



# Poison HOTLINE

Partnership between Iowa Health System and  
University of Iowa Hospitals and Clinics

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## Did you know .....

When caring for aspirin (i.e.: salicylate) overdoses, it is important for healthcare providers to assess for hearing loss and tinnitus. Tinnitus and hearing loss are common complaints in patients with aspirin intoxication. Tinnitus is often the first symptom reported and described as a continuous high pitch sound or mild loudness. Some patients may consequently report hearing loss, especially to high frequencies.

Contact the Iowa Statewide Poison Control Center at **1-800-222-1222** for specific symptoms seen and current treatment recommendations on all overdoses.

[www.iowapoisson.org](http://www.iowapoisson.org).

## “But the Drug Level is Coming Down...”

Lab values can be helpful in determining the toxicity of many medications. However, toxicity can not be based solely on a lab value. The patient's clinical status and knowledge of the medication's effects in overdose are important considerations. Just because a medication level is decreasing doesn't mean the patient will be getting better or that it is time to stop antidotal therapy.

### Acute versus chronic ingestions

Chronic ingestions of medications can be worse because the body is already saturated with the medication. For example, people chronically taking lithium have a higher total body burden of lithium and small changes in lithium dosing can precipitate toxicity. These patients are likely to develop toxicity at normal or only slightly elevated serum lithium levels.

### A medication's blood levels do not necessarily correlate with the medication's tissue levels or the patient's symptoms

Blood levels of some medication do not correlate well with symptoms. Lithium has a slow distribution into and out of the CNS. Because of this, serum lithium levels do not correlate well with either the CNS level of lithium or with symptoms. In fact, CNS symptoms may get worse despite decreasing serum lithium levels. Therefore, neurological signs and symptoms (confusion, rigidity, tremors, etc) are the best indicators of lithium toxicity.

### Bezoar formation

Some medications, such as aspirin, can form bezoars (a concretion of tablets in the stomach). As the bezoar is broken down, the salicylate level will rise. Thus, the salicylate level can be coming down, but then rise again as more salicylate is absorbed. Monitoring the patient closely for changes in CNS status is important in determining salicylate toxicity.

### Acetaminophen (APAP)

Even if a patient's APAP level is coming down, it may still plot in the potentially toxic range on the Rumack-Matthew Nomogram. The nomogram plots the APAP level against time, but only for acute overdoses. The antidote, n-acetylcysteine, should be given if any level plots above the "Possible Risk" line on the nomogram. While the APAP level will continue to decline, treatment should not be discontinued just because the APAP level is declining.

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**POISON**  
**Help**  
**1-800-222-1222**

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