

Zoonotic Disease Newsletter

Washington State Department of Health's bulletin on zoonoses and vector-borne diseases

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Zoonotic journal articles from CDC's Emerging Infectious Diseases



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Hantavirus risk can increase during spring clean-up

By David Nash and Ben Hamilton, WA DOH Zoonotic Disease Program

Springtime clean-up activities can lead to the discovery of nests and droppings from rodents that moved into sheds, garages, barns, or people's living spaces to escape the winter's cold. These rodent-contaminated areas can potentially harbor *Sin Nombre* virus, which can cause hantavirus pulmonary syndrome (HPS), a severe and potentially fatal respiratory disease.

In 2006, three people in Washington developed HPS, two of whom died. The likely route of exposure for the two victims was when they were cleaning up rodent-contaminated areas.



Since its clinical recognition in 1993, there have been 32 reported cases of HPS in Washington State (1-5 cases/year) with 11 associated deaths. The risk occurs throughout the state, particularly in rural areas. HPS usually affects previously healthy adults. The median age of cases in Washington State is 36 years old (range 19-75 years). This coincides with national statistics that show 451 cases with a case fatality rate of 35% and a mean age of 38 years (range 10-83 years).

Deer mice (*Peromyscus maniculatus*) are the carriers of *Sin Nombre* virus in Washington and are found throughout the state. They are typically distinguished from other mice by their white belly and dark strip of hair running down the top of their tail.

In Washington, about 14% of over 1,100 deer mice have tested hantavirus positive. In some areas where human cases have occurred and targeted surveillance has been conducted, nearly 50% of the deer mice have tested positive.

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West Nile Virus Preparedness Meetings

West Nile virus preparedness meetings are being scheduled for June. One meeting will take place in Olympia, the other in Moses Lake.

Representatives from local health jurisdictions, county commissions, municipalities, mosquito control districts, and emergency planning are encouraged to attend.

The agenda will include: lessons learned from other states, organizing local partners, developing plans, mosquito control, and emergency response.

Contact Dorothy Tibbetts at dorothy.tibbetts@doh.wa.gov or Liz Dykstra at elizabeth.dykstra@doh.wa.gov for more information.

State veterinarian urges vaccination of horses for WNV

Washington State Department of Agriculture, News Release, April 19, 2007



The available vaccines are highly effective at protecting horses from West Nile virus. Unvaccinated or improperly vaccinated horses make up the vast majority of sick and fatal West Nile cases.

OLYMPIA – Although the first confirmed case of West Nile virus (WNV) in a Washington state horse didn't occur until August last year, there is no guarantee it will take that long for WNV to show up in the 2007 mosquito season, the state veterinarian said today. Six positive cases of WNV in horses were reported last year.

Dr. Leonard Eldridge is urging horse owners to vaccinate their horses against WNV as soon as possible. He also is recommending that horse owners take preventive measures to reduce opportunities for mosquitoes infected with the virus to bite horse populations.

WNV is fatal in 30 to 40 percent of all horses that contract it, although most horses do not become ill and show no symptoms at all. A horse's physical condition and general health can determine its ability to recover. Those that do become ill show signs such as loss of coordination, loss of appetite, confusion, fever, stiffness and muscle weakness, particularly in the hindquarters.

"Older, sick or weak horses have much less chance of survival if infected," Eldridge said. "Vaccinating your horse or getting the proper booster shots promptly is the best way to help protect your animal and prevent greater expenses from treating your horse after the disease is acquired. A spring dose of vaccine, even in previously vaccinated horses, is necessary to maintain protective immunity in most horses."

Eldridge recommends owners take precautions on their property such as removing standing water from yards and barns and changing water in troughs or bird baths that could be a source of mosquito breeding.

The vaccine requires two doses four to six weeks apart, and immunity will not be achieved until five weeks after the second vaccine. An annual booster shot should be considered prior to the start of the mosquito season.

Eldridge urges horse owners to work with their veterinarians for advice on WNV and other health issues. Veterinarians who learn of potential WNV cases in horses or other animals should contact the State Veterinarian's Office at (360) 902-1881.

