



# HORNETS & SPIDERS & SNAKES! OH, MY!

Summer's coming, and you know what that means — with the promise of frolicking along sun-kissed beaches or hiking scenic mountain trails comes the possibility of tangling with Mother Nature. Balmy weather brings out the creepy-crawlies with a vengeance, and every rock, tree and grassy knoll is a likely hideout for the biting, stinging pests that can send your dog into a howling tail-spin. Keeping your dog on lead, especially in unfamiliar territory, can certainly minimize its opportunities for nosing around beehives, startling snakes or tangling with wild animals. But no matter how many precautions you take, any dog can have a run-in with bees, snakes, spiders — even rabies-carrying raccoons — right in its own backyard.

While many bites and stings are serious, not every encounter requires an emergency trip to the animal hospital. So many variables contribute to a dog's overall response to bites and stings — on what part of its body it was bitten/stung, the amount/type of venom injected, the dog's age and general health, its own immune system, the time lapse before receiving necessary medical attention — that it's often difficult to predict how any situation will play out. But whether you're on a wilderness vacation or an afternoon romp in the park, a hearty respect for the fauna that inhabit the outdoors will help. "We're in their home," reminds Dr. Murray Fowler, a veterinary toxicologist and author of *Veterinary Zootoxicology*. "Whether it's a rattlesnake or a bee, they're not out to get us, but they will protect themselves. You have to respect nature and respect the animals that are there."

Here's a rundown on the most common critters that may cross your dog's path — and what to do if that meeting is less than cordial.

## THINGS THAT STING

For the most part, garden-variety insect encounters are fairly benign, albeit slightly uncomfortable. Dogs are naturally protected from a majority of insect onslaughts by their fur. Even a short coat functions as a kind of shield, protecting the dog from attacks that would leave its owner scratching fiercely or crying in pain. Consequently, you're more likely to find bites or stings on its nose, footpads, even in its mouth if the dog likes to snap at flying insects. Dr. Ernest Smith of Juno Beach, Fla., secretary of the Academy of Veterinary Allergy and Clinical Immunology, recalls one Springer Spaniel that actually got stung in the eye. He sedated the dog and removed the stinger. "The eye healed within a week," Smith says, though a pinpoint scar remained on its cornea.

**Bees, Wasps, Hornets.** These kinds of stings can be fatal, but usually aren't

unless a dog is overwhelmed by a horde or is tied up so it can't escape. "If a dog gets stung by enough bees, wasps or hornets, it can die," says Dr. Ned Gentz, clinical instructor of wildlife health at the Cornell University College of Veterinary Medicine. "But it takes quite a few, in the hundreds range."

In fact, most dogs walk away from bee, wasp and hornet stings relatively unharmed. Wasps, hornets, yellow jackets and honeybees seem to have the same general effect on dogs — redness, itching and local swelling, which is easily treated

PROTECTING  
YOUR DOG  
FROM THINGS  
THAT BITE  
OR STING.

BY NORINE DWORKIN







with cortisone cream and triple antibiotic ointment, and over-the-counter antihistamines. Killer bees, however, originally from Africa and currently found in Texas, Arizona and parts of California, often present more of a problem. "They're not more poisonous than domestic honeybees," says Fowler, "but they are more aggressive, and they attack more severely." Deaths of people and animals from killer bee stings have been reported in Mexico and South America.

For allergy-prone animals, even an ordinary bee or wasp sting can be as potent and debilitating as a bite from a poisonous snake. Insect-induced anaphylactic shock (as opposed to drug-induced) is highly uncommon in animals, according to Fowler, but it can occur. When an insect bites or stings, enzymes are injected into the animal's body which then trigger an intense chain of chemical reactions that disrupt the body's normal functions.

Unfortunately, the only way to know if your dog is susceptible to anaphylaxis is to see it happen. "It's hard to predict which dog will have an anaphylactic reaction, but they rarely occur on the first exposure," Smith says. "If your dog had an incident where its face swelled considerably, then the next insect sting could cause anaphylaxis." If you suspect your dog may be allergy-prone, have your vet write a prescription for epinephrine and teach you how to inject it. Kits with disposable syringes are commercially available.

