

Hazmat Exposure/Skin Exposure

For any hazardous material (chemical) exposure. May use with another primary impression (e.g., Inhalation Injury or Burns) when applicable

History

- Type and time of injury
- Duration of exposure
- Exposure to chemical, biological, radiologic, or nuclear hazard
- Potential exposure to unknown substance or hazard
- Farmer or farm worker/harvester with exposure to pesticide
- Radiation exposure

Signs and Symptoms

- S.L.U.D.G.E.M.
- Altered mental status
- Pupils
- Seizure activity
- Respiratory distress/arrest
- Cardiac arrhythmias/dysrhythmias
- Abnormal skin signs

Differential

- Nerve agent exposure (e.g., VX, Sarin, Soman, etc.)
- Organophosphate exposure (e.g., pesticide)
- Vesicant exposure (e.g., Mustard gas, etc.)
- Respiratory irritant exposure (e.g., hydrogen sulfide, ammonia, chlorine, etc.)

**Secure area
Scene safety
PPE**

**If needed
request Hazmat
(650) 363-4981**

Type of exposure

Radiation

Nerve agents

Chemical burns

E	Remove clothing, if appropriate
	Apply Oxygen to maintain goal SpO ₂ ≥ 92%
P	Cardiac monitor
	Establish IV/IO
	For nausea/vomiting consider, Ondansetron
	For pain consider, Fentanyl

E	Nerve agent kit IM
	Up to 3 doses rapidly, if needed
P	Secure airway and support respiratory rate
	Establish IV/IO
	Cardiac monitor
	Atropine 2mg IV/IO/IM
	Repeat every 3-5 minutes until symptoms resolve
	If patient is seizing upon EMS arrival, give Midazolam; do not wait to obtain IV or IO access
May repeat every 3 to 5 minutes for continued seizure activity	
	If ChemPak is activated, may substitute Valium for Midazolam
	May repeat every 3-5 minutes for continued seizure activity

E	For burning involving powders, safely brush off powder. Flush with copious water after all powder is removed.
	For burns involving acids, thoroughly flush affected area(s) with water to remove acid.
P	For hydrofluoric acid exposure Calcium Chloride for dysrhythmias or cardiac arrest
	For pain consider, Fentanyl

- For thermal burns: **Burns**
- Eye Irrigation Field Procedure**

**Notify receiving facility.
Consider Base Hospital
for medical direction**

Adult Toxic Exposure Treatment Protocols



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Radiation is energy transmitted in waves or particles that are colorless, odorless, invisible. We are exposed to small doses everyday, which have little effect on the body. In very large doses, however, the affect on the body can be deadly. EMS providers should patients and themselves away from the source as quickly as possible to minimize exposure an time of exposure. Supportive care is the mainstay of therapy. For patients who are exposed to radiation, it is crucial that their clothes are moved and they are decontaminated prior to EMS contact, treatment, and transport. All belongings should be left on scene.

External radiation exposure may result from a radiologic dispersant device, radiologic material release, or radiological explosive device. Limit time with suspected source. Once patients are decontaminated, patients pose minimal to no risk to EMS providers.

Internal radiation may result from exposure through an open wound, injection, or inhalation of radioactive materials. These types of exposures are common in both patient diagnostic and treatment care. Internal radiation poses minimal to no risk to EMS providers.

Pearls

- For gaseous exposures, refer to appropriate respiratory protocols.
- Follow HAZMAT protocols for decontamination. Do not come into contact with or transport any contaminated patient.
- **Salivation; Lacrimation; Urination** (increased or loss of control); **Defecation** or diarrhea; **GI upset** (abdominal pain/cramping); **Emesis; Muscle twitching.**
- If triage/MCI issues exhaust supply of Nerve Agent Kits, of if they are not available, use Atropine as indicated.
- Each Nerve Agent Kit contains Pralidoxime and Atropine (Duodote).
- For patients with acute symptoms, there is no limit for Atropine dosing.
- Insecticides: Increased or decreased heart rate, increased secretions, nausea, vomiting, diarrhea, and pinpoint pupils. Consider restraints if necessary for patient's or personnel's protection per Restraint Procedure.
- Carefully evaluate patients to ensure they have not been exposed to another type of agent (e.g., narcotics, vesicants, etc.)
- The main symptom that Atropine addresses is excessive secretions, Atropine should be given until respiratory symptoms improves.

