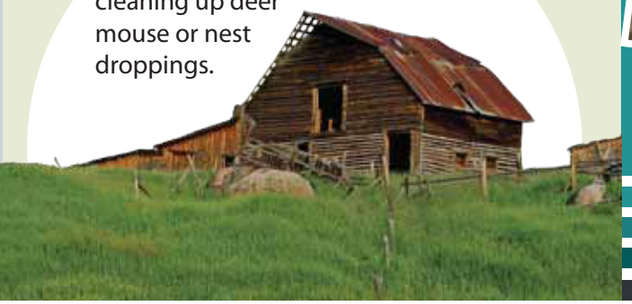
HOW DOES A PERSON BECOME INFECTED WITH SIN NOMBRE VIRUS?

People become infected with SNV by breathing in microscopic particles of droppings or urine from an infected deer mouse.

Some activities that increase the risk of SNV infection are:

- Entering sheds, cabins, barns, or other buildings where deer mice are present.
- Cleaning or working in enclosed, poorly ventilated spaces contaminated by deer mice.
- Handling live or dead deer mice.
- Disturbing or cleaning up deer mouse or nest droppings.



For information about HCPS and rodents in your community, contact your local health department or vector control district

Edmund G. Brown
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March 2011

Rodents and Hantavirus

Hantavirus cardiopulmonary syndrome, or HCPS, is a rare but often fatal disease of the lungs. HCPS was first recognized in 1993 in the southwestern United States.

Although there are many types of hantaviruses in the United States, Sin Nombre virus (SNV) is the specific hantavirus that causes HCPS in the western United States.

WHAT IS SIN NOMBRE VIRUS?

Sin Nombre virus is carried by wild rodents.

In California, only one rodent species is known to carry SNV: the deer mouse (scientific name, Peromyscus maniculatus).

Deer mice are similar in size to house mice (4-7 inches from nose to tail). Unlike the solid colored house mouse, deer mice are: grey to brown on top and white underneath, and have large unfurred ears.

Deer mice are found throughout the state in wild and undeveloped areas. They prefer brush, shrubs, and rocks, but will enter homes and buildings for food, shelter, and nesting material.

Infected deer mice appear healthy and normal.

Not all deer mice carry SNV and the proportion of infected mice varies throughout the state. Wild rodents in urban or suburban areas are likely to be house mice or roof rats, neither of which carries SNV. But, because it can be difficult to tell deer mice from other kinds of rodents that don't carry SNV, people should avoid contact with all wild rodents.

Dogs, cats, birds, insects, and other animals do not carry SNV.

WHAT ARE THE SYMPTOMS OF HANTAVIRUS CARDIOPULMONARY SYNDROME?

The first symptoms of HCPS usually develop 1-2 weeks, up to 5 weeks, after exposure to SNV.

Early symptoms resemble the flu and include fever, headache, and muscle aches, especially in the thighs, hips, back, and shoulders.

Two to seven days after the first symptoms begin, HCPS patients develop difficulty breathing. Breathing problems are often severe and require the HCPS patient to be hospitalized for intensive care.

Symptoms such as fever, headache, muscle pain, and shortness of breath are common to many different illnesses and are likely to be something other than HCPS.

Any concerns you have about your health or possible exposure to SNV should be discussed with your health care provider.

Persons with HCPS cannot give it to someone else.

HOW IS HANTAVIRUS CARDIOPULMONARY SYNDROME TREATED?

There is no specific treatment for HCPS. Approximately 35% of HCPS patients diagnosed in California have died.

Early medical attention can increase the chance that an HCPS patient will survive.

HOW CAN I AVOID GETTING HANTAVIRUS CARDIOPULMONARY SYNDROME?

Keep wild rodents out of your home.

Infection with Sin Nombre virus can be prevented by keeping wild rodents out of homes and cleaning rodent contaminated areas in a safe manner.

Signs of rodents around buildings include:

- Live or dead mice
- Nests
- Droppings
- Urine stains
- Gnaw marks

Check inside and behind kitchen cabinets, inside closets, around vents, behind appliances, around windows and doors, and around all electrical, water, gas, and sewer lines.

