



Outdoor Activities and West Nile Virus and Eastern Equine Encephalitis

Do I need to change my safety practices when outdoors?

It is not necessary to limit your usual outdoor work or activities, **unless there is confirmed evidence of mosquito-borne disease in the area where you are working.**

What if West Nile Virus (WNV) or Eastern Equine Encephalitis (EEE) are identified in the area where I am outdoors?

WNV and EEE are spread to humans by the bite of an infected mosquito. When a mosquito bites an infected bird, the mosquito becomes infected. The infected mosquito could then bite a human and transmit the infection. You can reduce your risk of disease by reducing the chance that mosquitoes will bite you. Mosquitoes are most active during evening, nighttime, and dawn hours, but they may be present at any time of day. When mosquitoes are actively biting, take the following precautions:

- Protective clothing such as long pants, long-sleeved shirts, and socks should be worn if outside during evening, nighttime, and dawn hours, the time when mosquitoes are most active, and at other times when mosquitoes are biting.
- If outside during evening, nighttime, and dawn hours, or whenever mosquitoes are biting, consider the use of an effective insect repellent.
- **Use repellents according to manufacturer's directions.**
 - Repellents containing DEET (N, N-diethyl-methyl-meta-toluamide) have been proven effective. No more than 30% DEET should be used on adults or children.
 - The American Academy of Pediatrics (AAP) Committee on Environmental Health has updated their recommendation for use of DEET products on children, citing: "Insect repellents containing DEET with a concentration of 10% appear to be as safe as products with a concentration of 30% when used according to the directions on the product labels." AAP recommends that repellents with DEET should not be used on infants less than 2 months old.
 - Repellents containing Picaridin (KBR3023) or oil of lemon eucalyptus (a plant based repellent) provide protection similar to repellents with low concentrations of DEET. Oil of lemon eucalyptus should not be used on children under the age of three years.
 - Do not allow young children to apply repellent themselves.

- Do not apply repellent directly on children. Apply repellent to your own hands and then put it on the child's exposed skin.
- Avoid putting repellent on the hands of children or near their eyes and mouth.
- Do not spray directly on the face, spray into the hands first and then apply to the face.
- Do not apply to cuts, wounds, or irritated skin.
- Do not use under clothing.
- Do not spray repellent containing products in enclosed areas.
- Avoid prolonged or excessive use of repellents. Use sparingly to cover exposed skin and clothing.
- Wash all treated skin and clothing after returning indoors.
- Store repellents out of reach of children.
- Vitamin B, ultrasonic devices, incense, and bug zappers have not been shown to be effective in preventing mosquito bites.

More information on mosquito repellents is available for physicians in the following technical articles.

Mark S. Fradin, MD, and John F. Day, PhD. Comparative Efficacy of Insect Repellents against Mosquito Bites. New England Journal of Medicine, Volume 347:13-18, July 4, 2002 Number 1.

D.R. Barnard and R.D. Xue. Laboratory Evaluation of Mosquito Repellents Against *Aedes albopictus*, *Culex nigripalpus*, and *Ochlerotatus triseriatus* (Diptera: Culicidae). Journal of Medical Entomology, Volume 41(4):726-30, July 2004.

What can I do around my home to help reduce exposure to mosquitoes?

Mosquitoes lay their eggs in standing water. Weeds, tall grass, and bushes provide an outdoor home for the adult mosquito commonly associated with West Nile virus. Mosquitoes can enter homes through unscreened windows or doors, or broken screens. Here are some steps that you can take:

- Make sure that doors and windows have tight-fitting screens. Repair or replace all screens in your home that have tears or holes.
- Remove all discarded tires from your property. The used tire has become the most prominent domestic mosquito-breeding habitat in this country.
- Dispose of tin cans, plastic containers, ceramic pots, or similar water-holding containers. Do not overlook containers that have become overgrown by aquatic vegetation.
- Drill holes in the bottom of recycling containers that are left out of doors. Drainage holes that are located on the sides collect enough water for mosquitoes to breed in.

- Make sure roof gutters drain properly. Clean clogged gutters in the spring and fall.
- Tightly screen "rain barrels" to ensure mosquitoes can't deposit eggs in or on the water.
- Clean and chlorinate swimming pools and outdoor hot tubs. If not in use, keep empty and covered.
- Drain water from pool covers.
- Aerate ornamental pools or stock them with fish. Water gardens are fashionable but become major mosquito producers if they are allowed to stagnate.
- Turn over wheelbarrows and change water in birdbaths at least twice weekly. Both provide breeding habitat for domestic mosquitoes.
- Eliminate any standing water that collects on your property. Use landscaping as needed. Mosquitoes will develop in any puddle that lasts more than 4 days.
- Remind or help neighbors to eliminate breeding sites on their properties.

Please Note: Although certain pesticide products are available for sale in the market place to control mosquito larvae, one must obtain a special permit from the Department of Agriculture, Division of Pesticide Control to be able to apply pesticides to any surface waters in the state of New Hampshire. Questions regarding how to apply for such special permits may best be directed to the New Hampshire Department of Agriculture, Division of Pesticide Control at 1-603-271-3550.

What health risks are posed to people and pets from pesticides?

When control measures are needed, pesticide application may be recommended. The products that will be applied will be used according to integrated pest management guidelines set by the U.S. Environmental Protection Agency. In the small amounts used, these pesticides would pose negligible risks to people and pets. Residents will learn about spraying schedules through different mechanisms that may include public service announcements, the media, the DHHS/DES websites, a telephone information line, and local authorities.

How can I avoid heat stress on hot, humid days?

If you wear a long-sleeved shirt, long pants, shoes, and socks to reduce the risk of mosquito bites, you might be at greater risk for heat stress on hot, humid days. To avoid symptoms of heat stress, you should:

- Wear light-colored, breathable clothing that allows moisture to evaporate quickly.
- Use extra caution if you are required to wear clothing on the job that limits evaporation because you could develop heat stress much more quickly.
- Drink plenty of non-alcoholic and non-caffeinated liquids to maintain body hydration.

**For more information,
call the New Hampshire Department of Health and Human Services,
WNV/EEE Information line at
1-866-273-NILE (6453)**

**For health care providers with clinical questions
or to report human suspect or probable cases
please contact the Bureau of Communicable Disease Control at
1-800-852-3345 ext. 4496 or 603-271-4496**