NIH Toxidrome

Affected Areas

Central Nervous System (CNS)

Smooth Muscle

Exocrine Glands

Skeletal Muscle



Immediate Symptoms

Cholinergic

SLUDGEMM:

Salivation

Lacrimation

Urination

Defecation

GI

Emesis

Miosis: Changed mental status

Muscle: Respiratory distress

(bronchospasm)

SLOBBERED

Salivation

Lacrimation

Obtundation

Bronchoconstriction/ bronchorrehea

Bradycardia

Eye findings

Immediate Symptoms (cont.)

Reduced vascular tone

Emesis

Diarrhea

Ongoing Symptoms

Local Effects

Vapor to face:

Miosis

Lacrimation

Hypersalivation

Wheezing

Liquid to skin: Local sweating with fasciculations

or twitching

At increasing dose: Systematic effects (GI, CNS)

At high dose: All symptoms can occur suddenly;

rapidly fatal if untreated

CHEMM

Not meant to be a complete care guideline. Please refer to the CHEMM website for more information: https://chemm.hhs.gov/mmghome.htm



Examples

Chemical Warfare Agents

Nerve agents*

GA (tabun)*

GB (sarin)*

GD (soman)*

VX*

*May be weaponized

Toxic Industrial Chemicals/Toxic Industrial Materials

Carbamate insecticides

Aldicarb

Methomyl

Organophosphate insecticides

Chlorpyrifos

Parathion

Common Treatment Protocols

Atropine

2-PAM (oximes)

Benzodiazepines

Airway and breathing support

Scopolamine (not FDA-approved)

Ketamine (not FDA-approved)

Decontamination

Sensitive Populations

No particularly sensitive populations

Concerns About This Syndrome

The toxidrome encompasses insecticides and nerve agents, which can differ radically in potency. Clinical onset varies by state of agent and route of exposure as well as in especially sensitive populations (including children). Management differs between insecticides and nerve agents. Chemical aging is a concern with GD and possibly with certain insecticides. There is a differing clinical presentation in children. Infants and young children in many instances present only with neurological signs and symptoms.