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What Makes Mosquitoes More Likely to Bite You

Analysis by Dr. Joseph Mercola | June 19, 2026

STORY AT-A-GLANCE

- Mosquitoes are drawn to your body's natural scent, heat, breath, and even clothing color, making some people far more attractive to them than others
- Genetic factors account for about 62% of how attractive you are to mosquitoes, with identical twins showing nearly identical mosquito appeal in lab tests
- People with type O blood are bitten significantly more often than those with types A, B, or AB, though this doesn't impact how many eggs mosquitoes lay afterward
- Everyday choices like using scented lotion, wearing red or black clothing, drinking alcohol, or being overheated all raise your mosquito bite risk
- Plant-based oils like Russian sage and wild mint repel mosquitoes as effectively as DEET in lab studies, offering a safer way to protect yourself without toxic chemicals

You notice it the second you step outside. While others enjoy the evening, you're busy swatting at bites that seem to come out of nowhere. It's not your imagination. Some people really are more attractive to mosquitoes than others. And the reasons go far beyond being in the wrong place at the wrong time.

Mosquitoes aren't just a nuisance — they're precision hunters equipped with tools to detect movement, heat, scent, and chemical signals. These insects aren't guessing; they're reading cues your body gives off, many of which you can't see, smell, or control. For some, it's an unfortunate combination of genetics and biology that makes them impossible for mosquitoes to ignore.

But once you understand what's pulling them in, you can start to shut those signals off. Whether it's your choice of skincare, your wardrobe, or the invisible markers on your skin, small changes dramatically shift how often you're targeted. Let's break down the research and see what makes mosquitoes lock onto you — and how to stop being their first choice.

Everyday Choices Make You a Mosquito Target

Female **mosquitoes**, the only ones that bite, use body scent, skin chemistry, breath, heat, and even color detection to find their next blood meal. As noted by the Cleveland Clinic, this isn't random — it's about the invisible signals you send without realizing it.[1]

- **Certain products and behaviors turn your skin into a beacon —** If you've been layering on scented lotion, floral body spray, or even using exfoliating skincare, you could be drawing mosquitoes straight to you. Many moisturizing lotions contain lactic acid and alpha hydroxy acids, ingredients designed to smooth skin, but also known to attract mosquitoes.

  "Mosquitoes are attracted to our body odor, but they also are attracted to the things we use to mask body odor," explained Dr. Jennifer Lucas, a dermatologist with the Cleveland Clinic.[2]

- **Your clothes and color choices change how mosquitoes see you —** Mosquitoes are highly responsive to visual cues, specifically color. Wearing red, black, orange, or cyan makes you stand out, while lighter colors like white, green, blue, and purple are less attractive to them.[3] These color preferences may be linked to how mosquitoes interpret the heat and reflectivity of different shades against human skin.

- **Even your body temperature and hydration state matter —** When you're overheated or sweating, even slightly, you become a more obvious target. Mosquitoes sense temperature changes in your skin and are drawn to warmer, more humid surfaces.

This means post-exercise, sunbathing, or even just sitting outside on a hot day elevate your risk. Lucas explains that mosquitoes "pick up on your body's thermal sensory information," and they lock in on that like radar.[4,5]

- **Mosquitoes track you through your breath and metabolic byproducts —** It's not just skin they're interested in. Your exhaled carbon dioxide (CO_2) acts like a trail of breadcrumbs, guiding mosquitoes right to you. Mosquitoes rely on specialized organs, called palps, located between their antennae to detect carbon dioxide from human breath.[6]

  Higher CO_2 output, like what happens when you're exercising, drinking alcohol, or pregnant, makes you more appealing. The skin also emits ammonia, uric acid, and lactic acid, especially when you're hot, stressed, or after drinking alcohol. These compounds enhance the scent signal mosquitoes follow.

