Facts About Hantaviruses

What You Need To Know To Prevent the Disease Hantavirus Pulmonary Syndrome (HPS)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention

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What are hantaviruses?

Hantaviruses are a group of viruses that may be carried by some rodents. Some hantaviruses can cause a rare but deadly disease called hantavirus pulmonary syndrome. The disease is called HPS for short.

What animals can give people hantaviruses?

Only some kinds of mice and rats can give people hantaviruses that can cause HPS. In North America, they are the deer mouse, the white-footed mouse, the rice rat, and the cotton rat. However, not every deer mouse, white-footed mouse, rice rat, or cotton rat carries a hantavirus. Other rodents, such as house mice, roof rats, and Norway rats, have never been known to give people HPS. Since it is hard to tell if a mouse or a rat carries a hantavirus, it is best to avoid all wild mice and rats and to safely clean up any rodent urine, droppings, or nests in your home. Dogs and cats cannot give people hantavirus infections.

These are some of the mice and rats that can carry hantaviruses in the United States

Deer Mouse

Cotton Rat

Who can get HPS?

Any man, woman, or child who is around mice or rats that carry harmful hantaviruses can get HPS. You do not have to already be sick to be at risk for HPS. Healthy people have become ill with HPS.

While HPS is a very rare disease, cases have occurred in all regions of the United States except for Alaska and Hawaii.

How do people get HPS?

People get HPS when they breath in hantaviruses. This can happen when rodent urine and droppings that contain a hantavirus are stirred up into the air. People can also become infected when they touch mouse or rat urine, droppings, or nesting materials that contain the virus and then touch their eyes, nose, or mouth. They can also get HPS from a mouse or rat bite.

Fever, fatigue, and muscle aches are the first symptoms of HPS

Here are some activities that can put people at risk for HPS:

- Improperly cleaning up mouse and rat urine, droppings, and nests.
- Cleaning a shed or cabin that has been closed for some time.
- Working in areas where mice and rats may live (such as barns).

In the United States, there has never been a case in which a person with HPS has given the disease to another person.

What are the symptoms of HPS?

If people get HPS, they will feel sick 1 to 5 weeks after they were around mice or rats that carried a hantavirus.

At first people with HPS will have:

- Fever
- Severe muscle aches
- Fatigue

After a few days they will have a hard time breathing. Sometimes people will have headaches, dizziness, chills, nausea, vomiting, diarrhea, and stomach pain. Usually, people do not have a runny nose, sore throat, or a rash.

How can HPS be prevented?

- Keep mice and rats out of your home.
- Clean up mouse and rat urine, droppings, and nesting materials with a disinfectant or a mixture of bleach and water.

How To Clean Up After Mice and Rats

How to clean up mouse and rat urine and droppings:

- Wear rubber or plastic gloves.
- Spray urine and droppings with a disinfectant or a mixture of bleach and water. Make sure you get the urine and droppings very wet. Let it soak for 5 minutes.
- Use a paper towel to wipe up the urine or droppings.
- Throw the paper towel in the garbage.
- Mop or sponge the area with a disinfectant or bleach solution.
- Wash gloved hands with soap and water or spray a disinfectant or bleach solution on gloves before taking them off.
- Wash hands with soap and warm water after taking off your gloves.

Spray disinfectant

Clean-up tip:

Do not sweep or vacuum up mouse or rat urine, droppings, or nests. This will cause virus particles to go into the air, where they can be breathed in.

Bleach and water solution

Use either of these when cleaning up after mice and rats:

- General-purpose household disinfectant. Make sure the word "disinfectant" is written on the label.

OR

- Bleach and water solution. Mix 1 ½ cups of household bleach with 1 gallon of water. Smaller amounts can be made with 1 part bleach and 9 parts water.

