West Nile Virus Guideline

I. PURPOSE:

This guideline and its associated information sheets are intended to provide information and direction to City of Hamilton employees to allow them to take precautions against the potential adverse health effects from possible exposure to the West Nile Virus (WNV) while performing work.

II. SCOPE AND RESPONSIBILITY:

This guideline applies to all City of Hamilton employees who are at risk of exposure to the West Nile Virus (WNV) as a result of their work activities.

Corporate Workplace Safety Section:

- Review and update information on the West Nile Virus, as needed.
- Assist in the selection of personal protective measures for employees.
- Assist with the implementation of the guideline and the development of safe work procedures.
- Provide assistance and information for training sessions, as needed.

Department:

Departments/Divisions are required to:

- Identify and classify jobs with a potential for exposure to West Nile Virus (WNV) as a result of their work activities. This classification should be based on the following criteria:

  **Risk Level 1**: High risk of exposure to West Nile Virus. This may include such workers working around standing water, stagnant pools, wooded areas, etc. AND who are required to do work in this area on a frequent basis.
  
  Insect repellent will be provided.
Risk Level 2: -- Moderate risk of exposure to West Nile Virus. This may include persons working around standing water, stagnant pools, wooded areas, etc. AND required to do work in this area on an infrequent basis
Insect repellent will be provided when required.

Risk Level 3: -- Low risk of exposure to West Nile Virus. This includes workers who are not required to work around standing water, stagnant pools, wooded areas, at any time.
Insect repellent will NOT be provided.

- Develop safe work procedures to address the level of risk encountered.
- Ensure that all employees are informed of risk factors associated with WNV transmission, health effects of the virus and recommended procedures to reduce or eliminate the risk.
- Provide personal protective measures to employees, as appropriate for the level of risk.
- Review Job Classifications with a potential for WNV exposure and ensure that the classification is current and correlates with the job demands.
- Implement, at Works Yards under their authority, any Public Health and Community Services Department requirements on "standing water" and other WNV prevention methods as may be distributed from time to time.
- The decision to issue insect repellent rests with the line Department but must be made in consultation with the respective Joint Health and Safety Committees and must be in accordance with these Guidelines.

Those with supervisory responsibilities will:

- Implement safe work procedures to reduce or eliminate risk factors associated with West Nile Virus (WNV) transmission, including scheduling outdoor work to avoid mosquito habitats at times of peak activity.
- Ensure that personal protective measures (ie. Protective long sleeved clothing; mosquito nets; insect repellent, if issued) are accessible and available to employees, and that employees are familiar with the directions for safe use.
- Encourage employees to take personal protective measures to reduce the risk of WNV, including wearing appropriate clothing to cover up exposed skin and insect repellent, if issued. This must be done in collaboration with local JHSC's, Workplace Safety Consultants, and the PH&CS Department.
- Schedule information and education sessions for employees, as needed.

Workers are required to:

- Review information and educational material, provided by the City of Hamilton, to become familiar with the risk of WNV exposure and the protective measures recommended
- Follow safe work procedures, and use appropriate personal protective measures, as needed for the level of risk.
For further information see "West Nile Virus Information Sheet 2003" below:

West Nile Virus Information Sheet 2003:
(Source: Health Canada Guideline - April 2003)

What is West Nile Virus?

• The West Nile Virus was first identified in 1937 in Uganda. The virus was found for the first time in North America in the late summer of 1999 in New York City.
• In August 2001, West Nile Virus was found in a bird in Windsor, Ontario. This was the first confirmed evidence of the virus in Canada. West Nile Virus was confirmed in the City of Hamilton in 2002.
• As of 2002, there were 8 confirmed cases, 3 probable cases and 9 suspected cases of West Nile Virus in humans in Hamilton. In Ontario 252 person/s were confirmed to have West Nile Virus and 147 people confirmed with probable cases of the virus.
A study just completed in central Ontario indicated that 10 of 54 individuals hospitalized with WNV died (19%), while 25% of individuals hospitalized with WNV required intensive care (e.g., had to be put on a ventilator). An additional 9 of 54 didn't require ICU care but had severe, debilitating muscle weakness (17%).

