

Safety Newsletter

October 2012

This Month's Topic: Hantavirus Pulmonary Syndrome (HPS)

Hantavirus Pulmonary Syndrome (HPS) is a very rare but often fatal respiratory disease that has been found mostly in the rural areas of the western United States. HPS was initially recognized in 1993 in the Four Corners region of the Southwestern United States. Through October 1998, the Centers for Disease Control and Prevention (CDC) have reported 200 HPS cases. About 40 - 50 percent of these cases were fatal.

HPS is caused by a particular type of Hantavirus carried by rodents, mainly deer mice. Common field mice and rats are not known to carry the virus that causes HPS. People are infected with Hantavirus by breathing dust contaminated with infected rodent urine, saliva and droppings.

Recently an outbreak of Hantavirus occurred in Yosemite National Park, resulting in three deaths and a total of 9 reported cases since June of 2012. It is believed that persons were exposed to mouse droppings while staying at park tent cabins. In California, through 2006, 46 cases of HPS were reported, with 16 fatalities. For most of these cases, exposure to the Hantavirus occurred mainly in the rural counties in the Sierra-Nevadas during spring and summer.

Since there is no vaccine for HPS and limited treatment options, precautions should be taken to prevent exposure to Hantavirus.

Causes, Incidence and Risk Factors:

- Carried by rodents, mainly deer mice
- Found in the urine and feces, but it does not make the animal sick
- Believed that humans can get sick with this virus by coming in contact with contaminated mice nests or droppings
- Most commonly found when cleaning homes or areas that have been empty for a long period of time
- Does not spread between humans
- Virus infected rodents have been found in many U.S. national parks
- A few cases of campers and hikers have been exposed to the virus because they pitch tents on the ground or lay their sleeping bags down on cabin floors
- Most people who are exposed come in contact with rodent droppings in their own home

Early symptoms of the hantavirus are similar to the flu and include:

- Chills
- Fever
- Muscle aches

May begin to feel better, but within 1-2 days, breathing becomes hard as the disease quickly gets worse with the following symptoms:

- Dry cough
- Malaise (general ill feeling)
- Headache
- Nausea and vomiting
- Shortness of breath

Treatment:

People with Hantavirus are usually treated in the intensive care (ICU) unit with the following:

- Oxygen
- Breathing tube or breathing machine
- Ribavirin is used to treat kidney-related problems and reduce the risk of death

There is no effective treatment for Hantavirus infection involving the lungs.



Hantavirus

Questions & Answers:

- Q. What kind of rodents carry Hantavirus?
- A. **The Deer Mouse**
- Q. How do I identify rodents, burrows and droppings?
- A. **Deer mice are 4-9 inches long, pale gray to reddish brown with white fur on its belly, feet and underside of the tail. A burrow is usually a pile of many different materials, such as grass, twigs and insulation.**
- Q. How do people get infected with Hantavirus?
- A. **People can be infected if they inhale dust particles that contain infected rodent urine or feces. The bite of an infected rodent can also spread the virus.**
- Q. What should I do if I think I have HPS?
- A. **Contact your doctor immediately if you have any symptoms, especially breathing difficulty. Be sure to mention your exposure to rodents or their droppings.**



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Prevention and Clean-up Guidelines:

These guidelines apply to facilities where deer mice, rodent droppings or urine are present, such as meter houses, outside compressor buildings, valve boxes, and vaults.

If possible, avoid areas where rodents, especially deer mice, are suspected and their droppings are found. If this is not possible, minimize disturbing the soil and creating dust. This can be done by wetting the work area with a common household disinfectant, such as Lysol™, alcohol or a 10 percent bleach solution (1 ½ cups of bleach in 1 gallon of water) which will kill Hantavirus.

If you find dead mice, rodent nests or rodent droppings and clean-up is necessary, the following guidelines must be observed:

Use the following materials:

- Rubber household or disposable latex gloves
- Tyvek or other disposable coveralls
- A clean, empty spray bottle with removable cap
- Liquid laundry bleach or a disinfectant cleaner such as Lysol™
- Two plastic bags large enough to contain dead rodents and their debris
- Throw away or cleanable shovels to pick up rodents, nesting materials, food piles, and droppings
- Paper towels to pick up treated droppings

DO NOT TOUCH RODENT DROPPINGS OR NESTS WITH BARE HANDS. DO NOT USE A VACUUM OR A BROOM TO REMOVE DROPPINGS OR NESTS.

Use the following procedures:

- If liquid laundry bleach is used, mix 1 ½ cups of bleach with one gallon of water. If Lysol™ is used, follow directions on the label
- Fill the spray bottle with the bleach or Lysol™ mixture.
- Put on rubber gloves
- Spray the dead rodent, any droppings, rodent bedding, or food piles with the disinfectant. Soak the material thoroughly
- Pick up dead rodent and/or debris and place in one of the plastic bags
- Place throw-away items (paper towels, rubber gloves, coveralls, etc.) in the same bag
- Seal the bag, place it in the second plastic bag
- Dispose of the bagged material as normal refuse
- If the area is heavily contaminated, wear a half mask respirator equipped with HEPA cartridges
- Wash hands as soon as possible with soap and water, or use hand cleaner until water is available

More Hantavirus Questions & Answers:

- Q. What do I do if I find a dead rodent or droppings in a cabin or at home?
- A. *Dwellings with substantial amounts of dead rodents or droppings should be aired-out while unoccupied. Keep children and pets away from the area until it has been disinfected and completely cleaned.*
- Q. Should traps be set out to catch the mice?
- A. *Covered bait stations containing EPA-approved rodenticide or spring-loaded traps should be used. Direct contact with the animal and its droppings should be avoided. Traps should be disinfected following use, or disposed of with dead animal. After eliminating rodents from a dwelling, the conditions that attracted them, should be corrected. Take measures to ensure rodents cannot re-enter the dwelling.*
- Q. Will over-the-counter fumigation bombs kill the virus?
- A. *The most effective way to kill the virus is to treat with a liquid disinfectant such as Lysol™, diluted bleach or alcohol.*

"The subject of exposure to pathogens and / or viruses at the jobsite is often overlooked when addressing safety issues during training and daily briefings."

-Richard McCurdy

Senior Environmental Consultant



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