How to clean up a dead mouse or rat in a snap trap and how to clean up a rodent nest:

- Wear rubber or plastic gloves.
- Spray the dead mouse, rat, or nest, as well as the surrounding area, with a disinfectant or a mixture of bleach and water. Let it soak.
- Place nesting materials or trap with the dead rodent in a plastic bag. If you plan to reuse the trap, get the mouse or rat out of the trap by holding it over the bag and lifting the metal bar. Let the mouse or rat drop in the bag. Disinfect the trap.
- Seal the bag. Place the full bag in a second plastic bag. Seal that bag.
- Throw the bag into a covered trash can that is regularly emptied or contact your state health department for information on other ways to throw away dead mice and rats.
- Wash gloved hands with soap and water or spray a disinfectant or bleach solution on gloves before taking them off.
- Wash hands with soap and warm water after removing your gloves.

Nesting Materials:

Some materials mice and rats use to build their nests include paper, tissues, insulation, and the stuffing from furniture.

Spray gloves before taking them off

Important:

If you live in the western United States, you may be at risk for plague carried by fleas from rodents. Use insect repellent (containing DEET) on clothing, shoes, and hands to reduce the risk of flea-bites while picking up dead rodents. Contact your local or state health department to find out if plague is a danger in your area and for more information on other flea-control methods.

How to clean out cabins, sheds, barns, or other outbuildings:

- Open all doors and windows. Leave them open for 30 minutes before cleaning.
- Wear rubber or plastic gloves.
- Clean up all rodent urine, droppings, nests, or dead mice or rats by using a disinfectant or a mixture of bleach and water.
- Mop floors or spray dirt floors with a disinfectant or mixture of bleach and water.

Air out cabins

Mop floors

- Clean countertops, cabinets, and drawers with a disinfectant or a mixture of bleach and water.
- Steam clean, shampoo, or spray upholstered furniture with a detergent, disinfectant, or a mixture of bleach and water.

- Wash any bedding and clothing with laundry detergent in hot water if you see any mouse or rat urine or droppings on them.

Wash clothes and bedding with detergent in hot water

How to Keep Mice and Rats Out of Your Home

Why keep mice and rats out of your home?

Some mice and rats can carry harmful diseases, such as HPS, Leptospirosis, lymphocytic choriomeningitis, plague, and typhus. The best way to protect you and your family from these diseases is to keep mice and rats out of your home.

What you can do inside your home:

- Keep food in thick plastic or metal containers with tight lids.
- Clean up spilled food right away. Wash dishes and cooking utensils soon after use.
- Put pet food away after use. Do not leave pet-food or water bowls out overnight.
- Keep garbage in thick plastic or metal containers with tight lids.

Store food in containers with lids.

Look for holes.

- Check inside your house for gaps or holes that a pencil can fit into. Seal them with steel wool, lath metal, and caulk.
- Inside your home, use snap traps baited with peanut butter.

Use peanut butter on traps.

What you can do outside your home:

- Use a thick plastic or metal garbage can with a tight lid. Make sure there are no holes in the garbage can.
- Clean up trash, brush, and weeds around your home.
- Check the outside of your house for gaps and holes. Seal them with cement, lath metal, hardware cloth or sheet metal.
- Put away pet food after use.
- Keep grains and animal feed in thick plastic or metal containers with tight lids.

Use a trash can with a tight lid

Keep animal feed in a container with a tight lid

- Get rid of old trucks, cars, and old tires. Mice and rats may use these as homes.
- Keep grass and shrubbery within 100 feet of the home well trimmed.
- Move woodpiles 100 feet or more from the house. Raise the wood at least 1 foot off of the ground.
- Use traps in areas outside your home where you think mice and rats live.

- Fix gaps in trailer skirtings.
- Keep composting bins 100 feet or more from the house.

Fix gaps in trailer skirtings

Where to look for gaps or holes inside your home:

- Inside, under, and behind kitchen cabinets.
- Inside closets near the floor corners.
- Around the fireplace.
- Around doors.
- Around the pipes under sinks and washing machines.
- Around the pipes and going to hot water heaters and furnaces.
- Around floor vents and dryer vents.
- Inside the attic.
- In the basement or crawl space.