Check around windows and doors, between the foundation and the siding, around electrical lines and water pipes, and in eaves and vents in the roof.

Look for holes or gaps inside and outside the the home. Seal all holes that are larger than 1/4 inch in diameter. Use cement, wire screening, hardware cloth, steel wool, or copper mesh material (such as Stuf-fit).

Reinforce the sealing material with caulk or expanding foam.

Remove wild rodents from inside homes. Place spring-loaded "snap" traps along baseboards and in areas where rodents are entering the home.

Do not use glue or live traps as these may increase your risk of infection. Place traps near areas of rodent activity, but out of the reach of pets and children.

Examine traps regularly and remove trapped rodents promptly.

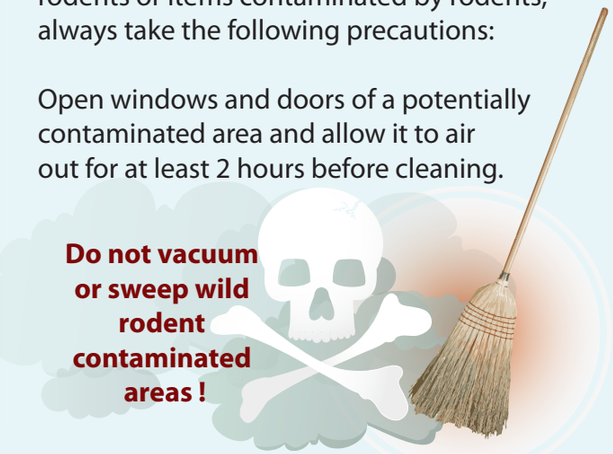
The following measures can reduce the number of rodents in and around buildings:

- Place woodpiles, vegetable gardens, trash cans, and pet food at least 100 feet from the house.
- Promptly remove uneaten pet food.
- Keep food in tightly sealed containers.
- Fix leaks in sprinklers or other outside pipes that might attract rodents as a water source.
- Keep garbage in tightly sealed containers and dispose of at least weekly.

Clean areas contaminated by wild rodents.

Dead rodents, rodent nests, and droppings should be removed and surfaces cleaned before areas are reused. When handling dead rodents or items contaminated by rodents, always take the following precautions:

Open windows and doors of a potentially contaminated area and allow it to air out for at least 2 hours before cleaning.



Do not vacuum or sweep wild rodent contaminated areas !

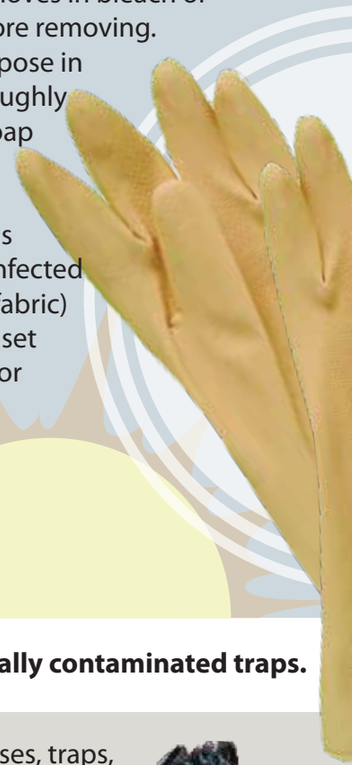
Spray rodent carcasses, nests, droppings, and other potentially contaminated items and surfaces with bleach or disinfectant.

IMPORTANT: Wear latex or rubber gloves and eye protection.

A mixture of 1½ cups of bleach or Lysol® in a gallon of water is effective at killing the virus.

Allow the solution to sit for 15 minutes before cleaning up with a mop or sponge.

When done, rinse gloves in bleach or Lysol® solution before removing. Remove gloves, dispose in garbage, and thoroughly wash hands with soap and water.



Contaminated items that cannot be disinfected (e.g., paper, wood, fabric) should be carefully set outside in the sun for 2-3 days.

Sunlight will inactivate the virus.

Dispose of potentially contaminated traps.

Place rodent carcasses, traps, and other contaminated items in a plastic bag.

Tie off the bag, place inside a second bag and tie the second bag as well.

Dispose of bags with other garbage.