

Solano County Health & Social Services Department



Mental Health Services
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POLICY MEMORANDUM 6205

DATE: 6/30/06

REVIEWED/APPROVED BY:

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SUBJECT: NERVE AGENT AUTO INJECTOR POLICY

AUTHORITY: DIVISION 2.5, CALIFORNIA HEALTH & SAFETY CODE, §1797.220 & 1797.221

I. PURPOSE/POLICY:

This policy outlines the indications and procedures for the use of the Mark-1 auto injectors. This will enable those first responders trained in the use of nerve agent antidote to be able to self-administer the drug in the event of a nerve agent exposure.

II. PROCEDURE

A. The first responders must have a reasonable suspicion that they have been exposed to a nerve agent. The signs and symptoms of exposure are:

1. Unexplained runny nose
2. Tightness in the chest
3. Difficulty in breathing
4. Bronchospasm
5. Pinpoint pupils resulting in blurred vision
6. Drooling
7. Excessive sweating
8. Nausea and/or vomiting
9. Abdominal cramping
10. Involuntary urination and/or defecation
11. Jerking, twitching and staggering
12. Headache
13. Drowsiness
14. Coma
15. Convulsions
16. Apnea

Nerve Agent Mnemonic

S - Salivation
L – Lacrimation
U – Urination
D – Defecation
G - Gastrointestinal pain & gas
E - Emesis

- B. If the signs and symptoms of exposure are present in the first responders, then they must use the Mark 1 kit to dose themselves.
- C. Dosing is based on severity of symptoms

Signs	Symptoms	Onset	Number of auto-injector(s) to use
Vapor (small exposure)	<ul style="list-style-type: none"> • Pinpoint pupils • Runny nose • Mild SOB 	Seconds after exposure	Mark 1 auto-injector kit (containing atropine & 2PAM): 1 dose initially; may repeat x1 in 10 minutes
Liquid (small exposure)	<ul style="list-style-type: none"> • Sweating • Twitching • Weak feeling 	Minutes to hours after exposure	Mark 1 auto-injector kit (containing atropine & 2PAM): 1 dose initially; may repeat x1 in 10 minutes
Vapor & Liquid (large exposure)	<ul style="list-style-type: none"> • Convulsions • Apnea • Copious secretions 	Seconds to hours after exposure	Mark 1 auto-injector kit (containing atropine & 2PAM): 3 doses initially; may repeat @ 10 minutes.

- D. Training
 1. Each ALS Provider Medical Director shall evaluate the training used for the Mark-1 Auto Injector, and provide documentation of training completion to the EMS Agency.
 2. Training, at a minimum, shall include:
 - a. Indications for self-administration
 - b. Injection site location
 - c. Injection dosing
 - d. Arming the auto injector
 - e. Administering the antidote to themselves

III. SPECIAL NOTE (SELF ADMINISTRATION)

The Solano County EMS Agency, due to regulatory constraints, does not directly authorize self-administration of medications. Any agency or provider which elects to utilize these procedures for the purpose of self-administration should obtain approval and authorization from their own risk management and/or medical director.

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EQUIPMENT

1. Mark I autoinjector antidote kit containing:
 - **Atropine** autoinjector (2 mg in 0.7 cc's)
 - **Pralidoxime chloride** autoinjector - **2-PAM** (600 mg in 2 cc's)
2. Additional atropine (2 mg) autoinjectors

