	WESTCHESTER REGIONAL **EMERGENCY MEDICAL ADVISORY COMMITTEE** **POLICY STATEMENT** *Supercedes/Updates:* 03-01: Mark I Kits	**No. 04 - 04** **Date: 21 June 2004** **Re: BLS Mark I Kit Administration** **Pages: 6**

Use of “Mark I kits” (AtroPen® Auto-Injector & Pralidoxime Chloride Injector)

PURPOSE

To provide 1st Responder and basic life support (BLS) 911 EMS agencies with regional guidelines on the appropriate possession and use of “Mark I kits”[1].

BACKGROUND

In 2002, The State Emergency Medical Advisory Committee (SEMAC) and State Emergency Medical Services Council (SEMSCO) established guidelines in regards to the use of “Mark I kits” by pre-hospital providers. Subsequently the New York State Department of Health Bureau of Emergency Medical Services (NYSDOH BEMS) issued policy statement No. 02-08, superceded by updated Policy No. 03-05, presenting the basic guidelines by which “Mark I kits” could be employed in pre-hospital operations.

This Westchester Regional Emergency Medical Advisory Committee (WREMAC) policy statement will:

- Clarify the key provisions found in the NYS DOH policy
- Explain the regional authorization process for 1st Responder and BLS agency possession and use of “Mark I kits”
- Outline minimum required provider training
- Emphasize the need for decontamination of patients exposed to a nerve agent by trained personnel equipped with the proper personal protective equipment (PPE)
- Give basic guidelines for the administration of a “Mark I kit”
- Discuss the proper documentation and reporting of the use of a “Mark I kit”

CLARIFICATION OF KEY NYS DOH POLICY PROVISIONS:

According to NYS DOH policy No. 03-05, the use of the “Mark I kits” MUST adhere to five (5) outlined provisions:

1. **An EMS agency must be participating in an MMRS or Municipal Response Plan for WMD incidents.** The City of Yonkers is the only municipality in our Region participating as

[1] A “Mark I kit” contains antidotes to be used in instances of exposure to a nerve or organophosphate agent. The “Mark I kit” consists of two auto-injectors containing Atropine Sulfate and Pralidoxime Chloride.

an MMRS. Participation within a Municipal Response Plan must make specific reference to WMD incidents involving potential nerve agent exposures. Inclusion in a general MCI or disaster plan IS NOT sufficient. The aforementioned plan must be generated, approved, and operated by a municipality such as a village, town, city, fire district or Westchester County. Response Plans created by commercial entities are NOT sufficient. If your agency covers multiple municipalities, "Mark I kits" may only be used in the municipalities that have implemented an appropriate Response Plan as described above.

2. **The decision to utilize the "Mark I" antidote must be done under the authority of medical control.** Use of the "Mark I kits" will be used under the medical control provided in WREMAC policy and protocol.

3. **An EMS provider must be trained, at a minimum, to the WMD awareness level. The awareness program should be a national training program or modeled after one of the training programs developed by the Department of Defense (DOD), Department of Justice (DOJ) or Federal Emergency Management Agency (FEMA).** All 1st Responders who may use a Mark I auto-injector must be trained to at least the level described above. The training program previously released by the Hudson Valley and Westchester Regional EMS Councils only covers the use of Mark I auto-injectors and therefore DOES NOT comply with the above requirement. Any WMD Awareness program completed within the past two (2) years meeting the state recommendations DOES comply with the above requirement. Documentation regarding completed training may be requested by the WREMAC.

4. **The "Mark I kit" is not to be used for self-administration or prophylaxis.** A "Mark I kit" is only to be used on patients or individuals who have been exposed and exhibit signs and symptoms (i.e. SLUDGEM)[2]. An EMS provider who have been exposed to a nerve agent and is experiencing signs and symptoms is no longer a rescuer, but a patient.

5. **Use of the "Mark I kit" is to be based on signs and symptoms of the patient.** The suspicion or identified presence of a nerve agent is not sufficient reason to administer these medications. The "Mark I kits" are only to be used on symptomatic patients. Prophylactic administration of "Mark I kit" medications is NOT authorized.

AUTHORIZATION

A Westchester Regional 911 1st Response or BLS agency wishing to possess and utilize "Mark I kits" in their operations, must submit:

1. A completed WREMAC application to provide "Mark I kits"

2. A signed collaborative agreement with the agency Medical Director which shall at a minimum include:

    - Agency participation in an MMRS, local municipal or the Westchester County Emergency Management Office (WC OEM) response plan.

