

# When snakes bite, and they will, Dallas Zoo opens its antivenom fridge

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A sedge viper is among the snakes for which the Dallas Zoo does not have antivenom.

By Dallas Morning News, adapted by Newsela staff

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DALLAS — When a Texas man was bitten by a poisonous snake, the Dallas Zoo came to the rescue.

The zoo has one of the country's biggest collections of venomous snakes. It also has one of the largest supplies of antivenom to treat poisonous snake bites.

Most snakebites happen with native species and people's bad judgment, commented Bradley Lawrence. He is the zoo's reptile and amphibian supervisor. Native snakes are from the United States, while exotic snakes come from other countries.

Common snakebites involve "native venomous snakes that somebody has decided to mess around with, late at night," he said. People say, "Oh, look, there's a snake. Let's pick it up!"

## **Antivenom Is Not Cheap**

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Most native snakes' antivenom is stocked in hospitals. When someone in the Southwest needs an antidote for an exotic snakebite, the zoo is often called for the antivenom.

The zoo will deliver the antivenom through police or a special delivery service. The antivenom is flown by helicopter or plane.

The zoo keeps thousands of vials — about \$200,000 worth — in a small refrigerator.

The most recent call for help came in January. A man was bitten by his African bush viper, an exotic species with no antivenom.

In cases like this, the zoo sends antivenom from a different snake that research has shown could work, Lawrence said.

When treating a bite, doctors determine the kind of snake involved. They study the venom's effects, the best antivenom to use and any risks.

Antivenom can cost about \$200 a vial for Asian snakes, but can cost up to \$2,500 a vial for Australian snakes.

Doctors usually give a snakebite patient four to six vials of antivenom to start. Up to 30 vials might be needed in extreme bite cases.

## **Snakebite Alarm Is Dusty**

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At the Dallas Zoo's reptile house, each cage is labeled with information about the snake and the appropriate antivenom. About 65 of its 90 species of snakes are venomous, said Ruston Hartdegen. He is the zoo's curator of herpetology — the study of amphibians and reptiles.

All staff members learn how to work with the venomous snakes. To work with cobras and other especially dangerous snakes they must go through special training, Hartdegen said. On the walls where the snake handlers work are red buttons labeled "snakebite alarm." They are covered with a thin coat of dust because they are rarely used, except to be tested.

In the zoo's 127-year history, handlers have been bitten only three times, and none of them involved venom.

## **Deadly Snakes Are Not Cuddly Pets**

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The zoo workers are as fascinated with snakes as the zoo's visitors. Lawrence is a fan of the cobras and mambas. Assistant supervisor Matt Vaughan is a pit viper guy.

Pit vipers get their name from the two heat-sensing pits under their eyes.

Vaughan grew up near a lake filled with reptiles and amphibians. For a kid who was fascinated with dinosaurs, "I was in heaven," he said.

Lawrence has a green mamba tattoo swirling up his arm. He got his first snake — a green snake — from his father, who was a science teacher, when he was 10.

The zoo workers want people to visit deadly snakes at the zoo, not keep them at home as pets.

"That's the part that's irresponsible, keeping venomous snakes when you know you don't have the antivenom," Lawrence said.

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With warmer weather, more snakes are coming out of brumation, similar to hibernation. If you come across one, leave it alone, but if you are bitten, here's what to do:

## **DO:**

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—Go to your local emergency room.

—If you have cannot get there, or if you are extremely dizzy or have trouble breathing, call 911.

—If bitten on an arm or leg, keep it still so the circulation of the venom might be slowed.

—Take a picture of the snake that bit you or try to remember its markings.

## **DON'T:**

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—Don't try to suck out the venom like they do in movies, because it doesn't work.

—Never make a cut where the snakebite is and try to draw the venom out.

SOURCE: Dr. Nancy Onisko, Parkland Memorial Hospital.

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## **The Antivenom Process**

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Healthy snakes are typically milked about every two weeks to collect the venom.

Snakes are held between the index finger and thumb. Gentle pressure is applied so fangs are exposed and the snake bites onto a glass funnel. The venom runs down the funnel into a vial.

The venom is injected into an animal — either a horse or a sheep — which will produce the antibodies against the venom.

After several months, blood is extracted from the animal and purified to become antivenom.

**SOURCES:** Kentucky Reptile Zoo and the World Health Organization.