Hantavirus

What is Hantavirus?

HOW COMMON IS HANTAVIRUS?

Hantavirus was first identified in Canada in 1994. When researchers reviewed other earlier cases, they were able to positively identify that there were at least 3 other cases occurring before 1994, the first happening in 1989. Since 1989, there have been 109 confirmed hantavirus cases and 27 deaths in Canada according to the Public Health Agency of Canada (as of January 2015).

HOW CAN HANTAVIRUS ENTER MY BODY?

People can contract the Hantavirus infection through inhalation of respirable droplets of saliva or urine, or through the dust of feces from infected wild rodents, especially the deer mouse. Transmission can also occur when contaminated material gets into broken skin, or possibly, ingested in contaminated food or water. Person-to-person transmission in North America has not been reported. A few situations of Hantavirus pulmonary syndrome in South America suggests person-to-person transmission is possible. However, the viruses isolated in South America are genetically distinct from those described in North America.

HOW DOES HANTAVIRUS AFFECT MY HEALTH?

The disease caused by Hantavirus is called Hantavirus pulmonary syndrome. Symptoms appear within 1 to 5 weeks after exposure. The average is 2 to 4 weeks. This disease is extremely serious since about 40% of the people who get the disease die. The disease begins as a flu-like illness. In the early stage, a worker may experience fever, chills, muscle aches, headaches, nausea, vomiting, and shortness of breath, rapid heartbeat and gastrointestinal problems. However, the disease progresses rapidly and infected people experience an abnormal fall in blood pressure and their lungs will fill with fluid. Severe respiratory failure, resulting in death, can occur within a few days of the early stage symptoms.

WHAT IS THE TREATMENT FOR HANTAVIRUS PULMONARY SYNDROME?

There is no specific vaccine, treatment or cure for Hantavirus infection but early recognition and medical care in an intensive care unit can help with recovery. Infected people may be given medication for fever and pain and oxygen therapy.

WHAT OCCUPATIONS ARE AT RISK?

Cases of Hantavirus infection contracted in Canada and the United States have been

associated with these activities:

- Sweeping out a barn and other ranch buildings.
- Trapping and studying mice.
- Using compressed air and dry sweeping to clean up wood waste in a sawmill.
- Handling grain contaminated with mouse droppings and urine.
- Entering a barn infested with mice.
- Planting or harvesting field crops.
- Occupying previously vacant dwellings.
- Disturbing rodent-infested areas while hiking or camping.
- Living in dwellings with a sizable indoor rodent population.

For workers that might be exposed to rodents as part of their normal job duties, employers are required to comply with relevant occupational health and safety regulations in their jurisdiction. Typically, employers are required to develop and implement an exposure control plan to eliminate or reduce the risk and hazard of Hantavirus in their workplace.

HOW CAN WE PREVENT EXPOSURE TO HANTAVIRUS?

Attempt to reduce the presence of mice and limit contact with their droppings, urine and saliva by:

- Storing food (including pet food), water and garbage in heavy plastic or metal containers with tight fitting lids.
- Sealing any holes in structures where mice may enter.
- Cutting back thick brush and keep grass short. Keep woodpiles away from the building.
- Using rubber or plastic gloves when cleaning up signs of rodents, handling dead rodents, or other materials. When finished, clean gloves with soapy water before taking them off. Wash hands with soapy water (again) after removing the gloves.
- Setting traps when necessary. Put rodents in a plastic bag, seal the bag, and dispose.

Since human infection occurs through inhalation of contaminated material, clean-up procedures must be performed in a way that limits the amount of airborne dust. Treat all mice and droppings as being potentially infected. People involved in general clean-up activities where there is not heavy accumulation of droppings should wear disposable protective clothing and gloves (neoprene, nitrile or latex-free), rubber boots and a disposable N95 respirator. For cleaning up rodent contaminated areas with heavy accumulations of droppings it is necessary to use powered air-purifying (PARP) or air-supplied respirators with P100 filters and eye or face protection to avoid contact with any aerosols.

Dead mice, nests and droppings should be soaked thoroughly with a 1:10 solution of sodium hypochlorite (household bleach). Bleach kills the virus and reduces the chance of further transmission. The contaminated material should be placed in a plastic bag and sealed for disposal. Disinfect by wet-wiping all reusable respirator surfaces, gloves, rubber boots and goggles with bleach solution. All disposable protective clothing, gloves and respirators should be placed in plastic bags and sealed for disposal. Please contact your local environmental authorities concerning approved disposal methods.

Thoroughly wash hands with soap and water after removing the gloves.

WHERE CAN I GET MORE INFORMATION?

The U.S. Centers for Disease Control and the Workers' Compensation Board of British Columbia have guidelines that cover a variety of workplace situations. For more details on risk assessment and precautions for specific situations not clearly addressed by existing guidelines contact specific agencies responsible for such detailed information, for example, your local public health office.

Hantavirus. Public Health Agency of Canada

Hantavirus. US Centers for Disease Control

A Hantavirus Exposure Control Program for Employers and Workers. Worksafe BC