



# Stinging Insect Allergy

Yellow Jacket, Wasp, Hornet, & Honey Bee



Millions of Americans are stung by insects each year.

While everyone will react in some manner to the venom of stinging insects, up to 3% of adults in the United States may be at risk for a serious allergic reaction.<sup>1</sup>

## TYPES OF INSECT STING REACTIONS

The severity of an insect sting reaction varies from person to person. A normal reaction will result in pain, swelling, and redness confined to the sting site. A large local reaction can be characterized by swelling that extends beyond the sting site, typically crossing a joint when the sting is on the arm or the leg. Although alarming in appearance, this type of reaction is not life-threatening. The most severe reaction to an insect sting is called anaphylaxis. This condition can result in a medical emergency and requires immediate medical attention. Symptoms of anaphylaxis may include:

- Generalized hives or welts, swelling, flushing or itching
- Difficulty breathing, cough, wheeze or shortness of breath
- Hoarse voice or swelling of the tongue or throat
- Dizziness or a sharp drop in blood pressure, leading to unconsciousness or a heart attack
- Stomach cramping, nausea, vomiting or diarrhea
- A feeling of impending doom

This type of reaction can occur within minutes after the sting and may be life-threatening or even fatal. Adults who experience severe initial reactions from an insect sting have the highest risk of a similar severe reaction occurring if stung again.<sup>2</sup>

## TREATING REACTIONS TO STINGING INSECTS

A small local reaction can be expected and simply wiped with a disinfectant. Swelling can be reduced by the application of ice. In the case of a large local reaction, treatment with a disinfectant and ice may help to alleviate symptoms. However, an anti-histamine and/or a steroid (cream or pill) may be prescribed. A severe systemic reaction, or anaphylaxis, should be treated promptly with epinephrine. This can be self-injected using an epinephrine auto-injector or administered by a healthcare professional with a routine injection. Once the epinephrine has been given, call 911 or seek immediate medical attention. In some cases, intravenous fluids, oxygen, and other treatments are necessary.

Honey bees are unique because the stinger is left in the skin. A quick scrape of a fingernail over the sting site removes the stinger and the venom sac. Be sure to avoid squeezing the remaining venom sack, as more venom will be released through the stinger if squeezed.

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3% OF ADULTS IN THE U.S. MAY BE AT RISK FOR A SERIOUS ALLERGIC REACTION TO INSECT STINGS.<sup>1</sup>



## AVOIDANCE

You can decrease your chances of an insect sting by taking certain precautionary measures. The first is understanding where these insects can be found and what they look like. Yellow jackets will nest in the ground and in walls and typically have black and yellow markings. Hornets will nest in bushes and trees and are black or brown with white, orange or yellow markings. Wasp nests are found under eaves, behind shutters, in shrubs or wood piles and are more slender with black, brown, or red with yellow markings. Honey bees have a fuzzy body with dark brown coloring and yellow markings. Use extreme caution when working or playing in areas discussed above and avoid walking barefoot in the lawn. Refrain from using insect attractants, such as fragrances, perfumes, hairspray, lotions or brightly colored clothing. Avoid open garbage cans and exposed food at picnics. Also, try to reduce the amount of exposed skin when outdoors.

## BE PREPARED

People who have had previous severe reactions should carry epinephrine auto-injectors at all times. These are dispensed in duplicate and should be carried together in case of a reaction. Should the first treatment be insufficient, the second epinephrine auto-injector can be used. Seek immediate medical attention after using the auto-injector. Calling 911 is preferred. Wearing a medical alert bracelet, necklace or carrying a card in your wallet to identify your allergy is helpful in the event of an emergency.

## VENOM IMMUNOTHERAPY

Systemic allergic reactions or anaphylaxis to insect stings have been shown to be reduced following a complete course of venom immunotherapy.<sup>2</sup> Treatment involves administering gradually increasing doses of venom, which stimulates the immune system to become tolerant to future exposures. Initially, venom immunotherapy injections are weekly, but once maintenance is reached, the interval between injections can be increased.<sup>1</sup> Immunotherapy to insect venom is not without risks. Possible side effects may be similar to a sting, but typically reactions from venom immunotherapy are limited to local reactions.<sup>1</sup> Although local reactions may produce some discomfort, they are not serious.

