

Treating Bee Stings

Most adults have had the unfortunate experience of getting stung by a bee or wasp at least once, but only a very small percentage of people, about two to four people out of 1,000, are actually allergic to the sting. For these people, a bee sting is more than an unpleasant experi-

ence, it can be life threatening. According to Jerome Goddard, author of *Physician's Guide to Arthropods of Medical Importance*, there are three general categories of reaction to insect stings.

Normal Reaction

The severity of a bee sting reaction varies from person to person. The human body's immune system normally responds to a sting by releasing fluid from the blood to flush venom components from the area. This causes redness and swelling at the sting site. If the person has never been stung before, the response will usually lead to large swelling around the sting site, along with pain, redness and itching. This is normal. No medical treatment is generally needed, but it is a good idea to disinfect the area and apply ice to reduce the swelling. Avoid scratching the area around the sting because this can result in an infection. A research study showed that the use of a meat tenderizer, a common home remedy proposed to destroy bee venom, likely has no therapeutic value when applied to the skin. Calamine products may help reduce swelling.

Large Local Reaction

Sometimes a large local reaction will result in swelling that extends beyond the sting



Bee sting and its poison gland attached.

site. For example, a person stung on the forearm, may have his/her entire arm swell to twice its normal size. This large local reaction is often treated the same as a normal reaction, although if the sting site is on or near the throat, eye or nose area, patients should seek medical care. Large local reactions may last for several days, so antihistamines and steroids, prescribed by a physician, may help lessen the discomfort.

Allergic Reaction

An allergic reaction to an insect sting is when the reaction occurs in areas of the body which are not in the immediate area of the sting. This allergic reaction, called anaphylaxis, occurs quickly, can be life threatening and requires immediate medical attention. Anaphylactic symptoms include:

- Nausea, vomiting, abdominal pains;
- Tightness in the chest and wheezing or difficulty in breathing;
- Dizziness or a sharp drop in blood pressure; and/or
- Unconsciousness or cardiac arrest.

Anaphylaxis can occur within minutes after the sting and, if untreated, can be fatal. People who have experienced anaphylaxis to an insect sting have a 60 percent chance of a similar or worse reaction if stung again.

Treating Allergic Reactions

An allergic reaction is treated with epinephrine, either self-injected or administered by a doctor. In some cases, intravenous fluids, oxygen and other treatments are necessary as well. People who

have had previous allergic reactions and rely on the protection of epinephrine, must remember to carry it with them wherever they go. Even if epinephrine is self-administered, persons should seek immediate medical attention following an insect sting.

Avoidance. Persons allergic to bee stings should use extreme caution when spending time in areas where bees and wasps are found. They should never walk barefoot in the lawn. Avoid insect attractants such as fragrances (perfumes, aftershave, hair sprays), open garbage cans and exposed food at picnics.

Preventing Allergic Reactions

People who have previously lived under the constant fear of insect stings can often lead a normal life with venom immunotherapy. Immunotherapy involves administering gradually increasing doses of venom that stimulate the patient's own immune system to increase resistance to a future allergic reaction. This treatment may reduce the chance of recurrent anaphylaxis from 50 percent to about 10 percent after two years of therapy and to about two percent after three to five years of therapy. Persons seeking treatment should consult with an allergist. (BPO)

How Effective are DEET Repellents?

Repellent products containing DEET (diethyl toluamide) are highly effective against mosquitoes, biting flies, ticks and chiggers. Recent research suggests that DEET does not actually repel the insects. Instead, the DEET jams the blood-seeking insects' antennae which is the organ these insects use to locate you.

Mosquitoes and other biting insects follow plumes of carbon dioxide, body odors and moisture gradients that humans give off as they breathe and sweat. As it gets close, the insect's antennal sensory receptors are seeking the final airborne chemicals that will lead it to you.

But, as the insect gets close, the regions of the antenna that locate you become jammed by the DEET molecules. The insects cannot find you, even though you're right in front of them. This explains why you may see mosquitoes near you, even after you have used a DEET repellent. They've tracked you down, but just can't find

you for the final dive.

DEET repellents are available in many formulations, not just aerosol sprays. Look for pump sprays, lotions, sticks, creams, gels and impregnated towelettes.

How effective are they? Using medical entomologists to test repellents, Consumer Reports reported results of a study in their May 2003 issue.

