



Yolo County Emergency Medical Services Agency

Protocols

Revised Date: May 1, 2025

NERVE AGENT TREATMENT

Direction

- Antidote medications in this treatment protocol are available in prepositioned CHEMPACKs available for exposure to Nerve Agents (chemical warfare) and Organophosphates (commercial pesticides).
- An Incident Commander may request CHEMPACK deployment according to the Yolo County CHEMPACK plan. Request through the Yolo Emergency Communications Agency (YECA), or directly from the MHOAC when:
 - Suspected of confirmed symptomatic exposure to nerve agents or organophosphates
 - Antidotes are medically needed to save human life
- Auto-injectors of atropine and pralidoxime may be administered by EMR, PSFA and EMTs who have been trained by a YEMSA approved Optional Skills training program.
- Auto-injectors are NOT to be used in children under 40 kg.
- Auto-injectors may be self-administered by first responders for self-rescue following symptomatic exposure

Signs & Symptoms

DUMBBELS:

- Diarrhea
- Urination
- Miosis (pupil constricted) / Muscle Weakness
- Bronchospasm / Bronchorrhea (secretions)
- Bradycardia
- Emesis
- Lacrimation
- Salivation / sweating

SLUDGE:

- Salivation
- Lacrimation
- Urination
- Defecation
- Gastrointestinal Pain & Gas
- Emesis

or

Mild/Moderate Exposure

Severe Exposure

- Localized sweating
- Muscle Fasciculations (continuous twitching)
- Nausea
- Vomiting
- Abdominal Cramps
- Weakness
- Mild Dyspnea
- Pinpoint Pupils
- Unexplained Runny Nose

- Excessive Salivation
- Unconsciousness
- Seizures
- Severe difficulty breathing
- Apnea
- Flaccid Paralysis



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BLS

Decontamination
Remove all clothing
Blot off the agent
Flush area with large amounts of water
Assess vital signs
 O_2 , titrate SpO₂ to $\geq 94\%$
Suction and assist ventilations as needed

Mild/Moderate Exposure

Severe Exposure

Patient > 40 kg (88 lbs)

1 - 2 auto-injectors **Atropine 2-4 mg IM**

1 auto-injector **Pralidoxime 600 mg IM**

3 auto-injectors **Atropine 6 mg IM**

1 - 2 auto-injector **Pralidoxime 600 - 1800 mg IM**

- 1 for small adult/frail/elderly

ALS

Cardiac Monitor, Waveform EtCO₂, Vascular Access
BLS protocols for > 40 kg, as supplies are available

Mild/Moderate Exposure

Severe Exposure

Patient > 40 kg (88 lbs)

If auto-injector not available

Atropine 2 - 4 mg IV/IO

- repeat **every 5 - 10 minutes 2 mg IV/IO**

Any seizure activity

Midazolam 5 mg SIVP

- May repeat once

or

Midazolam 10 mg IM

- No repeat

If auto-injector not available

Atropine 6 mg IV/I/O

- repeat **every 5 - 10 minutes 2 mg IV/IO**

Any Severe Exposure

Midazolam 5 mg SIVP

- May repeat once

or

Midazolam 10 mg IM

- No repeat

Fluid Bolus NS 250 mL IV/IO

- Repeat as needed to maintain SBP ≥ 90



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ALS (cont.)	
Patient < 40 kg (88 lbs)	
Consider	
Atropine 0.05 mg/kg IV/IO <ul style="list-style-type: none">• Repeat every 5 - 10 minutes as needed• Max single dose 1 mg	Atropine 0.1 mg/kg IV/I/O <ul style="list-style-type: none">• Repeat every 5 - 10 minutes• Max single dose 2 mg Seizures Midazolam 0.1 mg/kg SIVP/IM <ul style="list-style-type: none">• May repeat IV x 2 once every 5 – 10 minutes• No repeat IM• Max single dose 2 mg• Total max dose 4 mg
Atropine 0.05 mg/kg IV/IO <ul style="list-style-type: none">• Repeat every 5 - 10 minutes as needed• Max single dose 1 mg Atropine 0.1 mg/kg IV/I/O <ul style="list-style-type: none">• Repeat every 5 - 10 minutes• Max single dose 2 mg Seizures Midazolam 0.1 mg/kg SIVP/IM <ul style="list-style-type: none">• May repeat IV x 2 once every 5 – 10 minutes• No repeat IM• Max single dose 2 mg• Total max dose 4 mg	
<ul style="list-style-type: none">• Repeat IV/IO Atropine until decreased respiratory secretions, improved breathing or ventilation compliance.• Antidote medications are to be given for symptomatic exposure, not prophylactically• Antidote medications in CHEMPACK are part of a federal shelf-life extension program (SLEP) that monitors and tests long-term potency. EXPIRED CHEMPACK medications CAN be used• Treatment Protocol is to be used in conjunction with the YEMSA Hazardous Material or Weapons of Mass Destruction protocol and department Hazardous Material response plans• Hot (exclusion) zone treatment should be limited to use of IM Auto-injectors for Severe Exposures	