



# Poison HOTLINE

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

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## Did you know .....

Recently there has been a nationwide Listeria outbreak associated with contaminated melons. Annually, there are about 1,600 cases of Listeriosis in the US.

Listeriosis is caused by eating food contaminated with the *Listeria* bacteria. The incubation period is 3 to 70 days, but symptoms usually appear within a month. Older adults, pregnant women and the immuno-compromised are most susceptible. Listeriosis can be severe with fever, muscle aches, and sometimes diarrhea & other GI symptoms.

Lower your risk for infection by avoiding high risk foods, and handling and storing foods properly.

## Lithium Toxicity

Lithium is a naturally occurring metal which is used in the treatment of bipolar disorder. Its mechanism of action is not well understood. Concentrations are highest in the brain, bone, saliva and thyroid. The brain and CNS are the targets of lithium toxicity and permanent CNS effects can result from toxicity.

The therapeutic range for lithium is listed as 0.6-1.2 mEq / L, but lithium's narrow therapeutic index means toxicity can occur with lithium levels minimally above this range. Lithium is renally eliminated, and any condition or drug that affects renal function or renal perfusion (e.g. dehydration, NSAIDs, thiazide diuretics, etc.) can decrease renal clearance of lithium and lead to lithium toxicity. Neurological signs & symptoms are the best indicators of toxicity, not the lithium level. Lithium levels can fall despite worsening of CNS symptoms.

It is important to distinguish between acute, acute-on-chronic and chronic lithium toxicity. Acute ingestions are generally less severe than the acute-on-chronic or chronic overdoses. Both acute-on-chronic and chronic intoxications have a higher total body burden of lithium so small changes in dosing can precipitate toxicity. Patients with acute-on-chronic and chronic toxicity are at a higher risk for neurological toxicity compared to those with an acute overdose.

Acute ingestions present with nausea, vomiting, tremors, hyperreflexia and agitation. This can progress to seizures, myoclonus, rigidity, hypotension, hyperthermia and coma. Acute-on-chronic and chronic intoxications usually present with mental status changes and less GI symptoms. These patients may also present with Parkinson-type symptoms and peripheral neuropathy. All types of lithium toxicity can also lead to prolonged QT interval. Left untreated these patients can also progress to renal failure.

Treatment includes: fluid resuscitation with 0.9% NS; monitoring electrolytes, BUN, creatinine and serial lithium levels; check EKG for prolonged QT. Activated charcoal does not bind lithium and should not be given unless co-ingestants are suspected. Treat seizures with benzodiazepines. Lithium's pharmacokinetics make it very amenable to dialysis and indications for hemodialysis include (a) patients with moderate to severe symptoms, (b) renal failure, (c) neurological symptoms including confusion, seizures or coma, and (d) patients who cannot tolerate sodium or fluid repletion.

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

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