

VENOM Q & A

Why is venom so toxic to my animal?

The toxicity of envenomation can vary, depending upon the species of snake and the amount of venom injected into the animal.

Venom consists of enzymes that cause local tissue injury/necrosis and major coagulation defects. There are also subpopulations of species whose venom affects the neurological system. As the venom circulates in your pet's system, it is depleting major clotting factors, damaging muscle tissue, and causing protein leakage into the bite region.

85% of pets that are bitten will have altered laboratory values and significant swelling.

What determines the severity of my pet's bite?

The potency of a snake's venom is higher in the spring, lower in the fall, and higher in young snakes. The amount of venom injected varies depending upon the amount of time since the snake's last bite, and the aggressiveness and motivation of the snake.

What are negative determining factors of my pet's bite?

The most lethal bite sites are to a pet's tongue, eyeball, or torso. Another determining factor is

the size of the victim-pet and how much time has elapsed from the actual snake-bite to the administration of treatment. The activity level can also play a role. Activity increases the absorption of the venom, so it is

Important to keep your pet as calm as possible as you transport him/her to your veterinarian.



What can I do to help prevent my pet from being bitten?

Clear the brush around your house. Woodpiles and junk are perfect places for rodents to hide. If you eliminate the food source, you are less likely to have unwelcome guests. These spots are also prime habitat for rattlesnakes to hide.

While walking your dog, keep him/her on a sturdy leash, walk in open areas, and avoid contact with bushes or other places where snakes can hide.

Rattlesnake avoidance classes give dogs the necessary training to avoid a potential encounter with a rattlesnake. Check with your regular veterinarian or local breed groups to see if they are hosting a clinic.

Animal Emergency Clinic

12775 Poway Rd.
Poway, CA 92064
(858) 748-PETS (7387)



Sources:

1. plunkett, S.j.,dvm.(2000). 2nd edition-emergency procedures for the small animal veterinarian. New York: w.b.saunders.
2. Tilley, L.P. & Smith, F.,Jr.(2007). 4th edition-Blackwell's five-minute veterinary consult: canine and feline. Iowa: Blackwell publishing.

RATTLESNAKE BITES

Rattlesnakes are the only venomous snake species in California. There are 4 species of rattlesnakes found in San Diego County. They are characterized by their retractable fangs, heat-seeking pits between the nostril and eye, and triangle-shaped head.

How will I know if my pet has been bitten?

If your pet is bitten by a rattlesnake, you might see one or more of the following:

- * Swelling (usually appearing within 30-60 minutes)
- * Fang Marks (one, two, or none may be observed)
- * Bleeding, drooling
- * Painfulness
- * Depression, lethargy

Venom typically causes a significant amount of swelling visible around the site of the bite. You may not, however, always see the fang marks through the hair. Dogs are most commonly bitten on the face; however, few are bitten on the front limbs and some on the body. Cats are usually bitten on the front paws, some on the head, and — in rare cases—on the body.

Snakebites are very painful. Your pet may vocalize when you touch near or around the swelling.

What should I do if my pet has been bitten?

If you suspect your pet has been bitten, you should seek immediate veterinary care. The longer the venom has to act on the tissue, the more damage potentially may be done. In addition, the sooner Antivenin is administered, the more effective it is.



Types of Rattlesnakes



Southern Pacific Rattlesnake

Distinctive “Batman” Pattern down back; accountable for most bites in the county

Red Diamondback Rattlesnake



Speckled Rattlesnake

Sidewinder Rattlesnake



Snakebite Diagnostics

Initial Blood Tests

There are a few initial blood tests that may verify if your pet has been envenomated and determine the severity of the bite.

* **ACT** (Activated Clotting Time)-A sample of the blood is tested to see how long it takes to form a clot. Normal blood clotting time ranges from 90-120 seconds. The more prolonged the ACT, the more severe the bite.

* **Echinocyte**-A few drops of blood are looked at under a microscope to determine if the red blood cells are having a reaction.

* **PCV** (Packed Cell Volume)-This blood test is to determine the percentage of red blood cells (and/or blood loss) and hydration level of your pet. As the venom circulates into the site of the bite, it will cause fluid leakage, thus decreasing the total protein level.

* **Complete Blood Panel**-A full blood panel will check blood count, organ chemistries, and electrolytes to make sure all internal organs are functioning properly and have not been affected by the venom.

RATTLESNAKE REMOVAL SERVICES-24 HOURS/DAY

No charge!

Ben Hian - (760) 315-6000

John Taibe (603) 498-8568

Snakebite Treatment

Once admitted to the hospital, we will place an IV catheter so all treatments can be administered to your pet intravenously.

A plethora of medications will be given immediately — pain medication, antibiotics, IV fluids, antihistamines, and Antivenin. It is important to administer pain medication to keep your pet comfortable, as snakebites are extremely painful. Antibiotics are administered to prevent infection and necrosis of the tissue at the puncture site. Fluid therapy is administered to maintain hydration, prevent shock, and prepare your pet to receive Antivenin. Antihistamines are given to prevent an allergic reaction to the venom, and consequently helps reduce swelling.

Antivenin is a concentrated preparation of horse serum used to neutralize venom. Antivenin should be administered ideally within two to six hours of the bite, and efficacy decreases as time progresses. It is given as a slow IV infusion over one to two hours. It is important that your pet is monitored closely while receiving Antivenin, as in rare cases, some animals can have an anaphylactic reaction to this “foreign” substance.

After all initial treatments are administered, your pet may need to be hospitalized for 12-48 hours, depending on the severity of the bite. Clotting tests and packed cell volume will be monitored to make sure blood levels are within normal range.

Upon discharge, your pet will need to go home on oral antibiotics and possibly pain medication and antihistamines. A clotting time and PCV should be rechecked within 24 hours to ensure all levels are back to normal. It is important to restrict your pet’s activity for up to one week while your pet is recovering and the residual swelling is resolving.