**Fire Ants.** These are not your picnic-style red ants. Originally from South America and currently found in the Southeast and as far north as the Carolinas, these ants are highly aggressive. "They will attack immobile animals, sick animals and infant animals that can't move away," cautions Fowler. "Unlike a bee, an ant can sting multiple times, and multiple stings can cause the death of the animal."

Fire ant stings produce red, itchy pustules with a tiny crater in the center of the lesion where the stinger punctured the skin. A simple insoluble alkaloid rather than a complex mix of proteins, fire ant venom can also induce the same kind of anaphylactic reaction as bee or wasp stings. If your dog has been stung, wash the sting site with soap and water, then follow up with cool compresses, cortisone cream and antihistamines to reduce swelling and pain. See your vet for antibiotics to prevent a secondary infection. Often, however, what looks like fire ant stings really turns out to be just a common skin infection. Pyoderma produces similar pustules, usually on the belly.



"Eight out of 10 patients are presented to me with the idea that these are ant bites, when really they're pyoderma and have nothing to do with ants," Smith says. It's important for your vet to distinguish between the two since treatment for a skin infection differs from that of ant remedies.

## PARASITE CARRIERS

Although commonplace, insects like fleas, ticks and mosquitoes are still cause for concern because they harbor parasites in their saliva that do far more damage than the itchy weals they leave behind.

**Fleas.** According to Smith, fleas are the number one insect problem for dogs — no doubt because the hardy insects are everywhere. "They're all over the country, except in the arid desert states," says Smith. "Phoenix and Las Vegas don't have flea problems."

Familiar as they are, it's a mistake to underestimate the damage they can do if left unchecked. Flea-infested puppies, whose underdeveloped bone marrow cannot manufacture blood fast enough to replace what the fleas suck out, can succumb to flea-bite anemia. And dogs who swallow fleas — and many, especially allergic dogs, do — are at great risk for tapeworm. Plus, the constant scratching can leave skin raw, traumatized and susceptible to staph infections. (See pullout for preventives.)

**Mosquitoes.** A nuisance to people, these can be deadly to dogs because they carry heartworm larvae in their saliva, which eventually grow into eight- to 12-inch worms in a dog. As they mature, the worms clog the major blood vessels leading from the heart to the lungs. Eventually the chest and abdomen fill with fluid, and the dog dies from respiratory and circulatory collapse. Heartworm indicators include exercise intolerance and coughing. Dogs should be tested yearly for heartworm. "This disease is easier to prevent than to treat," Smith notes. Although many repellents designed to ward off fleas will also deter mosquitoes, Smith recommends having your vet set up a program of oral medication.

**Ticks.** Ever since Lyme disease hit the spotlight, fear of ticks has grown exponentially. Named for the Connecticut town where it was first identified, it is transmitted via an *Ixodes* tick that has fed on the infected blood of a wild mammal such as the white-footed mouse or white-tailed deer. While the debilitating effects of Lyme disease on people have been well-documented, there is still much debate in veterinary circles about how susceptible animals really are. "People

## YOU CAN GET WHAT FROM A DOG?

**RABIES.** The virus can survive on your dog's coat for up to four hours. If your dog's been exposed (or you suspect it's been exposed), keep your distance, at least temporarily. If you must touch your dog, wear latex gloves or wrap your hands in heavy cotton.

**PARASITES.** Hookworms, roundworms, giardia and strongyloides get picked up through contact with egg-saturated sand, grass or dog feces. To prevent transmission

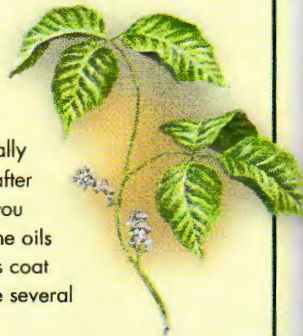
don't fertilize your garden with dog feces, be sure to pick up droppings and dispose of them immediately, and wash your hands after gardening or any other activities involving soil or sand.

### POISON IVY/POISON OAK

Protected by fur and an immune system that doesn't register the irritant, dogs are unaffected by the oils in poison ivy/poison oak. However, if your dog runs through an ivy

patch, the oils will stick to its coat and rub off on you.

