How to Avoid Becoming a Bug Buffet this Summer

You may be one of those people for whom summer is far too brief!

But like it or not, most of you have only a few short months to enjoy the great outdoors in most of the continental U.S. Why waste it battling those pesky summertime insects?

If you've spent six or more months stuck inside buildings under cover from rain, snow and sleet, you may be looking forward to spending a few precious days outside, be it gardening, or summer sports like softball, camping and hiking—or maybe just evening strolls around the neighborhood.

Regardless of your preferred activity, bugs can be a real annoyance, as well as carriers of disease.

The good news is, there are some tricks to keeping those annoying arthropods at bay, and they don't involve applying dangerous TOXIC chemicals to your skin. And there are also natural remedies if you do fall victim to a bite or sting.

A Few Fascinating Mosquito Facts

Here are some fun facts about the little bloodsuckers[1]:

• Mosquitoes do not feed on blood -- they actually feed on plant nectars. Females use blood to nourish their eggs prior to laying, imbibing about 5 millionths of a liter per "feeding."

• Mosquitoes are attracted by carbon dioxide, lactic acid and other body chemicals, as well as your body heat, and can sense these from 25-35 meters.

• Women, and people drinking beer, have been shown to be more attractive to mosquitoes. So if you're a woman drinking a beer, watch out.
• Blonds seem to be more attractive to mosquitoes than brunettes.
• In one study, a full moon increased mosquito activity 500 percent.
• If you turn on a light at night you will have noticed that it is magnet for bugs. What most people are not aware of is that if you use a newer LED bulb it will NOT attract bugs. This is because most LED bulbs do not emit wavelengths in the UV spectrum like incandescents or fluorescents do.

Simple Preventative Measures

The best way to avoid mosquito bites is to prevent coming into contact with them in the first place.

You can avoid most assaults by staying inside around dawn and dusk, which is when they are most active. If you must be out during those times, wear long sleeved shirts and long pants, hats and socks. Mosquitoes are also thicker in shrubby areas and near standing water.

The American Mosquito Control Association has a list of things you can do to prevent mosquito breeding on your property.

Bat houses are becoming increasingly popular since bats are voracious consumers of insects, especially mosquitoes. For more on buying a bat house or constructing one yourself, visit the Organization for Bat Conservation.

As recently reported by the New York Times, a simple house fan may also be all you need to keep mosquitoes at bay in your backyard, because:

"A fan dilutes and disperses the carbon dioxide you exhale. Carbon dioxide is one of the major chemicals that attract mosquitoes. The wind from a fan also cools you off. Sweat, lactic acid and body heat attract mosquitoes — factors that a fan can help minimize."

Similarly, avoiding physical exertion that makes you hot and sweaty can help you avoid getting bit. A New York Times article from 2008 states that:

"... cues like body temperature, carbon dioxide in the breath and certain skin chemicals like lactic acid all help mosquitoes orient and find their next meal. Exercise boosts the levels of all three signals, making people more vulnerable to mosquito bites during or after exercise. There is [also] some suggestion mosquitoes are more attracted to darker colors, so donning a white shirt may help reduce bites."

Barring any of those options, if you are going to be outside with your skin exposed during mosquito season, you may want to protect yourself with a repellent.
Steer Clear of Anything Containing DEET!

The most commonly used chemical in commercial insect repellents is DEET (N,N-diethyl-3-methylbenzamide). DEET was patented by the U.S. Army in 1946 and is still widely used. Currently, DEET is used in more than 230 different products -- in concentrations of up to an astounding 100 percent.

If a chemical melts plastic or fishing line, it's not wise to apply it to your skin -- and that is exactly what DEET does.

Duke University Medical Center pharmacologist Mohamed Abou-Donia spent 30 years researching the effects of pesticides. He discovered that prolonged exposure to DEET can impair cell function in parts of your brain -- demonstrated in the lab by death and behavioral changes in rats with frequent or prolonged DEET use.

The rats given small doses of DEET for 60 days had a difficult time performing even the easiest tasks, such as walking.

DEET was found to cause:

- Problems controlling muscle movement, memory, concentration and learning
- Eye and skin irritation
- Headaches
- Weakness and fatigue
- Muscle pain, joint pain, and tremors
- Nausea
- Shortness of breath

Making matters worse, DEET is also combined with other chemicals in many products, in combinations found to be more dangerous than DEET alone, according to Abou-Donia. Other things can also react with DEET -- like chemicals in your skin care products, and even your medications.

In addition, there are other potentially harmful chemicals in bug sprays, one of which is permethrin.
Permethrin is a member of the synthetic pyrethroid family, all of which are neurotoxins. The EPA has even deemed this chemical carcinogenic -- it causes lung tumors, liver tumors, immune system problems, and chromosomal abnormalities.

Permethrin is also damaging to the environment, and it is particularly toxic to bees and aquatic life.

It should also be noted that permethrin is highly toxic to cats[2] . Even a few drops can be lethal to your feline pet. It is used as an ingredient in some topical flea products, so when you see "for dogs only" on the label, it likely contains permethrin.

**Natural Insect Repellant Alternatives**

Fortunately, there are VERY effective repellents on the market, comprised of natural botanical oils and extracts that are every bit as effective as DEET but with none of the potentially harmful effects.

In one study, cinnamon oil performed better at killing mosquitoes than DEET.

Another option is to use the safe solution I have formulated. It's a natural insect repellant with a combination of citronella, lemongrass oil, peppermint oil, and vanillin, which is a dynamite blend of natural plant extracts. In fact, an independent study showed BUG OFF to be more effective than a product containing 100 percent DEET! And it's safe for you, your children, and your pets.

There is also some evidence that consuming garlic can protect you from mosquitoes and ticks.

