



**Nerve Agent Treatment**

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Approval: John Poland – Executive Director

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**Refer to S-SV EMS Hazardous Material Incidents Policy (836)**

**Important caveats for medical responders:**

- EMS personnel shall not enter or provide treatment in the Contamination Reduction Zone (Warm Zone) or Exclusion Zone (Hot Zone) unless trained, equipped and authorized to do so.
- EMS personnel shall not use Haz Mat specific personal protective equipment (PPE), including self-contained breathing apparatus (SCBA), unless trained, fit tested and authorized to do so.
- Do not transport pts until they have been completely decontaminated. If transport personnel become contaminated, they shall immediately undergo decontamination.

**Treatment notes:**

- A base/modified base hospital physician order must be obtained prior to utilizing this protocol for pt treatment. Once an order is obtained, the entire protocol becomes a standing order that applies to all authorized/trained EMS personnel operating at the incident.
- Atropine (2mg) and pralidoxime chloride (600mg) auto-injectors included in MARK I/DuoDote nerve agent antidote kits shall only be used by authorized/trained EMS personnel.
- Paramedics may administer atropine and/or pralidoxime chloride IM/IV in situations where auto-injector nerve agent antidote kits are not available.
- EMS personnel may self-administer nerve agent antidote kits when authorized/trained to do so.
- Adult auto-injectors are not to be used in children under 40 Kg.
- Nerve agent antidote medications are only given if the pt is showing signs & symptoms of nerve agent poisoning, they are not to be given prophylactically. A decrease in bronchospasm and respiratory secretions are the best indicators of a positive response to atropine and pralidoxime.

**Signs/Symptoms of Nerve Agent Exposure (mild to severe)**

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| 1. Runny nose                     | 9. Abdominal cramps                  |
| 2. Chest tightness                | 10. Involuntary urination/defecation |
| 3. Difficulty breathing           | 11. Jerking/twitching/staggering     |
| 4. Bronchospasm                   | 12. Headache                         |
| 5. Pinpoint pupils/blurred vision | 13. Drowsiness                       |
| 6. Drooling                       | 14. Coma                             |
| 7. Excessive sweating             | 15. Convulsions                      |
| 8. Nausea/vomiting                | 16. Apnea                            |

**Nerve Agent Exposure Mnemonic (SLUDGEM)**

- S**alivation
- L**acrimation
- U**rination
- D**efecation
- G**I distress
- E**mesis
- M**iosis/muscle fasciculation



**Nerve Agent Treatment**

**CHEMPACK**

**Description:**

- The Centers for Disease Control and Prevention (CDC) established the CHEMPACK project resulting in the forward placement of sustainable caches of nerve agent antidotes.
- CHEMPACK caches have been placed at select sites throughout the S-SV EMS region and surrounding areas according to program requirements and effective transportation alternatives.
- EMS CHEMPACK caches contain enough antidote to treat approximately 454 patients. These caches contain primarily auto-injectors for rapid administration, but also contain some multi-dose vials for variable dosing (including pediatric patients) and prolonged treatment.
- Authorization to deploy CHEMPACK assets will be limited to an event that:
  1. Threatens the medical security of the community; and
  2. Places multiple lives at risk; and
  3. Is otherwise beyond local emergency response capabilities; and
  4. Will likely make the material medically necessary to save human life.

**CHEMPACK requesting/deployment:**

- A requestor is considered to be one of the following entities at the scene of a suspected nerve agent or organophosphate release with known, suspected, or potential contaminated, exposed, or affected patients:
  1. EMS prehospital personnel; or
  2. Incident Commander (IC); or
  3. Medical Group Supervisor (MGS).
- Potential requestors should be familiar with and follow their Operational Area (OA)/county specific CHEMPACK plans and procedures
- The S-SV EMS Duty Officer and applicable MHOAC Program(s) shall be notified as soon as possible in the event of a CHEMPACK request/deployment.

**See page 3 for specific treatment**



### Nerve Agent Treatment

#### Treatment Notes

- Only treat pts located in the Exclusion Zone (Hot Zone) with IM auto-injectors

#### Nerve Agent Exposure Pt

- Remove all clothing
- Blot off the agent
- Flush area with large amounts of water
- Cover the affected area

#### Mild Signs/Symptoms

##### Atropine

- 2 mg IV/IO or IM
- OR**
- Administer one (1) atropine auto-injector IM
  - May repeat every 3-5 mins until symptoms improve

##### Pralidoxime chloride

- If symptoms do not improve in 5 mins, administer one (1) Pralidoxime chloride auto injector (600 mg) IM, one (1) time only

#### Moderate Signs/Symptoms

##### Atropine

- 4 mg IV/IO or IM
- OR**
- Administer two (2) atropine auto-injectors IM
  - May repeat every 3-5 mins until symptoms improve

##### Pralidoxime chloride

- If symptoms do not improve in 5 mins, administer two (2) Pralidoxime chloride auto injectors (1200 mg) IM, one (1) time only

#### Severe Signs/Symptoms

##### Atropine

- 6 mg IV/IO or IM
- OR**
- Administer three (3) atropine auto-injectors IM
  - May repeat every 3-5 mins until symptoms improve

##### Pralidoxime (2-PAM)

- Administer three (3) Pralidoxime chloride auto-injectors (1800 mg) IM

- Establish vascular access (may administer up to 1000 ml NS if SBP <90)
- Cardiac Monitor (if possible)

If continued seizure activity,  
Go to Seizure Protocol  
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