



Poison HOTLINE

1-800-222-1222

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Sympathomimetic Toxidrome

A toxidrome is a group of symptoms associated with a poisoning or exposure to a particular substance or class of substances. The classical presentation of the sympathomimetic toxidrome is characterized by signs and symptoms of adrenergic excess as described in the chart below. However, patients can present with a partial toxidrome; patients with mixed ingestions may also present in a non-classical manner.

Tachycardia	Mydriasis	Seizures
Hypertension	Diaphoresis	Psychosis
Hyperthermia	Tremor	Hallucinations
Tachypnea	Hyperactive bowel sounds	Paranoia
	Rhabdomyolysis	Mania

The effects listed above are caused by excess stimulation on alpha-adrenergic, beta-adrenergic, dopamine, and serotonin receptors. Some common medications that can cause this toxidrome are: epinephrine, norepinephrine, amphetamines, methamphetamine, caffeine, nicotine, cocaine, pseudoephedrine, methylphenidate, LSD, PCP, and ecstasy (MDMA).

Treatment is largely symptomatic and supportive care. Activated charcoal may be considered soon after the exposure, but these patients are at risk for seizures and mental status changes, both of which increase their risk of aspiration. Treat agitation, hypertension, tachycardia, tremors, and seizures with benzodiazepines (e.g. diazepam, midazolam). High doses of benzodiazepines may be warranted. If the patient is not responding to high dose benzodiazepines consider intubation and use of barbiturates or propofol. Rapid cooling and hydration are frequently needed. When treating hypertension unresponsive to high-dose benzodiazepines, we recommend against the use beta-blockers alone as unopposed alpha stimulation may occur and worsen hypertension.

NOTE: The sympathomimetic and anticholinergic toxidromes may present vary similarly. To distinguish between the two, the sympathomimetic toxidrome presents with diaphoresis and hyperactive bowel sounds whereas the anticholinergic toxidrome presents with dry skin and hypoactive bowel sounds.

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Did you know

Many ADD and ADHD medications can cause the sympathomimetic toxidrome.

These medications can be confusing as they come in both generic and brand name, and different formulations are available for each drug.

For example, there are immediate release (IR) and extended release (XR) formulations of the brand name Adderall and Adderall XR. This same drug is available as a generic called "mixed dextroamphetamine / amphetamine salts" in both the IR and XR formulations.

It is important to know which formulation was ingested as their time to peak and half-lives vary. This can lead to patients developing symptoms at different times post-ingestion.

