Insect and Animal Allergens

Stinging Insect Allergy

A Patient’s Guide
Stinging insect allergy can cause severe and sometimes life-threatening reactions. Each year, many people are stung by insects such as bees, wasps, hornets, yellow jackets and fire ants. The results of an insect sting can be unpredictable. For many people, insect stings mean redness, swelling and itching at the site — pain and discomfort that last only a few hours. People who react normally to insect stings can suddenly experience an allergic response. Some people never become sensitized (allergic) to stinging insects, while those who do can have sensitivities that last from less than three months to more than 25 years.

An allergy is your body's way of saying "I don't like it" to a substance — in this case proteins in insect venom — to which you are hypersensitive. Such substances, which are normally harmless, are called allergens. Allergens cause your body's immune system to produce antibodies called IgE to protect you. The IgE antibodies, in turn, cause the release of inflammatory chemicals such as histamines, resulting in allergy symptoms from mild to life-threatening.

The IgE antibodies responsible for allergic reactions are specific to each allergen — for example, the IgE antibody to bee venom is different from the IgE antibody to wasp venom or any other allergen such as pollen, dust or a specific food.

Allergy testing allows your doctor to find out what is causing your allergic reaction. Your doctor may order a skin test — your skin is pricked and exposed to potential allergens to see if you develop a raised bump or reaction. Or your doctor may order a blood test.

Blood testing tells your doctor which IgE antibody or antibodies your body is producing and therefore which allergens are likely to cause a reaction. A small sample of your blood is mixed with different allergens to look for chemical reactions. The reaction is recorded and analyzed by a computer and reported to your doctor. Blood testing can determine how much of a specific IgE your body is producing. This helps the doctor gauge the extent of your allergy and is important if immunotherapy (allergy shots) is used.

Blood testing has some other advantages, too. It is more convenient. Since one blood sample can be used to test for many allergens, it may require fewer visits to your doctor's office. For children, it means one needle stick for a blood test rather than multiple sticks for skin tests. Also, blood testing does not require introducing suspected allergens to the skin, as skin testing does. This avoids any potential interactions with medications you may be taking.
Symptoms of insect sting allergies can range from mild to severe. Most serious allergic reactions develop within minutes of the sting, although in some cases serious reactions around the sting area can take hours or even days to develop.

- Rapid swelling
- Difficulty breathing
- Wheezing or hoarseness
- Reddish rash or hives
- Stomach cramps
- Dizziness
- Sharp drop in blood pressure
- Severe itching, cramping or numbness
- Loss of consciousness

The most serious reaction, called anaphylaxis or anaphylactic shock, can develop immediately after allergen exposure in highly sensitive people and causes airways to constrict, making it difficult to breathe. Blood pressure may drop, causing dizziness or loss of consciousness. Other symptoms include confusion, slurred speech, blue skin, nausea, vomiting and diarrhea.

Not all reactions to insect stings are due to allergy.

- A normal reaction includes pain, swelling, itching and redness at the sting site that usually disappear within an hour. Disinfecting the area, applying a cold compress or ice pack and taking aspirin or acetaminophen for the pain and itching will decrease the discomfort. Remove the stinger as soon as you can, being careful not to squeeze the attached venom sac.

- A large local reaction, with swelling beyond the sting site, may peak in 48 to 72 hours and last up to a week. In addition to the remedies listed above, you may need prescription antihistamines and steroids to ease the pain and itching.

See your doctor if symptoms persist. If you experience a serious adverse reaction to an insect sting, your doctor will recommend testing to determine whether you have an allergy and which type of stinging insect caused this reaction. Your doctor may recommend insect venom immunotherapy (allergy shots) to help prevent future allergic sting reactions. Immunotherapy desensitizes you to specific allergens by administering gradually stronger doses of allergy extracts.
Five types of insects are responsible for most sting reactions:

- Yellow jackets
- Honeybees
- Paper wasps
- Hornets
- Fire ants

Avoid getting stung:

- Don’t use flowery or fruity colognes, cosmetics, soaps or lotions
- Avoid wearing brightly colored, white or pastel clothing outdoors
- Be aware that loose-fitting garments can trap insects between material and skin
- Remove or destroy bee, wasp and fire ant nests around your home
- Be aware of insects when cooking or eating outdoors
- Don’t swat at a bee, which may aggravate it; simply move away

If you are diagnosed with an insect sting allergy, your doctor may give you a prescription for an epinephrine self-injection pen, for which can save your life in case of anaphylactic shock. Wear a Med-Alert bracelet or necklace and be sure people close to you, whether family, friends or coworkers, know about your allergy.