



# Poison HOTLINE

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

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*Did you know .....*

Sometimes when a patient is having recurrent seizures, neuromuscular blocking agents (“paralytics”) are used to stop the peripheral manifestations and untoward consequences (e.g. muscle breakdown, hyperthermia) of seizures. While the paralytics are very effective at stopping muscle contractions, they do not necessarily stop the brain’s seizure activity. Thus, any seizing patient who is maintained on a paralytic agent needs to have a continuous EEG performed to make sure that brain seizure activity is appropriately treated and controlled with benzodiazepines.

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

## Treatment of Seizures in Overdoses

Toxic exposure to many drugs or poisons can result in seizures. The medications and street drugs which frequently cause seizures in overdoses are stimulants, antidepressants, neuroleptic agents, antihistamines, anticholinergic drugs, cholinergic agents, theophylline, anti-dysrhythmics and isoniazid. Some NSAIDs and salicylates, antimicrobials, and narcotics can also cause seizures in an OD. Most toxin-induced seizures are tonic-clonic in nature. Seizures may occur secondary to hypoxia, hypoglycemia, or dysrhythmias.

GI decontamination (activated charcoal, gastric lavage) is *very rarely* recommended for patients who are having, or who may have, seizures. Endotracheal intubation, frequently performed in patients with persistent seizure, is not guaranteed to protect the patient’s airway and prevent aspiration. It is also important to rule out medical causes for the seizure activity and not to assume the seizures are from the overdose or ingested substances.

Intravenous benzodiazepines (BDZ) are the first-line anticonvulsant used in toxin-induced seizures, rather than other anticonvulsants. Lorazepam and diazepam are commonly used and are effective at treating seizures caused by many different toxins. Other IV BDZs can be used at the discretion of the health care professionals. Occasionally, very large doses of BDZs are needed to control toxin-induced seizures.

Bupropion (Wellbutrin) needs to be noted as a drug with a very high risk for seizures when taken in overdose. Even doses of 600 mg, which is slightly over the maximum recommended daily dose of 450 mg, can put the patient at risk for seizures. For extended release preparations, the risk for seizures lasts up to 18 hours post ingestion. There appears to be a strong correlation between tachycardia and an increase incidence of seizures in bupropion overdoses.

Isoniazid (INH) overdoses can cause seizures that may be refractory to treatment with BDZs. Seizures can develop as soon as 30 mins after ingestion of the INH. Pyridoxine (Vitamin B6) is used in conjunction with BDZs to treat isoniazid-induced seizures.

For questions regarding any of the above information, contact the experts at the Iowa Statewide Poison Control Center at 1-800-222-1222.

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

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