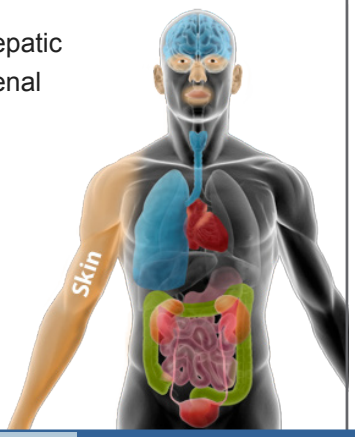
NIH **Toxidrome** // **Solvents, Anesthetics, Sedatives (SAS)** // ***Topical***

Affected Areas

Central Nervous System (CNS)
Peripheral Nervous System (PNS)
Cardiac (secondary effects)
Hematological
Skin
GI
Hepatic
Renal



Immediate Symptoms

CNS agitation or (more commonly) depression
Behavioral changes
Slurred speech
Nystagmus (abnormal eye movements)
Ataxia (difficulty walking and balancing)
Secondary cardiac arrest from release of catecholamines [solvents]
Chemical dermatitis (chemical burns)
Defatting from skin exposure to solvents

Ongoing Symptoms

Possible initial agitation [solvents]

Progressing to:
Confusion
Slurred speech
Ataxia
Loss of consciousness

Sometimes subsequently progressing to:
Coma
Convulsions
Respiratory arrest
Cardiac dysrhythmias (irregular heartbeat)
Cardiac arrest

Cardiac arrest may be the first sign with high inhaled doses of solvents

NIH **Solvents, Anesthetics, Sedatives (SAS)**

Examples

Gasoline
Benzene
Toluene
Xylene
Carbon tetrachloride
Methylene chloride
Freon
Nitrous oxide
Benzodiazepines (e.g., diazepam, alprazolam, midazolam)
Barbiturates (e.g., phenobarbital, pentobarbital)

Common Treatment Protocols

Removal from exposure
Airway management
Artificial ventilation
Flumazenil (not recommended if other toxicants may be involved)

Sensitive Populations

No particularly sensitive populations

Concerns About This Syndrome

Because several different compounds form a part of this toxidrome, subtle differences among the clinical presentations may be missed; however, the signs and symptoms of exposure to each of these chemicals or drugs is similar enough to warrant inclusion in a combined toxidrome. It will be important to emphasize the difference between acute effects and delayed effects (primarily neurotoxicityfrom solvent exposure.

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