What are the Signs and Symptoms of West Nile Virus?

• The majority of humans infected with the virus show no symptoms or may have very mild symptoms. People over the age of 50 are those most at risk of serious illness.
• Symptoms of West Nile Virus generally occur 3 to 12 days after being bitten by an infected mosquito.
• Some may experience mild symptoms such as: fever, headaches and body aches that are often accompanied by skin rash and swollen lymph glands.
• More severe infections, which occur in less than 1% of infected people, may involve headache, high fever, neck stiffness, disorientation, coma, muscle weakness, paralysis and in rare cases, death.
• If you show symptoms such as high fever, confusion, muscle weakness and severe headaches, see your doctor immediately.

How is it spread?

• The West Nile Virus is spread to humans by the bite of an infected mosquito.
• Mosquitoes become infected when they ingest a blood meal from a bird infected with the virus.
• West Nile virus is not transmitted directly from person to person. However, there is now ongoing research about whether a person can become infected through a blood transfusion or an organ donation from an infected individual. For more information, contact PHCS Department or the City’s web page.

What can be done to reduce the spread of the virus?

• The most effective and economical way to prevent the spread of the West Nile Virus is to eliminate mosquito breeding areas (small pools of standing water).
• To eliminate breeding sites in and around the work site remove standing water from roof gutters, wheelbarrows, garbage cans, tires etc., and any other place that can collect water.
Should mosquitoes be controlled with pesticides?
• Pesticide use should only be considered as part of an overall strategy that begins first with more “natural” methods such as acting to reduce the number of mosquito breeding areas. Reducing the places where mosquitoes breed will in turn reduce the need to use pesticides.

How can I protect myself?

You can reduce the likelihood of being bitten by a mosquito by taking the following precautions:

Personal Precautions against Mosquitoes Outdoors/Reducing Mosquitoes In and Around Your Work site: Protect Yourself Outdoors

• Wear light coloured long-sleeved shirts, long pants, shoes and socks outdoors whenever possible. Tuck pants into socks for extra protection.
• Stay indoors at dawn and at dusk through early evening whenever possible.
• Take additional precautions (including netting, gloves, long sleeved shirts and/or insect repellents) when in areas where mosquitoes are more likely to be found (e.g., in the woods or near a ravine).

Use Insect Repellents Safely

• Seek medical advice as to the appropriate product most suitable for you.
• Follow the instructions on the products.
• Apply only to exposed skin and clothing. Use just enough to cover skin/clothing.
• Never use over cuts, wounds, sunburn or irritated skin.
• Wash repellent off daily.

Protect Yourself Indoors

• Use fine-mesh screens on windows and doors.
• Make sure screens do not have holes and fit tightly.

Eliminate Breeding Sites Outdoors

• Do not allow water to collect in the bottom of garbage cans.
• Clean roof gutters, downspouts and eaves troughs regularly.
• Clean birdbaths and trays under potted plants twice a week.
• Turn over plastic wading pools and wheelbarrows when not in use.
• Eliminate discarded tires. If you must keep them, remove any standing water from the tires and store them covered or stand them on end and fill the inside with sand.
• Bubble ornamental garden ponds using an “oxygenator”.
• Change and empty water from containers or troughs used for animals.

City of Hamilton Outdoor Workers:

During mosquito season, outdoor activities at sunrise, early evening and at night provide the greatest exposure to mosquitoes. To reduce exposure to mosquitoes, the prevention strategies listed above, such
as eliminating mosquito breeding grounds and using personal precautions (clothing, insect repellent), should be promoted.

If West Nile Virus is identified in outdoor work locations, adhering to the personal precautions will reduce the incidence of mosquito bites. Generally, in areas where mosquitoes are found to carry the virus, less than 1% of these mosquitoes are infected and therefore the chance of being bitten by an infected mosquito is very small. Remember, even if infected with the virus, very few individuals will experience symptoms.

