

TerranearPMC Safety Share

Week of June 27, 2016 – Bees, Wasps and Hornets

We all know that there are a lot of flying, stinging creatures out there in the summer time. Bees (all varieties), hornets and wasps are the most notable. And while we all acknowledge their stinging capabilities, there are a lot of myths and misconceptions regarding their sting and our reactions to getting stung. Bees and wasps and hornets are different in the way they sting and the venom they carry. Hornets and wasps do not leave a stinger behind. Another difference between the sting of a bee and wasp is that bee stings are acidic and therefore can be neutralized with alkali, whereas wasps are alkali and can be neutralized with an acid.

Bees usually leave a visible stinger in the wound and it should be removed by brushing or scraping it off as soon as possible to minimize the amount of venom received. The normal reaction to a bee sting is a bit of temporary pain at the location of the sting, some itching and some swelling. Some parts of the body are more sensitive than others and swelling is most noticeable on the face. For most people, Bee stings are harmless. Although the venom from a bee sting can cause adverse reactions, they can also be beneficial; bee venom therapy (BVT) has been used to treat such symptoms in MS patients as pain, loss of coordination and muscle weakness.

What should a person do if he/she gets stung? The first thing to do is to remove the stinger as quickly as possible. This reduces the amount of the venom injected and reduces the effects. Contrary to what is often taught, it has been recently proven that it does not matter how the stinger is removed. Whether the stinger is scraped off or just brushed off, speed is the most important factor in minimizing the effects of a sting. The extra time it takes to carefully scrape the stinger off, instead of simply brushing it off, may actually result in more venom being injected than if the stinger is casually brushed away with a finger. Always remember to stay calm. Most of the ill effects from normal stinging incidents come from panic from bystanders as well as in the person being stung. Panic and anxiety multiplies the pain, and can result in poor judgement causing serious secondary accidents. Panic by the person stung or those around him/her can produce a systemic reaction in itself.

Based on countless discussions with bee-sting recipients, it seems that the amount of pain experienced after a sting is pretty much the same for everyone. However, the amount of itching and swelling depends on the person being stung and how often the person has been stung in the past. The actual puncture point where the stinger penetrated the skin sometimes gets aggravated, creating a small abscess or blister. This clears up by itself and is normally no cause for concern.

As one might expect, some parts of the body are more sensitive to stings and each part will respond differently. The areas near the eyes and lips are particularly prone to swelling. Meanwhile, receiving a sting on fatty areas of the body, can inspire some amazing language from the victim. Stings in bony points like wrists and ankles can cause some temporary aching, much like arthritis, and as for more private areas, well, let's just say that it's best to perform your work tasks with proper clothing!



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As far as allergies are concerned, current studies suggest that about 5% of the population is allergic to stings to some extent, from minor to serious. Severe reactions are very rare and while allergic reactions to bee stings do occur, as with practically any substance the degree of severity can vary from mild to life-threatening. People with bee allergies often get over them spontaneously or by seeking treatment from an allergist who specializes in bee stings. Although everyone should be aware of their possibility to an allergic reaction, a bee sting for most normal people is a minor inconvenience and is best ignored and forgotten as quickly as possible.

Seasoned beekeepers experience virtually no reaction to stings and generally ignore occasional stings in their daily work. Beekeepers still feel the sting the same as anyone else, but since they are not worried about stings, the sensation is soon forgotten. Normally good beekeepers wear a veil to prevent stings to the face, but work with bare hands and receive occasional stings to the wrists and hands.

What about immunity to Bee stings? People who have never been stung by a bee often have no itching or swelling at first. After a number of stings most people begin to itch more and swell at the location of the sting. However swelling is a normal reaction in someone who is developing immunity, and only lasts until immunity is developed. After several weeks of occasional stings, the reactions diminish, itching is no longer a problem, and swelling is much reduced. Immunity can fade over periods of time without stings such as over winter. Some sensitivity is not uncommon for the first few stings after such a period, even for beekeepers with immunity.

Justin Schmidt, an entomologist from the University of Arizona, has made a career of experiencing the various stings of insects and has *colorfully* categorized them from a scale of 1 – 4, in order of least painful to most painful. According to Justin Schmidt, the least painful insect sting, with “1” on the pain scale, comes from the sweat bee, having a sting similar to having a tiny spark as a singed hair on your arm. Mr. Schmidt has placed the yellow jacket and honey bee as 2’s, describing them as “Imagine W. C. Fields extinguishing a cigar on your tongue,” and a “matchhead that flips off and burns on your skin” (respectively). Also at a “2” is the Bald-faced hornet. The sting is described as, “Similar to getting your hand mashed in a revolving door.” OUCH! The paper wasp gets a “3” with a sting that is described “Like spilling a beaker of hydrochloric acid on a paper cut.” Next is the wasp known as the Tarantula Hawk. It gets a “4” on the pain scale with the description, “Blinding, shockingly electric. A running hair drier has been dropped into your bubble bath.” However, none of the flying bees, wasps, hornets compare with the sting of the Bullet Ant, receiving a score of 4+. Justin Schmidt describes this creature’s sting “Like fire-walking over flaming charcoal with a 3-inch rusty nail grinding into your heel.” The bullet ant, otherwise known as 'paraponera' or the 'giant hunting ant', has a powerful sting that can last for 24 hours. Some victims have likened the pain to 'being shot with a bullet'. Luckily (for most persons), these ants can only be found in the rainforests of Central America, between Nicaragua and Paraguay.

Experience is one thing you can't get for nothing. Oscar Wilde

