

Snake Bite Awareness

PIT VIPERS (RATTLESNAKES-29 SPECIES, COPPERHEADS, COTTONMOUTHS)

Factors Influencing the Effect of the Venom

- Type of snake; copperheads, cottonmouth, western diamondback, eastern diamondback, eastern coral, Mojave rattlesnake (descending order of potency).
- Age of the snake, amount of venom injected, and time since venom was last released.
- Size of the victim (body mass)—smaller victims have potential for more severe effects.
- Activity of victim after the bite—activity spreads the toxin.
- Location of the bite—areas of poor blood supply and soft tissue may suffer more serious tissue damage.
- Victim's immune system—animal's ability to react to the toxin and eliminate it.



Photo courtesy of Dr. Andrew Cushing, UTCVM

How the Venom Works



Signs of a Snake Bite

- Bleeding from the wound or fang marks.
- Pain and swelling at wound site.
- Systemic reactions could include severe sweating, diarrhea, anaphylactic-type signs such as incoordination, rapid heart rate, weak pulse, weakness, shock, congested mucous membrane.
- Horses and dogs are usually bitten on the nose or leg.
- Swelling of the nose may cause respiratory difficulty.
- Bites on the legs may not swell as much initially, but eventually the tissue destruction may produce severe limb swelling, tissue death, and infection. Long-term recovery should be expected in these cases.
- Anaphylactic reactions to the venom can produce shock-like signs and even death.
- Small animals are also more susceptible to suffering systemic illness from the venom and exhibit more signs.
- Progression of signs depends on whether or not detection and acute care and immediate follow-up occurs.

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Snake Bite Therapy

SCENARIO ONE: Witnessed the snake biting the animal.

- Keep the patient calm.
- Call a veterinarian if one is available from nearby, transport to a veterinarian, walking slowly if movement is necessary.
- Acute care: wash wounds with soap and water, apply cold compresses but not ice, and wrap a leg to partially immobilize and control swelling.
- Periodically evaluate breathing rate, heart rate, and general alertness and attitude. Animals bitten on the nose may have enough swelling to impair breathing. **This can become an emergency situation.**
- Anti-inflammatory agents can be beneficial in decreasing edema and swelling from inflammation.
- A veterinarian may also administer antibiotics, and fluids if needed.
- Anti-venom may need to be administered to dogs and other small animals, but is not usually necessary in horses because of their size.
- **Hyperbaric oxygen therapy** is an extremely beneficial treatment for snake bites and other venom-produced injuries. It decreases swelling, helps prevent cell death, necrosis and infection.

SCENARIO TWO: Detection of possible bite hours to days later (may or may not identify symptoms as a snake bite).

- Acute phase has passed, but there may still be swelling, infection, tissue necrosis or death.
- Prolonged recovery if tissue destruction or infection is severe and/or bone is involved.
- Seek veterinary care — may require long-term wound care, antibiotics, and anti-inflammatory treatment.
- **Hyperbaric oxygen therapy** is an extremely beneficial treatment for snake bite and other venom-produced injuries. It decreases swelling, helps prevent cell death, necrosis and infection.