Insect Repellents and Children

Some insect repellents may offer children more harm than good - high concentrations of DEET compound can accumulate in the skin and can cause side effects in the brain.

Most parents with young children would not think of going camping in the woods or swimming at a nearby lake without taking along a supply of insect repellent. However, parents who douse their children in insect repellent in hopes of discouraging attacks from nature's less desirable guests may be inviting some serious health problems. The benefits of heavy applications of insect repellents does not outweigh the risks caution is the key word!

Insect repellents, with brand names such as Cutter, Off, Repel, Ultrathon, and others are popular, inexpensive healthcare items that are available in every supermarket and drug store all over the world. They come in a variety of strengths and formulations.

The one compound that is most effective for flying insect assaults also presents the greatest potential risk to children when over used is DEET (N, N-ethyl-meta-toluamide).

When repellents with high concentrations of DEET are applied over several days, they can accumulate in the skin and cause an acute brain inflammation (encephalopathy). Children who absorb high amounts of DEET through insect repellents have developed slurred speech, low blood pressure, low heart rate, and even seizures. Adults who ingested too much DEET have developed low blood pressure, and at higher doseages seizures and a few have even slipped into a coma and died.

Inhaling, ingesting, and sniffing these substances also enhances the possibility of penetration and toxicity, for children and adults. Pregnant women should avoid all DEET repellents because the complications are as yet unstudied. In addition, many DEET compounds are flammable, as are the aerosol canisters that are frequently used for packaging. However, many of these products do not have warning labels.

We recommend using repellents with lower concentrations of DEET for children - no more than 10 percent, and less is better. For adults, DEET concentrations should be below 50 percent. Those repellents with higher concentrations should be applied only to clothing, not directly to the skin. If they are applied to the skin, it should be for short periods only. For both adults and children the skin areas DEET has been applied to should be washed with soap and water upon coming indoors.
Combination products, containing sunscreen as well as insect repellent, pose yet another complication for children and their parents. Cutter, Off, and Skintastic all make combination products in their arsenal of formulas. You want to keep re-applying the sunscreen every few hours, but you don't want to re-apply the repellent, so we suggest NOT using the combination products.

One product I usually recommend for kids is Skintastic for Kids. Without the combination sunscreen, this is a repellent that has a low concentration of DEET and is packaged in a pump bottle rather than an aerosol canister, so inhalation of over-spray and flammability are not an issue.

DEET is a very effective product against many of nature's most annoying critters, especially chiggers, mosquitoes, and black flies. Other widely-used insect repellents, such as citronella candles, are not nearly as effective as products containing DEET, but they are a non-toxic alternative. For ticks, products containing permethrin are the best, much better than DEET as they are insecticides as well as repellent and they kill ticks.

If kids can tolerate wearing long sleeves and long pants, then just spray the clothes. However, in warmer climates it is hard to wear long sleeves in the summer months. For overnight campers, it is recommended to spray sleep wear (pajamas/nightshirts) and place them in a plastic bag before packing - the efficacy of DEET remains good for as long as two weeks.

For the heartiest nature lovers, use the procedure recommended by the U.S. military for its servicemen: spray the inside of clothing with permethrin and allow them to dry before wearing. Then spray only exposed areas of skin with a polymer-based, slow-release DEET insect repellent once dressed. The polymer-based DEET repellents are much less likely to be absorbed rapidly and cause problems and are available to consumers through Amway, TravelSmith, and Magellan catalogues.

The FDA looked at DEET-based repellents in 1980 and felt that, considering the number of people who use them, there is minimal risk - when used properly.

Finally, good news for those that do NOT want to use DEET based repellants – the CDC added to its recommendations two other options that are as effective as low dose DEET: 1) Picaridin in a 7% concentration contained in Cutter Advanced, and 2) Oil of lemon eucalyptus.