



# SAFE WORK



No 224  
June 2003

## West Nile Virus

*Although West Nile Virus (WNV) was first identified in Africa in 1937, the virus emerged in New York City in 1999. Since then it has been identified in most other areas of the U.S. and parts of Canada. In Manitoba, WNV was detected in birds of the crow family (corvids), horses and mosquitoes in July, 2002. It is anticipated that the virus will be circulating again in these species this summer, posing a risk to human health.*

### West Nile Virus Transmission

West Nile virus (WNV) is transmitted by mosquitoes to birds and other animals through the mosquito bite. WNV normally cycles between mosquitoes and birds, but if a person or animal is bitten the virus may be transmitted to them. There is no evidence to indicate that the virus is transmitted from person-to-person contact. Caution should be exercised in handling infected birds and other animals.

### Symptoms of West Nile Virus Infection

Most human WNV infections cause either no symptoms or a mild flu-like illness that may include symptoms such as fever, fatigue, headache and muscle or joint pain. The most severely affected patients (less than 1%) may develop an inflammation of the brain (encephalitis) or the membranes of the brain (meningitis). Symptoms of severe infection include high fever, stiff neck, disorientation, tremors, muscle weakness and paralysis. Persons over the age of 50 and those with weakened immune systems are at higher risk of severe illness following infection. The time of incubation from mosquito bite to clinical symptoms is reported to be from 3 to 15 days.

### Workers at Risk

Workers at risk include those working outdoors when mosquitoes are actively biting (dusk and dawn). Those at risk include farmers, foresters, biologists, roofers, painters, pavers, landscapers, construction workers and any other individual who spends a significant amount of time outdoors for his/her job.

### Problem Work Environments

Mosquitoes may reproduce in any puddle or water that stands for more than four days. Workers at sites near stagnant pools, ponds, watering troughs, irrigation ditches, rain barrels, manure lagoons, etc. are at a greater risk. Equipment such as tarps, buckets, barrels and wheelbarrows may allow mosquito larvae to develop if water accumulates in them. Even water-filled ruts on the ground attract mosquitoes.

### Worksite Control Measures

- Where possible schedule work to avoid working outdoors when mosquitoes are most active and biting (dusk and dawn).
- Eliminate as many sources of standing water as possible by:
  - Preventing stagnant water in ponds and other standing bodies of water by changing the water every few days or aerating it;
- Eliminate as many sources of standing water as possible by:
  - Turn over, cover or remove equipment such as tarps, buckets, barrels and wheelbarrows that accumulate water;
  - Discard old tires, buckets, cans and containers in the work area;

## Worksite Control Measures (cont'd)

- Place drain holes in containers that cannot be discarded;
- Clean out rain gutters and ditches to get rid of standing water; and
- Fill in tire tracks, ruts and other depressions that can accumulate water.

## Worker Protection Measures

- Use personal protective measures when you are outside, especially during peak hours of mosquito biting activity.
  - Wear light colored, loose-fitting, tightly woven clothing.
  - Wear long-sleeved tops, long pants, shoes and socks.
  - Consider wearing mosquito repellent containing DEET. Products containing no more than a 30% concentration of DEET will provide sufficient protection (30% of DEET will provide approximately 6.5 hours of protection). Spray exposed skin and thin clothing. Be sure to read and follow the product directions. Wash repellent off skin with soap and water when returning indoors, and launder treated clothing before wearing it again.  
**Note:** DEET can be used with a sunscreen but may decrease the effectiveness of the sunscreen. In this case the sunscreen will need to be applied more often. Products containing DEET and a sunscreen are available, but should be applied sparingly (as an insect repellent).
- When handling dead animals or birds precautions should be taken. Dead crows, blue jays, gray jays, magpies and ravens should be reported to Health Links (788-8200 or 1-888-315-9257).
  - Don't touch the dead bird or animal with your bare hands. Use a shovel, plastic bag or impervious gloves to pick up the bird or animal.
  - Take care not to scratch or puncture your skin while handling the bird or animal.
  - Immediately afterwards, wash your hands well with soap and water.

## When to Seek Medical Attention

Workers with symptoms of severe infection, including high fever, stiff neck, disorientation, muscle weakness or paralysis, after exposure to mosquitoes should seek immediate medical attention. There is no specific treatment for WNV infection; however, many of the symptoms and complications of the infection can be treated.

## More Information on West Nile Virus

- Manitoba Health [www.gov.mb.ca/health/WNV](http://www.gov.mb.ca/health/WNV)
- Health Canada [www.hc-sc.gc.ca/english/westnile](http://www.hc-sc.gc.ca/english/westnile)

