



The Blue Ridge Poison Center

# Tox Talks

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## DOES A POISONED PATIENT BELONG IN THE INTENSIVE CARE UNIT?

### DOES YOUR FACILITY HAVE TELE-

**MEDICINE?** The Blue Ridge Poison Control Center offers CME-accredited toxicology lectures through telemedicine. To request a topic, schedule a lecture for your staff, or more information contact Heather Collier: 434-924-5185 or [HLC8E@virginia.edu](mailto:HLC8E@virginia.edu).

**THE UVA CENTER OF CLINICAL TOXICOLOGY** associated with the Blue Ridge Poison Center manages over 500 patients each year on site in the University of Virginia Health System - from outpatient clinic visits to critically ill inpatients managed in our pediatric and adult intensive care units. In addition, over 2,000 requests are made each year for consultation with our Boarded Medical Toxicologists from other healthcare facilities by phone or telemedicine. Call 1-800-222-1222 24 hours a day, every day. [Cell users: 1-800-451-1428]

### IN CHARLOTTESVILLE

Reminder: At University of Virginia Hospital, the first Wednesday of every month features toxicology Grand Rounds. For more information, contact Heather Collier: 434-924-5185 or [HLC8E@virginia.edu](mailto:HLC8E@virginia.edu)

Deciding on the safest place to observe a poisoned patient is frequently problematic because the clinical history is incomplete, the clinical course is unpredictable, therapies are unfamiliar and the medical literature is often limited. In addition, a poisoned patient may rapidly deteriorate despite a paucity of symptoms on presentation. Because the intensive care unit (ICU) offers the highest level of skilled staff and modern technology available, many poisoned patients are admitted there. Whether this is clinically justified or is an effective use of resources for a given patient is always an issue because admission of the poisoned patient continues to be based mostly on clinical judgment and the best available information.

### Suggestions for Improved Medical Decision-Making

Using critical care resources for poisoned patients must be based on objective criteria. Unfortunately limited data are available for specific medications and toxicants limiting the ability to make evidence-based decisions for individual patients. It seems reasonable to assume that a patient's signs and symptoms can be used to decide the need for ICU admission. The presence of certain signs, symptoms, or abnormal diagnostic tests requires ICU observation or intervention, whatever the toxic exposure. This philosophical approach of "treating the patient and not the poison" is especially helpful for complex patients with polydrug ingestions.

End-organ toxicity is the most important reason to admit poisoned patients to the ICU. However, restricting ICU admission to those with only end-organ toxicity is inappropriate. Minimally symptomatic or asymptomatic patients may require ICU admission because other factors must be considered. The poison, its treatment, and specific patient characteristics should influence ICU admission decisions.

Until further clinical studies are available to define those patients who are at risk for serious toxicity or life-threatening complications, many poisoned patients will be admitted to the ICU for observation. But placing patients in the ICU solely for observation is often an ineffective use of this expensive resource. Alternatives to the ICU include a medical or pediatric floor bed, an intermediate care unit, a telemetry-monitored bed, a medical psychiatric unit, or an ED observation unit. Capabilities for managing poisoned patients may vary considerably between institutions and in different types of patient care areas.

When information about the poison, the patient, and the capabilities of the medical unit are all considered, many patients can be safely observed outside the ICU. The following table presents some items to consider when making disposition decisions.

### **Who needs the ICU? Considerations for Intensive Care Unit Admission**

- ◆ What are the characteristics of the drug?
  - Is the drug a known killer?
  - Can the patient deteriorate rapidly from its toxic effects?
  - Can it cause delayed effects?
  - Does the drug have cardiac effects that will require cardiac monitoring?
  - What is the dose? Is it potentially lethal?
  - Does the therapy have potential adverse effects?
  - Do we know enough about this drug to make a confident decision?
  
- ◆ What about the patient?
  - Does the patient have any signs of serious end-organ toxicity?
  - Are laboratory data suggestive of serious toxicity?
  - Are drug concentrations rising?
  - Does the patient have any ECG changes suggestive of poisoning? (QRS > 100msec; prolonged QTc)
  - Does the patient have preexisting medical conditions?
  - Is the patient suicidal?
  
- ◆ Can the patient care unit handle this patient?
  - Does the admitting physician and nursing staff appreciate the potential seriousness of a toxicologic emergency?
  - Is the staffing adequate to monitor the patient?
  - Are time-consuming nursing activities required that cannot realistically be met on the patient care unit?
  - Can a safe environment be provided for a suicidal or agitated patient?

Admission of the poisoned patient to the intensive care unit continues to be based mostly on clinical judgment and the best available information. Therefore, the clinician must possess a realistic appreciation of their institution's capabilities and enlist an experienced medical toxicologist in order to make the best clinical decision regarding use of scarce health care resources. The staff at the Blue Ridge Poison Center are available 24/7 to answer questions that may arise regarding the necessity to admit a poisoned patient to a ICU setting: 1-800-222-1222. Cell users: 1-800-451-1428.

Adapted from Kirk & Pope: *Use of the Intensive Care Unit in Goldfrank's Toxicologic Emergencies*. Eighth Edition. 2006.