## LEARN MORE ABOUT IMMUNOTHERAPY

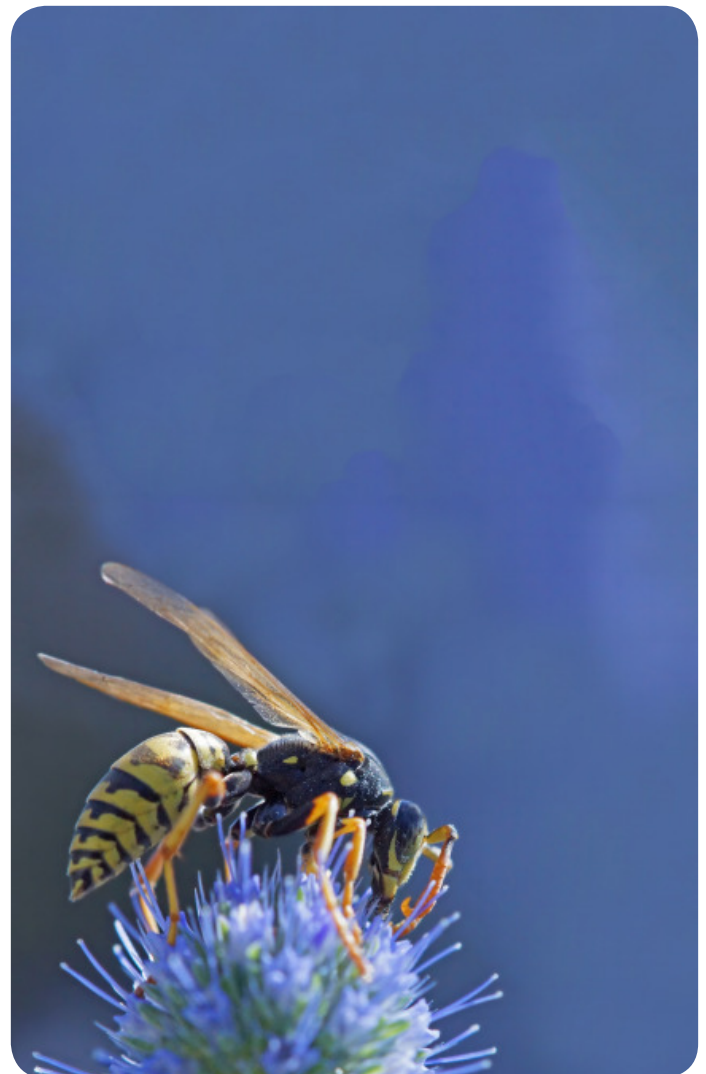
Consult an doctor who specializes in allergy. If you experience allergic symptoms, it is important to talk to a doctor who specializes in the diagnosis and treatment of allergic diseases. Based on your past history and specific testing, the allergy specialist will be able to determine if you are a candidate for immunotherapy treatment.

## CONCLUSION

Most people are not allergic to insect stings and should recognize the difference between an allergic reaction and a normal or large local reaction. This will prevent unnecessary worry and medical expense. People who are allergic to insect stings should be evaluated by a doctor who specializes in allergy for correct diagnosis and treatment of their allergic condition. Although stinging insect allergy is a serious problem, much of the risk and fear of a reoccurrence may be eliminated with immunotherapy.

### References:

1. Golden DB, Moffit J, Nicklas RA, et al. Stinging insect hypersensitivity: A Practice parameter update 2011 JACI 2011;127L 852-54.
2. Graft DF. Hymenoptera venom immunotherapy: Efficacy, indications, and mechanism of action. Golden DB, Feldweg AM, eds. UpToDate. Waltham, MA: UpToDate Inc. <https://www.uptodate.com> (Accessed on February 2, 2019).



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