

Hantavirus Pulmonary Syndrome (HPS)

What is Hantavirus Pulmonary Syndrome or HPS?

Hantavirus Pulmonary Syndrome, or HPS, is a severe illness that is caused by a virus called hantavirus. This rare disease was first identified in the southwestern United States in 1993. Although the virus has been present for a long time, it has been recognized recently.

HPS was first found in Canada in 1994, when 3 cases were reported in British Columbia. Since then about 50 more cases have been found, mostly in the western provinces of Manitoba, Saskatchewan, Alberta and British Columbia.

The disease is considered to be extremely rare – only about 400 cases have been reported in all of the United States and Canada.

What are the symptoms of HPS?

HPS begins as a “flu-like” illness. In the early stage of the disease, a person may have a fever, sore muscles, headaches, nausea, vomiting stomach and have shortness of breath. As the disease gets worse, fluid builds up in the lungs, making it harder to breathe. In North America, about 1 out of 3 people with HPS have died.

Is there a treatment for HPS?

Although there is no specific treatment, medication or cure, many of the symptoms and complications of HPS can be treated. Most patients are admitted to intensive care in a hospital. Some patients may be given anti-viral drugs.

How is it spread?

In Canada, the virus has been found only in wild mice, specifically the deer mouse found across North America. Hantavirus is mainly spread when mouse droppings, urine or nesting materials are disturbed, sending virus particles into the air where they can be breathed in. In rare cases, it may be spread through small breaks in the skin when handling a wild mouse, or by mouse bites.

Domestic pets are not believed to be a source of infection.

In North America, there is no evidence that the disease spreads from one person to another. Always wash your hands after touching any rodents or their droppings.

Who is exposed to HPS?

People who live in areas where the virus is present, and who come in close contact with the saliva, urine, droppings or nests of mice, may be at risk of catching the virus. However, the chances of this happening are extremely low. Rodent infestation in and around the home remains the main risk for contact with hantavirus.

What kind of activities put me at greatest risk?

High risk activities include: cleaning unused buildings, housecleaning, and working on construction, utility and pest control. Workers can be exposed in crawl spaces, under houses, or in vacant buildings that may have mice. Campers and hikers can also be exposed when they use infested trail shelters or camp in other deer mouse habitats.

The chance of being exposed to hantavirus is greatest when people work, play, or live in closed spaces where wild mice are living actively. However, many people who have contracted HPS reported that they had not seen mice or their droppings before becoming ill. Therefore, precautions should be taken even if you do not see mice or their droppings.

How can I protect myself?

The best way to prevent infection from hantavirus is to avoid contact with rodents and their droppings. The best way to prevent hantavirus infection is to control rodents in and around the home. Keep mice out of your home and learn how to clean up safely.

NOTE: You should contact your local public health office before you clean up the home of someone who has HPS.

Remove mice from your home

Use spring loaded traps to remove rodents from buildings. Dispose of them in sealed, double plastic garbage bags. Bury garbage bags in a hole 0.5-1m deep, burn them or deposit them in the trash according to local by-laws. Disinfect the traps with bleach and water solution (see below) after dead animals have been removed.

Stop mice from getting in your home

Reduce the amount of rodent shelter, such as thick bushes or wood piles, and food or garbage within 35 meters of your home. Block all holes around the walls, windows, doors and roof of your home.

Safely clean areas where mice have been

- During clean-up, wear an appropriate, well fitting filter mask, rubber gloves and goggles. These masks include NIOSH-approved 100 series filters, such as N100, P100, and R100 (formerly called HEPA filters), or a respirator with P100 cartridges. An N95 mask may also be used. A dust mask for insulating or painting is not the same as these specialized masks. Specialized masks are available at safety supply stores and some hardware and home building outlets. Your local public health unit or the Workers Compensation Board (WCB) can provide more information about mask operation, use and limitations.

- Prevent stirring up dust when you are cleaning up areas where mice have lived. This includes ventilating any enclosed area for 30 minutes and wetting down the area with household disinfectant before you start. Most general purpose disinfectants and household detergents are effective. Diluted bleach (one part bleach to 10 parts water) can also be used.

- Pour solution carefully onto debris to avoid disturbing any virus present – do not use a sprayer.

- Wipe up droppings, nesting materials and other debris with a paper towel and place in a plastic garbage bag. Avoid sweeping dry floors. Do not vacuum.
- Double bag the contents, seal the bags and bury, burn or place in the trash, according to local bylaws.
 - Clean floors, carpets, clothing and bedding, and disinfect counter-tops, cabinets and drawers that have been in contact with mice.
 - Wash rubber gloves with disinfectant or soap and water *before removing them*. Wash your hands with soap and water after removing gloves.

Avoid mice when hiking or camping

Try not to disturb rodent burrows. Don't use cabins where there are mouse or rat droppings. Keep your food in rodent-proof containers.

For more information on how to control rats and mice, see BC HealthFile [#37 Getting Rid of Rats and Mice](#).



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