[2] Acronym for parasympathetic nervous system response to an organophosphate or nerve agent exposure: **s**alivation, **l**acrimation, **u**rination, **d**efecation, **g**astro-intestinal aggravation, **e**mesis, **m**uscular twitching. Response symptoms are proportional to the degree of exposure.

- Adherence to any NYS DOH or WREMAC policies, protocols and advisories regarding the administration of Mark I Auto-injector Kits.
- Outline of the minimum initial training and continuing education required of its providers to use the Mark-I Kits.
- Written policy and procedure for acquisition, storage, accounting, and proper disposal of used auto-injectors.
- Immediate reporting of the use of a "Mark I kit" to the Medical Director, the WREMAC and WC OEM.

3. Proof of involvement in an MMRS or a municipal response plan (e.g. a letter from the municipality confirming participation), or WC OEM Community Response Plan (e.g. a copy of signed agreement).

Applications will be reviewed by the Westchester Regional EMS (WREMS) office for completeness and presented to the WREMAC for approval.

TRAINING

A NYS certified CFR, EMT or EMT Intermediate working for an authorized "Mark I" agency under this policy MUST receive at a minimum the following training to posses and administer a "Mark I kit":

1. A WMD awareness course from a national training program or modeled after one of the training programs developed by the Department of Defense (DOD), Department of Justice (DOJ) or Federal Emergency Management Agency (FEMA). Courses taken within two (2) years prior to the effective date of this policy may be used. Online courses from recognized institutions are also valid. Certificates of attendance must be on file with the authorized agency.

2. An in-service regarding the use of a Mark I auto-injector that includes:
    - General types and categories of chemical weapons.
    - General characteristics of nerve agents
    - Pathophysiology of nerve agent exposure.
    - Signs and symptoms of nerve agent exposure (i.e. SLUDGEM).
    - Antidote mechanism of action and adverse reactions.
    - Antidote dosing schedules.
    - WREMAC policy and protocol regarding administration of a Mark I auto-injector.
    - Directions of use of the auto-injectors.
    - Patient re-evaluation and on-going assessment and treatment.

The training DOES NOT have to be agency specific. The responder is responsible for filing copies of course completion certificates and/or WREMAC CMA Student Attendance Forms with the authorized agency. The authorized agency is responsible for maintaining the WMD and "Mark I kit" training records for all of their providers and submitting a roster of all trained personnel to the WREMS office, with updates as necessary.

After the initial qualification period, responders will maintain the ability to posses and administer a "Mark I kit" by repeating the training outlined above every two (2) years.

The WREMAC reserves the right to have training records audited by the WREMS office with or without advance notice.

PERSONAL PROTECTION:
Triage should be initiated in the "Hot Zone"[3], continued in the "Warm Zone", and performed only by trained personnel who are wearing appropriate personal protective equipment (PPE) for the scene, as determined by the Incident Commander. Patient decontamination may be simultaneous with and/or prior to treatment.

EMS personnel lacking the proper training and PPE **SHOULD NOT** be operating in the area of a known nerve agent release or handling exposed patients. There is the potential for "off-gassing", by which vapors are given off chemically contaminated clothing. Any emergency responders assisting evacuated victims of nerve agent exposure, even in the "Cold Zone" should avoid exposing themselves to cross-contamination by ensuring that they do not come into direct contact with a patient's clothing.

GUIDELINES FOR ADMINISTRATION OF A "MARK I KIT":

"Mark I kits" are ONLY to be used on an emergency scene:

1. When specific signs and symptoms of exposure are present (i.e. SLUDGEM)

AND

2. The scene has been identified as the site of a nerve agent release by a competent authority (e.g. HAZMAT Team, WC DOH, NYS DOH, on-line Medical Control, regional poison control center, WMD Trained EMT-P)

AND

3. Under the authority of Direct Medical Control, or a General Medical Control Order provided via a WMD Trained EMT-P[4], as provided for by the WREMAC BLS Special Treatment Protocols and any necessary interim advisories.
    a. The Mark 1 injectors are not to be used as a prophylaxis for personal protection.
    b. There is to be no self-administration of antidote.

[3] Scenes containing hazardous materials (HAZMAT), or contaminated patients, should be broken down into three zones: "Hot", "Warm" and "Cold". The "Hot" and "Warm" zones require the highest level of PPE specified for the toxic agent identified. Gross decontamination of patients begins in the "Hot Zone" with more complete decontamination achieved in the "Warm Zone". EMS lacking HAZMAT training and equipment will make contact with the patients in the "Cold Zone". At this point the usual dermal, respiratory and optical PPE required for EMS are sufficient to safely provide patient care.

