PUBLIC HEALTH FACT SHEET

West Nile Virus

Massachusetts Department of Public Health (MDPH), 305 South Street, Jamaica Plain, MA 02130

What is West Nile Virus (WNV)?

West Nile virus (WNV) is a mosquito-carried virus that can cause illness ranging from a mild fever to more serious disease like encephalitis or meningitis. It was first identified in the United States in 1999.

How is WNV spread?

WNV is most commonly spread to people through the bite of an infected mosquito. More information about different types of mosquitoes that can spread WNV can be found on the MDPH website at www.mass.gov/dph/wnv.

WNV may also be spread through blood transfusion or organ transplant. In addition, there are rare reports of WNV being passed from pregnant or breastfeeding women, who are infected with WNV, to their babies. Since these reports are rare, the health effects on an unborn or breastfeeding baby are unclear and still being studied.

People do not become infected by having direct contact with other infected people, birds or animals.

Why don't I need to report dead birds anymore?

From 2000 to 2008, MDPH collected reports and ran tests for WNV on dead birds in Massachusetts as one of several ways to monitor WNV activity across the state. In recent years, this method has become less useful for finding the virus. Many other states have discontinued dead bird reporting and testing. Mosquito collection and testing gives the most reliable indication of current WNV activity and this is where monitoring activities will continue to be focused.

Dead birds are no longer being tested for WNV and do not need to be reported to MDPH. Dead birds can be safely disposed of in the trash. Using gloves, a shovel or plastic bags covering your hands, the dead bird should be double-bagged and placed in the trash. You should then wash your hands.

What are the symptoms of WNV?

The majority of people who are infected with WNV (approximately 80%) will have no symptoms.

A smaller number of people who become infected (~ 20%) will have symptoms such as fever, headache, body aches, nausea, vomiting, and sometimes swollen lymph glands. They may also develop a skin rash on the chest, stomach and back.

Less than 1% of people infected with WNV will develop severe illness, including encephalitis or meningitis. The symptoms of severe illness can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. Persons older than 50 years of age have a higher risk of developing severe illness.

How common is WNV in Massachusetts?

Because most people who are exposed to WNV have no symptoms, it is difficult to know exactly how many people have been infected. People who develop severe illness with WNV are most often reported. Between 2000 and 2010, 67 people were reported with WNV infection in Massachusetts. Six of these people died. Cases have been identified from around the state.

Is there any treatment for WNV?

There is no specific treatment for WNV infections. People with mild WNV infections usually recover on their own. People with severe WNV infections almost always require hospitalization. Their symptoms may last several weeks and neurological effects may be permanent. Approximately 10% of people who develop severe illness will die from the infection.

What can you do to protect yourself from WNV?

Since WNV is most commonly spread by mosquitoes, here are some things you can do to reduce your chances of being bitten:

- Schedule outdoor events to avoid the hours between dusk and dawn, when mosquitoes are most active.
- When you are outdoors, wear long pants, a long-sleeved shirt and socks. This may be difficult to do when the weather is hot, but it will help keep mosquitoes away from your skin.
- Use a repellent with **DEET** (N, N-diethyl-m-toluamide), **permethrin, picaridin** (KBR 3023), **IR3535** (3-[N-butyl-N-acetyl]-aminopropionic acid) or **oil of lemon eucalyptus** [p-menthane 3, 8-diol (PMD)] according to the instructions on the product label.
  - DEET products should not be used on infants under two months of age and should be used in concentrations of 30% or less on older children.
  - Oil of lemon eucalyptus should not be used on children under three years of age.
  - Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin.
  - More information on choosing and using repellents safely is included in the MDPH Mosquito Repellents fact sheet which can be viewed online at www.mass.gov/dph/wnv. If you can't go online, contact the MDPH at (617) 983-6800 for a hard copy.
- Keep mosquitoes out of your house by repairing any holes in your screens and making sure they are tightly attached to all your doors and windows.
- Remove areas of standing water around your home. Here are some suggestions:
  - Look around outside your house for containers and other things that might collect water and turn them over, regularly empty them, or dispose of them.
  - Drill holes in the bottom of recycling containers that are left outdoors so that water can drain out.
  - Clean clogged roof gutters; remove leaves and debris that may prevent drainage of rainwater.
  - Turn over plastic wading pools and wheelbarrows when not in use.
  - Change the water in birdbaths every few days; aerate ornamental ponds or stock them with fish.
  - Keep swimming pools clean and properly chlorinated; remove standing water from pool covers.
  - Use landscaping to eliminate standing water that collects on your property.

Did you know?

Mosquitoes can begin to multiply in any puddle or standing water that lasts for more than four days! Mosquito breeding sites can be anywhere. **Take action** to reduce the number of mosquitoes around your home and neighborhood. Organize a neighborhood clean up day to pick up containers from vacant lots and parks and to encourage people to keep their yards free of standing water. Mosquitoes don't care about fences, so it's important to remove areas of standing water throughout the neighborhood.

Where can I get more information?

- Your doctor, nurse, or health care clinic, or your local board of health (listed in the telephone directory under local government)
- The Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850, or on the MDPH Arbovirus website at www.mass.gov/dph/wnv
- **Health effects of pesticides**, MDPH, Center for Environmental Health at 617-624-5757
- **Mosquito control in your city or town:** Mosquito control in Massachusetts is conducted through nine mosquito control districts. The State Reclamation and Mosquito Control Board (SRMCB) oversees all nine districts. Contact information for each district can be found online at www.mass.gov/agr/mosquito/districts.htm. You may also contact the SRMCB within the Massachusetts Department of Agricultural Resources at 617-626-1777 or your local board of health.

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