

FACT SHEET

Snake Bites: Emergency Response, First Aid and Prevention

Whether you admire, mildly dislike or are afflicted by an abnormal fear of snakes (opidiophobia), it's important to take precautions when working in their habitat.

To protect yourself and others, you should know how to:

- describe snakes that live in your region
- avoid encounters with snakes
- recognize snake bite signs and symptoms
- respond if you or a companion are bitten

Exposure Risk



Anyone whose occupation requires time outdoors has a chance of encountering a snake, particularly in warmer states in the South,

Southwest and West. Venomous snakes found in the continental United States include rattlesnakes, copperheads, cottonmouths/water moccasins and coral snakes.

An estimated 7,000 to 8,000 venomous snake bites occur annually in the U.S. Thanks to prompt medical attention, only about five per year are fatal.

Globally, the World Health Organization reports snake bites are a serious public health threat, particularly among rural farmers in tropical and subtropical countries. A recent study estimates at least 421,000 venomous bites and 20,000 deaths occur worldwide each year.

Did you know?

A snake can still bite for several hours after dying.



Many snake species help maintain ecological balance by preying on insects and rodents.

Hemotoxins from snake venom are used in drugs to treat some types of cancer and cardiovascular conditions.



Fatalities and severe injuries such as amputations are largely attributed to poor access to appropriate care.

A snake may strike defensively when startled or provoked. However, unlike a predatory strike when hunting, the snake may not release as much or any venom when startled, decreasing risk of serious injury. A bite without any venom is called a dry strike.

Signs and Symptoms

Depending on the type of snake, signs and symptoms of a bite may include:

- Puncture marks at the wound (single or double)
- Redness and swelling
- Severe pain at the bite site
- Nausea and vomiting
- Labored breathing
- Disturbed vision

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- Increased salivation and sweating
- Numbness or tingling of face and/or limbs
- Paleness and feeling cold (shock)



Symptom recognition is essential when you have not seen a snake but suspect you may have been bitten, such as when walking in a swamp, murky water or dark area with poor visibility.

Snake Bite: What to Do



Reassurance, immobilization of the affected area and prompt transfer to a medical facility are the cornerstones of rapid response. The following steps are recommended:

1. Move out of striking distance.
2. Stay calm.
3. Call 911 or other local emergency medical services; do not wait for symptoms to occur.
4. Be prepared to describe the snake's color and shape (especially the head) to medical personnel.
5. The victim should assume a resting position, optimally with the affected area below heart level.
6. The wound may be cleaned with soap and water using a damp cloth.
7. The wound may be covered with a clean, dry bandage or dressing.
8. A non-constricting splint may be used to help immobilize an affected limb.
9. Items such as tight clothing or jewelry should be loosened or removed in case of severe swelling.
10. The victim may drink water to stay hydrated but should not consume caffeinated drinks or alcohol.
11. Use caution if the snake is dead; it is still dangerous.
12. Inform your supervisor or other employer representative.

Do not:

- Attempt to catch the snake
- Cut open a bite wound
- Try to suck out venom
- Apply a tourniquet or ice
- Immerse the wound in water

If you are in a remote area without phone service or an easy way to reach transportation, the victim should remain as still as possible and wait for the venom to subside. Fear and anxiety increase heart rate and blood pressure. In most cases the amount of venom injected is not enough to be fatal. Symptoms may be treated as they occur.

Treatment

An accurate description of the snake helps medical personnel identify the appropriate treatment.

If the snake is known to be venomous and/or there are symptoms of poisoning, antivenom (also referred to as antivenin) is usually administered intravenously. Antivenom is a biological product derived from animals that produces antibodies to neutralize venom.

The victim may also be treated for symptoms such as nausea, dizziness, numbness and difficulty breathing or swallowing. He or she will also be closely monitored for allergic

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reactions, swelling, and signs of damage to circulatory and nervous systems.

Other possible treatments include an antibiotic medication to reduce infection risk and a tetanus shot. (A tetanus booster is recommended every 10 years.)

If the snake was not venomous, the bite location may be treated as a puncture wound. This may include washing it with soap and water, applying a topical antibiotic and covering it with a sterile bandage. Over-the-counter medications may be recommended for pain relief.

If no symptoms develop, the bite victim may be kept under observation for 24 hours as a precaution.

Prevention

Be aware of your surroundings. If you encounter a snake, back away slowly, let it slip away or walk carefully around it. No matter what type of snake it is, do not provoke it or attempt to handle, trap or kill it.

Other snake-bite preventive measures:

- Avoid tall grass and fallen leaves.
- Avoid climbing on rocks or piles of wood.
- Be aware that snakes tend to be active at night and in warm weather.
- Wear boots and long pants when working outdoors; snakes can bite through some types of clothing and footwear.
- Wear leather gloves when handling brush and debris.
- Make noise; snakes will avoid people if given enough warning.

Take added precautions in the event of drought conditions or a natural disaster such as a

hurricane, fire or flood. Snakes may be forced from their natural habitats and into areas where they would not normally be seen or expected, including houses.

Finally, learn how to recognize snakes. Among venomous snakes found in North America, all but the coral snake have slit-like eyes and are known as pit vipers because their heads are triangular, with a depression (pit) midway between the eye and nostril on either side of the head. Coral snakes have red, yellow and black rings along the length of their bodies, not to be confused with non-venomous king snakes.

Resources

1. Emergency Preparedness and Response: How to Prevent or Respond to a Snake Bite (available in Spanish and Vietnamese): www.bt.cdc.gov/disasters/snakebite.asp
2. National Poison Control Center national hotline: 1-800-222-1222
3. Neglected tropical diseases: Snakebite: World Health Organization: www.who.int/neglected_diseases/diseases/snakebites/en/
4. Snakes: Pictorial Key to Venomous Species in the United States www.cdc.gov/nceh/ehs/Docs/Pictorial_Key_Snakes.pdf
5. Venomous Snakes: National Institute for Occupational Safety and Health Workplace Health and Safety Topics www.cdc.gov/niosh/topics/snakes/
6. WHO Guidelines for the Production, Control and Regulation of Snake Antivenom Immunoglobulins www.who.int/bloodproducts/snake_antivenoms/SnakeAntivenomGuideline.pdf