

ted fever. Despite the name, Rocky Mountain occurs mostly in other regions of the United States, South Carolina, Oklahoma, and Tennessee. Ticks is a serious disease in which patients develop the

- Rash—Most also get a rash that starts as flat red spots that become purple over time. It begins on the palms and soles and then spreads to the arms and legs and then the trunk.

afraid to take your children outdoors. The chance of being infected with these diseases is quite low. The best way for yourself and your children is to follow the guidelines for using repellents safely and avoiding areas where there are many insects.

*bitten by an insect and shows any of the above symptoms, such as fever, rash, or Rocky Mountain spotted fever, Lyme disease, or Rocky Mountain spotted fever.*

## Remember

Children need and love to be outdoors. You can make their time outdoors safer by reducing their exposure to biting insects that can carry dangerous diseases. If an insect bites your child and you are concerned about it, talk with your pediatrician.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.



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# A Parent's Guide to Insect Repellents



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# A Parent's Guide to Insect Repellents

**M**osquitoes, biting flies, and tick bites can make children miserable. While most children have only mild reactions to insect bites, some children can become very sick. Some insects carry dangerous illnesses such as West Nile virus, Lyme disease, and Rocky Mountain spotted fever.

One way to protect your child from biting insects is to use insect repellents. However, it's important that insect repellents are used safely and correctly.

Read more to learn about types of repellents, DEET, using repellents safely, and other ways to protect your child from insect bites. Also, read about West Nile virus, Lyme disease, and Rocky Mountain spotted fever.

## Types of repellents

Insect repellents come in many forms including aerosols, sprays, liquids, creams, and sticks. Some are made from chemicals and some have natural ingredients. (See "Available Repellents.")

The following are types of repellents that are **not** effective:

- Wristbands soaked in chemical repellents
- Garlic or vitamin B<sub>1</sub> taken by mouth
- Ultrasonic devices that give off sound waves designed to keep insects away
- Bird or bat houses

## Available Repellents

| What's available   | How well it works   | How long it protects  | Special precautions   |
|--|---|---|---|
| Chemical repellents with DEET (N,N-diethyl-3-methylbenzamide)  | Considered the best defense against biting insects.*                            | 3 to 8 hours depending on how much DEET is in the product.      | Caution should be used when applying DEET to children (see "Tips for using repellents safely").                               |
| Repellents made from essential oils found in plants such as citronella, cedar, eucalyptus, and soybean | Generally much less effective repellents; most give short-term protection only. | Usually less than 2 hours.                                      | Allergic reactions are rare, but can occur.   |
| Chemical repellents with permethrin  | These repellents kill ticks on contact.   | When applied to clothing, it lasts even after several washings. | Should only be applied to clothing, not directly to skin. May be applied to outdoor equipment such as sleeping bags or tents. |

\*In April 2005 the Centers for Disease Control and Prevention (CDC) recommended other repellents that may work as well as DEET: repellents with a chemical called picaridin and repellents with oil of lemon eucalyptus or 2% soybean oil. Currently these products have a duration of action that is comparable to that of about 10% DEET. Although these products are considered safe when used as recommended, long-term follow-up studies are not available. Also, more studies need to be done to see how well they repel ticks.

- Backyard bug zappers (Insects may actually be attracted to your yard.)

*Keep in mind that insect repellents prevent bites from biting insects but not stinging insects. Biting insects include mosquitoes, ticks, fleas, chiggers, and biting flies. Stinging insects include bees, hornets, and wasps.*

## About DEET

DEET is a chemical used in insect repellents. The amount of DEET in insect repellents varies from product to product, so it's important to read the label of any product you buy. The amount of DEET may range from less than 10% to more than 30%.

Studies show that products with higher amounts of DEET protect people longer. For example, products with amounts around 10% may repel pests for about 2 hours, while products with amounts of about 24% last an average of 5 hours. But studies also show that products with

amounts of DEET greater than 30% don't offer any extra protection.

The American Academy of Pediatrics (AAP) recommends that repellents should contain *no*

