

A 1994 American Medical Association resolution urges Congress, government agencies, and private organizations to support improved strategies for the assessment and prevention of pesticide risks.<sup>1</sup>

#### SOURCES

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- 2 Abou-Donia, Mohamed Ph.D. (1999). Quoted on Duke Newslite, August, 1999. <http://www.dukenews.duke.edu/Radio/mm0820.htm>.
- 3 United States Environmental Protection Agency (1998). "R.E.D. Facts: DEET." Prevention, Pesticides and Toxic Substances. Available on web site at: <http://www.epa.gov/oppsrrd1/REDs/factsheets/0002fact.pdf>.
- 4 Abdel-Rahman, Ali, Ashok K. Shetty, and Mohamed B. Abou-Donia (2001). "Subchronic Dermal Application of N,N-Diethyl m-Toluamide (DEET) and Permethrin to Adult Rats, Alone or in Combination, Causes Diffuse Neuronal Cell Death and Cytoskeletal Abnormalities in the Cerebral Cortex and the Hippocampus, and Purkinje Neuron Loss in the Cerebellum." *Experimental Neurology*, Volume 172, November.
- 5 United States Environmental Protection Agency (2002). "How to Use Insect Repellents Safely." Office of Pesticide Programs. Available on web site at: <http://www.epa.gov/pesticides/citizens/insectrp.htm>.
- 6 American Academy of Pediatrics (2001). "New Information Leads to Changes in DEET recommendations." Available online at: <http://www.aap.org/family/wmv%20Aug01.htm>.

### MARYLAND PESTICIDE NETWORK

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REDUCE  
YOUR RISK OF  
PESTICIDE  
EXPOSURE

# REDUCE YOUR RISK OF PESTICIDE EXPOSURE

- ❖ Use non-toxic alternatives for pest control in your home, garden, and on pets—especially in homes with children, pregnant women, or persons with compromised immune systems. For example, use:
  - Traps
  - Baits,
  - Soap sprays
  - Boric acid
  - Improved sanitation (e.g., vacuum more often)
- ❖ Use least-toxic means for preventing mosquito bites.
  - Mosquitoes breed in standing water. Manage mosquito breeding sites by eliminating standing water, to the extent possible. If not possible, other control techniques should be used.
  - Maintain window and door screening.
  - Wear protective clothing outside, especially at dawn and dusk when mosquitoes are most active. Light colored clothes are less attractive to mosquitoes.
  - Use mosquito repellents according to directions, when outdoors. Always wash off repellents with soap and water once indoors.



- ❖ Store pesticides and other potentially poisonous substances in a safe, well-ventilated place out of children's reach.
- ❖ Eat organic foods or carefully wash and/or peel fruits and vegetables. Eating just a few organic foods a week will reduce pesticide consumption.
- ❖ Households with private wells should regularly test their water by a state certified laboratory for pesticides, metals, and other contaminants. Contact your local health department and local public water systems that test ground water to learn more about well water quality in your area and what contaminants you are most likely to encounter. Call Maryland State Certification Officer for Drinking Water Laboratories at (410) 537-3729 for more information.

## ATTENTION HEALTH CARE PROVIDERS

Advise patients to use caution with products that contain DEET (N,N-diethyl-meta-toluamide), particularly when choosing a product for children or when using it in combination with other chemicals or medications.<sup>2</sup> The excessive use of DEET has been implicated in seizures among children. DEET may also be associated with other possible adverse effects, according to US EPA.<sup>3</sup> A recent study on laboratory rats by Duke University researchers found that combined exposure to DEET and permethrin, a pesticide used for mosquito control in Maryland, may lead to motor deficits and learning and memory dysfunction.<sup>4</sup>

## USE CAUTION WHEN APPLYING INSECT REPELLENTS

American Academy of Pediatrics recommends that children should not use products containing more than 10-15% DEET, and that infants should not use insect repellents.<sup>6</sup> Doctors recommend that adults should not use products containing more than 30% DEET.

EPA recommends the following precautions when using insect repellents (This information is now required to be on the label. Lack of compliance constitutes a violation of law):

- ❖ Apply repellents only to exposed skin and/or clothing (as directed on the product label). Do not use under clothing.
- ❖ Never use repellents over cuts, wounds, or irritated skin.
- ❖ Do not apply to eyes and mouth, and apply sparingly around ears. When using sprays do not spray directly onto face; spray on hands first and then apply to face.
- ❖ Do not allow children to handle the products, and do not apply to children's hands. When using on children, apply to your own hands and then put it on the child.
- ❖ Do not spray in enclosed areas. Avoid breathing a repellent spray, and do not use it near food.
- ❖ Use just enough repellent to cover exposed skin and/or clothing. Heavy application and saturation is generally unnecessary for effectiveness; if biting insects do not respond to a thin film of repellent, only then apply a bit more.
- ❖ After returning indoors, wash treated skin with soap and water or bathe.<sup>5</sup>

Note that products may also refer to DEET as N,N-diethyl-m-toluamide or N,N-diethyl-3-methylbenamide.