Breakouts generally occur 24 hours after contact. Unless you bathe the dog, the oils will remain on its coat until they oxidize several hours later.





# A GAZETTE PRESENTS A GUIDE TO PREVENTING & TREATING BITES & STINGS

## HOLISTIC REPELLENTS

Holistic repellents alter the taste and smell of your dog, making it a less attractive target for biting insects. These substances generally repel fleas, gnats and mosquitoes, but don't seem to deter ticks. These remedies also tend to work better in various combinations than alone.

**1. GARLIC** Put enough raw garlic — not garlic powder — into the dog's food to give it garlic breath.

**2. VITAMIN B-1** Found in brewer's yeast. For dogs that are allergic to brewer's yeast, try liver or another B-complex supplement.

**3. CITRUS** Grind orange or lemon peels in a food processor and add water until the mixture is very watery. Then rub or spray on dog before going outside.

**4. AROMATIC OILS** Oils such as citronella, wintergreen and eucalyptus (available at health food stores) are especially effective against fleas and are among the few substances that may even deter ticks. Put a few drops down the

dog's spine, on the legs, at the base of the tail and at the neck. Apply each time you go outside. Although they do evaporate, they are pungent, so be careful not to overwhelm your dog.

**5. SOAP** Although it won't kill fleas, regular bath soap will make them sick enough to slow down so you can brush them off.

**6. SULPHUR-BASED SHAMPOO** It may dry your dog's skin, but a sulphur-based shampoo also kills ticks if you leave it on for approximately five minutes.

**7. AVON SKIN SO SOFT** Strange but true, vets say the fragrance really works to repel fleas and mosquitoes.



## CONTROLLING FLEAS

**1.** Apply a light coat of flea spray each time you walk your dog.

**2.** Use a flea comb on your dog before bringing it back into the house. With 32 teeth per inch, a flea comb can literally comb fleas right out of the coat. This is especially beneficial for long-haired breeds.

**3.** Investigate the variety of powders, shampoos and dips on the market. Many contain either pyrethrin (a poison derived from the chrysanthemum), its synthetic alter egos, permethrin or allethrin, or the citrus-based insecticide d-limonene. They all kill fleas living on the pet.

Used three times a week, powders take the fluids out of the flea's body and dry it up. The downside is that powders are a bit messy and can dry the dog's skin as well. Shampoos and dips are generally used once a week. First, wash the dog with flea shampoo, then sponge on a dip and allow it to drip dry. Dips have a residual effect, killing fleas, ticks, even lice, up to a week after application.

**4.** Use orally administered insect growth regulators. These inhibit the maturation of flea eggs and larvae. If a pet is in a closed environment (home and backyard), within two to three months, fleas will be gone.

**5.** Kill the fleas in your house and yard. If you just control the fleas on the pet, you're missing 95 percent of the flea's life cycle.

# REMOVING TICKS

1. Do not burn a tick off your pet's skin with a cigarette — you'll burn your dog instead.
2. Put on latex gloves to protect yourself from any parasites the tick may carry.
3. Dampen a cotton ball with rubbing alcohol or an alcohol-based substance (such as nail polish remover) and hold on tick for one minute. This suffocates the tick, causing it to loosen its grip.
4. With tweezers or small forceps, grasp the tick and pull upward and out with firm, steady pressure. Do not squeeze, crush or puncture the tick; this can expel the parasites that cause Lyme disease or Rocky Mountain spotted fever out of

the tick and into the dog even as the tick is being removed.

5. Make sure the whole tick comes out. If the head or mouthpart stays embedded in the skin, the bite area can get infected, forming a nodule that will require surgery to remove.

6. Disinfect the bite site.

7. Wash hands.



# RABIES

1. Stay current with your dog's rabies vaccine program. Public health regulations require dogs that have been exposed to rabid or suspected rabid animals and are not current with their vaccines to be quarantined or euthanized.
2. Vaccinated dogs that are exposed to rabies must get booster shots within five days of the attack.
3. Don't panic if your dog bites you. While your dog may have been exposed to rabies, it cannot transmit the virus immediately through its saliva. Full-blown rabies has been known to develop as quickly as 10 days after the bite and as slowly as one year later, but the virus generally takes six to 12 weeks to evolve into rabies.
4. If you have questions, contact your local Department of Health.