Your DNA Makes You Mosquito Bait

A twin study published in PLOS One investigated whether your genetic makeup influences how attractive you are to mosquitoes.[7] Researchers exposed female Aedes aegypti mosquitoes — the same species responsible for spreading dengue and Zika — to the scent of both identical and non-identical twins. They used a Y-shaped device in the lab that let the mosquitoes fly toward the smell they liked best.

- **Identical twins had nearly identical mosquito appeal, proving a strong genetic role —** The study showed that mosquitoes consistently reacted the same way to each identical twin's scent, while their responses varied significantly between non-identical twin pairs. These results suggest your mosquito appeal is roughly 62% inherited.

- **Researchers also measured mosquito behavior with twin odors and found the same pattern —** When both twins were tested at the same time, the influence of genetics was even stronger, rivaling the genetic influence of traits like height and IQ. The

study also measured mosquito "flight activity," meaning how quickly or actively they responded to a scent.

Again, identical twins triggered very similar reactions, while fraternal twins did not. These results ruled out randomness and pointed clearly to DNA as the driver.

- **The strongest genetic signal came from specific scent molecules your skin gives off —** The researchers focused on volatile organic compounds (VOCs) — substances released from the skin that mosquitoes detect through smell. These VOCs are shaped in part by genes in your immune system, particularly a family of genes called the major histocompatibility complex (MHC). These MHC-related scents have been shown to influence not just mosquito behavior, but also human mate choice.
- **Your skin bacteria also contribute to the scent signature mosquitoes track —** While genetics affect your own cells' scent production, your skin is also home to trillions of microbes that break down sweat and produce their own compounds. The study notes that this mix of human- and microbe-made odors is likely unique to each person, but more similar between identical twins due to their shared immune profile. This helps explain why some people get swarmed while others are mostly ignored.
- **Understanding your mosquito magnetism could lead to personalized repellents —** The authors concluded that pinpointing the specific genes and pathways that control odor could help scientists develop new ways to enhance your natural mosquito resistance. Instead of slathering on chemical sprays, future options might include boosting the production of repellent VOCs or suppressing the attractant ones your body naturally makes.

Your Blood Type Influences Mosquito Bite Frequency

Published in the American Journal of Entomology, a study set out to answer a simple but overlooked question: do mosquitoes have a preferred **blood type**, and does that preference affect how many eggs they produce?[8] Researchers tested female Aedes aegypti mosquitoes using a controlled lab environment with membrane feeders that offered blood from all four human blood groups — A, B, AB, and O — at the same time.

- **Mosquitoes clearly favored one blood group above all others —** Group O was the overwhelming favorite, with mosquitoes choosing this blood type significantly more often than A, B, or AB. The preference was statistically significant, meaning the result wasn't random — it reflected a real behavioral pattern.

- **Feeding preference had no effect on egg production —** One of the study's goals was to see whether the blood type affected mosquito fertility. After feeding, researchers counted the number of eggs each mosquito laid. Despite showing a clear preference for blood type O, the number of eggs laid did not differ significantly between any of the blood groups. In other words, O blood was more attractive, but it didn't result in more offspring.

- **This distinction matters when thinking about personal risk —** If you have blood type O, you're statistically more likely to get bitten. That puts you at higher risk for mosquito-borne diseases. But mosquitoes don't benefit more from feeding on you — they're just more drawn to your chemistry. People with type A blood were the least attractive to the mosquitoes, confirming prior studies showing similar patterns.

- **Knowing your blood type can help guide your bite-prevention strategy —** While you can't change your blood type, you can change your environment. If you're type O, it's smart to use extra protection — especially during peak mosquito hours in the morning and at dusk. That might include covering up more skin, avoiding scented products, or staying indoors during mosquito-heavy times.

- **The takeaway: some people are more likely to be targeted —** While the study didn't explore why O blood is more appealing, it reinforces the idea that personal biology plays a major role in mosquito attraction. You're not imagining things if you get bitten more than your friends — it could be in your blood.

