

# Antidote Relieves Scorpion Stings

“Once stung, twice shy” are words to live by in the Southwestern United States, where about 11,000 people a year are stung by scorpions in Arizona alone.

Though rarely life threatening, scorpion stings can be extremely painful, causing numbness and burning at the wound site. And there’s been little a victim could do to ease the pain.

Until now.

Last year, the Food and Drug Administration approved the first treatment specifically for the sting of the *Centruroides* scorpion, the most common type in the United States.

The biologic treatment—called Anascorp—was given a priority review because adequate treatment did not exist in the United States, says Karen Midthun, M.D., director of the FDA’s Center for Biologics Evaluation and Research.

“This product provides a new treatment for children and adults and is designed specifically for scorpion stings,” Midthun says. “Scorpion stings can be life-threatening, especially in infants and children.”

Severe stings can cause loss of muscle control and difficulty breathing, requiring heavy sedation and intensive care in a hospital. Most often, it’s small children who experience severe reactions, but adults can be affected, too, says Keith Boesen, managing director of the Arizona Poison and Drug Information Center (APDIC).

Boesen says Arizona’s two poison centers document about 11,000 scor-

pion stings each year; 17,000 stings were reported to U.S. poison centers nationwide in 2009.

“We at the APDIC and University of Arizona College of Pharmacy are very excited (about Anascorp’s approval). I am proud of the expertise of the pharmacists and physicians working at the APDIC who helped make this research possible,” he says.

Anascorp was developed in Mexico and has been used there for many years, according to University of Arizona researchers who led the U.S. study ([uanews.org/node/25453](http://uanews.org/node/25453)) of the drug. It’s made from the plasma of horses immunized with scorpion venom and vaccinated against viruses that could infect humans. Researchers began studying the drug in Arizona hospitals in 2004 and found it to be highly effective against the sting of the bark scorpion (also called the Arizona bark scorpion)—the most

poisonous scorpion in the U.S.

Without Anascorp, children experiencing the most severe symptoms usually had to stay in intensive care in the hospital for several days; but when Anascorp was administered, researchers found patients’ symptoms disappeared after a few hours in the emergency room—eliminating the need for a hospital stay.

## Bark Scorpion

The bark scorpion is found primarily in Arizona, but it also lives in other areas of the Southwest and northern Mexico, according to the Arizona-Sonora Desert Museum ([ahsc.arizona.edu/category/news-categories/arizona-poison-and-drug-information-center-apdic](http://ahsc.arizona.edu/category/news-categories/arizona-poison-and-drug-information-center-apdic)) in Tucson, Ariz.

Scorpions are attracted to dark, moist spaces. They like to hide under rocks, wood, loose tree bark or anything else lying on the ground dur-



Photo courtesy of J. Zirato, University of Arizona BioCommunications

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ing the day, and they become active at night. Landscapers and others who work outside are at risk of being stung, as are people participating in outdoor activities.

Because they’re small and adept at climbing, scorpions may hitch a ride into homes in a sack of groceries or piece of clothing. Once indoors, they may get trapped in the sink or bathtub, look for a place to hide in an attic or crawl space, or scale the walls or ceiling, according to the desert museum website. Victims often report being stung while sleeping.

In June, a 6-month-old Arizona girl was airlifted from the small town of Oracle, Ariz., to University Medical Center in Tucson after a scorpion stung her as she slept, KSAZ-TV ([www.myfoxphoenix.com/dpp/health/near-fatal-scorpion-bite-6-26-11](http://www.myfoxphoenix.com/dpp/health/near-fatal-scorpion-bite-6-26-11)) in Phoenix reported. Stephanie Moors, the child’s mother, was attending a yoga retreat and had just put her daughter down for a nap when she saw a scorpion’s tail wriggling under the child’s head. The girl was crying, vomiting, and, eventually, convulsing on the way to the hospital 36 miles away, but she made a full recovery after spending five days in the hospital.

The desert museum says you can check your home for scorpions by illuminating rooms with a black light flashlight or portable unit or a black light bulb in a lamp. Scorpion will glow a light blue-green color under the ultraviolet rays of a black light.

Jude McNally, the medical science liaison at Rare Disease Therapeutics, says the Tennessee company will market the new drug to any health care facility that accepts emergency patients in areas where the bark scor-

pion is found. That’s Arizona, as well as areas of Clark County, Nev., and parts of New Mexico where the bark scorpion has established colonies, he says.

## Things to Know

The Arizona Poison and Drug Information Center says most stings to healthy, young adults can be managed at home with basic first aid and follow-up. Victims should

- clean the site with soap and water
- apply a cool compress
- elevate the affected limb to the same level as your heart
- take aspirin or acetaminophen as needed for minor discomfort

If a child is stung or the victim experiences severe symptoms, go to a medical facility immediately. If the child is under 5 years old or if an older patient is experiencing more than minor discomfort, call the poison center at 1-800-222-1222.

Made by Instituto Bioclon in Mexico City, Anascorp may cause early or delayed allergic reactions in people sensitive to horse proteins. The manufacturing process includes steps to decrease the chance of allergic reactions and to reduce the risk of transmission of viruses that may be present in the horse plasma.

FDA determined Anascorp was effective based on the results of an initial placebo-controlled, double-blind study of 15 children with neurological signs of scorpion stings. During placebo-controlled, double-blind studies, some patients get the medicine being tested, and others get a placebo—and even the researcher doesn’t know who gets

which treatment. In the Anascorp study, symptoms disappeared within four hours in the eight subjects who received the antidote, but only one of the seven who received a placebo recovered so quickly.

In total, safety and efficacy data were collected from 1,534 patients in the studies led by the University of Arizona. The most common side effects of Anascorp were vomiting, fever, rash, nausea, itchiness, headache, runny nose, and muscle pain.

Experts say desert dwellers should know the symptoms of a scorpion sting and get treatment if severe symptoms develop. Severe symptoms include shortness of breath, fluid in the lungs, breathing problems, excess saliva, blurred vision, slurred speech, trouble swallowing, abnormal eye movements, muscle twitching, thrashing of the arms and legs, trouble walking, and other, uncoordinated muscle movements.

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