

Toxidromes

Table 1. Classic Toxidromes		
Toxidrome	Signs and Symptoms	Potential Toxic Agent
Cholinergic crisis	Salivation, diarrhea, lacrimation, bronchorrhea, diaphoresis, urination Miosis, fasciculations, weakness, bradycardia or tachycardia, hypotension or hypertension, altered mental status, seizures	Nicotine Organophosphate insecticides Carbamate insecticides Medicinal carbamates (e.g., physostigmine)
Anticholinergic	Cutaneous flushing, hyperthermia, dry skin, mydriasis, dry mucous membranes, disorientation, hallucination, seizures, tachycardia, hypertension, urinary retention	Belladonna alkaloids Jimson Weed/Datura Brugmansia Diphenhydramine
Hallucinogen	Disorientation, hallucination, panic	Peyote Psilocybin mushrooms LSD PCP Lysergic acid containing plants: morning glory, Hawaiian woodrose
Sympathomimetic	Tachycardia, hypertension, hyperthermia, diaphoresis, mydriasis, hyperreflexia, anxiety, seizures	Ma Huang (ephedrine) Amphetamines Cocaine Khat and other cathinones Bath salts
Opioid	Lethargy, miosis, respiratory depression. Can progress to coma, pulmonary edema, hypotension, bradycardia	Opium/snuff heroin Prescription medications: Codeine Hydro/oxycodone Hydro/oxymorphone Fentanyl Desomorphine aka krokodil

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Table 2. Patterns of Illness and Potential Toxic Agent Etiologies ^{8,9}		
Toxidrome	Signs and Symptoms	Potential Toxic Agent
Cellular hypoxia	Airway toxicity - Cough, hoarseness, dyspnea, chest tightness, hemoptysis, dizziness, wheezing or rales, cyanosis, hypoxemia, pulmonary edema	Phosgene Ricin Ammonia Chlorine Phosphine gas Nitrogen oxides Organofluorine (Teflon) pyrolysis
	Hemoglobin toxicity with cyanosis - Nausea, headache, dizziness, dyspnea, confusion, coma, convulsions	Methemoglobinemia-causing agents (e.g., nitrates)
	Hemoglobin toxicity without cyanosis - Nausea, vomiting, headache, dizziness, weakness, dyspnea, confusion, syncope, coma, convulsions, dysrhythmias, cardiovascular collapse	Carbon monoxide
	Mitochondrial toxicity - Mild (nausea, vomiting, headache); Severe (altered mental status, dyspnea, hypotension, seizures, metabolic acidosis)	Cyanide Sodium monofluoroacetate Carbon monoxide Hydrogen sulfide Sodium azide Phosphine
Severe gastrointestinal illness, dehydration	Abdominal pain, vomiting, profuse diarrhea (possibly bloody), hypotension, possibly followed by multisystem organ failure	Arsenic Colchicine Ricin Barium Cyclopeptide poisoning (e.g., Amanita and Galerina mushrooms) Monomethylhydrazine poisoning (eg, Gyromitra mushrooms) Shigatoxin (e.g., ground beef, raw vegetables) Ciguatoxin poisoning (e.g., tropical reef fish) Amnesic shellfish poisoning (e.g., mussels) Scrombotoxic fish poisoning (e.g., tuna, mackerel, bonito)

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Peripheral neuropathy and/or neurocognitive effects	Peripheral neuropathy signs and symptoms - muscle weakness and atrophy, "glove and stocking" sensory loss, depressed or absent deep tendon reflexes Neurocognitive effects - include memory loss, delirium, ataxia, and encephalopathy	Methyl bromide (fumigant, toxic gas) Mercury (organic) Arsenic (inorganic) Thallium Lead Hexane Acrylamide
	Paresthesias of face or mouth/arms/legs, headache, dizziness, nausea and muscle incoordination	Paralytic shellfish poisoning (e.g., "red tide" associated mussels, cockles, clams, oysters, crabs, lobsters) Tetrodotoxin (e.g., pufferfish) Neurotoxic shellfish poisoning (e.g., oysters, clams, mussels)
	Diffuse weakness - proximal > distal, dysphagia, dysarthria, ptosis, extra-ocular muscle weakness	Botulinum toxin (e.g., home canned foods, garlic in oil)
	Inebriation, hallucinations, manic behavior, delirium, deep sleep	Ibotenic acid-musimol poisoning (e.g., Amanita and Tricholoma mushrooms) Psilocybin poisoning (e.g., Psilocybe and other mushrooms)
Generalized muscle rigidity	Seizure-like, generalized muscle contractions, painful spasms (neck and limbs); tachycardia and hypertension are common	Strychnine
Convulsions	Convulsions are a predominant or a primary feature of poisoning with these agents (i.e., a direct CNS effect and not as a secondary effect such as cellular hypoxia)	Tetramine (Du-shu-quiang) Hydrazine Camphor Organochlorines (Lindane) Picrotoxin Pyrethrins and pyrethroids Plants (e.g., water hemlock)

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Oropharyngeal pain and ulcerations	Lip, mouth, and pharyngeal ulcerations and burning pain	Paraquat Diquat Caustics (acids and alkalis) Metal salts Mustards (e.g., sulfur)
Nonimmune-mediated hemolysis	Symptoms caused by massive hemolysis: malaise, dyspnea, hemoglobinuria (reddish, heme-positive urine that is often acellular), bronze discoloration of skin	Arsine (toxic industrial gas) Copper sulfate Dinitrophenols Chlorates and bromates Acetic acid