



## **Rattlesnake Safety Guidelines**

### **INTRODUCTION**

The rattlesnake's role as an important link in the food web far outweighs its potential danger to our wellbeing. In fact, rodent-borne diseases are probably controlled to a great extent by rattlesnakes and other predators. Offer them respect, observe them from a safe distance, and then leave them to perform their valuable ecological function. The only good snake is a live snake!

Most rattlesnakes have relatively weak venoms compared to the world's true vipers and cobras. Copperheads, water moccasins, and other pit vipers have comparatively weak venoms as well. The Eastern and Western Diamondbacks are of concern in the U.S. because of their wide distribution, their relatively large size (giving a greater striking distance - about one-third to one-half their body length), the deep puncture wounds they inflict, and their large amounts of venom. The Western Diamondback will also readily defend itself. The Mojave Rattlesnake is the most potently venomous of this country's rattlesnakes. The coral snake's venom is a potent neurotoxin but the snake is not considered particularly dangerous because of its demure manner.

Rattlesnakes will make every effort to avoid contact with people. We are far more dangerous to this secretive animal than it is to us. In almost every case, we are treading on the snakes' home territory when we encounter them. Many bites are the result of someone trying to capture, kill, or handle the snake, and a good number of bites occur to snake keepers, both private and professional. The bite is a defensive reaction and should not be considered an act of aggression. The rattlesnake's rattle offers the snake a means of communication, designed to warn larger animals of their position.

In the United States, humans experience about 8,000 bites from venomous snakes each year. Of those, an average of 5 per year, or approximately 0.063%, result in death<sup>1</sup>. Far more people die each year from bee stings, lightning strikes, or almost any other reason.

<sup>1</sup> <https://www.cdc.gov/niosh/topics/snakes/default.html>

### **IS IT A RATTLESNAKE OR NOT?**

Many useful and non-threatening snakes have suffered a quick death from a frantic human who has mistakenly identified a gopher snake, racer or other as a rattlesnake. This usually happens when a snake assumes an instinctual defensive position used to bluff adversaries. A gopher snake has the added unfortunate trait of imitating a rattlesnake by flattening its head and body, vibrating its tail, hissing and actually striking if approached too closely.

Identifying snakes by color or pattern can be difficult, especially when they are moving or only partly visible. While venomous snakes typically have triangular heads and "fatter" bodies, the only definitive characteristic of a rattlesnake that is easily recognized by the average person is the distinctive noise created by the rattle. However, on rare occasions rattlesnakes are found without a rattle so any unidentified snake should be avoided.

### **AVOIDING RATTLESNAKES / BITES**

Rattlesnakes can be found in rock piles, woodpiles, shaded areas when the temperatures are high, and sunning themselves on rocks or in the middle of a trail during cool periods. Carry a long walking/snake stick (for rustling brush or rattling doorframes before going in), a flash light, and wear heavy high boots. The key is situational awareness, and making sure you are heard and felt by the snakes, as they have more fear of you and will flee.

Do not walk quietly or softly, and never ever venture into a space you cannot visually check. Do not walk through high brush if you cannot clearly see the ground. Most people step on snakes because they are not looking where they step. The same applies for climbing around: don't stick your hands in places you cannot visually check. Insects can be a greater hazard than snakes in some places, so it is also advisable to blouse your boots to keep things from crawling up your pant legs.

It should also be noted that even dead/decapitated rattlesnakes can still bite you! Never attempt to handle a dead snake that you find in a road or any other place. Their venom is still harmful, and recently deceased snakes can still exhibit residual autonomic reflexes which might cause bites.

If you go where snakes are likely to be found:

- Wear over-the-ankle or calf high boots and loose-fitting long pants or chaps.
- Do not step or put your hands where you cannot see (e.g. placing your hands on unseen ledges or into animal holes).
- Do not turn rocks or boards over with bare hands. Use a tool.
- Avoid wandering around in the dark.
- Step on logs and rocks, never over them, and be especially careful when climbing rocks.
- Avoid walking through dense brush or willow thickets; if you must, use a long stick or branch to beat the brush before you as you go. Remember that the snake does not want anything to do with you either.
- Be careful when stepping over the doorstep as well. Snakes like to crawl along the edge of buildings where they are protected on one side.
- If you spend a lot of time in "snake country", locate a physician with snakebite treatment beforehand, just in case, because even mild cases of envenomation often require eight or more vials of the anti-venom and sometimes these are in short supply.

#### **WHAT TO DO IN THE EVENT OF A SNAKE BITE**

Though uncommon, rattlesnake bites do occur. The first thing to do if bitten is to stay calm. Generally, the most serious effect of a rattlesnake bite to an adult is local tissue damage, which needs to be treated. Children, because they are smaller, are in more danger if they are bitten. Get to a doctor as soon as possible, but stay calm. Frenetic, high-speed driving places the victim at greater risk of an accident and increased heart rate. Remember, about one-third of all rattlesnake bites are "dry" bites, when no venom has been injected. Follow these steps:

- Try to remain calm and inactive.
- Get to a hospital or doctor as soon as possible (have someone else drive).
- Loosen or remove any restrictive clothing or jewelry (e.g. shoes, watch) from the area near the bite.
- Watch the victim for signs of shock. Treat if necessary by lying flat with feet elevated and cover with warm clothes or blanket.
- Identify or photograph the snake only if it remains visible from a safe distance.

#### **WHAT NOT TO DO**

- Do not make incisions over the snake bite.
- Do not constrict the flow of blood.
- Do not immerse a limb in ice water.
- Do not elevate the bitten area (this will increase the flow of venom to other tissues).

- Do not use your mouth to extract venom. Sucking out the venom is no longer a recommended practice, and wastes valuable time (commercial venom extractors like the Sawyer snake-bite kit may be somewhat helpful if used properly, but should not be relied on. The important thing is to get to a hospital as quickly as possible).
- Do not run or carry unnecessary items as you go for help, to avoid elevating your pulse rate.
- Do not try to catch or kill the snake.
- Do not administer any pain medications or antihistamines, unless instructed by a doctor or EMT.

### **TREATMENT**

Steps taken at a hospital or other medical facility to counter the effects of snake venom are called treatment. The most common treatment includes the injection of an antivenin (or antivenom). Injecting small amounts of venom into a horse makes antivenin. The horse's immune system provides a defense against the venom. The horse's blood serum is then used in antivenin and given to human bite victims to counteract the effects of the bite. Only qualified medical personnel should administer antivenin. There are often side effects to be considered.

Treatment may also be given to relieve swelling, tetanus, or local tissue damage. North American pit viper venom (rattlesnake, water moccasin, copperhead) is primarily hemotoxic, acting to destroy blood and muscle tissue.

Contact UNLV Risk Management & Safety (702-895-4226) if you have any additional questions about working safely in rattlesnake country, or any other field safety issues.