



Fig. 16-536

WEST NILE VIRUS

The Mississippi Department of Health urges all Mississippians to avoid mosquito bites whenever possible. The risk of a healthy person getting West Nile virus from a mosquito bite is very low, but protection remains important for all Mississippians.

West Nile virus is transmitted *primarily* through the bite of an infected mosquito. However, there have been isolated cases occurring in blood transfusion and organ donation recipients, from mother to baby during pregnancy, and through breast milk. People cannot become infected through ordinary contact with an infected bird, horse or human.

● Protect Yourself

- Avoid mosquitoes whenever possible. Stay indoors or take personal protective measures, especially between dusk and dawn, which are peak mosquito biting times.
- Use mosquito repellent with DEET. Products with up to 30 percent DEET will provide adequate protection under most conditions. Use DEET concentrations of 10 percent or less on children ages two years to 12 years of age, as recommended by the American Academy of Pediatrics. For children less than two years of age, parents should consult their pediatrician. *Always follow the manufacturer's directions for use as printed on the product label.*
- Wear long-sleeved, long-legged clothing with socks and shoes when practical.

● Protect Your Home — Prevent Mosquito Breeding Around Your Home

- Dispose of tin cans, plastic containers, ceramic pots or similar water-holding containers.
- Remove all discarded tires on the property. Used tires have become the most common mosquito breeding site in the country.
- Remove all leaf debris.
- Close garbage can lids. Be sure water does not collect in the bottom of garbage cans.
- Drill holes in the bottoms of all recycling containers that are kept outdoors.
- Make sure roof gutters drain properly, and clean clogged gutters in the spring and fall.
- Turn over plastic wading pools and wheelbarrows when not in use.
- Change the water in bird baths frequently (every 2-3 days).
- Clean vegetation and debris from the edge of ponds.
- Clean and chlorinate swimming pools, outdoor saunas and hot tubs.
- Drain water from pool covers.
- Use landscaping to eliminate standing water that collects on your property.
- Repair damaged or torn window and door screens.
- Remove outdoor pet food and water dishes that are not being used.
- Flush livestock water troughs twice a week.
- Check around construction sites or do-it-yourself improvements to ensure that proper backfilling and grading prevent drainage problems.

● **And Protect Your Community**

- Call your local health department to report dead birds. Find county and **Health Info** numbers under Health Department in the BellSouth White Pages.
- If you know of specific mosquito control problems, call your local city or county public works director, the City Hall, or the Board of Supervisors.
- Learn what your local government is doing to control mosquitoes. Ask how you can help.
- Remind or help neighbors to eliminate mosquito breeding sites on their property.



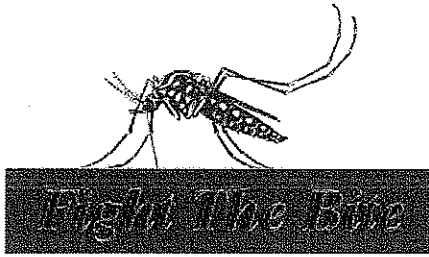
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Catalog No. 8016



West Nile Virus

Insect Repellents and DEET Tips: Deciding on Their Use

Chemical repellents are effective at reducing bites from insects that can transmit disease. But their use is not without risk of health effects, especially if repellents are applied in large amounts or improperly. This information will help you decide when and if a repellent is right for you.

ABOUT REPELLENTS

Two active ingredients found in repellents are **DEET** (the label might say *N,N-diethyl-m-toluamide*) and **permethrin**. Most insect repellents contain one of these active ingredients. **DEET** comes in many different concentrations, with percentages as low as five percent or as high as 100 percent. In general, the higher the concentration, the higher the protection, but the risk of negative health effects goes up, too. Use the lowest concentration that you think will provide the protection you need.

Products with up to 30 percent **DEET** will provide adequate protection under most conditions. The American Academy of Pediatrics recommends that repellents used on children two years -12 years of age contain no more than 10 percent **DEET**.

DEET has been widely used for many years. Skin reactions (particularly at *concentrations of 50 percent and above*) and eye irritation are the most frequently reported health problems. Some reports of central nervous system problems, more frequently reported in children than adults, range from slurred speech and confusion to seizures and coma. Cases of serious reactions to products containing **DEET** have been related to misuse of the product, such as swallowing, applying over broken skin, and using for multiple days without washing skin in between.

