Statewide Standard Treatment Protocol

Basic Life Support and Fire Service Standing Orders

For Nerve Agent Antidote Program

Delaware Office of EMS
EMERGENCY MEDICAL SERVICES
DELAWARE HEALTH AND SOCIAL SERVICES
DIVISION OF PUBLIC HEALTH

STATE FIRE PREVENTION COMMISSION • DELAWARE •

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State of Delaware
Department of Health and Social Services
Division of Public Health
Office of Emergency Medical Services,
In conjunction with the
State Fire Prevention Commission

Basic Life Support and Fire Service Standing Orders for Nerve Agent Antidote Program

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Purpose:
To outline the process by which Basic Life Support agencies and Fire Service may train, acquire, maintain, use, and discard of MARK I kits. The decision to participate in the MARK I kit program is on a voluntary basis however; those agencies wishing to participate must comply with the protocol.

Justification:
During an act of chemical terrorism or during a hazardous materials incident, basic life support providers may be exposed to harmful, even fatal doses of nerve agent. In these situations, providers may need to administer life saving medications via single dose self-administration kits, to themselves or fellow providers in a rapid time sensitive fashion.

MARK I kits and DuoDotes™
As of January 2008, Meridian Medical Technologies™ is discontinuing the manufacture of MARK I kits. They have introduced the DuoDote™. This is a single auto-injector containing both nerve agent antidotes (Atropine and Pralidoxime). Agencies currently carrying MARK I kits may continue to use them following this protocol. Once these existing kits expire they will be replaced by, and services new to the Public Safety Nerve Agent Antidote Program will receive the DuoDote™ autosyringes.

Note: One DuoDote™ equals one Mark I kit

Protocol:
1. Participation in this program is voluntary. Once the agency receives the Nerve Agent Antidotes, their usage must only be under the direction of this protocol, and compliance is mandatory.
2. Any Basic Life Support agency wishing to participate must notify OEMS in writing of their interest. The agency must outline how it plans to distribute, maintain and monitor the Nerve Agent Antidotes. This includes a plan for QA/QI on their usage and disposal.
3. Upon the approval of the agency by OEMS, the agency must undergo a training module, offered by OEMS, on the maintenance and appropriate use of the Nerve Agent Antidotes.
4. The OEMS will issue the Nerve Agent Antidotes to the agency based on the needs of the agency.
5. The agency is expected to keep the kits current and in good condition. Broken or expired kits are to be returned to OEMS for replacement.
6. Any usage of a Nerve Agent Antidotes must be reported to the OEMS or county medical director within 24 hours.
7. An agency may discontinue the usage of Nerve Agent Antidotes kits at any time by returning them to OEMS.
8. Failure to comply with the protocols or maintain the kits in working order may result in discontinuation of the agency in the program.

Nerve Agents

Background:
Nerve agents are the most toxic of the known chemical agents. They are hazards in their liquid and vapor states and can cause death within minutes after exposure. Nerve agents inhibit acetylcholinesterase in tissue, and their effects are caused by the resulting excess

acetylcholine. Nerve agents are considered to be major military and terrorist threats. Common names for nerve agents include Tabun (GA), Sarin (GB), and Soman (GD), GF and VX. Nerve agents are liquids under normal temperature conditions. When dispersed, the most volatile ones constitute both a vapor and liquid hazard.

Suspicion/Detection:

- Multiple patients with miosis, rhinorrhea, difficulty breathing, convulsions, drooling or paralysis.
- May smell odor of fruit or fish but this is highly unreliable.
- Personnel are to extricate themselves immediately from the area and initiate personal protection and care if needed.
- With suspicion of nerve agent, notify the communications center immediately and contact medical control as soon as possible.

History:

- Setting
- Exposure length and type
- Concentration of agent

Exam:

- ABCs
- Vital Signs
- Level of Consciousness
- Vapor
    - Small exposure: Miosis, rhinorrhea, mild difficulty in breathing.
    - Large Exposure: loss of consciousness, convulsions, apnea, flaccid paralysis, copious secretions, miosis.
- Liquid
    - Small to moderate exposure: localized sweating, nausea, vomiting, feelings of weakness
    - Large Exposure: Sudden loss of consciousness, convulsions, apnea, flaccid paralysis, copious secretions.

Triage:

- Immediate (Red): severe exposure including respiratory distress, cyanosis, muscular fasciculations, unconscious with pulse and blood pressure.
- Non-salvageable (Black): no obtainable blood pressure
- Delayed (Yellow): walking and talking, may still require self-administration of mark I kit.

Self-treatment:

- Protect with appropriate Personal Protective Clothing for vapor and liquid.

- **General Guidelines:**
    - **MILD SYMPTOMS** (very small pupils, blurred vision, watery eyes, uncontrollable runny nose and/or mild difficulty breathing)
        - Immediately give <u>one</u> nerve agent antidote kit.
        - If, after 10-15 minutes, the patient does not develop any SEVERE SYMPTOMS, no additional antidote is recommended. Seek ALS for further evaluation.
        - **If, at any time, the patient develops SEVERE SYMPTOMS. Administer <u>two</u> additional nerve agent antidote kits and immediately seek ALS care.**

  - **SEVERE SYMPTOMS** (severely labored breathing, very slow or absent breathing, blue or purple color of the skin (cyanosis), unconscious with pulse, or uncontrollable muscle twitching)
    - Give three nerve agent antidote kits, and maintain an open airway with adequate control of neck movement.
    - If available, administer 10 mg Valium via Autoinjector.
    - Seek immediate ALS for further treatment and assistance with airway management and breathing support.
- Decontamination of skin is not necessary with vapor exposure but remove all clothing to remove trapped vapors.
- Decontamination of skin exposure: Removal of all clothing as rapidly as possible will lessen the amount of toxin absorbed. Full decontamination of skin will be necessary.

Treatment of the Public:

- Agencies authorized to carry Nerve Agent Antidotes for self-protection can provide aid to the public when authorized directly or indirectly (through a Delaware paramedic) by an on-line Medical Control physician.
- Providers will be given a laminated wallet sized card with signs and symptoms of nerve agent exposure for rapid reference and the appropriate treatment of varying levels of severity.
  - Signs and symptoms will be communicated to the on-line physician by the on-scene providers.
  - The on-line Medical Control physician will authorize the use of Nerve Agent Antidotes (if appropriate).
  - The Nerve Agent Antidotes will be obtained from existing supplies or supplemental supplies, which can be released in mass casualty situations.
- Existing protocols for self-treatment of providers will be followed when treating adult patients with suspected exposure
  - The number of nerve agent antidote kits utilized will be the same as in the self-treatment protocol.

- Pediatric patients (less than or equal to age 12) will be treated using pediatric Nerve Agent Antidotes (if available)
  - The number of pediatric nerve agent antidote kits utilized will be identical to the number recommended for an adult with corresponding symptoms however; these kits contain a lower dosage of medication.
  - In the event pediatric nerve agent antidote kits are not available, patients with severe symptoms should be given one adult nerve agent antidote kit. Those with mild or moderate symptoms should be evacuated to a health care facility for an alternative dosing.