

The Gator Growls



Venomous Insects: They May Be Hazardous To Your Health

By SANDRA P. CARMOUCHE

Imagine that it is late spring and you are making an early morning inspection of your golf course via golf cart. As you round number eight tee your attention is drawn to Jim, one of your employees, who is pruning myrtle bushes in the rough.

Suddenly Jim drops his pruning shears and begins to run while his arms flail the air. You drive over and he tells you that he bothered a swarm of bees and got stung on the forearm.

Jim assures you that he is alright, but before you leave there are a few bushes you want to point out that need special attention.

As you talk, you notice that Jim is having trouble catching his breath. He frequently wipes his eyes, which look red and watery, and says he is feeling weird, sort of weak and dizzy. You tell him to get in the golf cart and you will take him to the maintenance building.

Halfway there, Jim grabs his stomach and doubles over. His voice sounds raspy and his speech is slurred as he complains of nausea and cramps.

By the time you reach the maintenance building, Jim is nearly unconscious and his skin tone is becoming gray. You call for emergency assistance, but it looks as if Jim might die before help arrives. What can you do?

First, you need to know what you are dealing with. Jim is suffering from anaphylactic shock, the severest form of an allergic reaction to insect venom.

Although there are no exact statistics on the number of people allergic to venomous insects (some estimate it to be between four and eight people in 1000), the number is small. But because golf course personnel are frequently

exposed to insect habitats, it is important that a golf course superintendent know something about the effects of stinging and biting insects and what to do in case of an emergency.

According to Seth Schurman, M.D., P.A., an allergist with offices in Fort Myers and Naples, Florida, there are between 90 and 100 deaths recorded each year in the United States as a result of insect stings and bites. But Dr. Schurman says the figures are understated since they represent only those cases reported to health departments. And occasionally death occurs so quickly, sometimes in seconds, that the site of the injury has no time to swell or become inflamed. Consequently, unless the attending physician is alerted to the possibility of insect venom being involved, the cause of death may be recorded as something different.

Because symptoms of allergic reactions to insect venom can be confusing, the ability to recognize them could mean the difference between life and death.

- **Mild Symptoms:** swelling of two or more joints (for instance, a sting on the forearm produces swelling in the wrist and elbow), itchy eyes, dry cough, hives or rash, a constricted feeling in the chest or throat, wheezing, nausea, vomiting, abdominal pain, dizziness
- **Severe Symptoms:** difficulty in breathing, hoarseness, slurred speech, difficulty in swallowing, confusion, a sense of doom
- **Anaphylactic Shock:** cyanosis (skin tone becomes gray or blue from lack of oxygen), reduced blood pressure, incontinence, unconsciousness, death

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The most important thing to remember is that symptoms can escalate from the mild to the severe in a matter of minutes. The first sign of trouble following an insect sting or bite should be treated as an emergency and medical attention should be sought immediately.

Although it is possible, it is doubtful that a person who knows he is allergic to venomous insects would consider a position in the field of golf course maintenance. The risks are too substantial. Unfortunately, for several reasons, not everyone who is allergic to insect venom knows it.

Before a person can exhibit an allergic reaction to anything, he must first be sensitized. In other words, an individual must have had previous contact with an allergen (the substance that induces allergy) before he can react. Frequently, there are no signs of an allergic reaction upon first contact with an allergen so the individual has no reason to believe he is allergic.

Also, according to Dr. Schurman, studies at the Johns Hopkins University in Baltimore, Maryland indicate that an allergic individual will become desensitized to insect allergens over a period of 10 years, provided there is no contact with them during that period. For example, a person is stung by a wasp when he is five years old and again 20 years later. On neither occasion did he exhibit an allergic reaction. Yet when he is stung by a wasp at the age of 27, he experiences a severe reaction.

There is no method at present for predetermining how severe a reaction will be. The degree of sensitivity varies from one person to the next and the amount of venom injected into the skin can become a factor, particularly where multiple stings and bites are concerned. Also, insect venom is more potent during the breeding season than it is at other times of the year.

Since 1978, allergists have successfully used a longterm treatment called hyposensitization against allergies to the honey bee, yellow jacket, yellow hornet, white-faced hornet, wasp, and, to a lesser extent, the fire ant. Injections of the venom that the individual is allergic to are administered in doses that increase over a period of time until the person becomes tolerant, or desensitized, to the venom. In terms of preventing fatal reactions, the treatment is 100% effective.

Unfortunately, hyposensitization is not as successful in treating allergies to other venomous insects, such as the mosquito or the deer fly. The individual who is allergic to these insects must rely on an insect sting kit to avoid disaster.

Insect sting kits all contain the drug epinephrine, usually pre-measured and pre-loaded into a syringe, which stabilizes the individual long enough to reach a hospital.

The problem with the kit is that it must be carried on the person at all times and the hypersensitive individual may become unconscious before he has a chance to inject himself.

Also, Dr. Schurman cautions against being lulled into a false sense of security. The symptoms of an allergic reaction can completely disappear after the use of epinephrine. But once the effects of the drug wear off, the symptoms can recur with deadly results. It is imperative that a person get to a hospital, even though he has injected himself with epinephrine and feels fine.

