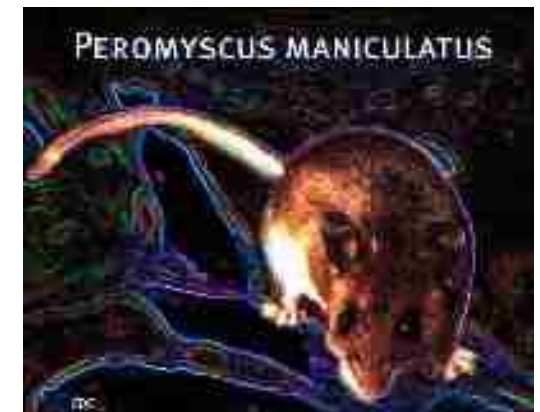
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HANTAVIRUS PULMONARY SYNDROME



NEVADA STATE HEALTH DIVISION

Office of Public Information



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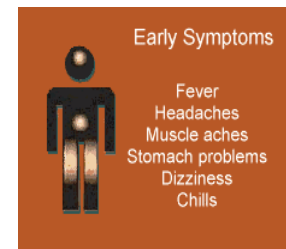
THE DISEASE: Hantavirus pulmonary syndrome (HPS) has been recognized as a disease only recently in North America. So far, it's also fairly uncommon and the chances of becoming infected are low. However, HPS is potentially deadly and immediate intensive care is essential once symptoms appear.



Transmission– The Rodent Connection: So just how do people get hantavirus pulmonary syndrome (HPS)? The short story is that some rodents are infected with a type of hantavirus that causes HPS. In Nevada, deer mice are the rodents carrying the hantaviruses that cause HPS. These rodents shed the virus in their urine, droppings and saliva. The virus is mainly transmitted to people when they breathe in air contaminated with the virus. This happens when fresh rodent urine, droppings or nesting materials are stirred up. When tiny droplets containing the virus get into the air, this process is known as “aerosolization.” There are several other ways rodents may spread hantavirus to people. If a rodent with the virus bites someone, the virus may be spread to that person—but this is very rare. Researchers believe that you may be able to get the virus if you touch something that has been contaminated with rodent urine, droppings or saliva, and then touch your nose or mouth. Researchers also suspect that if virus-infected rodent urine, droppings or saliva contaminates food that you eat, you could also become sick. These possibilities demonstrate why disinfecting rodent-infested areas is so important in preventing transmission of the virus. The types of hantavirus that cause HPS in the United States cannot be transmitted from one person to another. For example, you cannot get the virus from touching or kissing a person who has HPS, or from a health care worker who has treated someone with the disease. Finally, you cannot get the virus from a blood transfusion in which the blood came from a

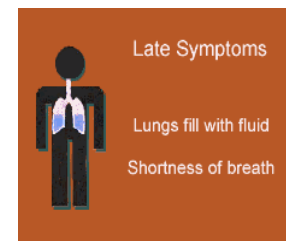
person who became ill with HPS and survived. The hantaviruses that cause HPS in the United States are not known to be transmitted by any types of animals other than certain species of rodents. You cannot get hantavirus from farm animals or from insects, such as mosquitoes. Dogs and cats are not known to carry hantavirus. However, they may bring infected rodents into contact with people if they catch such animals and carry them home. Guinea pigs, hamsters, gerbils and other such pets are not known to carry hantavirus.

RISK: Anything that puts you in contact with rodent droppings, urine or nesting materials can place you at risk for infection. These include such activities as opening up cabins and sheds or cleaning outbuildings that have been closed during the winter—such as barns, garages or storage facilities for farm and construction equipment. Both activities mean you may directly touch rodents or their droppings and/or “stir up the dust,” and when you touch or inhale them, you're at risk for infection. Hikers and campers can also be exposed when they use infested trail shelters or camp in other rodent habitats. Construction and utility workers can be exposed when they work in crawl spaces under houses or in vacant buildings that may have a rodent population. Cleaning in and around your own home can put you at risk if rodents have made it their home, too. And many homes can expect to shelter a few rodents, especially when the weather turns cold. Overall, the chance of being exposed to hantavirus is greatest when people work, play or live in closed spaces where rodents are actively living. However, recent research results show that many people who have become ill with HPS got the disease after having been in frequent contact with rodents and/or their droppings for some time. In addition, many people who have become ill reported that they had not seen rodents or their droppings—at all. Therefore, if you live in an area where the carrier rodents such as the deer mouse are known to live, take sensible precautions before you do activities like those described above—even if you don't see any rodents or their droppings.



SYMPTOMS: Early symptoms include fatigue, fever and muscle aches, especially the large muscle groups—thighs, hips, back, sometimes shoulders.

These symptoms are universal. There may also be headaches, dizziness, chills and/or abdominal problems, such as nausea, vomiting, diarrhea and abdominal pain. About half of all HPS patients experience these symptoms. Symptoms may develop between one and five weeks after exposure to potentially



infected rodents and their droppings. Four to ten days after the initial phase of illness, the late symptoms of HPS appear.

These include coughing and shortness of breath, with the sensation of, as one survivor put it, a “...tight band around my chest and a pillow over my face” as the lungs fill with fluid.

PREVENTION (Indoors): Keep a clean home, especially kitchen (wash dishes, clean counters and floor, keep food covered in rodent-proof containers).

- Keep a tight-fitting lid on garbage; discard uneaten pet food at the end of the day.
- Set and keep spring-loaded rodent traps. Set traps near baseboards because rodents tend to run along walls and in tight spaces rather than out in the open.

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