



August 18, 2015

## Native Snake Envenomation in Eastern PA and in DE: Quick Treatment Tips

### Introduction

There are three venomous snakes native to Pennsylvania and Delaware:

- Copperhead [*Agkistrodon contortrix*] – all of PA and DE
- Timber rattlesnake [*Crotalus horridus*] – central and northern PA and the NJ Pine Barrens
- Eastern Massasauga rattlesnake [*Sistrurus catenatus catenatus*] – northwestern PA

All are pit vipers and can cause local pain and swelling, ecchymosis and dermal sloughing, coagulopathy including thrombocytopenia\*, and shock. People who regularly handle snakes, who have been previously envenomated, or who suffer intravascular injection of venom may present with an anaphylaxis-like syndrome.

\*Peptides in pit viper venom are thrombin-like and lead to incomplete splitting of fibrinogen. The formation of unstable fibrin clots leads to prolongation of the PT and PTT without depletion of clotting factors, and traps platelets leading to thrombocytopenia.

### Treatment

It is the opinion of The Poison Control Center that snake envenomation is optimally treated by doctors and hospitals experienced in providing snakebite care.

☆The Poison Control Center endorses the following clinical management guidelines, which are available open access (<http://www.biomedcentral.com/1471-227X/11/2>), and which are nicely summarized in its Figure 1.

Lavonas EJ, Ruha AM, Banner W, et al. Unified treatment algorithm for the management of crotaline snakebite in the United States: results of an evidence-informed consensus workshop. *BMC Emerg Med* 2011; 11: 2.

### Additional Tips:

- Copperhead bites rarely lead to systemic symptoms such as coagulopathy.
- One stated indication for antivenom administration is, “swelling that is more than minimal and that is progressing,” and this is troublingly subjective. Be aware that venom is eliminated from the body via lymphatics and proximal extension is to be expected. Serial circumference measurements near the bite site will help determine whether the edema is progressing (proximal extension with worsening distal edema) or clearing (improving distal edema).
- If Cro-Fab® is used to treat only local swelling from *copperhead* bites, the “maintenance antivenom therapy” may not be necessary.
- Fasciotomy should be discouraged without actual measurement of compartment pressures and without an appropriate antivenom trial.

Antivenom is an expensive therapy – likely charged at several thousand dollars per vial. See the following editorial of cost considerations <http://policylab.chop.edu/blog/venomous-snakes-have-copper-heads-antivenom-seems-made-gold>.

*This information has been downloaded from The Poison Control Center at The Children's Hospital of Philadelphia's website and anyone using this information is subject to the Terms of Use on that website including Additional Terms of Use for Medical Information.*

24-hour hotline  
1-800-222-1222

34th Street & Civic Center Boulevard, Philadelphia, PA 19104-4399  
Administration 215-590-2003 • Fax 215-590-4419  
<http://poisoncontrol@chop.edu>

©2012 The Children's Hospital of Philadelphia. All Rights Reserved.