

Hantavirus pulmonary syndrome

What is hantavirus pulmonary syndrome?

Hantavirus pulmonary syndrome (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 and in western Canada in 1994. Each year in B.C., only a couple of people report being ill with hantavirus.

What are the symptoms?

HPS begins as a “flu-like” illness. Symptoms usually appear 2-3 weeks after being exposed to the virus. In the early stage of the disease, you may have the following symptoms:

- Fever
- Sore muscles
- Headaches
- Nausea
- Vomiting
- Diarrhea
- Abdominal Pain

If the disease worsens, fluid builds up in your lungs, causing shortness of breath and severe difficulty breathing. In North America, about 1 out of 3 people with HPS have died.

Is there a treatment?

There is no specific treatment, medication or cure. However, many of the symptoms and complications of HPS can be treated. Most patients are admitted to intensive care in a hospital and may be given oxygen. Some patients may be given antiviral drugs.

To learn how to prevent being infected by a hantavirus, refer to [Government of Canada - Prevention of a hantavirus infection](#).

How is it spread?

In Canada, the virus has been only in wild mice, specifically the deer mouse found across North America. Other rodents, such as house mice, roof

rats and Norway rats are not known to spread the virus.

In Canada, hantavirus is primarily transmitted to humans when virus particles from the droppings, urine, saliva, or nesting materials from infected rodents such as deer mouse, cotton rat, rice rat, white-foot mouse, red backed vole are disturbed, allowing the virus to become airborne. This virus particles spread into the air where they can be inhaled. In rare cases, it may be transmitted through small breaks in the skin when handling a wild mouse or by mouse bites. You cannot catch the disease from your domestic pet. In North America, there is no evidence that the disease spreads from person to person.

Who is at risk of hantavirus?

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

Which activities put me at risk?

Certain activities may increase your risk of HPS, such as cleaning unused buildings and working construction, utility and pest control.

Workers and homeowners can be exposed in crawl spaces, under houses, or in vacant or occasional use buildings, such as cottages, trailers and garden sheds, that may harbour 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 higher if you work, play or live in closed spaces where deer mice are living actively. On rare occasions, some people who have contracted with HPS reported that they had not seen mice or their droppings before

becoming ill. You should take precautions even if you do not see deer mice or their droppings.

How can I protect myself?

The best way to prevent infection from hantavirus is to avoid contact with deer mice, their droppings, urine or saliva. You can do this by controlling rodents in and around the home. Keep mice out of your home and learn how to clean up safely.

Follow the instructions below to prevent and remove mice from your home and to safely clean areas where mice have been. Contact your local public health unit before you clean 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. You should check with local bylaws or authorities to find out the most appropriate method of disposal. For example, you may be able to bury the garbage bags in a hole 0.5 to 1 metre deep, burn them, or deposit them in the trash. If you plan to reuse the traps, disinfect them with a mixture of 1 part bleach and 9 parts water, after dead mice 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 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 WorkSafe BC can provide more information about mask operation, use and limitations. For more information, visit WorkSafe BC www.worksafebc.com.

Prevent stirring up dust when cleaning areas where mice have lived. Ventilate any enclosed area for 30 minutes before you start. Prepare a disinfectant solution. Most general purpose disinfectants and household detergents are effective. Diluted bleach (1 part bleach to 9 parts water) can also be used.

Once you are wearing your mask, rubber gloves and goggles, and have done the prep work described above, follow these steps:

1. Pour disinfectant solution carefully onto debris to avoid disturbing any virus that may be present – do not use a sprayer. Let soak for 10 minutes.
2. Wipe up droppings, nest materials and other debris with a paper towel and place in a plastic garbage bag. Avoid sweeping dry floors. Do not vacuum.
3. Double bag the contents, seal the bags and bury, burn or place in the trash, according to local bylaws.
4. Shampoo or steam carpets, wash clothing and bedding with hot water and detergent, and disinfect floors, countertops, cabinets and drawers that have been in contact with mice.
5. 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. Do not use cabins where there are mouse or rat droppings. Keep your food in rodent-proof containers. Don't sleep on the bare ground.

For more information

For more information on how to control rats and mice, visit [HealthLinkBC File #37 Getting rid of rodents \(rats and mice\)](#).

For proper hand washing tips, visit [HealthLinkBC File #85 Hand washing: Help stop the spread of germs](#).



BC Centre for Disease Control
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