State investigators find no public health or animal disease threats in Addy cattle deaths

Washington State Department of Agriculture, News Release, April 16, 2007

OLYMPIA – After conducting a detailed investigation into the deaths of 50 to 60 cattle at a former dairy in Addy, WA, state investigators have found no serious animal diseases or toxic contamination of the animals' feed that could have caused the fatalities.

"During this investigation, we have found no threat to the health of people or other animals," said Washington State Veterinarian Leonard Eldridge. "We have not been able to identify a common cause of death of these animals. Frankly, we may never know specifically what killed the animals that died before the start of this investigation."

When Washington State Department of Agriculture (WSDA) veterinarians visited the farm on March 8, they immediately established that the death of the animals had occurred over several months. The dairy's owner reported to investigators that between 50 and 60 cows had died. During this first visit to the farm, investigators found no symptoms of contagious foreign animal disease in any living animals.

At that time, the farmer reported concerns about heavy metals contamination of the animals' feed source as a possible cause of death. Due to these concerns, the dairy owner made a decision not to ship milk off the farm since December 2006.

Read the complete news release at agr.wa.gov/News/2007/07-11.htm.

FDA warns consumers about risks of pet turtles

U.S. Food and Drug Administration, News Release, April 6, 2007



Although the sale of turtles with a carapace less than four inches has been illegal since 1975, baby turtles are available in many cities and through online retailers. These two-inch turtles were for sale in Chicago's downtown area.



Reptile Rules - Salmonellosis poster, rack card, and employee poster are available as camera-ready art or for order. Contact Cyndi Free at cyndi.free@doh.wa.gov.

The Food and Drug Administration (FDA) is urgently reminding the public that contact with baby turtles can pose a serious health risk to infants, small children, and adults with impaired immune systems as they can be natural hosts to *Salmonella*, a group of bacteria that can cause severe illness and death. Recently, a four-week old infant in Florida died of infection traced to *Salmonella pomona*, a bacteria that was also found in a pet turtle in the home.

Salmonella is the genus name of a number of bacteria commonly associated with food poisoning from contaminated or undercooked foods, and salmonellosis is the disease the bacteria can cause. *Salmonella* can be found on the outer skin and shell surfaces of the turtles causing salmonellosis for those handling turtles without properly washing their hands after handling the animals.

FDA is reminding parents and others who care for children of the following:

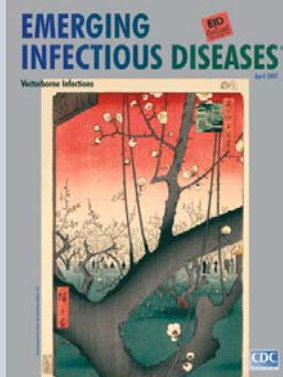
- The sale of turtles with a shell less than four inches long is illegal. Exceptions to FDA's regulation include sales of these turtles intended for export only or for bona fide scientific, educational, or exhibitional purpose;
- *Salmonella* infection can be caused by contact with turtles in petting zoos, parks, child day care facilities and other locations; and
- It is important to wash hands thoroughly with soap and water after handling or touching turtles and their housing.

In the early 1970's, it was determined that pet turtles, particularly red-eared sliders, were responsible for an estimated 280,000 cases of salmonellosis each year in the United States. In 1975, FDA banned the sale of turtles with a shell less than four inches long as a necessary public health measure. FDA has repeatedly emphasized the risks of turtle-associated salmonellosis because of a resurgence in the sales of such turtles in the last four years. The public health impact of turtle-associated salmonellosis in humans is an estimated 74,000 cases in the United States per year.

Salmonella infection can be transmitted either directly from contact with the turtle or its feces, or indirectly through the animal's water. Turtles with *Salmonella* usually do not appear to be sick. Their feces do not always contain the bacteria, therefore a single negative test does not prove they are *Salmonella*-free.

