

## HANTAVIRUS IN RODENTS

**Rodents of all kinds** are known to carry infectious organisms dangerous to human health e.g. rabies, plague, typhus etc. A recently discovered danger is from a hantavirus which may cause flu-like illness, abruptly followed by very serious, possibly fatal acute respiratory distress. Hantavirus infection is rare but the illness is serious.

### The Carrier

This virus may be carried by certain rodents, however the **deer mouse** is the rodent commonly associated with hantavirus disease. In infected animals, the virus is found in the saliva, urine and feces. This virus remains infectious for sometime even after the saliva or urine have dried. Any materials inhabited by deer mice including grains/foodstuffs, nesting materials and gnawings should be considered **contaminated by saliva, urine and feces**, and therefore potentially infectious for hantavirus.

### Routes of Infection

Persons may become exposed to this virus by breathing air with contaminated dust. Ingestion of contaminated materials, contact of broken skin and contaminated materials and bites from infected mice may, in theory, also transmit the virus. Person to person transmission does not appear to occur.

### Persons at Risk

Those persons who work in environments where rodents live, nest or feed. Examples of occupations include; mammalogists, laboratory personnel, maintenance workers (telephone, plumbers, electricians), farmers, grain handlers, exterminators and wildlife officers.

### Reducing Exposure Potential

Control the opportunity for the rodents to live or feed in the work space. Eliminate any rodents which may be infesting the work space.

**Control any dust** which may be raised when working in an area believed to have been infested by rodents. Dust control can be achieved by wetting down the area with a water mist.

**Wear respiratory protection** if the possibility exists for disturbance of dust contaminated with rodent excreta. A well-fitting, NIOSH-approved, dust/fume/mist, air-purifying respirator would provide adequate protection in most circumstances. For heavily contaminated, dusty conditions consider a HEPA filter respirator, or a powered air purifying respirator, or a supplied-air type respirator, depending on the circumstances.

**Limit body contact** with potentially contaminated materials by using protective impervious gloves and clothing to keep these contaminated materials from contacting your skin.

**Do not handle** rodents with bare hands. This will reduce the risk of bites or contact with saliva and excrement.

**Apply a disinfectant** solution to areas previously infested by rodents and/or to carcasses of dead rodents. The disinfectant solution can be made by mixing approximately 3 tablespoons of a hypochlorite solution (Javex) to a gallon of water (i.e. 10% bleach solution).

**Practice good personal hygiene.** Do not eat or smoke in potentially contaminated areas. Wash your hands and face thoroughly before eating or drinking. Have clothing exposed to contaminated materials laundered promptly and separately from other clothing.

### Post-Exposure

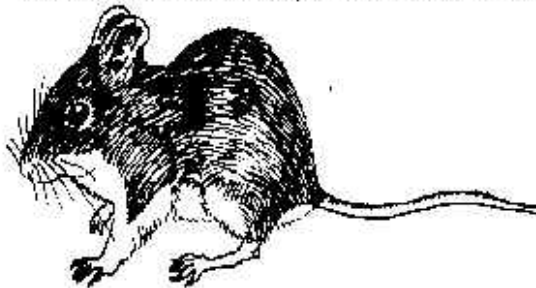
If flu-like or respiratory symptoms are experienced after suspected exposure, medical attention should be sought as soon as possible.

## NATIVE MICE AND VOLES

This group of rodents includes deer mice, jumping mice and meadow voles. A number of lesser known species such as pocket mice, bog lemmings and phenacomys are also included.

Voles and deer mice are the most important economically. Voles often damage small trees and nursery stock, while deer mice occasionally eat planted conifer seeds. Both may enter buildings but only the deer mouse is likely to become established. They may be eliminated by the same methods used to control the house mouse, (refer to Pestfacts "Prevention and Control of the House Mouse" Agdex 683). Although they carry several diseases affecting man, the risk of infection is slight.

The three most common species in Manitoba are:



Deer mouse — *Peromyscus maniculatus*

Description: Head and body: 71 — 102 mm (2 7/8 — 4 inches)

Tail: 51 — 127 mm (2 — 5 inches)

Color: White feet and belly; tail sharply bicoloured, white underneath; body ranges from pale buff through grayish to a deep reddish brown.

Habits: Occupies many habitats. Often found in unoccupied buildings and cabins. Feeds on seeds, nuts, acorns, insects and stored foods.

Young: Usually 3 — 5, with two litters a year normal.



Meadow Vole — *Microtus pennsylvanicus*

Description: Head and body: 89 — 127 mm (3 1/2 — 5 inches)

Tail: 45 — 66 mm (1 2/5 — 2 3/5 inches)



Jumping Mice — *Zapus sp.*, *Napeoosapus sp.*

Description: Head and body: 76 — 102 mm (3 — 4 inches)

Tail: 102 — 157 mm (4 — 6 1/5 inches)

Color: tricoloured — dark brown-back, yellowish orange sides and white underparts.

NOTE: Exceptionally long hind feet and tail.

Habits: They feed on seeds, berries, fungi and insects. The damage caused by the three Manitoba species is negligible.

Certain species are difficult to separate, and may require an expert for positive identification. There are books available to aid in identification.

Shrews for example, are often confused with mice, but they belong to the Class Insectivora and are not rodents. They are active, mouse-sized animals with tiny beadlike eyes and long pointed noses. They always have five toes on each foot, while most mice have four toes on the front foot. Shrews are beneficial, consuming many insects and small rodents.



Color: Varies from gray to dark brown; belly lighter, silvery to gray; fur long and soft.

Habits: Found in most areas, especially where there is sufficient grass cover, including orchards and nurseries. Feeds on grasses, seeds, grain, bark and some insects. Nests above or below ground. Makes surface burrows. Populations fluctuate greatly with peaks at three to four year intervals.

Young: Usually 3 — 5; several litters a year.