[4] In the event of a large-scale incident, a REMAC Credentialed Paramedic may contact on-line Medical Control for a General Medical Control Order to provide direction regarding medication administration by REMAC approved NYS certified BLS providers under his or her supervision on the scene as appropriate under this protocol. If voice contact with Medical Control cannot be established by radio / telephone / cellular apparatus / telemetry for this order, the on-scene REMAC Credentialed Paramedic will follow Regional ALS protocols regarding communication failures, direct care as appropriate and document the incident as required.

STORAGE

"Mark I Kits" need to be kept at approximately 25°C (77°F) at all times. They shall be protected from freezing.

CONSIDERATIONS

Intended Patients:
Pre-measured doses of auto-injectors should be safe in most adults. It should be noted, that auto-injectors were designed for a military profile: approximate age 18-35, weight 154 lbs., healthy and with no preexisting medical conditions.

Ingested Exposure:
When the nerve agent has been ingested exposure may continue for some time due to slow absorption from the lower bowel. Fatal relapses have been reported after initial improvement. Continued medical monitoring and transport is mandatory.

Dermal Exposure:
If dermal exposure has occurred, decontamination is critical and should be done with standard decontamination procedures. Patient monitoring should be directed to the same signs and symptoms as with all nerve agent exposures.

Cautions For Use Of Auto-Injectors:

1. Every potential exposure in the immediate vicinity of the incident must be medically evaluated and monitored. Delayed symptoms may present anytime post incident. Any patient ill enough to receive even one dose of atropine must be evaluated at an appropriate hospital.

2. Signs or symptoms of nerve agent poisoning may reappear. Serial observations are a critical part of the management process.

Adverse Reactions:
Note: *Adverse reactions may occur but there are no contraindications to treating systematic patients.*

1. Atropine may cause chest pain. It may also exacerbate angina or induce a myocardial infarction.

2. Up to 1 hour after IM injection of 2-PAM CL some pain may be experienced at the site of injection.

3. 2-PAM CL may cause blurred or double vision, dizziness, headache, drowsiness, nausea, rapid heart rate (tachycardia), increased blood pressure, and hyperventilation.

4. Both (Atropine and 2-Pam CL) should be used with caution (but not withheld) in patients with preexisting cardiac disease, high blood pressure, or strokes, particularly in the Extended Re-evaluation and Treatment Phase.

DOCUMENTATION:

In the event that a “Mark I kit” is administered as part of patient care, documentation on the PCR or ACR should at a minimum include:

- If known, the nerve agent the patient was exposed to.
- What authority identified and/or declared the release of a nerve agent.
- Patient exposure symptoms upon arrival of EMS and their severity (i.e. SLUDGEM)
- What decontamination of the patient was performed and by whom.
- The number of “Mark I kits” administered to the patient.
- Re-evaluation of patient condition post administration.
- Other medical treatment provided.

Even at a mass casualty incident (MCI), when a patient has received treatment with the use of a “Mark I kit”(s) there must be a method to record such information so persons providing subsequent care are aware, at a minimum, the treatment provided and the amount of medication given. It is recommended that a triage tag be placed on each patient and that any treatment given be recorded on that tag. If treatment occurs prior to decontamination, care should be taken to replace triage tags or transfer any otherwise recorded information onto a new (dry) tag following the procedure.

REPORTING:

In addition to contacting Medical Control, the anticipated need for the administration of Mark I Kits for patient care following an identified nerve agent release **MUST** immediately be reported to the Westchester County Department of Emergency Services (WC OEM), if not already notified. WC OEM may be contacted through the Westchester County Emergency Communications Center (60 Control) twenty-four (24) hour a day by calling (914) 231- 1900.

Administration of a “Mark I kit” must be verbally reported within twenty-four (24) hours by the agency to the WREMAC and the WC OEM, if not already notified. The WREMAC and WC OEM may be contacted through the Westchester County Emergency Communications Center (60 Control) twenty-four (24) hour a day by calling (914) 231- 1900. A copy of the PCR or ACR and any requested follow-up information shall be forwarded from the agency’s Chief Executive Officer or QA/QI Coordinator to the WREMAC as soon as possible.

Issued and Authorized by:

Dr. Nicholas DeRobertis, MD, FACEP
Chair, Westchester Regional Emergency Medical Advisory Committee

Attachments:

- WREMAC Mark I Kit Program Application
- WREMAC Mark I Kit Program Collaborative Agreement
- WREMAC BLS Special Procedure #3 (Mark I Kits)