

Myths & Facts About DEET: What the Experts Say

Myth: You shouldn't use repellents containing more than 10% DEET on children. **Fact:** Federal regulators say that all concentrations can be used by people of all ages when label directions are followed. The American Academy of Pediatrics says products containing up to and including 30 percent DEET can be used on children two months of age and older. The AAP also says that products containing DEET are among the most effective repellents available and should be used when necessary to protect against bites from insects and ticks that may carry disease.

Myth: Some popular skin creams and "natural" repellent products are safer than DEET.

Fact: "DEET has been shown to be an extremely safe and effective repellent," said Lyle R. Petersen, M.D., director of the CDC's division of vector-borne infectious diseases. University of Florida scientists Jonathan Day and Roxanne Rutledge wrote: "Natural is a word that is sometimes used to promote 'safe' products. Unfortunately, the wording can be misleading for the uninformed individual. 'Natural' products are usually essential oils distilled from plants.... These oils can be toxic and irritating in high concentrations. 'Natural' repellents are not necessarily safe repellents." DEET is one of the most widely tested consumer products of any type and consumers have used DEET reliably for more than 50 years. According to a "New England Journal of Medicine" article (Fradin & Day, 2002), DEET "has a remarkable safety profile."

Myth: Garlic, bananas and vitamin-B ward off mosquitoes. **Fact:** "There is no scientific evidence that eating garlic, vitamins, onions, or any other food will make a person repellent to mosquitoes," said Day and Rutledge of the University of Florida. "It is also unlikely that B-1 skin patches will work either," Day says. Experts say DEET is the "gold standard" against which other repellents are tested.

Myth: Dryer sheets and other home remedies repel bugs. **Fact:** "The truth is although many home remedies and oddball uses of everyday products do serve to repel mosquitoes somewhat, they don't work very effectively for very long," writes Barbara Mikkelson on the popular Web site, www.snopes.com.

Myth: Some popular skin creams and "natural" repellents work as well as DEET. **Fact:** Scientific studies show very few repellents are as effective as DEET (Fradin & Day, 2002). The CDC urges consumers to pick only repellents with EPA registrations to assure appropriate efficacy. The most effective, the CDC says, are DEET, picaridin, oil of lemon eucalyptus (not for use on children under three years of age) and IR3535 (www.cdc.gov).

Myth: DEET is smelly and oily. **Fact:** Fifty years of product development has yielded DEET-based products that are pleasant to use—they have a pleasant "feel" on the skin and fresh fragrances. Some even go on as a dry, powder-like formulation similar to spray deodorant.

Myth: Higher concentrations mean better protection. Fact: Higher concentrations of DEET mean longer protection, not better. A 5% product will provide about 90 minutes of protection and a 100 % product protects for about 10 hours. Most folks who are going outside for a backyard barbecue should choose a product that protects them for up to two hours, a repellent in the 10% range. Protection time increases as the concentration increases. So, the longer you are outside, the higher the concentration you should use. However, protecting against ticks requires at least 20% DEET, and no other repellent works as well against ticks.

Myth: DEET causes seizures in children. Fact: Extensive scientific reviews and evaluations show no causal relationship between DEET and seizures (Murphy, et al, 1997; Bell, et al, 2002). This myth stems from a handful of isolated reports in both adults and children that cannot be definitively linked to DEET. Experts report that 2% of normal children have one or more seizures from unknown causes by age 10. A multi-year review of adverse events yielded a handful of neurological cases (given millions of product uses per year) that could not be tied to use of DEET-based repellents. These neurological adverse events were no more common in children than in other age groups and the events were not tied to age or to concentration of DEET in the products.