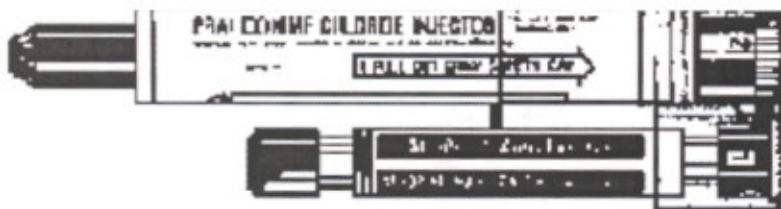


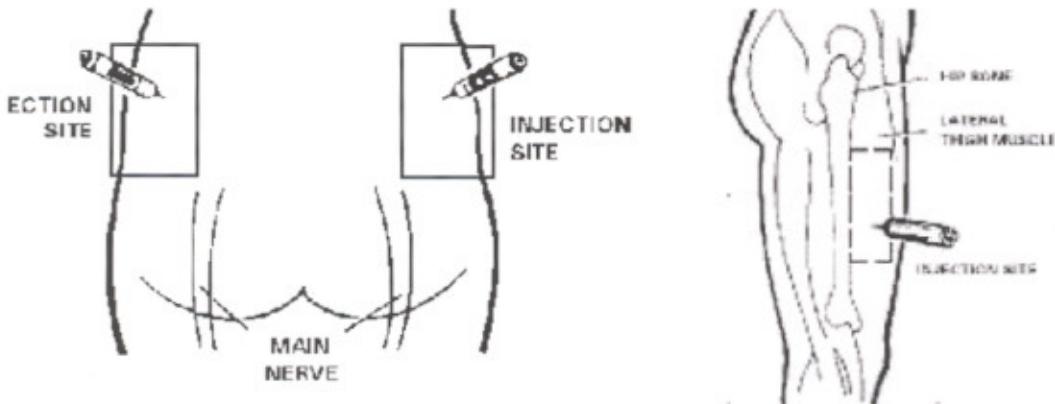
Figure 1: Mark1 Autoinjector

PROCEDURE

If you experience any or all of the nerve agent poisoning symptoms, you must IMMEDIATELY self-administer the nerve agent antidote.

INJECTION SITE SELECTION

- The injection site for administration is normally in the **outer thigh muscle**. It is important that the injections be given into a large muscle area.
- If the individual is thinly-built, then the injections should be administered into the **upper outer quadrant of the buttocks**



Figures 2 and 3: Buttock and thigh sites for self-administration

ARMING THE AUTO INJECTOR

- Immediately put on your protective mask.
- Remove the antidote kit
- With your nondominant hand, hold the autoinjectors by the plastic clip so that the larger autoinjector is on top and both are positioned in front of you at eye level.
- With your dominant hand grasp the **atropine** autoinjector (the smaller of the two) with the thumb and first two fingers. DO NOT cover or hold the needle end with your hand, thumb, or fingers-**you might accidentally inject your self**. An accidental injection into the hand WILL NOT deliver an effective dose of the antidote, especially if the needle goes through the hand.

Pull the injector out of the clip with a smooth motion. The autoinjector is now armed.

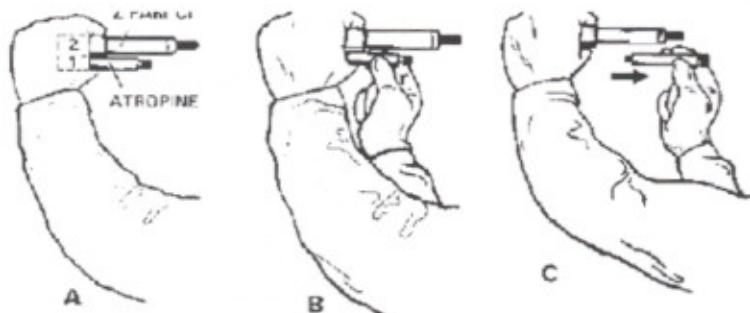


Figure 4: arming the autoinjector

ADMINISTRATION

- Hold the **Atropine** portion of the autoinjector with your thumb and two fingers (pencil writing position). Be careful not to inject yourself in the hand!
- Position the green (needle) end of the injector against the injection site (thigh or buttock). DO NOT inject into areas close to the hip, knee, or thigh bone.
- Apply firm, even pressure (not jabbing motion) to the injector until it pushes the needle into the thigh (or buttocks). Using a jabbing motion may result in an improper injection or injury to the thigh or buttocks.
- Hold the injector firmly in place for at least 10 seconds. Firm pressure automatically triggers the coiled spring mechanism. This plunges the needle into the muscle (through the clothing if necessary) and at the same time injects the antidote into the muscle tissue.

- Carefully remove the **Atropine** autoinjector from the injection site.
- Next pull the **2 PAM** injector (the larger of the two) out of the clip.
- Inject the **2 PAM** in the same manner as the steps above, holding the black (needle) end against the outer thigh (or buttocks).
- Massage the injection sites, if time permits.
- After administering the first set of injections, wait 5 to 10 minutes.
- After administering one set of injections, you should initiate decontamination procedures, as necessary, and put on any additional protective clothing.

Atropine only may be repeated every 10 - 15 minutes as needed.