

Snake Bites

Most snakes will try to avoid you or your pets; snakes typically bite only as a last resort. But while you may wisely decide to simply walk away when you encounter a snake, dogs and cats will often harass the sliding invader -- and may get bitten as a result. Snakes help protect your garden and yard plants, because they eat rodents and insects. Most of the snakes you will find are not a problem, and they don't harm property.

1. While hiking, stay on open paths. Off-trail hiking can stir up snakes.
2. Keep your dog on leash and away from high grass and rocky outcrops in which snakes like to rest.
3. Don't let the dog explore holes or dig under rocks or logs.
4. Remember that rattlers are nocturnal, so daytime hikes are safer.
5. If you hear a rattling noise, keep your dog at your side until you figure out where the snake is, and then move away with your dog.
6. Your best bet is to stay vigilant and keep control of your dog when walking in snake habitats.
7. If you see a snake that sees you, remember that a snake can strike only a distance of half its body length. Give the snake time to just go away. Snakes are not looking to interact with people or pets, either defensively or aggressively.
8. Don't let your pet examine "road kill" snakes. Dead pit vipers can have some muscle contractions after death, and thus have been known to "bite" even after they're dead. Those bites can still envenomate.
9. Don't handle a dead or injured snake – not even a decapitated head.
10. If your pet is bitten by a snake that you think might be venomous, get medical attention immediately. It's better to go in and be checked out rather than wait and be sorry.

Repellants and removal

Most wildlife experts believe there is no such thing as an effective snake repellent, although people have tried mothballs, vapor barriers, ultrasonics, sulfur, poison, etc. What can help is setting up physical barriers (e.g., fences that are set a foot or two into the ground), cutting off the snake's food supply and shelter, mowing closely around the house, storing firewood away from the house, removing junk piles, removing weeds and brush, plugging up holes in the ground, etc. And if you need to have dangerous snakes removed from your property, contact a wildlife control operator to trap and remove the snakes. This is not a job for an inexperienced person.

Snake Identification: venomous or non-venomous?

Most non-venomous snakes have a large smooth cap over the top of the head past the eyes, divided scales on the underside of the tail, no pits and no long fangs. Rattlesnakes, copperheads, and cottonmouths are all venomous pit vipers, and have a pit between and slightly below the eye and nostril. Pit vipers also have long movable fangs, a "cat's eye" pupil, undivided scales under the tail, and a large triangular-shaped head with a small shiny cap over the nose.

Melissa Kaplan, author of the Reptile Series, suggests learning about the snakes in your area. "Familiarize yourself with what the local snakes look like by reading through a field guide of reptiles and amphibians for your area," Kaplan says. "Compare the drawings and photos of the local venomous snakes with the non-venomous species so that you can remember what they look like, in general. A single species of snake may have a wide range of colors and patterns."

Some believe everyone should have a herp field guide if they live where there are venomous snakes and poisonous amphibians because:

- Drought and periods of prolonged dry heat drive prey into residential neighborhoods and irrigated parks from wild/undeveloped/non-irrigated areas; their predators will follow, including venomous and nonvenomous snakes.
- Long-established residential neighborhoods can become inundated with prey and predators when an old house is torn down; ditto for vacant lots undergoing clearing and development.
- Long-established residential neighborhoods and, increasingly, business parks situated in areas where the city/county planners keep or create green belts of parks and nature trails become highways for animals, providing shelter, cover and food for all sorts of species who can then move into the more central areas of town. Squirrels, opossums, raccoons, and rodents of many types will come in, followed by those who dine upon them.

“People with pets or kids need to know what they are looking at and what their pets or kids may be about to poke at or pick up,” says Kaplan.

Preventive Options

1. Using "snake-bite vaccine" may be useful if you're in a part of the country that has lots of venomous snakes, in addition to training your dog.
2. A snake bite vaccine has been created by Red Rock Biologics. The vaccine creates protective antibodies, and those antibodies may neutralize venom immediately. So, if the vaccinated animal is bitten by a Western Diamondback, it may need less antivenin than if it had not been vaccinated. There is still debate over the efficacy of this vaccine.
3. The bitten pet will still need to be examined by a veterinarian to determine just how much treatment will be necessary. The vaccination may not help if the animal was bitten by a different venomous snake, since the vaccine is pretty venom-specific. Red Rock Biologics is developing vaccines for other snake venoms. The vaccine is not labeled for use in cats.

Treatment

First-aid measures to be **avoided** include:

- Ice
- Incision and suction
- Tourniquets (which constriction bands quickly become with progressive limb swelling)
- Hot packs
- Electroshock has been definitively shown to be ineffective in the treatment of pit viper envenomations and should not be attempted.

Current recommendations for first aid in the field are to:

- keep the victim calm
- keep the bite site below heart level if possible
- transport the victim to a veterinary medical facility for primary medical intervention

Treatment for pit viper envenomation involves controlling shock, neutralizing the venom, controlling intravascular coagulation, minimizing tissue death, and preventing any secondary infection. Therefore, veterinarians may need to use antivenin, antiinflammatory drugs, antibiotics, fluid therapy, etc.

Antivenin is a commercially produced serum that neutralizes the effects of injected venom. A specific antibody is needed for each type of snake, so knowing what kind of snake bite your pet is critical. Antivenin is extremely expensive, and can have side effects in some individuals.

Prognosis

A significant factor in the outcome of a venomous snake bite is how much venom was injected, but there is no way to determine that amount. If the bite was dry, the animal will survive even though it was not vaccinated, given antivenin, etc. If the bite injected a large amount of venom, even a vaccinated dog given massive post-trauma treatment may not survive.

However, we do know that quick action on the owner's part improves the prognosis. A venomous snake bite is a life-threatening emergency. Irreversible effects from venom begin immediately after the animal is bitten, so speed of treatment is critical. The size of the snake can sometimes indicate how much venom was injected, and the size of the snake relative to that of the pet is significant; pound for pound, smaller animals are more likely to have more problems, because of the "dose of venom" per pound of their bodyweight.

Your veterinarian's knowledge and experience will help her determine the appropriate treatment for your pet. Snake-bite envenomization treatment is complicated and your pet's well being is best served by taking your bitten pet to your veterinarian as soon as possible.