# SIX THINGS NOT TO DO FOR SNAKEBITE

1. Don't make an incision and suck out the venom from the bite site. This is only in the movies. You risk envenomating yourself.

2. Don't freeze the bite area. Applying ice, ice mixed with salt or an ethylene chloride spray will cause the surrounding tissue to die.

3. Don't use a stun gun. Contrary to popular belief, electric shocks will not neutralize snake venom.

4. Don't administer antivenin if you're not trained in the procedure.

5. Don't use a tourniquet. Especially dangerous to smaller dogs, tourniquets are usually applied too tightly and for too long (more than 15 minutes without loosening is dangerous), causing irrevocable damage to the blood vessel cells and possibly requiring amputation of the limb. Venom travels via lymph channels, not the blood stream, and the channels can be cut off with light

pressure. If the bite is on a leg, it's better to use a loose constricting band — like a lightly bound shoelace — that does not interfere with normal blood flow.

6. Don't try to catch and kill the snake for identification. You risk being bitten yourself, and you'll waste valuable time that's better spent getting the dog to the vet. Area vets know which poisonous snakes inhabit their region.



## WHEN YOU TRAVEL, BE SURE TO PACK ...

- INSECT REPELLENT
- CORTISONE CREAM
- TRIPLE ANTIBIOTIC OINTMENT

- GUIDE TO POISONOUS SNAKES/INSECTS IN THE REGION
- CONSTRICTION BAND
- ANTIHISTAMINE

- HYDROGEN PEROXIDE
- LATEX GLOVES
- PHONE NUMBER OF THE LOCAL VET AND ANIMAL EMERGENCY HOSPITAL



may be more susceptible to getting ill from Lyme than dogs are," says Margaret Pough of the Developmental Serology Department at the Veterinary Diagnostic Lab at Cornell University. "In endemic areas — New York's Hudson Valley, the Mid-Atlantic East Coast — anywhere from 30 percent to 80 percent of dogs will be Lyme-antibody positive. That means they've been exposed to the organisms. We suspect that many of these dogs are persistently infected because antibody levels stay elevated for years following exposure and becoming positive, but most of these dogs aren't sick — only 1 percent to 5 percent of dogs show clinical signs that the owner notices. No one knows why some dogs get sick and some do not."

Signs of Lyme, which generally disappear within two to three days (although they often recur), include lameness, general achiness, lethargy, refusal to eat, fever and swollen lymph nodes. In rare instances, Lyme can also cause kidney disease. Treatment consists of antibiotics. "We only recommend treating dogs that are symptomatic," Pough says. "The usual protocol is to treat a dog for three to four weeks. The interesting thing is that treatment does not appear to kill all the organisms. Dogs remain antibody-positive after treatment. We've had dogs move from endemic to non-endemic areas and the antibody levels are still there — tailing off, but still positive. We assume the organism is sequestered in part of the body where the antibiotics can't reach them. But antibiotics do appear to give the dog's immune system a chance to get on top of this."

Lyme vaccines exist, but the jury's still out on their effectiveness. According to Pough, vaccines may not protect for as long as an owner believes and can produce Lyme-like symptoms such as lameness in otherwise healthy dogs. The surefire defense against the disease is tick removal (see pull-out for instructions). If you and your dog live in an endemic area, walk in wooded or grassy areas, or participate in any kind of tracking, scenting, field or road trials that are held in such areas, check your dog (and yourself) after each outing. Look around the groin, armpits and inside ears. Running a flea comb through your dog's coat will also locate ticks.

If you check your dog every day and use tick repellent — unlike flea collars, tick collars have proven remarkably effective — the chances of your dog contracting Lyme disease diminish radically. Lyme-carrying ticks need to be on the dog at least 24 hours for transmission to occur, according to the New York State Department of Health. "The Lyme organism lodges in the mid-gut of the tick," Pough says. "It has to take in a blood meal before the organism becomes active and goes out with the saliva."

