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## Snake Bite First Aid

By Don Travis

Of the 300,000 species of snakes, only around 1% or 3,000 are venomous. In the U.S., between 8 and 15 people die of snake bite every year. There are 15 venomous snake species native to the state of Texas. These include 1 coral snake, and three varieties of the pit viper



species: 1 cottonmouth (or water moccasin); 3 different copperheads; and 10 different rattlesnakes.

Obviously, preventing snake bites is better than treating them - by being careful where you step or reach, and by wearing proper clothing and hiking boots when taking excursions in the woods. But what if you do get bit?

### Identification is key.

If you are bitten by a snake, try to memorize the identifying features of the snake - a must if you need antivenin. Is the head triangular or round? Is the pupil of eye vertical or round? What about coloring and markings? Only Australia has approved venom detection kits to determine which venom is present from a blood or urine sample. Call 911 and/or the Poison Control Center at 1-800-222-1222 to get help in identifying the snake. Take a picture with your cell phone or digital camera if you can.

Pit vipers have triangular heads, and cat-eyes, as this copperhead close up photo shows, the black pupil is shaped like the cross section of a vertically positioned convex lens. The pit, or hole, between the snake's eyes and its nostrils (thus the name pit viper) is heat-sensitive, enabling the snake to locate warm-blooded prey in total darkness. This is also clearly visible in the above picture, between the bottom of the eye and the bottom of the nostril.



A coral snake can be up to 3 ft long and has red, yellow, and black bands along the length of the body, with red

and yellow touching (remember, red touching yellow kill a fellow, red touching black friend of Jack). They have round pupils and a black nose. While they have fangs, they tend to chew on their victims for a few seconds, and may leave tooth marks with or without fang marks.



Do not handle the snake. Even a dead snake can be dangerous since any venom remaining on the fangs could be injected if the skin is scratched. A snake may only inject part of its venom with each bite, so it is still dangerous after the first strike. A dead snake can have a bite reflex after death, even with its head severed.

### Get help on the way immediately.

Obviously call 911 as soon as possible. Hopefully, your woodland adventure was with a partner, and you can send them for help. Sit down and stay calm with the bitten area (usually an extremity) in a normal body position below the heart. If you have to move by yourself to seek first aid, do so slowly and calmly to the nearest place for help. A childhood friend of mine lost his entire calf muscle because he peddled his bike all the way home rather than go to the nearest house. What would your child or grandchild do?

### What are First Aid "Do's" and "Do Not's"?

Now that help has been summoned, what can you do until you get professional medical attention? Many previous first aid remedies are now considered ineffective or outright dangerous, so be careful doing "what you heard".

- Do stay calm, and breathe!
- Do move from the vicinity of the snake, to help prevent multiple bites.
- Do remove any rings, watches, bracelets or other restricting items.
- Do immobilize the extremity, generally below heart

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level.

- Do carefully and lightly wash the site with mild soap and water, if available.
- Do Not run or do anything physically strenuous.
- Do Not have anything to eat or drink, especially alcohol.
- Do Not take any medications or prescription drugs until a Doctor says you can.
- Do Not take aspirin, napracin, or ibuprofen unless told to by medical personnel as they could increase internal or external bleeding.
- Do Not apply tourniquets or otherwise restrict blood flow.
- Do Not apply ice or immerse in ice water under any circumstances as this markedly increases the risk of sloughing and necrosis, and may be more dangerous than the bite itself.
- Do Not use a razor or make any incisions over the bite marks. Use of a suction cup over the fang marks can be beneficial, if you have one immediately available and can do it in the first 15 seconds, otherwise don't waste your time trying to find one. And do not attempt to suction using your mouth – for obvious reasons.
- Do not use a stun gun or apply electric shock.

## Will I need an antivenin shot?



Antivenin is a medicine that is given to stop snake venom from binding to tissues and causing serious blood, tissue, or nervous system problems. Side effects from the antivenin itself

can include rash, itching, wheezing, rapid heart rate, fever, and body aches. Primarily for cost reasons, American Medical Response (AMR) does not carry antivenin on their trucks, and neither Rockdale nor Cameron hospitals stock it either. Only St. Josephs in Bryan or Scott & White in Temple have it on hand. The cost of one treatment is several thousands of dollars, and must be given within the first 4 hours to be effective. It can remain effective for up to 2 weeks. Even though the antivenins are purified by multiple processes, it may contain other serum proteins and some individuals may have an extreme hypersensitive reaction to the injection, so it is only administered if necessary by medical

professionals after careful patient examination.

First aid and symptomatic treatment is the standard protocol unless it's a small child or a very large envenomation where the body's natural immune system would not be able to sustain life. Most snake bites do not



ject sufficient venom to cause such life threatening conditions, and bites on hands or feet where there is little muscle tissue to absorb the venom are seldom life threatening. At least 25%, perhaps up to 50%, of bites are dry. When poison is injected, about 35% of bites are mild envenomation, 25% are moderate, and only 10% to 15% are severe. The primary health concerns are immediate treatment for possible infections and for symptoms of systemic poisoning; such as shock, nausea, difficulty breathing, and severe pain or swelling, and necrosis of tissue surrounding the injection site.

## Where does snake antivenin come from?

After the snake venom is milked, it is injected in small amounts into mammals such as horses, sheep, pigs, or rabbits. These animals have an immune response whereby antibodies against the venom are generated naturally. The antivenin is then harvested from the blood of the animal, purified and stored in freeze-dried ampules or liquid cold storage containers. It is injected into muscular areas for absorption.

## In Conclusion.

Explore and enjoy nature where ever you are. Be careful where you step or reach. And follow the above first aid protocols if you do happen to get bit.

The information for this article came from numerous publically available sources, and includes the following highly recommended web sites: <http://texas-venomous.com/index.html>, <http://www.zo.utexas.edu/research/txherps/>, and <http://health.yahoo.com> (search on "snake bite").

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