It is important to remember that wearing long-sleeved shirts and/or trousers, as personal precautions, should not create an additional risk of heat stress on hot, humid days. To avoid heat stress light-coloured, breathable, clothing that allows moisture to evaporate should be worn, workers should drink plenty of liquids to maintain body hydration and be aware of the signs and symptoms of heat stress. For more information on heat stress, please refer to the Guidelines for Temperature Related Hazards - Heat Stress, located under e-Net/You Should Know/Occupational Health and Safety Web site.

For more information about the West Nile Virus contact City of Hamilton Public Health and Community Services Department or visit the City of Hamilton Web site for regular updates.

I've been bitten by a mosquito, should I be tested for West Nile Virus?

NO! Most mosquitoes are not infected with the West Nile virus. Illnesses related to mosquito bites are rare. However, you should see a doctor immediately if you develop symptoms such as high fever, confusion, muscle weakness, severe headaches, stiff neck, or if your eyes become sensitive to light. Patients with mild symptoms should recover completely, and do not require any specific medication or laboratory testing.

---

**Insect Repellent Fact Sheet:**
(Source: Health Canada Guideline - April 2002)

*Why should I consider using insect repellent?*

Insect repellents can effectively reduce a person’s exposure to mosquito bites, and therefore to the West Nile Virus. Insect repellents are only one method of reducing exposure and should be part of an overall personal protection plan.

*What kind of insect repellent should be used?*

Health Canada recommends insect repellents that contain DEET (N-N-diethyl-3-methylbenzamide or N,N-diethylmetatoluamide) at concentrations that are 30% or less. Only use insect repellents that are registered in Canada. Consult with your physician prior to using insect repellents containing DEET.

The City of Hamilton will provide only Health Canada recommended products. Please ensure that you read all the labels and use the product as recommended by the manufacturer.

-Workers choosing a different type of "insect repellent" than that provided by the City of Hamilton must submit their request to their supervisor and their request will be considered for reimbursement, with proper medical authorization only.
How long does one application of insect repellent remain effective?

The protection time offered by an insect repellent is dependent on the concentration of DEET in the product. Products with lower concentrations of DEET are as effective as the higher concentrations, but remain so for shorter periods of time.
Percentage of DEET Approximate Protection Time 30% 6.5 hours: 15% 5 hours: 10% 3 hours: 5% 2 hours.

Should I use an insect repellent containing more than 30% of DEET?

Based on a human health risk assessment of DEET by Health Canada’s Pest Management Regulatory Agency, products containing over 30% DEET will no longer be acceptable for registration in Canada. The re-evaluation of DEET considered potential health effects of daily application over a prolonged period of time. However, as there were no immediate health effects found with these products, retail sales will continue until December 31, 2004. As it is anticipated that City of Hamilton workers may use insect repellent for a prolonged period of time (e.g. daily use for several weeks), existing products with greater than 30% DEET are not recommended.

How do I apply insect repellent?

1. Always read and follow the directions on the label carefully before using.
2. If you are concerned you may be sensitive to an insect repellent, conduct a patch test before applying:
   • Apply the product to a small area of the skin on your arm and wait 24 hours. Check to see if there are any signs of an adverse reaction such as redness or itching.
   • If at any point a skin reaction occurs from using insect repellent, stop using the product immediately, wash the area and seek medical advice. It is a good idea to take the product with you to the doctor.
3. Apply the repellent on exposed skin or on top of clothing sparingly. Do not apply under clothing. Repeat applications as necessary.
4. Do not apply the repellent to cuts, irritated or sunburned skin or open wounds.

Is there a natural alternative to insect repellents containing DEET?

Health Canada’s Pest Management Regulatory Agency (PMRA) is in the process of re-evaluating personal insect repellents containing citronella and lavender oil. Currently, citronella oil repellents registered in Canada are effective for less than one hour, and registered lavender oil repellents offer protection for half hour or less. There are also non-chemical methods to reduce mosquito bites including protective clothing and avoidance of mosquito habitats at times of peak activity.

Can I use a combination product containing sunscreen and DEET?

Combination products often have incompatible instructions regarding methods of application, as insect repellents should be applied sparingly and sunscreens should be applied liberally and frequently for optimum protection. Therefore, if a combination product is used it is recommended that the product be used solely as an insect repellent, and applied according to the application procedures listed above.