Ticks also carry Rocky Mountain spotted fever, Q fever, tularemia, ehrlichiosis and babesiosis. In addition, wood ticks, Lone Star ticks, dog ticks, Gulf Coast ticks and black-legged ticks contain a neurotoxin in their saliva that can induce tick paralysis in a dog after a few days of feeding. "It only takes one tick to paralyze the animal," Fowler says. "It starts with the hind legs, then moves forward. It will be alert and will eat

and drink, until the paralysis moves up to the brain." The condition reverses itself once the tick is removed.

Despite their infamy, not all ticks are disease carriers, and sometimes a tick bite is just that — an itchy weal that subsides within a few days, provided there's no secondary infection. If you want to be absolutely sure, however, preserve any ticks you remove (live ticks only) and have your vet ship them off to a lab to identify them and test for what they may be carrying.

**Spiders.** If you watched the movie "Arachnophobia" through latticed fingers, this news will definitely cheer you. While there are a number of poisonous spiders in the United States, the majority pose no significant danger to pets or people. Even tarantulas, despite their vicious reputation, actually are not particularly threatening, according to Gentz. "They are venomous; they're just not lethally venomous," he says.

Only the black- and red-legged widows, fiddleback, brown and recluse spiders warrant a "lethal" description. These spiders spin their webs in spigots, downspouts, woodpiles, sheds, basements and outhouses. Most bites occur between April and October — but you may never even realize your dog's been attacked.

Found throughout the Midwest and South, brown and recluse spiders produce painful, fluid-filled blisters that turn black by the following day as the surrounding tissue dies. What's left are large ulcerated sores that generally take several months to disappear and can ultimately require surgery and even skin grafting to heal. Although you may not be able to accurately identify the lesion as a spider bite, "any sore that doesn't heal in a few days should be investigated further," Fowler says.

Widow bites are even tougher to diagnose. Often the only indicator is a small red spot. "You might see some swelling, but it's pretty hard to find one spider bite on a big, black dog," says Gentz. Some dogs may shake, convulse, appear weak, uncoordinated, restless, or have a tight abdomen and cramps. Or there may be no symptoms at all.

Although many variables contribute to the bite's severity, such as the amount of venom injected, if you even suspect that your dog's been bitten by a spider, contact your vet immediately. Canine death from spider bite is rare, Fowler says, but widow venom, in particular, is a neurotoxin and can be fatal.

## REPTILES

**Snakes.** Each year approximately 15,000 pets are bitten by snakes, according to Gentz. While there isn't specific data on dogs, given the amount of time that dogs spend birding, hunting, field trialing or tracking, odds are good that they represent a fair percentage of these bites.

Along with rattlesnakes (including the eastern and western diamondbacks, water moccasins and cottonmouths), which are responsible for 80 percent of pet deaths due to snakebite, coral snakes are the only other truly lethal snakes in North America. Snakebites tend to be seasonal, with the majority occurring in the late spring through the fall. Any dog living in an area with a significant snake population can





be a target. Although most attacks occur in the wilderness, backyard attacks are not uncommon. Wood Wornall, a Sun Valley, Calif., handler, discovered this firsthand when he checked the dog run one afternoon and found two dead Jack Russell Terriers and a dead rattlesnake. The dogs killed the snake, but were still overwhelmed by the venom.

"In California," Fowler says, "there are more snakebites reported in the city limits of Los Angeles than anywhere else. The city spread has moved people and pets into the habitat for rattlesnakes." Snakes hang out under logs, in small caves, in trees, in between rocks. Many snakes are shy and would just as soon slither by unnoticed, but if disturbed — say by a wet, sniffing nose — they will defend their turf and strike. The severity of the wound inflicted depends on the dog's general health, species of snake, location of the bite, strength of the venom ("There is evidence that rattlesnake venom is stronger during some parts of the year than others," says Gentz) and how much was injected. "Depending on how angry the snake is, it may deposit a number of lethal doses," says Fowler.

Dogs tend to be bitten on the muzzle or legs. Head and face bites are the most serious, according to Fowler, since there's more blood supply to the head and the venom will travel faster. Snake venoms affect heart and vascular functions.