In this study, Ultrathon and Off! Deep Woods for Sportsmen had the same level of protection, but Off! Deep Woods has nearly three times as much DEET (100 percent) than Ultrathon (35 percent). Developed by 3M, Ultrathon contains a polymer, a molecule that keeps the repellent on the skin rather than being absorbed into the body or evaporated into the air. Ultrathon is the same DEET product used by the US military. Repellents using plant oils (citronella, soybean, coconut and geranium) provided little protection. (BPO)

PRODUCT	MOSQUITO PROTECTION
3M Ultrathon®	13 hours
Off! Deep Woods	13 hours
Muskol Ultra 6 hours	8 hours
BugOut	7 hours
Sawyer Controlled Release	6 hours
Cutter Unscented	5 hours
Off! Skintastic with Sunscreen SPF 30	4 hours
Cutter Skinsations	2 hours
Avon Skin So-Soft Bug Guard/Sunblock	1 hour (contains no DEET)

Tree Squirrels - Tricksters and Troublemakers

Tree squirrels are known for their bushy tails and their ability to climb high into trees. The eastern fox squirrel (*Sciurus niger*) is the most common tree squirrel in Nebraska. It is common throughout the state.

Squirrels can be fascinating backyard wildlife but they can also cause humans headaches. A survey of the National Pest Control Association voted the tree squirrel as the number one nuisance animal in the United States. Tree squirrels can cause a variety of problems, including damage to trees, flowers, lawns, gardens, vehicles and homes. They eat acorns, nuts, fruit or vegetables in home gardens and become a nuisance at bird feeders. Squirrels can cause extensive damage to attic insulation or walls and gnaw on electrical wires in homes and vehicles, creating a fire hazard.

If you have squirrels in your neighborhood (and most of us do!), being prepared is your best tip for preventing future damage by squirrels.

To prevent squirrels from invading your home, seal any openings at joints of siding or overhangs. Use chimney caps and seal off access to attic vents with hardware cloth (available at your local hardware/lumber store). Squirrels can squeeze through holes 1-1/2 inches in diameter. They typically enter attics and spaces between walls



Young eastern fox squirrel feeding on an acorn.

and floors.

Squirrels cut off tips of branches in trees, and gnaw on tree bark, as well as gnaw on house siding, decks, bird feeders, etc. Squirrels have teeth that grow rapidly, and they gnaw to keep their teeth sharp and at the proper length.

What do you do when squirrels are chewing on your deck or tearing apart your lawn furniture? Cover the area on your deck where the squirrels are chewing with hardware cloth (keep in mind, they may just move to another spot). As for the furniture cushions, bring them indoors or put them in the garage while you are gone.

Excluding squirrels is challenging! They are difficult to manage and will usually overcome the barriers you've created to exclude them. For more information, stop by the extension office for a copy of the NebGuide (G-1377) "Tree Squirrels and Their Control" or visit ianrpubs.unl.edu/wildlife/g1377.htm (SC)

Found an Underground Yellow Jacket Nest? Proceed with Care!

The extension office gets numerous phone calls about bees and wasps in August and September. Late summer is the season for wasp activity because colonies grow larger as the summer season progresses. The larger the colony, the more defensive these insects become. Yellow jackets are the biggest problem. Unlike honey bees that die after they sting only once, yellow jackets can (and will) sting many times. They aggressively defend their nests.

Yellow jackets are not bees, but a type of paper wasp that lives underground. They often use an old rodent burrow for their nests and are commonly found around railroad ties or landscape timbers. People report getting stung when mowing their lawn or gardening. If a person knows where the nest is located, the

nest can sometimes be avoided without a problem. However, yellow jacket activity will continue until after the fall freeze. When nests are found in areas where people are active, control may be needed.

Treatment of yellow jacket nests in the ground can be done successfully, although some precautions should be taken.

1. The first rule is to plan your control strategy carefully and plan to treat between dusk and dawn. Because wasps are active during the daytime, it is important to treat at night when all the wasps are in the colony. This is also important to avoid getting stung. Treating during the daytime is not recommended, unless a bee suit is worn. It is a good idea to try to find the nest entrance so a bit of careful preliminary investigating should be done during the daytime.

2. If you need to see what you are doing and it's too dark, cover a flashlight with red cellophane or use a red light. Wasps and bees, like other insects, cannot see light in the red spectrum, so red light will not disturb them.

3. A underground yellow jacket nest can be best controlled using a dust insecticide, like sevin (carbaryl). Using a duster, which can be purchased at a garden center, propel the dust into the entrance of the nest. The dust will contaminate the colony. It may take a few days or more to completely control the colony, so patience is needed. A second treatment can be made if there is still activity after a week.

Bee and wasp nests are sometimes found inside

see *YELLOW JACKET NEST* on page 11