

Stinging Insect Allergy

The class of insects known as Hymenoptera includes honeybees, hornets, wasps, yellow jackets, and fire ants. Fire ants are mainly present in the southeastern United States, but the winged Hymenoptera are present throughout the United States. Allergic reactions to a sting with one of these insects may occur when a person has been previously stung and has become "sensitized" to the venom of that insect. In addition, "cross reactivity" may occur between the venom of one stinging insect and other stinging insects.

Types of Reactions:

- **Local reactions:** swelling, pain, itching and/or redness at the site of the sting. Local reactions occur commonly after insect stings and are **not** considered systemic allergic reactions. These are generally treated with ice and an oral antihistamine, such as Benadryl. Testing is not required.
- **Systemic reactions:** hives in any area **not continuous** from where the sting occurred, allergic eye and nasal symptoms, shortness of breath, coughing, wheezing, difficulty swallowing or talking, swelling of the tongue, nausea, vomiting, diarrhea, and/or symptoms of shock (such as fainting, pale/clammy skin, or feeling dizzy). People with this type of an allergic reaction may have similar, severe reactions when they are re-stung in the future.

Treatment: Immediate Emergency Medical Attention. Call 911 or go to nearest emergency room. Injectable Epinephrine, antihistamines, corticosteroids, intravenous fluids and oxygen. Observation.

Prevention/Avoidance

1. Avoid colognes, perfumes, cosmetics, scented deodorants, hairsprays, suntan lotions, etc. when you are outdoors.
2. Use unscented deodorant (sweat attracts stinging insects).
3. Avoid bright, "flowery" colors or loose fitting clothing. Wear tan, khaki, or gray.
4. Avoid flailing motion of the arms. Promptly turn and walk away from the insect.
5. Shoes should be worn when outside.
6. Destroy nests or hives in your vicinity. Use a professional exterminator or someone who is not allergic.
7. Do not sit or stand near outside garbage cans.
8. Do not drink pop from an open can that has been sitting outside.
9. Do not sit or stand near flowers or foods.
10. Check windows and screens for openings. Keep car windows closed when driving.

Following systemic reactions, skin testing is recommended with honeybee, wasp, white-faced and yellow hornets, and yellow jacket. (Following fire ant stings, skin testing with fire ant will be done.) For accurate results, testing should only be done at least six weeks after the sting has occurred.

Treatment – Medication and Immunotherapy (Allergy Injections):

1. **Medications:** an antihistamine and injectable epinephrine are prescribed to treat a severe allergic reaction when re-stung. These should be carried with you at all times.
2. **Immunotherapy (allergy injections):** usually recommended to build up "protective immunity" to a future sting.

INSECTS

HONEYBEE



- Most common. Aggressive and angry when threatened. Only the female stings. Has a squat, hairy body, with bright yellow or black markings. The female honeybee is found around flowers or blooming plants, particularly clover. Is attracted to dark colored clothing.
- Usually leaves her barb-shaped stinger in the skin of her victim when she pulls away or is brushed off. A soft, white, bulb-shaped sac contains the venom and is attached to the embedded stinger. After leaving her stinger and venom in the victim, the bee flies away and eventually dies. For two or three minutes following the sting, the stinger and the venom will be driven further into the victim's skin by muscle contractions of the sac.
- The first step after a bee sting is to remove both the stinger and the venom sac. The stinger should be scraped or flicked off with a fingernail or knife edge to avoid putting extra pressure on the venom sac.

WASP



- Has the narrow pinched waist which separates the upper chest area from a cigar-shaped abdomen. Most are nearly hairless, and are black, brown or red in color.
- Nests are under eaves and rafters. The nest is a horizontal comb of paper cells and the underside is completely exposed.
- The stinging mechanism is similar to that of the honeybee with one major exception. The stinger is not barbed, and may be withdrawn by the insect after injecting venom, allowing the wasp to move on.
- Can sting repeatedly.

HORNET



- Larger in size than most other stinging insects. Demonstrates most of the same habits as others in its family.
- Body is black with multiple yellow or white markings. Has a very short waist, and a shortened abdomen.
- Nests are oval in shape and may be found in trees or shrubbery either in woodlands or open areas.
- Stings in the same repeated fashion as wasps.

YELLOW JACKET



- Yellow jacket: Similar in shape to the hornet, but smaller and with bright yellow and black markings.
- Nest is also made of paper, but unlike the open wasp nest, it is completely enclosed. Built in the ground, often in piles of timber or compost heaps.
- Strongly attracted by sugar, particularly fruit juices and sweetened drinks, and is often found around garbage receptacles or other areas where empty containers or fruit peelings are exposed.
- May sting their victims repeatedly.

Adapted from: Hollister-Stier, 2008, "How to Avoid Stinging Insects"