ALS NERVE AGENT EXPOSURE

AUTHORITY: Division 2.5, Health and Safety Code, Sections 1797.220 & 1798 et seq.

DEFINITIONS:

A. “CHEMPACK” means a voluntary component of the Federal Strategic National Stockpile Program (SNS) operated by the Centers for Disease Control and Prevention (CDC) for the benefit of the U.S. civilian population. The CHEMPACK program’s mission is to provide state and local governments a sustainable nerve agent antidote cache that increases their capability to respond quickly to a nerve agent event such as a terrorist attack.

B. “Nerve Agents” mean an extremely toxic organophosphate-type chemicals, including GA (tabun), GB (sarin), GD (soman), GF (cyclosarin), and VX, which attack the nervous system and interfere with chemicals that control nerves, muscles, and glands. They are odorless and invisible and can be inhaled, absorbed through the skin, or swallowed.

C. “Nerve agent antidotes” means to counteract the effects of nerve agent by 1) decreasing symptoms and 2) regenerating an enzyme that is wiped out by nerve agents. Nerve agent antidotes are among the five (5) actions taken after exposure to nerve agent, as follows:

1. Terminate the exposure (stop breathing and move quickly to good air; decontaminate victims and emergency medical staff within minutes of exposure; don personal protective equipment; ventilate pre-hospital and hospital treatment areas).
2. Support ventilation.
3. Provide atropine therapy.
4. Provide oxime therapy.
5. Provide antiseizure therapy.

PROCEDURE:

I. As soon as the scene is identified as hazardous materials incident, secure, isolate, and deny entry, ensure appropriate resources are responding, and notify the base hospital.

II. Decontamination should precede any treatment by EMS personnel.
III. All Providers will ensure personal safety by assuring adequate decontamination of victims is conducted and all response personnel will utilize appropriate personal protective (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 Protective Equipment or assist in patient decontamination without completing the required training.

IV. EMTs and paramedics that have been trained and equipped may utilize the nerve agent protocol to self administer EMS CHEMPACK auto-injectors when they have been exposed to nerve agents and are symptomatic.

V. Once the EMS CHEMPACK is deployed to an active incident, the Medical Group Supervisor may contact the Base Hospital and request that all paramedics on that incident operate under standing orders.

VI. TREATMENT:

A. Perform routine ALS/BLS medical care as directed in EMS Policy No. 5502, Routine BLS Care and EMS Policy No. 5701, Routine ALS Care.
B. Position the patient on side (recovery position).
C. Monitor Respiratory status closely. Use airway adjuncts, administer high flow O₂, suction, ventilate, and advanced airways as indicated.
D. Establish IV, NS. Titrate to maintain Systolic BP of greater than 90 mm Hg.
E. Nerve agent medications should never be given prophylactically.
F. The auto-injectors included in EMS CHEMPACK Nerve Agent Antidote Kits will be used only by those paramedics that have been trained in their use. Paramedics may administer atropine IM/IV in situations where EMS CHEMPACK Nerve Agents Antidote Kits are not available.
G. Administer antidotes as outlined below.
H. **Seizure:** After Atropine administration: **Valium:** Adults - titrate 2.5 - 10 mg slow IV push to effect. If unable to obtain and IV administer IM 10 mg given deep IM (slowly). If recurrent or persistent seizure, repeat X 1 IV/IM to a maximum of 20 mg. Pediatric (less than 40kg, or 9 years old) 0.05-0.3 mg IV over 2-3 min q 15-30 min, titrated to effect; not to exceed 10 mg
## LEVELS OF EXPOSURE

<table>
<thead>
<tr>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhinnorhea</td>
<td>Salivation, Lacrimation, Urination, Defecation, GI symptoms, Emesis, Miosis</td>
<td>Jerking, Twitching, Staggering, Headache, Drowsiness, Coma, Seizures, Apnea</td>
</tr>
</tbody>
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### TREATMENT

<table>
<thead>
<tr>
<th>Exposure:</th>
<th>Onset</th>
<th>ATROPINE (2 Mg Auto-injector)</th>
<th>2-PAM (600 Mg Auto-injector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Exposed,&quot; but Asymptomatic:</td>
<td>N/A</td>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>MILD (Vapor):</td>
<td>Seconds</td>
<td>Adult: One (1) Auto-injector, (2 mg) IM.</td>
<td>Adult: One (1) Auto-injector, (600 mg) IM, one time only, prn. If S &amp; SX continue 5 min. after administering Atropine, administer 2-Pam Cl.</td>
</tr>
<tr>
<td>MILD (Liquid):</td>
<td>Minutes to Hours</td>
<td>Adult: Two (2) Auto-injectors, (4mg) IM. Peds: 0.02 mg/kg, min. dose 0.1 mg. MR q 3-5 min. prn.</td>
<td>Peds: N/A, DO NOT Administer.</td>
</tr>
<tr>
<td>MODERATE:</td>
<td>Seconds to Hours</td>
<td>Adult: Three (3) Auto-injectors (6 mg) IM. Peds: If Bp unobtainable, consider administering MARK I Kit(s).</td>
<td>Adult: Three (3) Auto-injectors, (1.8 Gms) IM, MAX dose. Do NOT repeat.</td>
</tr>
<tr>
<td>SEVERE:</td>
<td>Seconds to Hours</td>
<td></td>
<td>Peds: N/A, DO NOT Administer.</td>
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Effective: **DRAFT May 21, 2010**
Supersedes:  
Approved: 
Medical Director 
EMS Administrator