

Mosquitoes: Tiny but terrible — and more than just an itch

By Teddi Nicolaus

They crash our backyard barbecues, horn in on our hikes and pester us at picnics. They're often seen as a summertime nuisance that can leave us with itchy welts, but mosquitoes are actually the most dangerous creature in the world.

Humans share the planet with more than 3,500 types of mosquitoes. Not all of them bite or carry diseases, but we do know that mosquitoes can be dangerous.

According to the Centers for Disease Control and Prevention, mosquitoes kill more people than any other critter because they spread diseases like malaria, dengue and Zika. Nearly half the world's population is at risk for malaria, which kills about half a million people globally each year, most of them young children. The U.S. is home to about 200 types of mosquitoes, but only a dozen or so make us sick. West Nile virus is the most common mosquito-borne disease in the U.S.

In the mosquito world, it's the females who bite. They do it because they need the protein

in our blood to develop their eggs. Luckily, most types of mosquitoes don't spread disease. There's some evidence that mosquitoes serve as pollinators and provide a food source for frogs, fish, bats and birds. But make no mistake: These long-legged flying creatures are public enemy No. 1 when it comes to spreading disease.

Tips to help fight the bite

Personal protective measures are the most important thing you can do to stay off a mosquito's dinner menu, says vector ecologist Daniel Markowski, PhD, technical adviser for the American Mosquito Control Association. Protecting yourself and your family means dressing for protection, such as wearing long-sleeved shirts and pants to prevent mosquitoes from getting to your skin.

"That's kind of a misnomer when you're talking about August, but the idea is to cover up, especially in the evening, because generally it's in the evening when mosquitoes are most active," Markowski says. "The other thing you can do is use repellents."

Products labeled as repellents are designed to keep mosquitoes away. They include lanterns, torches, diffusers and candles. Many of us have placed a citronella candle on the picnic table, thinking it will keep mosquitoes at bay, but they really don't.

"Citronella candles look pretty, but they're not very effective at all," Markowski says, noting that the candle's range of protection is very limited and won't protect you if you're a few feet away at the end of the table.

Experts agree that the most effective repellents are the ones applied to your skin, which work by making you less attractive to insects. DEET — shorthand for a long chemical name — is the active ingredient in many repellents and is considered the gold standard, Markowski says.

DEET is effective against all species of mosquitoes for adults and is considered safe for people ages 2 months and older, as well as pregnant and breastfeeding women. Another effective repellent is picaridin, which was first approved for use in the U.S. in 2005.

If you prefer to use a natural bug spray, look



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for repellents containing oil of lemon eucalyptus, which is made from the oil produced by a specific variety of eucalyptus tree and deemed safe and effective by CDC for children 3 and older. However, its protection only lasts about two hours, so you'll have to apply it more frequently than synthetic repellents like DEET and picaridin.

But whatever you choose, make sure the repellent's active ingredients are registered by the Environmental Protection Agency. When used as directed, EPA-registered insect repellents are proven safe and effective if you follow the directions on the label. If you're also using sunscreen, apply sunscreen first and insect repellent second.

Other ways to prevent mosquito bites include using window screens, keeping your doors closed — mosquitoes love to come inside when they're cold — and eliminating any standing water.

"Whether it's a dish under a flower pot, a bucket or a trash can, anything that collects water and sits for a week or more can start breeding mosquitoes," Markowski says. "And they don't fly very far, so they're going to stay within 50 to 100 feet of that water source, of that bucket, of that flower pot, and they're going to find you immediately and start biting you."

If you do get a bite, use a topical anti-itch cream. Talk to your doctor if symptoms seem severe.



Have a heart: Protect your pets

If you have a furry friend, you're probably familiar with heartworm disease, which is spread through mosquito bites and can lead to severe lung disease, heart failure, other organ damage and death.

"Just like with humans, mosquitoes can transmit dangerous diseases to our pets," says José Arce, DVM, president of the American Veterinary Medical Association.

Heartworm disease can infect dogs, cats and ferrets. Thankfully, the disease is preventable.

"Because cases of heartworm have been reported in all 50 states, it is important for all pet owners to talk to their veterinarians about parasite prevention and mosquito repellents that are safe to use in pets," Arce says.



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