


ACEP Clinical Policy


Clinical Policy: Critical Issues in the Management of Adult Patients Presenting to the Emergency Department with Acute Carbon Monoxide Poisoning

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Edward P. Sloan, MD, MPH 

Clinical Decision Making In
Emergency Medicine


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Edward P. Sloan, MD, MPH 

Edward Sloan, MD, MPH

Professor


Department of Emergency Medicine
University of Illinois College of Medicine
Chicago, IL

Edward P. Sloan, MD, MPH 

*Attending Physician
Emergency Medicine*

University of Illinois Hospital
Our Lady of the Resurrection Hospital


Chicago, IL

Edward P. Sloan, MD, MPH
Edward P. Sloan, MD, MPH, FACEP 



Learning Objective

- Understand the clinical impact of the carbon monoxide clinical policy on the acute care of Emergency Department CO-poisoned patients.

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Case Presentation

- A 54 year old male is brought into the Emergency Department unresponsive from home. Because others from home are also symptomatic with headaches and nausea, it is determined that this is a likely carbon monoxide poisoning from a faulty space heater.

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Case Presentation

- What is the utility of determining a CO level in order to assess risk and guide ED therapies?
- What are the optimal ED therapies for this patient?
- What is the role for hyperbaric oxygen therapy for this patient?
- What does the ACEP clinical policy state regarding optimal therapies?

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Critical Questions

- Should HBO2 therapy be used for the treatment of patients with acute CO poisoning?
- Can clinical or laboratory criteria identify CO-poisoned patient show are most or least likely to benefit from this therapy?

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Recommendations

- *Level C recommendations:*
- HBO2 is a therapeutic option for CO-poisoned patients; however, its use cannot be mandated.
- No clinical variables, including carboxyhemoglobin levels, identify a subgroup of CO-poisoned patients for whom HBO2 is most likely to provide benefit or cause harm.

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Significance: Level C

- *Level C recommendations:*
- Other strategies for patient management that are based on preliminary, inconclusive, or conflicting evidence, or in the absence of any published literature, based on panel consensus.

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Significance: Specifics

- HBO2 therapy is an option in CO poisoning
- It is not a mandated standard therapy
- Assessing the use of this therapy must be individualized on a case-by-case basis
- No clinical variables predicts efficacy
- The medical literature and this evidence-based clinical policy do not take us to a new place

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Issues

- Many case series of variable utility
- Few comparable clinical trials
- Different entry criteria
- Different outcome variables at differing times
- Different opinions as to which are the most relevant clinical trials for developing clinical recommendations

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Stakeholders' Response

- An Inconvenient Truth
- *Annals of Emergency Medicine* 2008;51:339-340
- *Logue CJ for the ACEP Hyperbaric Medicine Section*

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Stakeholders' Response

- *"We suggest that when basic science research, animal studies, case series and human trial data are combined and critically assessed, the weight of the evidence at this time favors the use of HBO2 in selected patients, especially when compared to our current alternative treatment options."*

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Our Reply

- *In Reply*
- *Annals of Emergency Medicine* 2008;51:334-42-340
- *Wolf SJ, Sloan EP, Decker WW*

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Our Reply

- *"In conclusion, this policy benefits emergency physicians and their patients with CO poisoning because it suggests that HBO2 is a therapy that should be considered when treating CO-poisoned patients. It also allows physicians to decline the use of this therapy when it appears that the potential benefit to CO-poisoned patients is outweighed by the risks posed by the clinical situation. This, in the end, is what we as emergency physicians are asked to do on a daily basis for all patients."*

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Conclusions

- Forge ahead, using all possible therapies when the risk and benefits suggest an improved likelihood of a good patient outcome
- More clinical trials are needed that address the needs of the patients and the practitioners
- These clinical trials must be designed and conducted by the relevant stakeholders, with agreed upon entry criteria, studied outcomes, and treatment protocols

Edward P. Sloan, MD, MPH



Thank you.

www.ferne.org
ferne@ferne.org

edsloan@uic.edu

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Edward P. Sloan, MD, MPH, FACEP

