

## Snake Bites

By Dr. Hannah Bigelow, DVM

Summer is on its way, and with it comes snake season! We all know that snake bites are bad, but what actually happens when a snake bites your pet? Snake venom contains different enzymes and proteins which affects the prey and aid the snake in digestion. Scientists have only characterized approximately one percent of the components of venom. Each enzyme has a different action that plays a role in creating tissue damage, bleeding disorders, clotting issues, cardiovascular shock and neurotoxicity. When an animal is bitten by a snake, there is an initial localized reaction causing muscle necrosis and pain. Localized swelling can potentially induce obstruction of airways and respiratory distress. Many components of venom are vasodilators which cause poor blood pressure. Leaky blood vessels result in fluid buildup at the site of bite. Different proteins breakdown blood cells and cause clotting issues. Only 4 percent of the venom is excreted through the kidneys, but the venom does not directly affect the kidneys. Venom causes the breakdown of muscle and blood cells. Excretion of these products in combination with poor blood pressure can result in kidney failure. Some components of venom are specific to certain types of snakes. For example, Mojave rattlesnakes' venom contains a neurotoxin that affects muscles needed for breathing, eliciting respiratory paralysis.

When an animal is bitten by a snake there is no way to know if they received a dry bite (no venom injected) or were envenomated. It is essential for these animals to be seen by a veterinarian, for an accurate assessment, where life saving antivenom and fluids can be administered. Pain medication and antibiotics are often warranted! Laser therapy aids in healing, as well as reducing inflammation and fluid buildup in affected tissues. Rattlesnake bites are an emergency and we need to act fast to save lives. The best way to prevent snake bites is to be vigilant and aware of your surroundings. Rattlesnake avoidance training can be very effective in teaching your dog to avoid snakes and even warn their owners of their presence if they see or detect them first! We at the Animal Care Center always keep antivenom on hand, and have trained staff and doctors to make an accurate diagnosis and perform life saving treatment, when warranted. Be very cautious around dusk and dawn, and also with low ground cover foliage where snakes like to hide and dogs like to poke their noses!

