When a bee or wasp stings, it injects a venomous fluid under the skin. Honey bees have a barbed stinger and, when they leave the victim, the stinger and venom sac are detached from the abdomen. The bee dies after stinging the victim. Wasps, on the other hand, have a lance-like stinger without barbs and they can sting repeatedly. Only female bees and wasps can sting. Workers (sterile females) may sting to defend themselves and their nest. Queens (reproductive females) generally sting only when provoked. Although males cannot sting, some may bluff by jabbing with the tip of the abdomen. In addition, the queens of the solitary wasps use their sting to paralyze their prey. There are three types of reactions to bee and wasp venom:

Normal Reactions

Normal reactions produce pain, redness, swelling, itching and warmth around the sting site. All evidence of the sting usually disappears in several hours.

Allergic Reactions

Allergic reactions can involve an entire limb or the whole body. A mild reaction produces hives, itching, fatigue and feelings of anxiety. Moderate to severe reactions may also include swelling, tightness in the throat, wheezing, dizziness, stomach cramps, nausea and vomiting.

Severe reactions can also include swallowing or breathing difficulties, weakness and confusion. The most serious reaction is shock -- impaired breathing and heart action - which can cause death in five minutes. One out of every 250 people in the U.S. is highly allergic to insect stings.

Toxic Reactions

Toxic reactions occur when a person receives a large volume of venom in a short period of time, typically from multiple stings, such as when a colony of social wasps is disturbed. Toxic reactions may produce cramps, headache, fever, drowsiness, and -- in extreme cases -- death.

Preventing Encounters With Stinging Insects

You can greatly reduce the likelihood of being stung if you follow these simple guidelines, especially during the late summer and early fall months when bees and wasps are abundant:

1) Cover exposed skin; wear a long-sleeved shirt and long pants of subdued colors (grey, white or tan) rather than bright colors or vivid prints. Don’t forget a hat, and wear closed shoes rather than sandals.

2) Avoid the use of heavily-scented soaps, shampoos, perfumes, colognes, aftershave lotions and cosmetics. Also, avoid wearing shiny buckles and jewelry.
3) At outdoor picnics keep all food covered; clean-up all spills; keep all refuse in tightly sealed containers. Also, be sure to KILL all troublesome intruders; don't repeatedly chase them away.

4) If a bee or wasp hovers around you, slowly raise your arms to protect your face and stand still or move slowly (rapid movement often provokes attack); move indoors or through some bushes to get away.

5) If a bee or wasp gets into the car while you are driving, don't panic; the wasp is only interested in getting out. Pull over to the side of the road, open the doors and allow the wasp to escape.

First Aid for Stings

Anytime you are stung by a bee you must immediately remove the stinger and venom sac by gently scraping or flicking the stinger with a fingernail or knife. DO NOT use tweezers or try to squeeze out the stinger, as this would push more venom into the wound.

Then, for all bee and wasp stings, wash the sting site with soap and water. Apply ice to minimize pain and swelling. For normal sting reactions, a solution of 1/2 teaspoon meat tenderizer dissolved in 1 teaspoon of water (or commercially-available sting solution) can be applied to the skin to relieve discomfort.

If you experience anything more than a localized, normal reaction, immediately seek medical attention. Sting victims should be kept calm, quiet and inactive. In some cases, an allergy specialist may advise a series of injections to lessen sensitivity for persons with case histories of severe allergic reactions to insect stings.

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Would you like additional information?

Additional information is available on-line. Please see MSU Extension-Oakland County’s publications as well as MSU Extension’s Bulletin Office on campus.

Contact our Plant & Pest Hotline (248/858-0902) for assistance with plant identification, pests and diseases, weeds, trees and shrubs, lawn, flowers, fruits, vegetables, grasses and groundcovers, native plants, plant propagation, and many other gardening topics.