How to Stop Attracting Mosquitoes Before They Find You

If you're tired of being a mosquito magnet, the most important thing to understand is that this isn't random. Your scent, body chemistry, habits, and even your wardrobe all send out signals that either invite or repel these insects. You can't change your DNA, but you can control many of the triggers that make you easier to find and bite. The goal here isn't to slap on toxic insect repellent — it's to address the real causes of why mosquitoes are choosing you in the first place. Here's where to start:

1. **Cut scented body products and switch to unscented basics —** If you use floral-scented lotions, body sprays, or skin creams, including those with alpha hydroxy or lactic acids, stop. Not only do fragrance chemicals often act as endocrine disruptors, increasing your risk of reproductive, developmental, and metabolic problems, but these products amplify the natural signals mosquitoes are already drawn to. Instead, use natural fragrance-free moisturizers and soaps.

2. **Wear light-colored clothing that covers more skin —** Dark colors like black, red, and navy act like visual beacons to mosquitoes. They absorb heat and stand out in low light, which helps mosquitoes lock onto you. Stick with white, light gray, or pale blue clothing when you're outside. Long sleeves, pants, and wide-brimmed hats give you another layer of defense.

3. **Skip the alcohol —** If you're someone who enjoys a cold beer at a backyard BBQ, know this: alcohol is not only linked to chronic diseases like cancer; it also increases your skin temperature and raises carbon dioxide output through your breath — two things that mosquitoes home in on.

4. **Lower your body heat before spending time outside —** Mosquitoes sense temperature differences with impressive precision. If you've just exercised, been out in the sun, or eaten a heavy meal, your body heat and sweat will spike, making you a prime target. Cool off with a fan or take a quick rinse with cold water before stepping out. Even sitting in the shade for 10 minutes helps.

5. **Use plant-based oils that protect as well as DEET, without the toxins —** If you want strong protection without using chemicals like DEET, certain plant oils are a powerful alternative. Lab tests show that oils from Russian sage, wild mint, and tangerine peel repel mosquitoes for up to 2.25 hours, depending on how much you apply.[9]

   At higher doses, Russian sage performed just as well as DEET, without the health risks. I recommend using these in essential oil form. Mix a few drops with a carrier oil like coconut oil and apply it to exposed skin before heading outside. Reapply as needed, especially if you're sweating or staying out for a long time.

FAQs About Mosquito Bites

Q: Why do some people get bitten by mosquitoes more than others?

A: Some people give off stronger scent and chemical signals that attract mosquitoes. These include natural skin odors, body heat, carbon dioxide from breath, and certain compounds like lactic acid and ammonia. Your genetics also play a big role — studies show that 62% of mosquito attraction is inherited.

Q: Which personal care products increase mosquito bites?

A: Scented lotions, floral deodorants, and exfoliating products with lactic acid or alpha hydroxy acids make you more attractive to mosquitoes. These ingredients enhance the natural scent cues that mosquitoes follow to find you.

Q: What blood type do mosquitoes prefer?

A: Mosquitoes prefer type O blood over all other blood types. People with type O are bitten more often than those with A, B, or AB, even though it doesn't result in more mosquito eggs. If you have O blood, it's smart to take extra precautions during mosquito season.

Q: How do I make myself less appealing to mosquitoes?

A: Switch to unscented body products, wear light-colored clothing, skip alcohol, lower your body temperature before stepping outside, and use plant-based essential oil repellents like Russian sage or wild mint. These changes reduce the signals that attract mosquitoes in the first place.

Q: Are there natural repellents that work as well as DEET?

A: Yes. Plant-based essential oils like Russian sage, wild mint, and tangerine peel have been shown in lab tests to repel mosquitoes for up to 2.25 hours.[10] At higher concentrations, Russian sage matched the effectiveness of DEET, without the chemical risks. Use these oils diluted in a carrier like coconut oil for safer protection.

Sources and References

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