

What is Hantavirus Pulmonary Syndrome?

Hantavirus Pulmonary Syndrome (HPS) is an illness caused by a variety of viruses called hantaviruses. The hantavirus responsible for HPS in Oklahoma and throughout the southwestern United States is the Sin Nombre Virus, which is carried in wild rodents such as deer mice (*Peromyscus maniculatus*).

How does a person get HPS?

Anyone can become infected after breathing in the virus when it is aerosolized from urine, droppings, or saliva from infected rodents. Most cases in the U.S. have been associated with: occupying rodent-infested vacant cabins or other dwellings, cleaning barns or other outbuildings, disturbing rodent-infested areas while hiking or camping, planting or harvesting fields, and living in or visiting areas where there has been an increase in rodents. The virus may also be spread by handling infected rodents, their nests or droppings and then touching your eyes, nose, or mouth, being bitten by an infected rodent, and possibly eating food contaminated by an infected rodent. The types of hantavirus causing HPS in the United States cannot be spread from one person to another. The mice do not appear ill while carrying the hantavirus.

Who can be affected by HPS?

Anyone can get hantavirus. The illness has occurred in all races and age groups.

Can other animals spread HPS?

No. The hantaviruses that cause HPS in the U.S. are not known to be transmitted by any types of animals other than certain species of rodents, particularly the deer mouse. Cats and dogs are not known to have spread the hantavirus from rodents to people. Predators such as snakes, hawks, owls, and coyotes help control rodents and do not spread the disease.

What does the deer mouse look like?

The deer mouse is about six inches long to the tip of its tail. It is grayish to light brown on top, with a white belly, large ears, and furry tail that is white on the underside. In comparison, the house mouse is grayish to light brown entirely (not white on the belly), with scales showing on its tail.

What are the symptoms of HPS infection?

The first symptoms, appearing a few days up to six (usually two to three) weeks after infection with the virus, are flu-like and may include: fever, muscle and body aches, chills, cough, headaches, nausea, vomiting, diarrhea, or feeling tired. The lungs then begin filling with fluid, making breathing difficult. If you have been exposed to rodents and experience these symptoms, notify your health care provider immediately.

What is the treatment for HPS?

There is no specific treatment, cure, or vaccine for HPS. However, persons with HPS who are recognized early and receive medical care in an intensive care unit may do better. While in intensive care, patients are often placed on a machine that helps them breathe during the period of severe respiratory distress. Overall, 36% of people with HPS will die due to the illness.

How do I prevent HPS?

The key to preventing HPS is to eliminate or minimize contact with rodents, rodent droppings, urine, or saliva. It is important to make your environment less appealing to rodents and prevent them from entering your home, outbuildings, workplace, and campsite. If you identify evidence of rodent infestation, it is important to take steps to limit your possible exposure.

How should I get rid of dead rodents, droppings, or nests?

- Before you begin, ventilate (air-out) closed buildings or areas inside buildings by opening doors and windows for at least 30 minutes.
- Do not sweep floors with a broom or vacuum until the area has been disinfected. Rugs can be steam cleaned and dirt floors should be sprayed with a disinfectant solution.
- Use rubber gloves and spray the nest, dead rodents, or droppings until thoroughly soaked (for five minutes) with a household disinfectant solution of one and one half cups of bleach in one gallon of water. Other disinfectants can also be used as directed.
- Remove the nest or rodent using a long-handled shovel or rubber gloves. Use a paper towel to pick up droppings or urine.
- Double-bag the rodents, nest, or droppings securely with plastic bags and dispose of them in the trash. Persons in rural areas may bury the waste two to three feet deep.
- Clean up the rodent area and traps by spraying with the disinfectant solution. Let the area soak for at least five minutes. While still wearing gloves, wipe up the area with paper towels or rags. Double-bag all paper towels, rags, and gloves used in the cleanup. Dispose of them in a tightly covered trash container.
- Wash your hands with soap and water after completing the cleanup.

How do I make my environment less appealing to rodents?

Indoors:

- Keep a clean home, especially the kitchen (wash dishes, clean counters and floors, keep food covered in rodent proof containers).
- Keep a tight fitting lid on garbage and discard any uneaten pet food at the end of the day.
- Set spring traps that will kill mice. Set traps near baseboards because rodents tend to run along walls and in tight spaces rather than out in the open.
- 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.
- 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.

Outdoors:

- Clear brush, grass, and junk from around house foundations to eliminate a source of nesting materials.
- 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.

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