SUBJECT: NERVE AGENT TREATMENT

PURPOSE:

To establish standards for the requirements for paramedics, and accredited EMTs in treating patients with nerve agent exposures.

AUTHORITY:

Health & Safety Code, Division 2.5.

California Code of Regulations, Title 22, Division 9.

California Code of Regulations, Title 19, Division 2, Articles 1-8, Sections 2400 et seq., Standardized Emergency Management System (SEMS) Regulations.

PROCEDURAL PROTOCOL:

A. This protocol is NOT a standing order. Any paramedic / EMT wishing to utilize this protocol for patient administration MUST obtain an activation order from a Base / Modified Base Hospital Physician. Once activation is obtained, the entire protocol is a standing order that applies to all paramedics / accredited EMTs operating at the incident.

B. Providers will ensure personal safety by assuring adequate decontamination of victims and using appropriate personal protective equipment (PPE). Medical procedures within the Exclusion Zone (Hot Zone / contaminated area) will only be performed by personnel who have specific training to allow them to function in that area. Under no circumstances should responding personnel at any level of expertise use Personal PPE or assist in patient decontamination without completing the required training.

C. The Atropine (2mg) and 2-PAM (Pralidoxime Chloride–600mg) auto-injectors included in MARK I / DuoDote Nerve Agent Antidote Kits will be used only by those paramedics / accredited EMTs that have been trained in their use and have them available. Paramedic personnel may administer atropine / 2-PAM IM/IV in situations where auto-injector Nerve Agent Antidote Kits are not available.

D. Auto-injectors are NOT to be used in children under 40 Kg.
E. SELF ADMINISTRATION

a. EMT / Public Safety personnel that have been trained and equipped may utilize this protocol to self administer MARK I / DuoDote auto-injectors when authorized by their prescribing physician.
b. Paramedics and accredited EMTs may self administer according to this protocol.

F. SPECIAL NOTES / PRECAUTIONS

a. Only specially trained paramedic and accredited EMT personnel may administer nerve agent antidote medications to patients.
b. Nerve agent antidote medications are only given if the patient is showing signs and symptoms of nerve agent poisoning. THEY ARE NOT TO BE GIVEN PROPHYLACTICALLY.
c. This treatment protocol is to be used in conjunction with protocol #E-7 (HazMat)
d. Note: a decrease in bronchospasm and respiratory secretions are the best indicators of a positive response to atropine and 2-PAM therapy.

Signs and Symptoms of Nerve Agent Exposure (from mild to severe)

<table>
<thead>
<tr>
<th>Exposure</th>
<th>Signs &amp; Symptoms</th>
<th>Mnemonic for Nerve Agent Exposure</th>
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<tbody>
<tr>
<td>MILD</td>
<td>- Unexplained runny nose</td>
<td>Salivation</td>
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<td></td>
<td>- Tightness in the chest</td>
<td>Lacrimation</td>
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<td>- Difficulty breathing</td>
<td>Urination</td>
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<td></td>
<td>- Bronchospasm</td>
<td>Defication</td>
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<td></td>
<td>- Pinpoint pupils resulting in blurred vision</td>
<td>Gastrointestinal pain &amp; gas</td>
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<td>- Drooling</td>
<td>Emesis</td>
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<tr>
<td>MODERATE</td>
<td>- Excessive sweating</td>
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<td></td>
<td>- Nausea and/or vomiting</td>
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<td></td>
<td>- Abdominal cramps</td>
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<td></td>
<td>- Involuntary urination and/or defecation</td>
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<tr>
<td></td>
<td>- Jerking, twitching and staggering</td>
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<tr>
<td>SEVERE</td>
<td>- Headache</td>
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<tr>
<td></td>
<td>- Drowsiness</td>
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<td></td>
<td>- Coma</td>
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<td></td>
<td>- Convulsions</td>
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<td>- Apnea</td>
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</table>
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Patient exposed?

YES

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

Exclusion Zone (Hot Zone)
Treat only patients with severe exposure with IM auto-injectors

Contamination Reduction Zone (Warm Zone)
Mild to severe exposures
- ABC’s & High Flow O₂

Mild Exposure

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

Pralidoxime (2-PAM)
- If symptoms do not improve in 5 mins, administer one (1) Pralidoxime (2-PAM) auto-injector (600 mg) IM, one time only

Moderate Exposure

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

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

Severe Exposure

Atropine
- 6 mg IV/IO/IM
OR
- Administer three (3) atropine auto-injector IM
- Repeat: 2 mg IV/IO/IM or one (1) auto-injector q 3 – 5 mins until symptoms improve

Pralidoxime (2-PAM)
- Administer three (3) Pralidoxime (2-PAM) auto-injectors (1800 mg) IM

If seizures continue: go to Seizure Protocol N-2

- IV/IO TKO or titrate to SBP ≥ 90
- Cardiac monitor (if possible)

DuoDote Auto-Injector (Atropine 2.1 mg/0.7ml & Pralidoxime Chloride 600 mg/2ml) may be utilized if MARK I kits (Atropine 2mg & Pralidoxime Chloride 600mg) are not available