**Treating Bites and Stings with Herbs and Other Natural Agents**

There are many herbs and other natural agents that are soothing to the skin, and many have anti-inflammatory properties. You may want to experiment with some of these for your occasional mosquito bites:

- **Aloe Vera**: One of the most nutritionally alive plants on earth, aloe contains over 130 active compounds and 34 amino acids that are beneficial to your skin.

- **Calendula**: This is an herb that I actually use in several of my skin care products for its soothing, moisturizing and rejuvenating properties.

- **Chamomile**: The most soothing herb of all, whether used in a tea or applied to the skin. It is rich in the bioflavonoids apigenin, luteolin and quercetin.

- **Cinnamon**: In addition to possibly repelling mosquitoes, cinnamon has antibacterial and antifungal properties.
• Cucumbers are helpful for reducing swelling.

• Honey: Raw organic honey has many powerful healing qualities and has been used for centuries. An especially powerful variety is Manuka honey from New Zealand, made from the bees that feed on the flowers of the Manuka bush, also known as the "Tea Tree." The Manuka tree is a relative of the Melaleuca tree, from which tea tree oil is derived.

• Lavender: One of the most popular essential oils for its calming scent, lavender is as antimicrobial as it is soothing.

• Neem Oil: The oil of the Neem tree (L. Azadirachta indica) is widely used in Ayurvedic medicine[3]. Neem is effective against fungal conditions, boils, eczema, and ringworm, and it would undoubtedly help an insect bite as well.

• Tea Tree Oil: From the Melaleuca alternifolia plant of Australia and widely used by the aboriginals, tea tree oil is helpful for healing cuts, burns, infections and a multitude of other skin afflictions. It is also a good antimicrobial, including fungal infections.

A Sting Operation: How Do the Remedies Stack Up?

William Brantley of Slate.com[4] was curious enough about bee sting remedies that he actually conducted his own semi-scientific experiment. Working with a beekeeper friend, he allowed himself to be stung several times so that he could methodically test out a variety of pharmaceutical and natural remedies.

He kept a running log of symptoms -- pain, swelling and itching -- and logged them using a 10-point scale every 30 minutes, for each remedy type.

He concluded, "The best home remedies are better than the best pharmaceuticals."

The only pharmaceutical he said he would use again was Caladryl lotion, but even that did not perform as well as the better home remedies.

His favorites were:

1. Toothpaste -- although it's unclear why it works. Of course, use the fluoride free version.

2. Ice -- the cheapest and most effective anti-inflammatory you'll ever find

3. A paste made of meat tenderizer, vinegar, and baking soda

Got to hand it to him -- anyone who allows himself to be stung by bees in the name of science should be given serious kudos!
You can also try rubbing raw honey on it. This is something my sister actually suggested to me for an intense, itchy rash I had for over a year after just about every other approach had failed. I was shocked at how effective it was.

**Watching Out for the Wild Things**

Sometimes you are bitten, but you don't know what bit you. If you have a severe reaction, it is helpful to know what critter did it.

WebMD has a helpful "Bad Bugs Slideshow" to help you identify different types of bugs and their bites.

1. **Wasps and Bees**

   Bee and wasp stings account for more than half of the 50,000 known insect-related injuries to Americans each year.[5]

2. **Spiders**

   Next to stings, spider bites are the next most common type of insect-related injury in the U.S. Of the more than 30,000 species of spiders, only a few can inflict serious harm to humans.

   The most common culprits are the widow spiders (*Latrodectus* species) and the recluse spider (*Loxosceles* species).

   Speaking of phobias, Emotional Freedom Techniques can be an effective way to tap away your fear of spiders.

3. **Poison Ivy, Poison Oak, and Poison Sumac**

   Poison oak, poison ivy, and poison sumac are all part of the cashew family (*Anacardiaceae*) and contain an oil called urushiol that can cause itching and painful rashes upon contact with your skin in VERY small amounts. Only 1 nanogram -- one billionth of a gram -- is needed to cause a rash.

   In fact, according to the [Poison Ivy, Oak, & Sumac Information Center](https://www.poisoncenter.org/), 500 people could itch from the amount covering the head of a pin.
The information center in the above paragraph can help you identify and steer clear of these poisonous plants. There are also some suggestions about natural sting remedies, including tea tree oil, goldenseal root, and even a recipe for a topical tea made from jewelweed, aloe and comphrey.

About 15 percent of the population who are allergic to urushiol oil will have an extraordinarily severe reaction in which they begin to swell up in 4 to 12 hours (instead of the normal 1 to 2 days). Their eyes may also swell and their skin may even blister.

**THIS IS ONE OF THE ONLY TRUE DERMATOLOGICAL EMERGENCIES. IF THIS HAPPENS TO YOU, YOU MUST GO TO A HOSPITAL AS SOON AS POSSIBLE.**

Additionally, it is one of the few clinical conditions that I believe justify the use of oral steroids. It is the ONLY condition that I would routinely prescribe them for. Common approaches are a Medrol Dose Pack, but I prefer using less expensive generic prednisone.

Since the condition is so severe and is very limited, the risk/reward ratio seems justified.

Armed with a little knowledge about how to avoid some of these seasonal hazards, you can enjoy the outdoors without undue worry, while replenishing your winter-depleted vitamin D stores.

Please don't risk your health by applying DEET-based insect repellants -- use some of the safer alternatives instead.

**References:**

[1] American Mosquito Control Association  
[2] Richardson J.A. (March 1, 2000) "Permethrin hazards for cats" ASPCA Veterinary Poison Control Center  
[3] *Neem* Organic India  

**Sources:**

WebMD May 19, 2010  
New York Times July 12, 2010