

Allergy/Asthma Specialists W. MI

Vincent Dubravec, MD, FAAAAI

5055 Plainfield NE • Grand River Commons Suite C • Grand Rapids, MI 49525

tel: (616)-988-8515 • toll free: 888-809-5750 • fax: (616)-988-8512

(published in the Rockford Squire, Fall 2003.)

Insect Sting Allergies

Recent summers have been significant for insect stings, with a newer species of wasp causing a “buzz.” Emergency room visits for insect stings were up almost 20% last year compared to the prior year at one local hospital. There are more than 500,000 emergency room visits in the US for insect stings alone. While most people are not allergic to insect stings, up to 5 of every 100 people experience life-threatening allergic reactions called anaphylaxis. At least 40 deaths per year are reported due to insect sting allergic reactions; studies suggest the actual number of stinging insect deaths is much higher. However, therapy is available that can prevent life-threatening allergic sting reactions for those at risk.

Stinging insects are divided into 3 main groups: **Vespid**s (Wasps, Yellow Jackets, Hornets), **Apids** (Honey bees, Bumble bees), and **Formicids** (Fire ants). Vespids are the most problematic in our area; “Snowbirds” also have to deal with Fire Ants in Southern USA.

Because of their behaviors, Vespids are the most likely “stingers” to cross paths with people in Michigan and are able to sting repeatedly. Vespids make the “paper” for their nests by chewing up wood and mixing it with their saliva, which is one reason they are attracted to wooden porches, patios, and play sets. If you look carefully after a wasp has flown off, you may see where one has chewed off a thin ribbon of wood. Yellow Jackets are extremely aggressive “Ground Hornets” that build nests underground. They are frequently disturbed by mowing or accidentally stepping into a nest hole, but are well known to sting unprovoked as well. They scavenge for food around garbage cans and dumpsters, causing problems during summer picnics. Because of their dirty environment, a Yellow Jacket sting may cause an infection at the sting site. Hornets build big, round nests that resemble a huge football, in trees, hedges, or roof overhangs. Hornets are especially irritated by the vibrations of noisy machinery. Paper wasps build nests that resemble a honey comb, fanning out usually off of a single thin “stump”; these are normally off roof overhangs, shutters, or under porches.

However, the recently introduced species of European Paper Wasp has changed what “normal” is, according to Tom Ellis of Michigan State University’s Department of Entomology. Ellis explains that Paper Wasps native to Michigan are territorial, which tends to keep their population in check. The European Wasps are more sociable and the queens don’t mind building (or even sharing) nests every few feet from each other, thus increasing the local concentration of nests and wasps. These urban wasps are the most prevalent home pests, building nests in small spaces behind vinyl siding, behind eaves or other small openings in outer home finishing, or in aluminum posts that have an opening they can crawl into. They also nest under decks and tables, beneath roof overhangs, and among playground equipment. Ellis notes that although less aggressive than Yellow Jackets, encounters with the growing number of European Paper Wasps results in more likely stings.

Vespid colonies are begun in the spring by a single overwintered foundress queen. The queen takes care of all the initial work building the nest, laying eggs, and rearing the young until the first brood of sterile workers emerge. Reproducing males and females hatch in the late summer to mate. In fall, new queens seek out a place to overwinter, while the old queen dies off with the rest of the colony. Because of this cycle, Ellis points out that killing the early spring wasps (all gravid queens) may help curb the local population before it takes off. Its best to spray nests at nighttime and important to use an aerosol Wasp-Hornet killer. Ellis explains that if a nest is behind an opening on the outside of the house, don’t seal the outside escape route right away- angry wasps may find their only alternative is inside the house. Weather treating wood structures may make them less appetizing to wasps. People with allergic sting reactions should let someone else, like a professional exterminator, kill the insects.

Most honeybees are domesticated and won't sting unless provoked or accidentally stepped on. Africanized bee's are more aggressive and have become a problem in the Southern USA. Wild bees tend to nest in hollow trees. Bee stingers are barbed, like the end of a fishhook, so may be stuck in the skin after a sting and should be scraped off as soon as possible. For this reason, bees usually sting only once. Honey Bee stings rarely cause infections. Bumblebees build underground nests and rarely sting.

Fire ants are a huge stinging problem in southern USA. They are aggressive, easily irritable, and build colonies with large mounds. Like other stinging insects, they may cause life-threatening reactions.

Local pain and swelling at the sting site are normal and do not significantly increase your risk for future stings. This may last for a few days. Ice, anti-histamines, ibuprofen or acetaminophen usually help; sometime a few days of a steroid are used to ease the symptoms.

Allergic reactions to stings are serious and require immediate medical attention. People who have had one allergic reaction have a 60% chance of having a similar or worse reaction if restung. Symptoms of an allergic reaction include:

- Hives, itching, swelling in areas other than the sting site
- Breathing difficulty, chest tightness, wheezing
- Hoarse voice or swelling of the tongue or throat

The most severe allergic reactions cause

- Sharp drop in blood pressure, dizziness
- Unconsciousness or heart attack

Immediate treatment of an allergic sting reaction involves emergency treatment as life-threatening reactions can progress quickly. This usually includes epinephrine or other medications delivered by emergency medical personnel. Epinephrine (adrenaline) kits for self-administration may be life saving; but if used, patients must still seek emergency medical attention because one dose may not be enough.

Long-term preventative treatment is available, allowing people who previously experienced a severe allergic reaction to live normal lives. Allergy immunizations for insect sting venom are highly effective in preventing future life-threatening insect sting reactions by making people immune to the insect sting venoms. A careful history and allergy testing determine if someone are a candidate for the series of allergy injections.

Simple sting preventative measures include:

- Avoiding sandals or bare feet
- Avoid swatting a flying insect
- Keep screens in good repair
- At picnics, keep food covered, be cautious around garbage cans, avoid bright colored clothing and sweet smelling perfumes or colognes. Insects may crawl inside open cans of sweet drinks.
- Keep prescribed medicines on hand-Epinephrine (adrenaline) kits can be life saving.

For more info see the American College of Allergy, Asthma, & Immunology (allergy.mcg.edu) OR the American Academy of Allergy, Asthma, & Immunology www.aaaai.org.