Should an emergency situation arise and there is no epinephrine available, there are several other things that can be done for the individual experiencing an allergic reaction.

- If a stinger is imbedded in the skin, brush or scrape it out (the bee's venom sac is attached to the stinger and grabbing or squeezing the skin around it will force more venom into the skin).
- Apply ice to slow absorption of the venom to other parts of the body.
- Apply a tourniquet above the site of the sting or bite (remember to loosen the tourniquet every three to five minutes).
- Since so many golf courses are located a good distance from any hospitals, and because time is such an important factor, it would be best to call an emergency vehicle for help. They all carry epinephrine and will probably be able to reach you in less time than you could reach a hospital.
- Should it become necessary, cardio-pulmonary resuscitation may prolong life long enough for help to arrive.

Obviously, the best treatment for allergic reactions is their prevention. The allergic individual, as well as the non-allergic person, can benefit from the following precautions.

- Don't wear perfumes, colognes, sun tan products, or anything that has a sweet odor.
- Wear khaki, white, or tan-colored clothing as opposed to flowery or bright clothing.
- Never go barefoot and don't wear sandals. Yellow jackets build their nests in the ground.
- Use caution around flower beds, garbage cans, and anything else that emits a sweet odor.
- Don't eat or drink outside. Not only does it attract insects, there have been occasions when an insect has flown into a can of soda and been swallowed.
- Exterminate nests and hives.
- If contact with insects is imminent, don't make jerky movements or swat at the insects. It can incite them to sting.
- Individuals who are allergic to insect venom should wear medic alert tags.

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Pesticide Poisoning —Two Case Histories

By LYNN GRIFFITH

Part of working as an agricultural consultant and laboratory representative involves dealing with farmers, growers, and superintendents on a one to one basis, every day. Dealing with these agricultural professionals in such an intimate manner gives you insight into grower's thought, experience and opinions on a number of things. This year two of my clients developed pesticide poisoning in separate incidents. The nature of their experiences and their similarities is quite startling, as is the way the poisoning affected their outlook on chemicals, agriculture, and the environment.

The victims were both educated, experienced people, one a grower/manager, one a farm owner. The chemicals were different, but both were granular organophosphates. One victim worked in a wholesale nursery, the other in commercial turf. Both were more than happy to consent to interviews, and were glad that someone was telling their story in a professional, agriculturalist manner without media sensationalism. For the sake on anonymity, I will call the victim John #1 and John #2.

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- Golf course superintendents should screen job applicants for allergies (people who are allergic to one type of insect venom are often allergic to others).
- A golf course superintendent should familiarize himself with those golfers who are allergic to insect venom and who are members of, or regularly play, the golf course where he is employed.

Since there are so few individuals who are allergic to insect venom, it is unlikely that golf course personnel will ever have to deal with a crisis such as the hypothetical Jim presented. But because the potential is present, the individual who can recognize the symptoms and act swiftly may save a life. ■

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Early one morning, John #1 was applying a granular pesticide to container nursery plants. It was hot, and there was little ventilation. He was wearing rubber gloves and a spray mask, but no arm cover. Apparently the material was absorbed through the skin on John's arms.

About 15 minutes after application, he started feeling nauseous, followed by profuse sweating and stomach cramps. Partial loss of vision occurred, followed by severe vomiting and diarrhea. The stomach cramps left him doubled over, virtually unable to move.

Other staff members called an ambulance. Upon arrival, the paramedics removed all of John's clothing and hosed him down. They took a bag of the chemical with them, and headed for the hospital. John remembers the paramedics talking to him, asking him questions, but he was unable to speak or respond. They gave John injections in the ambulance, but there was not enough time to get to the hospital from the rural nursery location. Another ambulance had to meet them with a heart-lung machine to keep John's heart beating, because otherwise he probably wouldn't have lived.

John #1 arrived at the hospital and was placed immediately in intensive care, still on a heart-lung machine. The injection began to work, and John started to perk up. A staff member would check on him every few minutes to keep him awake and talking. They also frequently had him blow into a machine to measure lung capacity.

For the four days John #1 was in the hospital, the symptoms came and went. He remembers feeling severe tension, anxiety, and having a very short temper and paranoia. It took two weeks for John to feel good. Now, six months later, he's pretty well over it, but he still is acutely aware of his condition, and still suffers occasional headaches and short temper. John said, "Even talking to you about it now, I'm getting a headache."

The doctors say the symptoms could linger for thirty days or thirty years, depending on his particular chemistry. Today John says the poisoning has a big psychological effect on him. He thinks a lot, and questions the value of what he is doing. He feels angry that the whole thing happened, and has thought of quitting agriculture as a profession. John is no big environmentalist, but he favors education in pesticide use, and alternatives to agricultural chemicals.

John #2's story is somewhat different, but similar in some surprising ways.

About a month ago, John #2 was calibrating his spreader, preparing to apply a granular material to his commercial turf. He normally takes precautions and uses gloves and a mask, but he was only calibrating the machine and the gloves and mask were in the shed, a few hundred yards away. So he picked up the opened bag, and dumped the contents into the hopper. It was slightly windy, and the powder fluffed up as he poured. A small cloud of pesticide powder formed over the hopper, briefly covering his face, chest, and arms. John #2 coughed once or twice,

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