

# FactSheet

## Para Su Información

### Hantavirus Pulmonary Syndrome (HPS)

#### **What is Hantavirus Pulmonary Syndrome?**

Hantavirus pulmonary syndrome is a serious respiratory disease. This rare disease is characterized by influenza-like symptoms followed by difficulty in breathing. The disease results from exposure to infected rodent saliva, urine or droppings.

#### **Who gets Hantavirus Pulmonary Syndrome?**

Anyone who comes into contact with rodents that carry hantavirus is at risk of HPS. Rodent infestation in and around the home remains the primary risk for hantavirus exposure. Even healthy individuals are at risk for HPS infection if exposed to the virus.

#### **How does the disease spread?**

Hantavirus infection is usually spread by inhaling the virus, which is in the droppings, urine and saliva of infected rodents. Although uncommon, the virus can also be passed to humans through a rodent bite. The common deer mouse (*Peromyscus maniculatus*) appears to be responsible for the spread of the disease in most of the U.S. Other rodents may also be infected with this virus but in much smaller numbers. There is no evidence of person-to-person spread.

#### **What are the symptoms?**

People who are sick from HPS may at first think they have the flu. The difference is that with this virus the breathing problems become worse, the lungs fill with fluid, which may cause the breathing to stop and the person to die. The fatality rate is about 50 percent.

Early symptoms include fatigue, fever, and muscle aches in the large muscle groups (thighs, hips, back, and sometimes shoulders). About half of HPS

patients also experience nausea, vomiting, diarrhea, abdominal pain, headaches, dizziness and chills.

Late symptoms begin 4 to 10 days after the initial phase of illness and include coughing, shortness of breath and tightness around chest.

#### **How soon do symptoms appear?**

The incubation period is not well known due to the small number of HPS cases. Based on limited information, it appears symptoms may develop between 1 and 5 weeks after exposure.

#### **What is the treatment for Hantavirus Pulmonary Syndrome?**

There is no specific treatment, cure or vaccine for HPS. Persons with severe breathing problems are often placed on oxygen and a ventilator. If a person has been around rodents and has symptoms of fever, deep muscle aches and severe shortness of breath they should see a physician immediately.

#### **What can be done to prevent infection from the virus?**

Avoiding contact with any rodent species is the only prevention. Activities that should be avoided are farming around rodent-infested areas, using rodent-inhabited buildings, cleaning barns or outbuildings infested with rodents, and disturbing rodent nests and burrows while hiking or camping.

When eliminating rodent infestation in homes or buildings, the following steps should be taken:

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## General Procedures

### General Precautions

- Reduce the availability of food sources and nesting sites inside your home.
- Keep food (including pet food) and water covered and stored in rodent-proof metal or thick plastic containers with tight-fitting lids.
- Store garbage in rodent-proof metal or thick plastic containers with tight-fitting lids.
- Dispose of trash and clutter.
- Prevent rodents from entering the home by sealing all openings that are greater than a quarter of an inch.

### Clean-up Procedures

Any area where you see rodent activity such as dead rodents or rodent droppings (feces) and urine should be thoroughly cleaned.

- Use wet mopping or wet cleaning methods to carefully remove rodent droppings and urine from occupied buildings. Remember to wear gloves while handling mice.
- Avoid creating dust or aerosol from rodent droppings and urine.
- Wet with disinfectant before cleaning.
- Do not use a vacuum cleaner or a broom that will create airborne particles and dust.
- Wear rubber gloves, long-sleeved clothing, and a dust mask.
- Always wash hands with soap and warm water afterward.
- Three measuring tablespoons of household chlorine bleach per gallon of water can be used as a disinfectant.
- Use Lysol or other cleaning solutions that say disinfectant on the label and have phenol on the list of ingredients.
- Apply the disinfectant to the mouse droppings and urine and all areas where rodents have been

at least 30 minutes before cleanup to allow disinfectant to work.

- If droppings have been treated properly with a sanitizer, they can be double bagged and disposed in the regular trash bin.
- Do not touch dead rodents.
- Wet dead rodents and rodent nests with disinfectant, allowing at least 30 minutes for disinfectant to work before removing.
- Dispose of rodent bodies by either picking them up with a tool and placing in a double plastic bag which is then sealed or placing hand into a double plastic bag, picking up rodents, then reversing the bag back over the rodents and sealing.
- Dispose of by burial or in the trash.
- Wash gloved hands in a general household disinfectant and then in soap and water.
- Wash bare hands after removing gloves.

### Guidance for hikers and campers

- Stay away from rodents and rodent burrows or dens such as pack rat nests.
- Do not use cabins or other enclosed shelters that have rodents or rodent droppings and urine until they have been properly cleaned and disinfected.
- Do not pitch tents or place sleeping bags where there are rodent droppings or burrows.
- Do not camp near places where rodents may find shelter such as garbage dumps or wood piles.
- If possible, do not sleep on the bare ground.
- Use a cot with the sleeping surface at least 12 inches above the ground.
- Use tents with floors.
- Keep food in rodent-proof containers.
- Promptly bury all garbage and trash, or discard in covered trash containers.
- Use only bottled water or water that has been disinfected by filtration, boiling, chlorination or

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iodination for drinking, cooking, washing dishes, and brushing teeth.

### **Special Precautions**

Homes of persons infected with HPS or buildings with a great many rodents or a lot of rodent droppings (feces) need to be very carefully cleaned. Contact your local health department for specific instructions:

- Nevada State Health Division, Bureau of Health Protection Services at (775) 687-4750
- Washoe County District Health Department, Vector Control Program at (775) 328-2434
- Southern Nevada Health District, Environmental Health Section at (702) 759-0596

### **Where can I get more information?**

For questions about the medical aspects of HPS, contact your doctor or the Southern Nevada Health District, Office of Epidemiology at (702) 759-1300.

For questions about rodents, rodent contamination clean-up procedures and prevention techniques, contact the Southern Nevada Health District, Environmental Health Division at (702) 759-0677.



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