Unlike **DEET**, **permethrin** repellents are for use on clothing only, not on skin. **Permethrin** kills insects that come in contact with treated clothes. **Permethrin** repellents can cause eye irritation, particularly if label directions have not been followed. Animal studies indicate that **permethrin** may have some cancer-causing potential. **Permethrin** is effective for two weeks or more if the clothing is not washed. Keep treated clothing in a plastic bag when not in use.

If you decide to use any kind of chemical repellent, carefully **read and follow all label directions before each use**. On the labels, you will find important information about how to apply the repellent, whether it can be applied to skin and/or clothing, special instructions for children, hazards to humans, physical or chemical hazards and first aid.

Considerations

Deciding whether you want to use a repellent depends on a combination of things, including where you are, how long you will be outside and how bad the bugs are. Every situation is different. Use the following questions to make a "profile" that fits your situation – this might help you decide if you want to use a repellent, and if so, which kind.

- **When will you be outside? Where will you be?**

Some pests are more active at certain times – for example, many mosquitoes are most active between dusk and dawn. In addition, some places are more likely to have higher mosquito numbers.

- **How long will you be outside?**

Are you doing some gardening, going on a hike, camping for a week? The longer you are out, the more protection you need. Some people exposed to high numbers of mosquitoes for long periods of time use a two-part approach. With this approach, about 30 percent **DEET** in a controlled release formula is applied on exposed skin, and clothing is treated with **permethrin**. If, on the other hand, you are going to do some yard work or have a mid-day picnic when mosquito activity is low and you decide to use an insect repellent, even lower concentrations can provide sufficient protection from mosquito bites for a few hours.

The more **DEET** a repellent contains the longer time it can protect you from mosquito bites. A higher percentage of **DEET** in a repellent does not mean that your protection is better—just that it will last longer. **DEET** concentrates higher than 50% do not increase the length of protection.

A general guide for **DEET** product use based on a recent study is as follows:

- A product containing 23.8% **DEET** provided an average of 5 hours of protection from mosquito bites.
- A product containing 20% **DEET** provided almost 4 hours of protection.
- A product with 6.65% **DEET** provided almost 2 hours of protection.
- Products with 4.75% **DEET** and 2% soybean oil were both able to provide roughly 1 1/2 hours of protection.

Remember: If you decide to use a repellent, use only what and how much you need for your situation.

APPLYING INSECT REPELLENTS TO CHILDREN

Applying insect repellent to children requires special precautions. For example, repellent should never be applied to children's hands because they put their hands in their mouths. The American Academy of Pediatrics recommends that repellents appropriate for use on children from 2 years to 12 years of age should contain no more than 10 percent **DEET**. In addition, provide a physical barrier on children such as long sleeves and long pants.

According to CDC, the Centers for Disease Control and Prevention, most guidelines cite that it is acceptable to use repellents containing **DEET** on children over two years of age. Other experts suggest that it is acceptable to apply repellent with low concentrations of **DEET** to infants over two months old. For children less than two years of age, parents should consult their pediatrician.

Keep repellents out of the reach of children and read all instructions on the label before applying.

DO MOSQUITOES PICK YOU OUT IN A CROWD?

You may consider using a repellent if you get a lot more bites than people around you do.

DEET TIPS

The Mississippi State Department Of Health recommends taking these precautions when using repellents that contain **DEET**:

- Products with up to 30 percent **DEET** will provide adequate protection under most conditions.
- *Do Not* allow children to apply **DEET** themselves.
- *Do Not* apply **DEET** directly to children. Apply to your own hands and then put it on the child.
- When applying **DEET**, avoid the child's eyes, lips, and hands.

- Avoid prolonged and excessive use of DEET. Use sparingly to cover exposed skin only.
- *Do Not* apply repellents in enclosed areas.
- *Do Not* apply directly on your face, especially near the eyes, nose or mouth.
- *Do Not* use on skin that is damaged by sunburn, cuts, bruises or skin conditions, such as psoriasis.
- DEET may be applied to clothing but can damage some synthetic fabrics and plastics.
- Wash treated skin and clothing after returning indoors.
- There are no reports of adverse events following use of repellents containing DEET in pregnant or breastfeeding women.
- If you believe you or a child is having an adverse reaction to a repellent containing DEET, wash the treated area immediately and contact your health care provider or local poison control center.