If your dog is bitten by a venomous snake, get it to a hospital immediately. Antivenin is the only treatment for snake bite, and survival is dependent on the time lapse between bite and medical attention. Some veterinarians recommend immobilizing the bitten limb with a splint and applying a loosely tied constriction band above the bite that's then loosened and moved when the swelling advances. Others, like Fowler and Gentz, say not to waste valuable time fixing splints and tying tourniquets on a pain-crazed dog. Instead, move. Fast.

"I don't think the old wives' tale about a tourniquet is a particularly good idea," says Gentz. "The bottom line is most first-aid measures aren't going to be very effective, and it's more likely to exacerbate the situation than make it better. My basic recommendation is to keep the dog quiet and get it to the vet as soon as possible."

And while it may be tempting, do not ice the bite area. "Although ice packs relieve pain and slow lymphatic drainage, they do not neutralize venom and even a small amount of cooling may result in irreparable damage to already injured tissues," states *Harrison's Principles of Internal Medicine*.

**Toads.** While hardly aggressive, poisonous toads, including the marine toad and the Colorado River toad, can kill a dog in less than 15 minutes if the dog tries to pick it up and play with it. Like other venomous encounters, however, it all depends on the dose. "If the dog really mouths it, and the toad gets excited, it can release a lot of toxins," warns Dr. Larry Thompson, a veterinary toxicologist at Cornell's College of Veterinary Medicine. "If the dog just licks it, and the toad doesn't get excited, the reaction could just be local."

Puppies run the greatest risk from toad poisoning, according to Fowler, because older dogs have usually tasted the nasty excretions from nonpoisonous toads and have learned to keep their distance. If your puppy does grab a

poisonous toad, immediately wash its mouth out with fresh water and head for the vet.

## MISCELLANEOUS CREATURES

If sun and sand are your thing, you may encounter ocean dwellers like jellyfish or the Portuguese man-of-war. Floating on the waves or washed up on the beach, the man-of-war's iridescent bubbles can be dangerously enticing to dogs that are tempted to play with the ball-like bubble or accidentally step on its stinging tentacles. Even dead, man-of-war and jellyfish can sting.

If your dog does get stung, bathe the wound in salt water, but do not rub the stung area. Neutralize the venom in any remaining tentacles on the skin with vinegar, then scrape them off. Do not rinse with fresh water, alcohol, ammonia, or rub with sand — this can trigger the tentacles to release even more venom. Use analgesics for pain; antihistamines for allergic reactions.

**Other mammals.** Many small wild animals will scurry away from enthusiastic, approaching dogs. Not porcupines. "Porcupines have little need to run away from most predators, so they don't," says Gentz. Contrary to popular belief porcupines cannot shoot their quills. "The dog has to stick its snout right down there," he adds. "However, a porcupine will whip its tail around, and that will give a dog a snootfull."

Although not poisonous, porcupine quills are barbed, and if they land in the wrong place, they can cause serious, even fatal injury — wolves have been felled by porcupine quills. If your dog gets quilled, don't try to remove the barbs yourself; they can break off beneath the skin, or be embedded so deeply you will have to push them through to the other side. Even the most patient and good-natured of dogs will not be able to tolerate that. Instead, take it to a vet who

will sedate the dog and remove the quills.

If a wild animal does scuffle with your dog, it will probably deliver a nasty scratch or bite. These wounds can be serious due to bacteria in the animal's claws or mouth. "Any bite wound is going to be infected," says Smith. If your dog is bitten and you're not sure by what, put on latex gloves, wash out the wound with soap and water and then peroxide. Put on some triple antibiotic ointment and make an appointment to see your vet. (The real danger in encounters with other animals is rabies. See the pullout between pages 48 and 49.)

## BE PREPARED

Sure, it sounds like a jungle out there, but that doesn't mean you and your dog shouldn't indulge in a little R & R.

Just remember to err on the side of caution. Be aware of the possible dangers your dog faces in the outdoors, pack a traveling first-aid kit, and always carry the number of the local vet and animal hospital. And don't be afraid to use it. True, that odd, reddish swelling might be nothing.

Then again, it might not. 🐾

---

Norine Dworkin writes frequently for the AKC GAZETTE. She lives in New York City with two Maltese, Thumbelina and Ch. Little Tin Soldier.