Look for gaps where the water pipes come into your home

Where to look for gaps and holes outside your home:

- In the room among the rafters, gables, and eaves.
- Around windows.
- Around doors.
- Between the foundation of your house and the ground.
- Attic vents and crawl space vents.
- Under doors.
- Around holes for electrical, plumbing, and gas lines.

Look for gaps around pipes outside your home

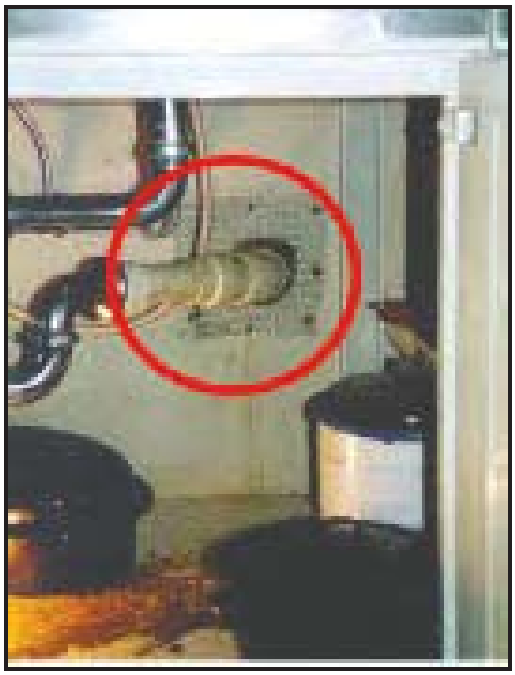
How to seal gaps and holes inside and outside your house:

- Fill small holes with steel wool. Put caulk around steel wool to keep it in place.

- Use lath screen or lath metal, cement, hardware cloth, or metal sheeting to fix large holes. Lath screen can be folded and pushed into holes. It can also be cut to fit around pipes. This material can be found in the masonry or building materials section at a hardware store.

Seal holes with caulk

Fold lath metal and place in holes in the foundation of houses



Use lath metal around pipes

How to use snap traps:

- Choose the right kind of snap trap. Some traps are made for catching mice and some traps are made for catching rats.
- Read the instructions on the box before setting the snap trap.
- Place some peanut butter about the size of a pea on the bait pan on the snap trap. Chunky peanut butter works best.
- Place the snap trap on the floor right next to the wall. Put the end of the trap with the bait on it next to the wall so it forms a “T” with the wall.

Use peanut butter on traps.

Place trap so it makes a “T” with the wall

- Place snap traps in areas where you have seen mice or rats, nesting materials, urine and droppings, or nibbled food. Also, place snap traps in closed areas, such as behind the stove and refrigerator, and in the back of cabinets and drawers.
- Put traps near other areas where you think mice or rats are coming into your home.

Trapping tips:

- Keep traps away from children and pets.
- Use only snap traps. Glue traps and live traps should not be used. These traps can scare the caught live mice and rats and cause them to urinate. This may increase your chance of getting sick.

How to use poison baits:

Poison baits can be useful if you have a serious mouse or rat problem. Make sure to carefully read the instructions on the bait package you buy.

- Place bait trays or bait station in or near places where you have seen mice or rats, droppings, or nesting materials.
- Place baits out of reach from children and pets.
- Check bait every week and re-fill or move it as needed for at least 15 days. Leave the bait out longer if you still have mice and rats.

Place bait where you have seen mice or rats

Important trapping and bait reminders:

- Keep traps and bait out of reach from children and pets.
- If you live in the western United States, you may be at risk for plague carried by fleas from rodents. Use insect repellant (containing DEET) on clothing, shoes, and hands to reduce the risk of flea-bites while picking up dead rodents. Contact your local or state health department to find out if plague is a danger in your area and for more information on flea-control methods.

For more information about hantavirus pulmonary syndrome or rodent control, call your state or local health department.

Or call the Centers for Disease Control and Prevention (CDC) at 1-877-232-3322

Or see the CDC web page at: http://www.cdc.gov/ncidod/diseases/hanta/hps/index.htm