



Are You a Mosquito Magnet?

You're hiking along the trail, minding your own business, and the mosquitoes have already begun their feast -- on you. As you swat madly at the pests, you notice other folks seem completely unfazed. Could it be that mosquitoes prefer dining on some humans over others? This may clear up the mystery. Incidentally, it's not dinner they're sucking out of you. Female mosquitoes -- males do not bite people -- need human blood to develop fertile eggs. Mosquitoes can smell their dinner from an impressive distance of up to 50 meters, and apparently, not just anyone's.

Who Mosquitoes Like Best

People with high concentrations of steroids or cholesterol on their skin surface attract mosquitoes. That doesn't necessarily mean that mosquitoes prey on people with higher overall levels of cholesterol. These people simply may be more efficient at processing cholesterol, the byproducts of which remain on the skin's surface.

Mosquitoes also target people who produce excess amounts of certain acids, such as uric acid, explains entomologist John Edman, PhD, spokesman for the Entomological Society of America. These substances can trigger the mosquitoes' olfactory sensations, or sense of smell, causing them to launch their "landing" onto unsuspecting victims.

Any type of carbon dioxide is attractive, even over a long distance.. Larger people tend to give off more carbon dioxide, which is why mosquitoes typically prefer munching on adults to small children. Pregnant women are also at increased risk, as they produce a greater-than-normal amount of exhaled carbon dioxide. Movement and heat also attract mosquitoes. So if you want to avoid an onslaught of mosquito bites at your next outdoor gathering, stake out a chaise lounge rather than a spot on the volleyball team. Here's why. As you run around the volleyball court, the mosquitoes sense your movement and head toward you. When you pant from exertion, the smell of carbon dioxide from your heavy breathing draws them closer. So does the lactic acid pouring from your sweat glands. And then -- gotcha.

Keeping the Bite at Bay -- Chemical-Based Repellents

Plenty of mosquito repellents line the shelves but they're not all created equally.

The majority of available mosquito repellents derive their effectiveness from chemicals. Protecting the public from mosquitoes since 1957, DEET continues to be the chemical of choice used in repellents. **In repeated studies, it's been proven the most effective chemical repellent on the market.** Repellents with 23.8% DEET (most formulas contain between 10% and 30%) protect wearers for about five hours, according to a recent study led by Mark Fradin, PhD, researcher with Chapel Hill Dermatology. The American Academy of Pediatrics and other experts suggest that it is safe to apply repellent with low concentrations of DEET (10% or less) to infants over 2 months old.

In 2005, the CDC began recommending alternatives to DEET for repelling mosquitoes. Picaridin, which is new to the U.S., has been used worldwide since 1998. It has proven to be as effective as DEET but is more pleasant to use because it has a light, clean feel and is virtually odorless. Picaridin is safe for children older than 2 months. This substance is marketed as Cutter Advanced.

The other new CDC recommendation is oil of lemon eucalyptus, which is available under the Repel brand name. This product offers protection similar to low concentrations of DEET. Lemon eucalyptus is safe for children older than 3 years.





The chemical IR3535, better known as Avon's Skin-So-Soft, has also been marketed as a repellent in the U.S. in recent years. *To date, research shows it's much less effective than DEET.* Most botanical tested were middling or worse

Safety of DEET Repellents

Just how safe is it to coat yourself in a chemical-based product like DEET just to keep from getting bit by mosquitoes?

DEET has been in use for over 40 years and has a remarkable safety record. **Only few hospitalizations have been reported, mainly due to gross overuse.**

The Environmental Protection Agency (EPA), after extensively assessing the safety of DEET, concluded that "as long as consumers follow label directions and take proper precautions, insect repellents containing DEET do not present a health concern." The agency does, however, offer the following safety strategies for DEET use:

- Follow label directions and precautions.
- Use sparingly.
- Avoid spraying on or near open skin, eyes, mouth, and nose, under clothing, or near food.
- Wash treated skin with soap and water.

The American Academy of Pediatrics (AAP) provides these additional recommendations for DEET use on children:

- Select the lowest concentration effective for the amount of time spent outdoors.
- Avoid use on infants under 2 months of age.
- Avoid repeated applications, which may increase the potential toxic effects of DEET.

Quick Ratings from Consumer Reports

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| 3M Ultrathon – 34% DEET | 7.3 – 9.5 hours effectiveness (Tent & Trails favourite) |
| Cutter Unscented Outdoorsman – 30% DEET | 5.4 – 11.5 hours effectiveness |
| Ben's 30 Wilderness Formula – 30% DEET | 4.7 – 11.5 hours effectiveness |
| Repel Plant Based Lemon Eucalyptus | 3.6 – 7.8 hours of effectiveness |
| Cutter All Family – 7% DEET | 1 – 2.6 hours of effectiveness |
| Cutter Advance – 7% Picaridin | .5 - 2.5 hours of effectiveness (does not claim to repel ticks) |

