



The Commonwealth of Massachusetts  
Executive Office of Health and Human Services  
Department of Public Health  
William A. Hinton State Laboratory Institute  
305 South Street, Jamaica Plain, MA 02130

DEVAL L. PATRICK  
GOVERNOR  
  
TIMOTHY P. MURRAY  
LIEUTENANT GOVERNOR  
  
JUDYANN BIGBY, MD  
SECRETARY  
  
JOHN AUERBACH  
COMMISSIONER

Bureau of Infectious Disease Prevention,  
Response and Services  
(617) 983-6550

### Recreational Activities and the Risk of Mosquito- Borne Diseases

September means back-to-school activities, including the resumption of school-related outdoor sports, and while the weather is good, more barbecues and other outdoor recreational activities. However, September is also an active time for mosquito-borne diseases, including West Nile virus (WNV) and eastern equine encephalitis (EEE) virus infection. The peak time for transmission of these viruses is generally in late summer and early fall.

Many of the sports and recreational activities in which students are likely to participate occur during the evening and dusk hours, the time of the day when many kinds of mosquitoes are actively biting. Other mosquitoes feed during daylight hours. Active participation in outdoor sports increases our availability to mosquitoes. Physical exertion and sweating may also change individual attractiveness to mosquitoes and may decrease the time that repellents are effective.

Parents should review with their children the following steps to reduce the chance of infection:

**Avoid Outdoor Activity During Peak Mosquito Hours.** The hours from dusk to dawn are peak mosquito biting times for many mosquitoes. Take extra care to use repellent and protective clothing during evening and early morning -- or consider avoiding outdoor activities during these times.

**Clothing Can Help Reduce Mosquito Bites.** When possible, wear long-sleeves, long pants and socks when outdoors during peak mosquito activity time.

**Apply Mosquito Repellent when you go outdoors.** A wide variety of mosquito repellent products are available. The most effective repellents contain DEET (N, N-diethyl-m-toluamide), Picaridin (KBR 3023) or Permethrin. Always follow the instructions on the product label. DEET and Picaridin products can be used directly on skin and on clothing. Permethrin products can be used on clothing but not directly on skin. Oil of lemon eucalyptus has also demonstrated efficacy against mosquito bites, with protection similar to repellents with low concentrations of DEET. Products containing DEET should not be used on children less than 2 months of age. Products containing oil of lemon eucalyptus should not be used on children less than 3 years of age.

Apply only as much repellent as needed. Choose a product that will provide sufficient protection for the amount of time that you will be spending outdoors. Saturation does not increase repellent efficacy. Product labels often indicate the length of time that you can expect protection from a product. Keep repellents away from eyes, nostrils and lips: do not inhale or ingest repellents or get them into the eyes. Avoid applying repellents to portions of children's hands that are likely to have contact with eyes or mouth. Never use repellents on wounds or irritated skin. Wash repellent-treated skin after coming indoors.

This year, some areas of Massachusetts are considered to have a high risk for human infection with mosquito-borne disease. Contact your local board of health concerning the latest up-to-date information about the circulation of these viruses, the risk of transmission in your specific area, and the steps you may take to reduce risk of infection (including postponing certain activities).

More information on mosquito-borne diseases, on protecting yourself from bites by mosquitoes and on safe application of mosquito repellents can also be obtained by visiting the MDPH web site on arboviral (mosquito-transmitted) diseases <http://www.mass.gov/dph/wnv>.