

# 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  
California Poison Control  
(800) 222-1222**

Type of exposure

Radiation

Nerve agents

Chemical burns

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

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

- 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 a colorless, odorless, invisible toxin to the body. In small doses, it may have little effect on the body. In large doses, however, the affect on the body can be deadly. There is little that EMS providers can do for patients exposed to radiation other than provide supportive care. For patients who are exposed to external radiation, it is crucial that they are decontaminated prior to EMS contact, treatment, and transport.

External radiation exposure may result from a radiologic dispersant device, radiologic material release or radiological explosive device. It is critical to limit time your time to exposed patients.

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.