Although anyone can acquire a salmonellosis infection, the risk is highest in infants, young children, the elderly, and others with lowered natural resistance to disease. Pregnancy, cancer, chemotherapy, organ transplant, diabetes, and liver problems pose particular risks. Gastrointestinal symptoms following *Salmonella* exposure begin in 6 to 72 hours (usually 12 to 36 hours) and generally last for two to seven days.

For more information on FDA's regulation of turtles, please see the following: www.fda.gov/cvm/turtlereg.htm.



Human Benefits of Animal Interventions for Zoonosis Control.

Jakob Zinsstag, et al. www.cdc.gov/eid/content/13/4/527.htm

Hantavirus and Arenavirus Antibodies in Persons with Occupational Rodent Exposure, United States.

Charles F. Fulhorst, et al. www.cdc.gov/eid/content/13/4/532.htm

Movements of Birds and Avian Influenza from Asia into Alaska.

Kevin Winker, et al. www.cdc.gov/eid/content/13/4/547.htm

Salmonella Kingabwa Infections and Lizard Contact, United States, 2005.

Sharon Greene, et al. www.cdc.gov/eid/content/13/4/661.htm

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Hantavirus risk continued from page 1

Infected deer mice spread hantavirus in their urine, droppings, and saliva. Hantavirus infection is mainly transmitted when mouse nests, droppings and urine are disturbed, sending virus particles into the air where they can be inhaled. Mice show no signs of illness and there are no available tests to determine if rodent droppings are infectious, or if a person has been exposed.

Dr. Ron Wohrle, environmental health veterinarian at the state Department of Health, stresses the importance of taking preventive measures such as keeping rodents out of living and working areas and getting rid of them by using proper control methods. "It's important for people, especially those living in or visiting rural areas where deer mice are most common, to know how they can prevent this potentially deadly disease."

Here are some guidelines to help protect you and your family:

Seal Up: Seal any gaps ¼ inch or larger to prevent entry into living and working areas. Gaps in foundation, crawl space vents, and holes around plumbing, electrical, cable, and gas lines are good entry points for mice. Keep tight-fitting lids on garbage cans. Keep food, animal feed, and birdseed in rodent-proof containers.

Trap Up: Choose an appropriate snap trap. Place baited traps in areas where evidence of rodent activity exists. Position the bait end of the trap next to the wall so it forms a "T" with the wall. Snap traps quickly and humanely kill the mouse. Glue and live traps are not recommended because the mouse can get scared and urinate - potentially increasing hantavirus exposure to people.

Clean Up: Do not sweep or vacuum rodent contaminated areas (droppings, nests, dead rodents) to avoid causing dust to become airborne. For unavoidably dusty areas and for people who routinely work in rodent-contaminated areas, the appropriate respiratory protection is advised. Allow area to air out before beginning clean-up, especially if enclosed. Wearing rubber gloves, wet the contaminated surfaces with a disinfectant or bleach/water solution. After the area has been disinfected, dispose of contaminated material in plastic bags and wash hands. To discourage rodents from nesting around the home, elevate hay, wood piles, and garbage cans, and remove brush and debris. Clean-up spilled food and wash dishes and outside grills after use.

Camping or Hiking: Avoid contact with rodents when hiking or camping outdoors. Do not disturb rodent nests. Stay out of cabins or shelters until they have been aired out and disinfected. Pitch tents well away from rodent burrows or droppings. Do not sleep on the bare ground. Use a tent with a floor. Keep food and food scraps in tightly covered containers. Clean dishes and cooking utensils right after using them.

Hantavirus Resources:

CDC's [All About Hantaviruses](#)

CDC's MMWR on [Recommendations for Risk Reductions](#)

DOH's Communicable Disease and Epidemiology [Current Issues](#)

DOH's Hantavirus [Fact Sheet](#)



Snap traps baited with peanut butter are an effective trapping technique. Although hantavirus is attributed to deer mice, any dead mice, droppings, or nests should be viewed as potentially contaminated. Proper clean-up methods using a disinfectant will kill the virus and reduce contaminated dust from becoming airborne.