National Poison Control Center: 1-800-222-1222

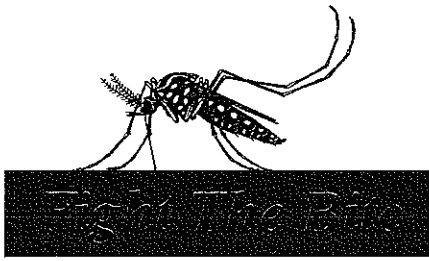
Remember that the use of DEET is only one way to reduce the risk of mosquito bites. The State Health Department also encourages other precautions — such as wearing long pants and long-sleeved shirts when in areas of high mosquito activity. Also, eliminate items on your property in which standing water can collect and serve as a breeding ground for mosquitoes.



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Environmental Protection Agency (EPA): epa.gov/pesticides/factsheets/alpha_fs.htm
National Pesticide Information Center (NPIC): npic.orst.edu



Mississippi Schools

The Mississippi Department of Health urges all Mississippians to avoid mosquito bites whenever possible. The risk of a healthy person getting West Nile virus from a mosquito bite is very low, but protection remains important for everyone.

Everyone should know . . .

- West Nile virus is transmitted *primarily* through the bite of an infected mosquito. However, there have been isolated cases occurring in blood transfusions and organ donation recipients, from mother to baby during pregnancy, and through breast milk. People cannot become infected through ordinary contact with an infected bird, horse or human.
- No vaccine exists to protect humans against West Nile virus. Individuals must personally *Fight the Bite*.

A Message For Parents & Students:

- Avoid mosquitoes whenever possible.
- Stay indoors or take personal protective measures, especially between dusk and dawn.
- Use mosquito repellent with DEET (up to 30 percent for adults and 10 percent or less for children two years to 12 years of age, as recommended by the American Academy of Pediatrics). **Follow the label directions**. For more information, see the brochures **Insect Repellents** and **Deet Tips: Deciding on Their Use**.
- Wear long-sleeved, long-legged clothing with socks and shoes outdoors when practical.

A Message For Classroom Teachers:

- The Internet provides instant access to volumes of information about West Nile virus
- You can find the latest Mississippi facts about West Nile virus at www.HealthyMS.com.
- The Centers for Disease Control and Prevention's website also offers information: www.cdc.gov.
- Allowing students outdoors for recess poses no greater risk to West Nile virus than if they were outside at home – just be wary of mosquitoes.

A Message For Activities & Athletic Directors & Staff:

- Early morning, near dusk, and after dark events pose a potential risk for you, your students, and other people attending or participating. These are the times when mosquitoes are most likely to be out feeding.
- You can help protect students and spectators from West Nile virus infection.
- Work with your school's administration and the safety officer to eliminate standing, stagnant water: a prime breeding ground for mosquitoes
- Talk to local mosquito control officials about pre-event surveillance and control of both larvae and adult mosquitoes
- Remind students and spectators of the importance of using DEET repellent products according to the directions on the label. Encourage them to wear long sleeves and long pants if possible.

- Encourage children to participate in clean-up campaigns at school. They can do the same at their homes.
- At events, remind the crowd to protect themselves and their communities by helping eliminate mosquito-breeding areas.
- ***Fight The Bite*** through communication: keep your folks informed and aware.

A Message For Administrators:

- Reduce the mosquito breeding sources – the most effective and economical method toward long-term mosquito control
- Check for and rid your campus of easily recognized mosquito breeding areas: containers of stagnant water, especially cans near cafeteria exteriors; used tires; gutters; grassy ditches and pools of standing, stagnant water, especially with organic debris; and construction sites or vocational-technical arenas that might harbor standing water
- Communicate to your faculty, staff and students – make sure they know how to protect themselves and what you're doing to assure a safe campus.
- Contact your local mosquito control officials or city public works department for information about mosquito control in your area
- Consider scheduling outside events during daylight hours rather than in the evening

WHEN USING REPELLENTS, ALWAYS FOLLOW THE LABEL DIRECTIONS AND KEEP OUT OF THE REACH OF SMALL CHILDREN (MAY BE TOXIC IF INGESTED).

POISON CONTROL: 1-800-222-1222



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