



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

Mild/Moderate Exposure

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

Severe Exposure

- 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 SpO ₂ 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 <ul style="list-style-type: none">1 for small adult/frail/elderly
ALS	
Cardiac Monitor, Waveform EtCO ₂ , 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 <ul style="list-style-type: none">repeat every 5 - 10 minutes 2 mg IV/IO Any <u>seizure</u> activity Midazolam 5 mg SIVP <ul style="list-style-type: none">May repeat once or Midazolam 10 mg IM <ul style="list-style-type: none">No repeat	If auto-injector not available Atropine 6 mg IV/IO <ul style="list-style-type: none">repeat every 5 - 10 minutes 2 mg IV/IO Any <u>Severe Exposure</u> Midazolam 5 mg SIVP <ul style="list-style-type: none">May repeat once or Midazolam 10 mg IM <ul style="list-style-type: none">No repeat
Fluid Bolus NS 250 mL IV/IO <ul style="list-style-type: none">Repeat as needed to maintain SBP ≥ 90	



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ALS (cont.)	
Patient < 40 kg (88 lbs)	
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/IO <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
Consider	
<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	