

# Sooner or later, somebody's going to find a Snake in Your Grass!

**I**n Central Florida as in most parts of the world, bites by nonvenomous snakes occur far more frequently than by venomous snakes. Since the differentiation is often difficult and the offending snake is not known, victims of snake bite should be brought under a physician's care as quickly as possible. Whenever possible, the offending snake should be killed, as safely as possible, and brought with the victim for positive identification.

The total number of bites per year has changed and the number of deaths is probably negligible. This is probably attributed to quicker response and better treatment of bite victims. If you talk to 20 different people familiar with the dynamics of venomous snake bites, you will probably get 20 different opinions as to how to treat the bite.

An important fact to remember is that one can be bitten by a venomous snake and not be poisoned. In up to 49 percent of the bites inflicted by venomous snakes, no signs or symptoms of poisoning develop. This could be due to the fact that the snake does not always inject venom or, in the case of superficial wounds, the venom does not enter the wound.

The venom is injected through an apparatus consisting of a gland, a duct and one or more fangs located on either side of the head. The size of these structures depends on the size and species of the snake. The venom glands are surrounded by

muscles which can be contracted separately or together at will by the reptile to discharge the venom.

The viper (rattlesnakes, cottonmouths and copperheads) fangs are two elongated teeth of the maxillary bones. These bones can be rotated so that the fangs can be moved from their resting positions against the upper jaw, to their biting positions, approximately perpendicular to the upper jaw. The snakes have full control over their fangs, raising or lowering them at will. The two functional fangs are shed periodically and are replaced by reserve fangs.

The fangs of the *elapid* (coral snakes and cobras) are two enlarged anterior maxillary teeth which are hollow and are fixed in an erect position.

The arbitrary division of venom into such groups as neurotoxins, hemotoxins and cardiotoxins, has led to much misunderstanding and a number of errors in treatment. Neurotoxins can, and often do, have cardiotoxins and hemotoxins in their substance. It should be safe to say that all venom has some reaction characteristics of the other elements.

Venom from vipers causes change in the tissue both at the site and in its proximity; changes in red blood cells, defects in coagulation, injury to the blood vessels; and to a lesser extent, damage to the heart muscle, kidneys and lungs. The venom of the *elapid* snakes causes serious alterations in sensory and motor functions as well as cardiac and respiratory difficulties.

The gravity of snake-venom poisoning is dependent upon the age and size of the victim; the nature, location, depth and the number of bites; the length of time the snake holds on; the amount of venom injected; the species and size of the offending snake; the condition of the fangs and venom glands; the victim's sensitivity to the venom; the pathogens present in the snake's mouth; and the degree and kind of first aid and subsequent medical care.

The victim may also have other complicating considerations—heart disease, diabetes, epilepsy or special medication may play on the reaction of the bite.

Diagnosis of *crotalid* (rattlesnake, cottonmouth and copperhead) envenomation is dependent upon the presence of one or more fang marks, immediate and usually progressive swelling, edema and pain. Swelling and edema are usually seen about the injured area within 10 minutes of the bite. Without treatment, swelling progresses rapidly and may involve the entire extremity within one hour. Generally, however, swelling and edema spread more slowly and usually over a period of 8 to 36 hours. The skin appears tense and shiny, vesicles may form within three hours and are generally present by the end of 24 hours. Hemorrhagic vesiculations (bleeding blisters) and petechiae (small, bleeding spots) are common. Pain immediately following the bite is common in *crotalid* poisoning. Regional lymph nodes may be enlarged, painful and tender.



Eastern Diamondback Rattlesnake



Pigmy Rattlesnake



Coral Snake



## Snake Myths

Many myths have spawned about snakes and snake bites, most passed down from one generation to the next as fact. These myths originated from observations and are told as they were seen with much color and flair added.

### 1. MYTH: FLORIDA HAS THE HIGHEST NUMBER OF VENOMOUS SNAKE BITES.

Considering that Florida has the most diverse number of species of snakes in North America and venomous snakes can be found in heavily populated areas of the state, one would expect this to be a true statement. However, we do not have the highest incident of venomous snake bites. Currently, North Carolina is leading the United States in snake bites.

### 2. MYTH: SNAKES TRAVEL IN PAIRS.

This thought has been around for many years. Nothing could be further from the truth. Snakes do not travel in pairs. They will search each other out during the mating season (usually early spring). At this time, two snakes may be seen together. If one lives in an area of high snake concentration or where food (rats, mice, rabbits, etc.) exist in quantity that may support higher-than-usual populations of snakes, this occurrence may be observed.

### 3. MYTH: RATTLESNAKES ALWAYS RATTLE BEFORE STRIKING AND MUST BE COILED.

In the wild, rattlesnakes often break off their rattles and are unable to rattle. Coiled is the best, most effective striking position for most snakes, including rattlesnakes. Stretched out straight, however, rattlesnakes can strike a few inches and can also turn and bite.

### 4. MYTH: SNAKES STALK PEOPLE TO BITE THEM.

Snakes do not stalk people. Snakes do not like people. Persons receiving venomous snake bites usually are trying to kill or capture the snake or accidentally and unknowingly step on or close to a snake.

### 5. MYTH: OUTDOOR ENTHUSIAST ARE MOST OFTEN VICTIMS OF SNAKE BITE.

This is not necessarily true. Hunters, fishermen, campers, hikers and other outdoor enthusiasts probably place themselves in areas where snakes are more commonly found, but by the nature of their activity they are usually more cautious and aware of the potential dangers and safety measures to follow keeping them from becoming a snakebite victim.



Juvenile Cottonmouth Water Moccasin

The first systemic sign of *elapid* venom poisoning is usually drowsiness. This is apparent within two hours of the bite. Ptosis, burring of vision and difficulties in speech and swelling may also appear within several hours of the bite.

In closing, any snake bite associated with immediate pain, followed within several minutes by the appearance of swelling and subsequent edema is usually diagnostic of snake venom poisoning by a viper. *Elapid* envenomation is not so easily diagnosed during the first

10 minutes. Swelling usually appears two to three hours following the bite and tends to be limited to the general area of the bite.

First aid in regard to snake bite and envenomation is as varied as those administering to the victim. Probably the best is to stabilize the victim and transport to the hospital as soon as possible.

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