

Revised and approved by the ACMT Board of Directors June 2012. The original Position Statement with identical title was approved in 2006.<sup>1</sup>

## **Institutions Housing Venomous Animals**

### **Disclaimer**

While individual practitioners may differ, this is the position of the American College of Medical Toxicology at the time written, after a review of the issue and pertinent literature.

### **Background**

There are no published standards regarding the responsibilities of institutions housing venomous animals. Manifestations and management of the envenomations of non-native venomous animals are unfamiliar to most potential local treating physicians. Optimal planning for such envenomations includes ensuring proper storage, transport, and use of licensed and non-FDA approved antivenoms, coordination with regional Emergency Medical Services and potential receiving medical facility, regional poison center involvement, and the involvement of an appropriately trained or experienced clinician(s).<sup>2</sup>

Therefore:

When an institution houses, displays, transports, or otherwise has possession of venomous animals, it is incumbent upon that institution to assure that the likelihood of human envenomation is minimized and that there is a written, implemented plan, reviewed at regular intervals, to respond to any envenomation that might occur.

1. **Acquisition and Housing:** Venomous animals with significant envenomation risks should only be acquired and maintained by institutions that have the resources and capabilities to properly care for them and where the local and regional resources and capabilities exist to manage envenomations and potential animal escape. Venomous animals should be housed and displayed in properly designed enclosures.

2. **Antivenom Acquisition:** When antivenom is available, it should be obtained prior to the institution's acquisition of the venomous animal. When an FDA approved species-specific antivenom is available, the institution should procure an amount adequate to treat a moderately to severely envenomated victim. When FDA approved antivenom is unavailable, an antivenom that is approved for use in another country is preferred over antivenom with no governmental regulatory approval. Decisions regarding which antivenom to obtain and in what amounts should be made by the physician or clinical toxicologist identified below. When only non-FDA approved species-specific antivenom(s) are available, it is the responsibility of the institution to obtain an importation permit and FDA investigational new drug (IND) application for appropriate antivenom. Replacement antivenom should be obtained prior to expiration of old stock.

3. **Antivenom Storage:** Antivenom may be stored at the institution where the venomous animal is housed or at the intended medical receiving facility. If the antivenom is to be stored at the institution, storage conditions should meet manufacturers' recommendations and standards of hospital pharmacy storage (i.e., refrigeration with back-up power supply, temperature monitoring, and expiration date surveillance).

4. **Venomous Animal Handling and Identification:** Written procedures regarding staff training, venomous animal handling, and feeding should be created to minimize envenomation risk. Procedures should be in place to assure accurate identification of potentially envenomating animals.

5. **Consultations:** A clinical toxicologist or a physician knowledgeable and experienced in the management of envenomations should be responsible for the policies and procedures regarding first aid and ongoing medical management of envenomations. At the medical receiving facility, victims of envenomation should be treated or managed in consultation with clinical toxicologists or physicians with expertise defined above.

**6. Poison Center Collaboration:** Collaboration with the nearest American Association of Poison Control Centers (AAPCC)-certified regional poison center should occur during the process of medical response planning.

**7. Patient Transport and Treatment Plan:** A pre-existing written agreement should exist with emergency medical transport agencies and receiving medical facilities. There should be a written plan for timely and appropriate first aid to be administered to an envenomated individual and timely evacuation and transport of the victim (and antivenom if stored at the institution) to the designated medical receiving facility. A copy of mutually-agreed upon (institution and medical receiving facility) management guidelines, including preparation and use of any antivenom, should accompany the patient.

**8. Medical Receiving Facility:** The institution should designate a medical receiving facility to receive victims of envenomation. The facility should have the capability to properly care for any possible adverse reactions to envenomation or treatment with antivenom. The receiving facility should have written policies and procedures for patient assessment and management of envenomations, for appropriate antivenom receipt (if sent with the patient), storage, preparation and administration. Because of the extensive and specialized preparations and skills required in the management of envenomations, the medical receiving facility should have policies in place to accept envenomation victims regardless of the facility's diversion status.

**9. IRB Approval:** If non-FDA-approved antivenoms are intended for use, investigational review board (IRB) approval for emergency use must be obtained at the medical receiving facility. Mechanisms to expedite IRB review for emergency use should be in place.

**10. Antivenom Index Participation:** It is encouraged that any institution that procures non-FDA approved antivenom be listed in the Antivenom Index, (developed by the Association of Zoos and Aquariums (AZA) in collaboration with AAPCC and administered by the University of Arizona College of Pharmacy).<sup>3, 4</sup> This resource lists common and scientific names, antivenoms effective for various species, participating institutions, antivenom manufacturers and sources, procedures for importing non-licensed antivenoms, emergency procedures and first aid, recommendations for handling of venomous animals, and general management of elapid and crotaline envenomations). If an institution consents to the use of its antivenom by another medical facility, replacement or reimbursement is expected.

## References

1. Seifert SA, Keyler D, Isbister G, McNally J, Martin TG. ACMT Position Statement: Institutions housing venomous animals. *J Med Toxicol.* 2006;2(3):118-119.
2. Vohra R, Clark R, Shah N. A pilot study of occupational envenomations in North American zoos and aquaria. *Clin Toxicol (Phila).* 2008;46(9):790-793.
3. Association of Zoos and Aquariums and American Association of Poison Control Centers. The Antivenom Index. Administered by the University of Arizona College of Pharmacy. Available via URL: <http://www.pharmacy.arizona.edu/avi/index#top> [secured site]. Access verified 6 August 2012.
4. McNally J, Boesen K, Boyer L. Toxicologic information resources for reptile envenomations. *Vet Clin North Am Exot Anim Pract.* 2008;11(2):389-401, viii.