



7733 E. Indian School Road,
Scottsdale, AZ 85251
(480) 945-4451
www.indianschoolanimalhospital.com
contact@indianschoolanimalhospital.com

Rattlesnake Vaccines FAQ

Question: *Should my dog be vaccinated?*

If your dog lives, works or plays where rattlesnakes live, you should consider a rattlesnake vaccine. Approximately 300,000 dogs and cats are bitten by venomous snakes each year in the United States. Rattlesnake venom can cause serious injury and even death.

Question: *What types of snakes does this vaccine protect against?*

Crotalus Atrox Toxoid (rattlesnake vaccine for dogs) was developed to provide protection for dogs against Western Diamondback Rattlesnake venom. It is most effective against this snake's venom. Venom from many other snakes found throughout the United States is similar to the venom of the Western Diamondback Rattlesnake. Thus, this vaccine **may** also provide protection against the venoms of the Western Rattlesnake (including the Prairie, Great Basin, Northern and Southern Pacific varieties), Sidewinder, Timber Rattlesnake, Massasauga, and the Copperhead. Partial protection may be obtained against Eastern Diamondback Rattlesnake venom. This vaccine does not provide protection against venom from the Water Moccasin (Cottonmouth), Mojave Rattlesnake, or Coral Snake.

Question: *How well does this vaccine work?*

As part of its licensing process, this vaccine was shown in dogs to generate protective antibodies against rattlesnake venom. Protective antibodies function by neutralizing rattlesnake venom. Dogs with protective antibodies are reported to experience less pain and have a reduced risk of permanent injury from rattlesnake bite. Veterinarians typically report that vaccinated dogs bitten by rattlesnakes experience less swelling, less tissue damage, and a faster recovery from snakebite than unvaccinated dogs. Several factors may influence antibody effectiveness against venomous snakebite. Snake-related factors include the snake species, age of the snake, and amount of venom injected. Dog-related factors include location of the bite, how well the dog responded to the vaccine, and the length of time since the last dose of vaccine was administered.

Question: *How long does the protection last? How often should my dog be vaccinated?*

Research indicates that the maximum protection generated by vaccination with this product typically becomes available about four to six weeks after the most recent vaccine booster dose. That protection then declines slowly over time. On average, vaccinated dogs receive good



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protection for about six months after boosting. Depending on the dog, some protection may continue out to a year or longer.

The first time your dog is vaccinated, we recommend an initial vaccine injection followed by a booster dose about one month later. We recommend then boosting each subsequent year.

Typically, boosting would involve a single dose at the start of the rattlesnake season in your area. However, there are circumstances such as your dog's anticipated exposure to rattlesnakes or the size of your dog where, in consultation with your veterinarian, you may wish to booster your dog with this product two or even three times per year.

Most dogs exposed to rattlesnakes for less than six months per year will only require a single booster dose for that year. The best time to give that dose is approximately one month before the start of the rattlesnake season. This category includes dogs that live in the northern half of the United States or dogs who briefly visit locations where rattlesnakes may be active—such as during a camping or hunting trip.

However, if your dog will be in an area where rattlesnakes are active for more than six months per year (roughly the southern half of the United States) you and your veterinarian may wish to consider administering two annual booster doses four to six months apart. Again, the first booster dose should be given one month before the rattlesnake season begins. The second dose should be given approximately half-way through the season.

If your dog is at particular risk of being bitten by a rattlesnake (for example, a search and rescue dog, some hunting dogs, or dogs living in a high-density rattlesnake area where rattlesnakes are active year-round), you and your veterinarian may wish to consider using three booster doses per year at four-month intervals.

Since resistance to venom depends upon the amount of venom-neutralizing antibody available, small dogs (under 25 pounds) are at increased risk of envenomation injury. Because of this, a third dose in the initial sequence, and in subsequent years more frequent boosters (i.e., every four to six months), may be advisable in small dogs to maximize their antibody production for more protection.

Alternatively, a percentage of large dogs (over 100 pounds) may not develop as high an antibody level as intermediate-sized dogs in response to the two-dose initial sequence. For this reason, there is some evidence that large dogs may also benefit from a third dose in the initial sequence,



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although they do not necessarily require additional annual booster doses to maintain that antibody level.

As mentioned above, the use of additional vaccine doses to provide extra protection for your dog should be decided in consultation with your veterinarian.

Question: *How safe is this vaccine? Are there any side effects?*

Safety data for this vaccine is similar to the available safety data of other pet vaccines currently in use. The vaccine is licensed by the United States Department of Agriculture and is recommended by thousands of veterinarians nationwide. The vaccine is safe for use in pregnant and lactating dogs, puppies as young as four months and healthy older dogs. Side effects reported by veterinarians have typically been few and mild. Less than one percent of vaccinations result in a mild swelling at the injection site. The swelling does not bother the dog (there is no itching or pain) and the swelling resolves without treatment in about three weeks. Occasionally, a veterinarian may drain fluid from the swelling or prescribe antibiotics to speed up healing. Rarely (less than one-tenth of one percent of vaccinations) dogs have experienced mild cases of vomiting, diarrhea or lethargy for one to two days after vaccination. Cases of life-threatening anaphylaxis (an acute, allergic reaction) are extremely rare with this vaccine. These are estimated to occur at between one and three cases per million doses of vaccine administered.

A decision to vaccinate your dog should balance the risk and consequence of a venomous snakebite with the risk and consequence of vaccination. We recommend that you talk with your veterinarian about these risks.

Question: *What should I do if my vaccinated dog is bitten by a rattlesnake?*

Snakebites are always an emergency. Even a vaccinated dog should be taken to a veterinarian for evaluation and care as soon as possible following snakebite. Veterinarians can determine if the dose of venom received is more than your dog's immunity can handle and administer appropriate treatment as required. Even bites by non-venomous snakes can lead to serious infections and antibiotic treatment may be needed. A veterinarian is the best person to consult regarding medical decisions for your dog.



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Question: *Can dogs that have already been bitten by a rattlesnake be vaccinated?*

Yes. We recommend waiting six weeks after your dog has been bitten by a rattlesnake before vaccination with this product. This wait will allow your dog to fully recover from the snakebite and will reduce the possibility of unfavorable interactions between the vaccine and any residual venom.

Question: *How old should a puppy be before being vaccinated? Can elderly dogs be vaccinated?*

There have been no reports of any age-related adverse effects due to this vaccine in healthy dogs vaccinated as young as four months or in elderly dogs. Because we do not have any information on the vaccination of puppies that are younger than four months we do not recommend vaccination of puppies in this age group. Regardless of age, the vaccine should only be administered to healthy dogs.

Question: *Can I use this vaccine for my cat?*

Our research suggests that the rattlesnake vaccine may actually work better in cats than in dogs. However, since the vaccine is not specifically licensed for use in cats, a veterinarian must determine if it can be administered to your cat. If you think your cat is likely to encounter rattlesnakes, discuss the potential risks and benefits of the vaccine with your veterinarian.