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Venom is a specialized kind of saliva that probably evolved as a chemical aid to digestion. Venoms are also important in killing prey and as a defence mechanism when a snake is threatened, attacked or injured. Vipers, kraits and cobras carry some of the most toxic venoms.

Snake venom consists of various components including specific kinds of proteins that can be roughly divided into four categories. They are cytotoxins that cause local tissue damage; hemotoxins that cause internal bleeding; neurotoxins that affect the nervous system; and cardiotoxins that affect the heart.

Venomous snake bites can cause permanent physical damage or death. The effects may be localized, affecting the area around the limb or the part of the body where the bite occurred, or they may be more widespread causing major tissue and organ damage or death. Bites vary in severity and depend on factors such as the potency of the venom, how much venom enters the victim and several other factors. Some snake bites are dry and do not result in envenomation (injection of venom) .

Treating snakebites can be difficult. Hospitals in Canada do not stock the specific kinds of antivenom (also called antivenin) for effective treatment of exotic snake bites. Most carry only antivenom for treatment of bites by native Canadian rattlesnakes.

There are two kinds of antivenom: monovalent and polyvalent. The first is specific to each particular snake species and is safe and effective. The second contains antibodies from several snake species and is therefore less effective. It is often used when the identity of the snake is not known.

Snakebite treatment can be expensive. Serious bites can require as many as 20-40 vials of antivenom. With each vial costing as much as US \$450, treatment of just one bite can run into many thousands of dollars.

Even when treatment is administered, there may still be permanent neurological and structural damage because antivenom does not reverse damage that has already happened. A snakebite victim can receive excellent medical care and still be permanently injured.

Venomous snakebites should always be considered serious and medical treatment obtained as soon as possible. Escapes of venomous snakes should also be considered very serious as anyone encountering them will be at risk.



Gila monsters and beaded lizards, the two kinds of venomous lizards, are quite rare in the pet trade. They are not nearly as dangerous as venomous snakes as they are slower moving and have a different method of venom delivery. However, if a child, elderly or ill person was bitten, they could suffer some painful effects.

[ continued on reverse ]





## Venomous Reptiles Are A Danger To Public Health and Safety

### A Sampling of Incidents Involving Venomous Reptiles

In 2001, an Ontario snake breeder was bitten by a highly venomous viper. Needing medical attention and not wanting to wait for an ambulance, the man drove himself 130 km to a Toronto hospital. He suffered severe swelling and pain, but eventually recovered from the ordeal. The victim operated a business selling venomous snakes to collectors and hobbyists.

An incident in 2000 saw Toronto authorities evacuating neighboring apartments and stores when a deadly saw-scaled viper escaped from a home aquarium. Municipal emergency workers and Toronto Zoo staff were brought in to search for the snake, while antivenom was flown in from the United States. The owner, who was also keeping other venomous snakes despite local bylaws prohibiting them, claimed he had not seen the snake for several days.

A California woman died in 2004 after being bitten by either a Gabon viper or a Finch's hog-nosed sand viper that she kept as pets. She was found at her home with a note in her badly swollen hand that said, "Northridge Hospital - ICU."

A Cincinnati, Ohio woman also died that same year after being bitten by a South American pit viper that she was keeping in her home.

Escapes, injuries and deaths have been happening for years. One of the more famous incidents took place back in 1992. It involved the death of Larry Moor,

founder of the British Columbia Association of Reptile Owners, who died after receiving a bite from an Egyptian cobra. Mr. Moor was known locally for bringing snakes out to schools to teach children about reptilian natural history and handling.

There is no national law in Canada prohibiting the importation or keeping of venomous reptiles as pets. They can be purchased from private breeders, retailers or through suppliers advertising on the internet. The control of venomous snakes is typically left up to individual municipalities. While they often have the authority to restrict or prohibit venomous snakes from being kept, most municipalities do so only after they have encountered a problem, such as those described previously. The easy availability and relatively low cost of venomous snakes make them attractive to many reptile hobbyists. Substantial numbers are currently held in private residences. Municipalities should proactively pass bylaws that prohibit the sale and keeping of venomous snakes and other dangerous reptiles before human injuries or deaths occur.

Venomous reptiles pose serious risks to human health and safety. They are always dangerous and should not be kept as pets.



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